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U.S. ENVIRONMENTAL PROTECTION AGENCY  
POLLUTION/SITUATION REPORT  
Kalamazoo River/Enbridge Spill - Removal POLREP-SITREP



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Region V



**Subject:** SITREP # 69  
Kalamazoo River/Enbridge Spill  
Z5JS  
Marshall, MI  
Latitude: 42.2395273 Longitude: -84.9662018

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**To:** Lt. Paul Baker, Kalamazoo County Sheriff's Office  
 James Rutherford, Calhoun County Public Health Department  
 Durk Dunham, Calhoun County Emergency Management  
 Brian Whitsett, Michigan State Police, Emergency Mgt.  
 Greg Danneffel, MDNRE  
 Mike McKenzie, City of Battle Creek  
 Susan Hedman, U.S. EPA Regional Administrator  
 Rebecca Humphries, MDNRE

**From:** Ralph Dollhopf, U.S. EPA Incident Commander  
 Stephen Wolfe, U.S. EPA On-Scene Coordinator  
 Jeff Kimble, U.S. EPA Deputy Incident Commander  
 Mark Durno, U.S. EPA Deputy Incident Commander

**Date:** 10/21/2010

**Reporting Period:** 0700 hours 10/19/2010 to 0700 hours 10/21/2010

**1 Introduction**

**1.1 Background**

**1.1.1 Site History**

**Background Information**

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

**1.1.2 Preliminary Site Inspection and Response Activities**

See SITREP #51 for a comprehensive description of preliminary operations.

**1.2 Incident Objective and Command Emphasis**

The following incident objectives and command emphasis are taken from the IAP for the Operational Period October 20, 2010, at 0700 to October 24, 2010, at 0700.

Incident Objectives

1. Ensure health and safety of the public and response and recovery personnel.
2. Ensure effective transition of regulatory oversight of the oil impacted areas from EPA to MDNRE jurisdiction as appropriate.

3. Maintain the isolation of the Kalamazoo River from all the up-gradient source areas.
4. Contain and recover oil and contaminated vegetation in Talmadge Creek and Kalamazoo River.
5. Maintain effective unified communications with cooperating and assisting agencies and the public.
6. Perform remediation and restoration of all affected public and private areas of river and river systems.
7. Provide protection of environmentally and culturally sensitive areas including wildlife and historic properties.
8. Protect threatened and endangered species and continue to recover and rehabilitate injured wildlife.
9. Continue to collect, coordinate, manage, and communicate environmental and public health data including maintenance of Joint Information Center function.

**Command Emphasis**

1. Maintain systematic and adequate DECON/demobilization of project resources.
2. Continue recovery of submerged oil and sediment in the Kalamazoo River with prioritization of the Ceresco Dam area, Mill Pond area, and Morrow Lake Delta area.
3. Continue implementation of the long-term booming strategy per the O&M plan.

**2 Current Activities**

**2.1 Operations Section**

**2.1.1 Narrative**

This operational phase of the response consists of: 1) Submerged Oil Recovery; 2) Long Term Operations and Maintenance (O&M); 3) Drinking and Groundwater Studies; and 4) Decontamination.

**2.1.2 Submerged Oil Recovery**

Submerged Oil Recovery Task Force (SOTF)

- Continued aeration, flushing, and shallow recovery operations in the Ceresco Dam area, at Location B4.5, MP21.5 and in the Morrow Lake Delta.
- Completed submerged oil recovery operations at 20 locations to date with areas inspected and approved by EPA.
- EPA signed-off at MP12.5 and MP15.25 (Mill Pond) to MP15.5.
- The SOTF progress is outlined in Table 1.

**Table 1 - Submerged Oil Task Force Progress**

Submerged Oil Recovery Process	Percent Complete	Cumulative Sections Completed	
		10/20	10/19
Assessment	100%	20	20
Containment	100%	18	18
Work Plan	100%	18	18
Clean-up	78%	20	18
Inspection/Sign-Off	78%	18	18

### Ceresco Dam Dredging Task Force

- Completed dredging at Area 5.8N.
- Continued noise, air, and turbidity monitoring. No exceedances of air or noise levels were reported during this operational period.
- Continued dredging operations with two dredge units.
- The dredging progress is depicted in Figure 1.



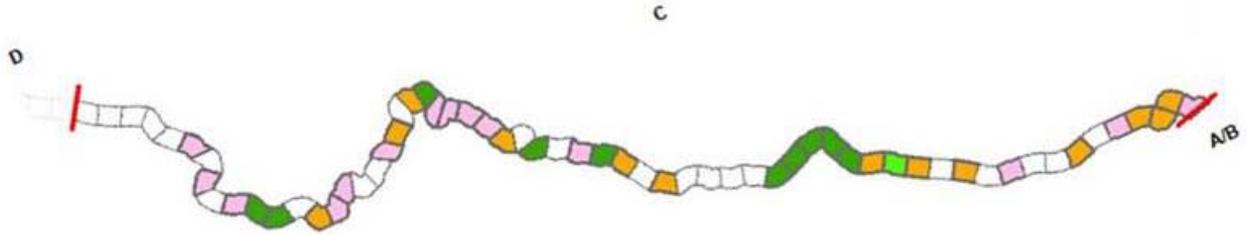
Figure 1 - Ceresco Dam Dredging Progress

### 2.1.3 Long Term Operations and Maintenance (O&M)

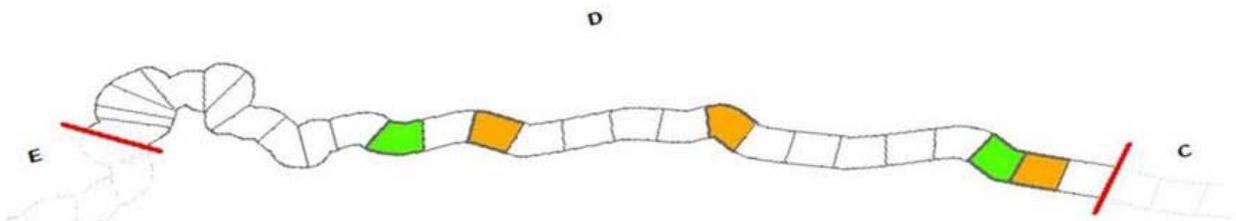
- Enbridge submitted plans for sediment basin at Location B4.7/B4.8.
- Continued removal of sediments within Talmadge Creek at Locations B4.7 to B5.1.
- Removed boom from Mill Ponds and at MP5.5 LDB.
- Deployed boom at MP18.75 and MP13.75.
- Performed hand and mechanical excavation at MP10.8
- Removed trash from Kalamazoo River within Battle Creek City Limits.
- EPA inspected O&M locations and relayed observations and recommendations to Enbridge.
- The O&M process is documented in Table 2 and Figures 7-9.

**Table 2 – O&M Maintenance and Monitoring Areas**

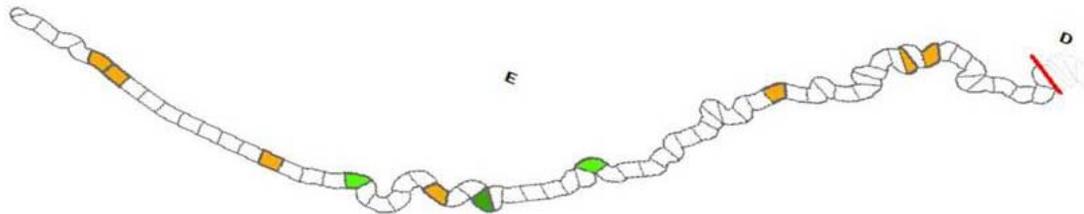
O&M Process	Cumulative Sections Completed	
	10/20	10/19
Active	16	15
Monitoring	39	40
Cleared	9	7
Signed Off	27	27



**Figure 2 - Division C O&M Areas**



**Figure 3 - Division D O&M Areas**



**Figure 4 - Division E O&M Areas**

**2.1.4 Drinking and Groundwater Studies**

- Conducted slug testing at eight locations in five Target Areas.

**2.1.5 Decontamination**

- Equipment and boom that was Deconned during this operational period is outlined in Table 3.

**Table 3 - Equipment Decon Totals**

	<b>10/20</b>	<b>10/19</b>
Frac Tanks	4	3
Vac Trucks-Tankers	0	0
Roll-Off Boxes	8	6
Yellow Iron - Light	2	0
Yellow Iron - Heavy	0	3
Marine Vessels	3	2
Vehicles	0	0
<b>Daily Total</b>	<b>17</b>	<b>14</b>

<b>Boom (feet)</b>	<b>1,470</b>	<b>1,100</b>
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**2.1.6 Additional Operations**

Air Ops

- During this operational period, there were 3 overflights.
- Air Ops observed and documented cleanup progress in all operational areas.
- Air Ops continued to investigate areas of interest and report on hot spots, oil mobilization, O&M, and Decon.

Environmental Compliance and Oversight

- Responded to sites of continued O&M concern.
- Completed excavation work plans, implementation and documentation.
- Prepared waste management area close-out plans.
- Continued waste management characterization, documentation, and coordination.
- Continued remedial investigation of Divisions A1 through A4.

Monitoring Branch

- Conducted real-time air monitoring near excavation and dredging operations and in community areas. No readings in excess of background levels were reported during this operational period.
- Samples reported by Enbridge are provided in Table 4.

**Table 4 – Samples Collected By Enbridge**

Sample Type	Number Collected	
	10/20	10/19
Tedlar Bag *	32	32
Mini SUMMA *	10	18
Surface Water	31	25
Private Well Samples	8	6
Groundwater Samples	-	-
Sediment Samples	8	12
Ceresco Samples	13	-
Submerged Oil Task Force Samples	-	-
Soil Samples	-	-
Sheen Samples	-	-
Other	-	-

\* As observed by the EPA with data reported for previous day

† Estimated value.

- Sampling and monitoring events conducted by EPA personnel during this operational period are reported in 5.

**Table 5 – Sampling and Monitoring Events by EPA as Reported in Scribe**

Sample Type	Number Collected	
	10/20	10/19
Air Monitoring Results	102	107
Tedlar Bags	-	-
SUMMA canisters	-	-
Sediment	-	-
Surface Water	-	1

**Landowner Environmental Issues**

Environmental issues from citizens have been raised throughout the response. These issues have been brought to the attention of the EPA directly, through MNDRE or through Enbridge. The EPA contacts the concerned citizen and evaluates the situation or concern. A log of the issue is maintained for each issue addressed. Citizen environmental issues are represented in Table 6.

**Table 6 – Landowner Environmental Issues**

Issues to Date	Issues Undergoing Evaluation	Issues Considered Addressed
13	4	9

**2.1.7 Progress Metrics**

All progress metrics in Section 2.1.7 are as reported by Enbridge unless otherwise indicated.

Boom Report

**Table 7 - Boom Report**

	10/20	10/19
Number of Locations	19	19
Boom Deployed (feet)	112,024	106,669

**Table 8 - Soil and Debris Shipped Off Site**

Waste Stream*	Cumulative <sup>†</sup>	10/19	10/18
Haz Soil (yd <sup>3</sup> ) <sup>a</sup>	15,344	0	0
Non Haz Soil (yd <sup>3</sup> ) <sup>b</sup>	52,079	1,802	638
Haz Debris (yd <sup>3</sup> ) <sup>c</sup>	12,075	0	0
Non Haz Household Debris (ton)	68	1	0
Non Haz Impacted Debris (ton) <sup>c</sup>	1,332	0	0

\* Information for water (other than daily quantity shipped) is reported in other tables below. Quantity awaiting disposal is estimated.

† Due to the auditing of waste manifests, cumulative quantities may not reconcile with previous reports.

a. Haz soil (benzene impacted) is being transported to Envirosafe (Oregon, OH).

b. Non Haz soil is being sent to Westside Recycling (Three Rivers, MI) and EQ/Republic (Marshall, MI).

c. Roll-off boxes containing waste sorbents, boom, pads, plastic, PPE, and oiled vegetation and biomass are being sent to EQ facility (Michigan Disposal) in Wayne, MI and Republic (Marshall, MI).

Oil/Water Recovery Tracking:

Note: Some of the values in the tables below have been audited and reconciled by Enbridge and may not correlate with previously reported values.

**Table 9 - Oil water collected by location 10/19 0700**

Location	Cumulative (gallons)
Division A	5,559,643
Division B	4,912,465
Division C	1,421,450
Division D	123,690
Division E	50,530
Decon	424,260
Other Locations*	313,783
<b>TOTAL</b>	<b>12,805,821</b>

\* Includes Frac, DECON, and Wildlife Center.

**Table 10 - Oil water Separation 10/20**

Enbridge Facility in Griffith, IN (gallons)	
Oil	766,288
Other Material	1,405,525
<b>TOTAL</b>	<b>2,171,813</b>

**Table 11 - Oil/Water Remaining On-Site (Gallons)**

Oil/Water Collected	12,805,821
Oil/Water Shipped Off-Site	11,808,551
<b>OIL/WATER REMAINING ON-SITE</b>	<b>997,270</b>

**Table 12 - Liquid Shipped Off-site**

Oil/Water leaving Site	Destination	Quantity Shipped		
		Cumulative†	10/19	10/18
Haz Water	Dynecol, Detroit, MI	2,732,388	38,500	42,240
Oil/Water	Enbridge Facility, Griffith, IN	2,171,813	-	-
Treated Non Haz Water	Liquid Industrial Waste Services, Holland, MI	370,200	-	-
Treated Non Haz Water	Plummer, Kentwood, MI	4,424,425	50,000	69,500
Haz Water	Safety Kleen <sup>a</sup>	825	-	-
Treated Non Haz Water *	Dynecol, Detroit, MI	134,200	-	-
Treated Non Haz Water *	Battle Creek POTW	1,968,700	-	-
<b>Totals</b>		<b>11,802,551</b>	<b>88,500</b>	<b>111,740</b>

\* 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.

**2.2 Planning Section**

Environmental Unit

Continued oversight of groundwater and surface water monitoring

**2.3 Safety Reports**

- No major incidents or safety concerns were reported during this operational period. This period marks 7 days without a safety incident.

**2.4 Liaison Officer**

- Nothing to report.

**2.5 Public Information Officers**

- Received public inquires as outlined in Table 13.

**Table 13 – Public Inquiries Received by EPA and Enbridge**

Location/Media	Inquiries Received	
	10/19	10/18
Battle Creek Community Center	4	5
Marshall Community Center	10	9
Oil Spill Public Information Hotline	15	10
Enbridge Response Website (www.response.enbridgeUS.com)	3	0
<b>Total Public Inquiries</b>	<b>23</b>	<b>14</b>

**2.6 Finance Section**

- The current NPFC issued ceiling is 24.6 Million. Approximately, 85.2% of the ceiling has been spent through October 19, 2010, with the latest burn rate of \$91,439 per day. These cost summaries reflect only EPA-funded expenditures for the incident. A summary of these expenses is presented in Table 14.

**Table 14 - Financial Summary**

ERRS Contractors	(Cumulative)	10/19	10/18
EQM (EPS50802) T057	\$ 1,250,065	\$ -	\$ -
T060	\$ 204,905	\$ -	\$ -
LATA (EPS50804)	\$ 1,451,396	\$ -	\$ -
ER LLC (EPS50905)	\$ 723,669	\$ -	\$ -
<b>Total ERRS Contractors</b>	<b>\$ 3,630,035</b>	<b>\$ -</b>	<b>\$ -</b>
Lockheed Martin (EPW09031) -TAGA Support	\$ 150,000	\$ -	\$ -
T&T Bisso (EPA:HS800008 USCG:HSCG8410A80)	\$ 1,255,000	\$ -	\$ -
<b>START Contractor</b>			
WESTON (EPS50604)	\$ 7,357,954	\$ 52,307	\$ 48,159
<b>Response Contractor Sub-Totals</b>	<b>\$12,392,989</b>	<b>\$ 52,307</b>	<b>\$ 48,159</b>
<b>EPA Funded Costs:</b>			
<b>Total EPA Costs</b>	<b>\$ 4,260,773</b>	<b>\$ 22,680</b>	<b>\$ 22,680</b>
<b>Pollution Removal Funding Agreements:</b>			
<b>Total Other Agencies</b>	<b>\$ 1,414,309</b>	<b>\$ 3,840</b>	<b>\$ 3,840</b>
<b>Sub-Totals</b>	<b>\$18,068,071</b>	<b>\$ 78,827</b>	<b>\$ 74,679</b>
Indirect Cost (16.00%)	\$ 2,890,891	\$ 12,612	\$ 11,949
<b>Total Est. Oil Spill Cost</b>	<b>\$20,958,962</b>	<b>\$ 91,439</b>	<b>\$ 86,628</b>
Oil Spill Ceiling authorized by USCG	\$ 24,600,000		
<b>Oil Spill Ceiling Available Balance</b>	<b>\$ 3,641,038</b>		
	85.2%		

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**2.7 Response Actions to Date**

- Response Actions to date may be found in SITREPs #1 through #68.

**3 Participating Entities**

**3.1 Unified Command**

U.S. EPA	Calhoun County Public Health Department
MDNRE	Calhoun County Emergency Management
Michigan State Police Emergency Management Division	Kalamazoo County Sheriff
City of Battle Creek	Enbridge (Responsible Party)

**3.2 Cooperating and Assisting Agencies and Congressional Presence**

For a list of cooperating and assisting agencies and the congressional presence, see SITREP #51.

**4 Personnel On-Site**

- Staffing numbers for the various entities and agencies active in the response are presented in Table 15.

**Table 15 - Personnel On-Site**

Agency/Entity	Number Reported	
	10/20	10/19
EPA	23	22
START	31	33
Calhoun County Public Health	1	1
Calhoun County (CC) Sheriff	2	2
City of Battle Creek	2	2
Kalamazoo Sheriff	2	2
MDNRE	7	7
Michigan State Police (MSP)	1	1
NOAA - National Weather	3	3
USFWS	1	1
Enbridge ICP	28	36
Enbridge ICP Contractor	290	274
Enbridge	7	7
Enbridge Contractors	606	650
<b>Total</b>	<b>1,004</b>	<b>1,041</b>

**5 Source of Additional Information**

**5.1 Additional Information**

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