

US EPA ARCHIVE DOCUMENT

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



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Region V



Subject: SITREP # 66  
Kalamazoo River/Enbridge Spill  
Z5JS  
Marshall, MI  
Latitude: 42.2395273 Longitude: -84.9662018

**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  
Leon Zupan, Enbridge  
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  
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**Date:** 10/15/2010

**Reporting Period:** 0700 hours 10/13/2010 to 0700 hours 10/15/2010

## **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 12, 2010, at 0700 to October 16, 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, Millpond area, and Morrow Lake Delta area.
3. Complete necessary grade restoration and stabilization work along Talmadge Creek in accordance with the approved plans.
4. Continue implementation of transition to long-term operation and maintenance of containment and submerged oil recovery.

## **2 Current Activities**

### **2.1 Operations Section**

#### **2.1.1 Narrative**

This operational phase of the response consists of: 1) Talmadge Creek Restoration; 2) Submerged Oil Recovery; 3) Long Term operations and Maintenance (O&M); 4) Drinking and Groundwater Studies; and 5) Decontamination.

#### **2.1.2 Talmadge Creek Restoration**

- Continued removal of berms in Division A.
- Continued mat road removal and maintenance of sorbent booms and coconut logs.
- Completed mat road removal in Locations A1 and A2.
- Restoration progress is outlined in Table 1 and is depicted in Figure 1 through Figure 5.

**Table 1 - Division A and B Restoration Progress, Sections 1-10**

Restoration Step		Percent Complete
1. Prepped		100%
2. Cleared		100%
3. Backfilled		100%
4. Restored		99%

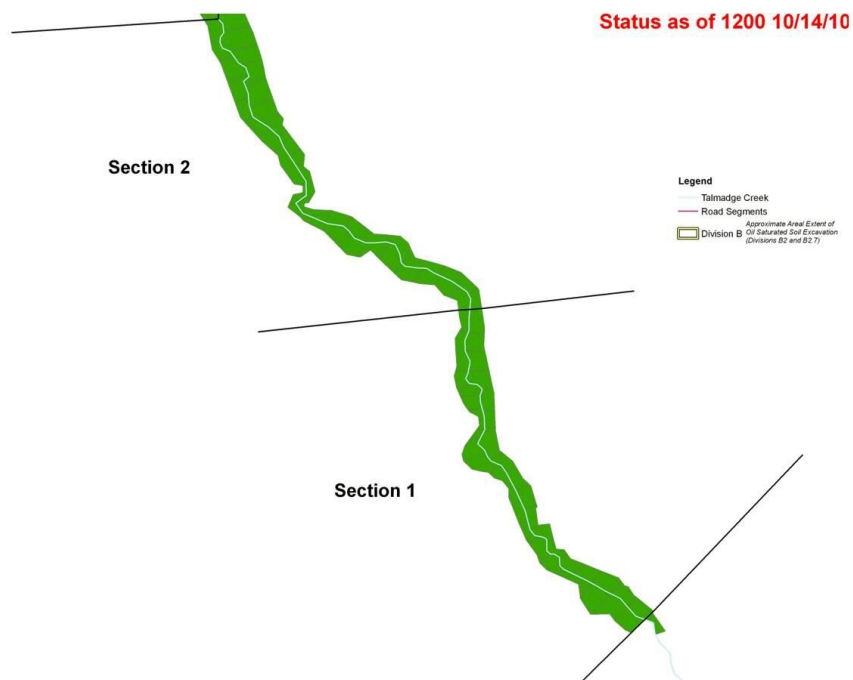


Figure 1 – Division A, Sections 1 and 2 (Locations A4 to B2)

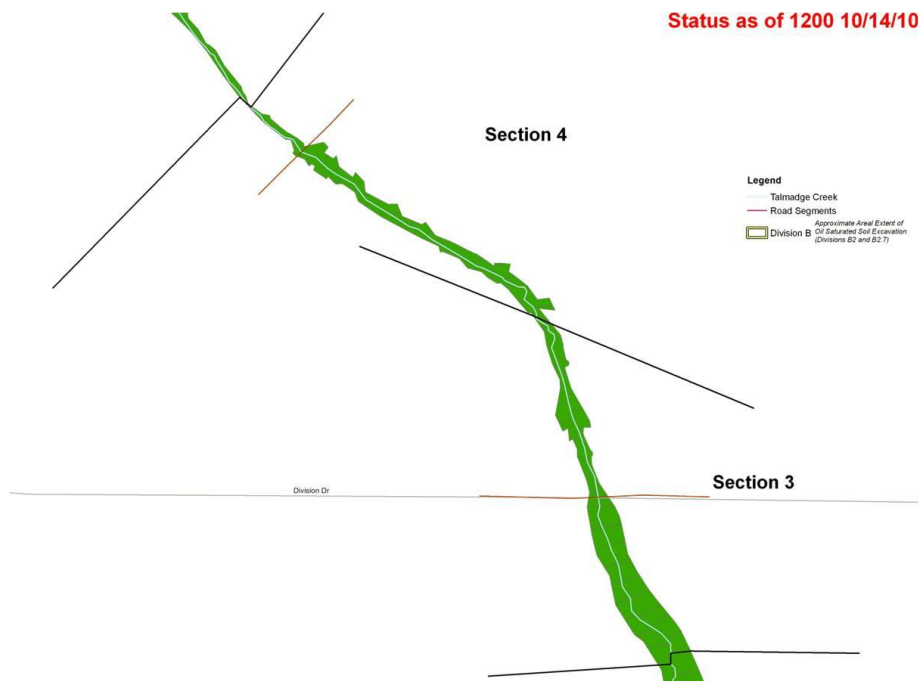


Figure 2 - Division B, Sections 3 and 4 (Locations B2 to B2.5)

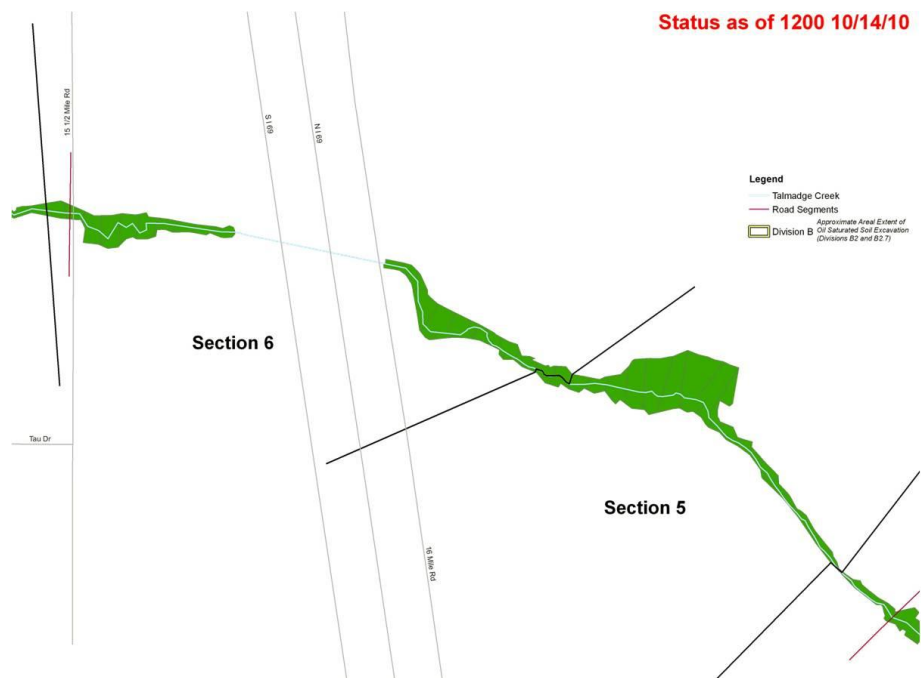


Figure 3 - Division B, Sections 5 and 6 (Locations B2.5 to B4)

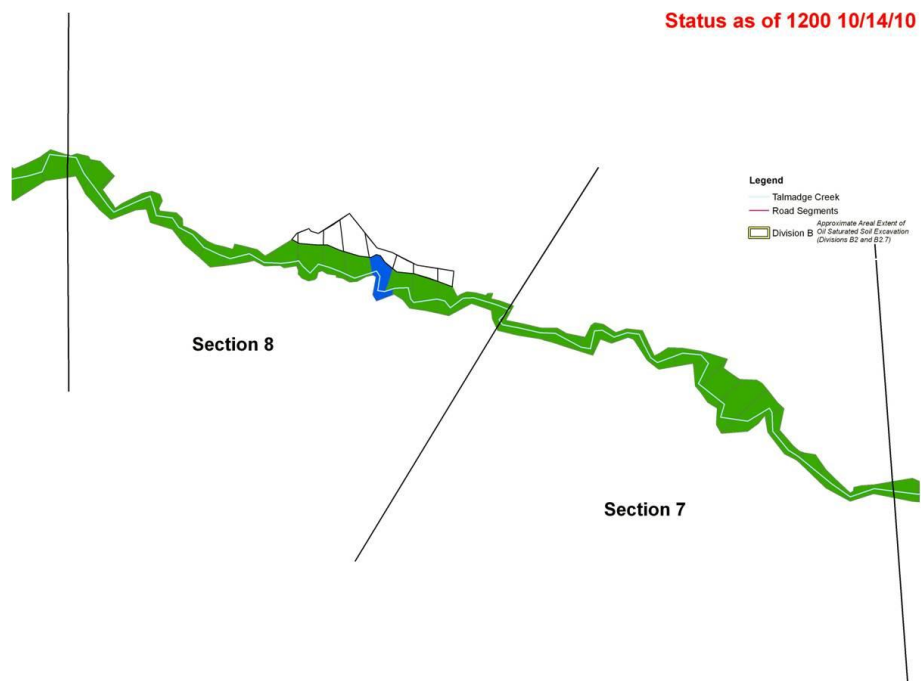


Figure 4 - Division B, Sections 7 and 8 (Locations B4 to B4.8)



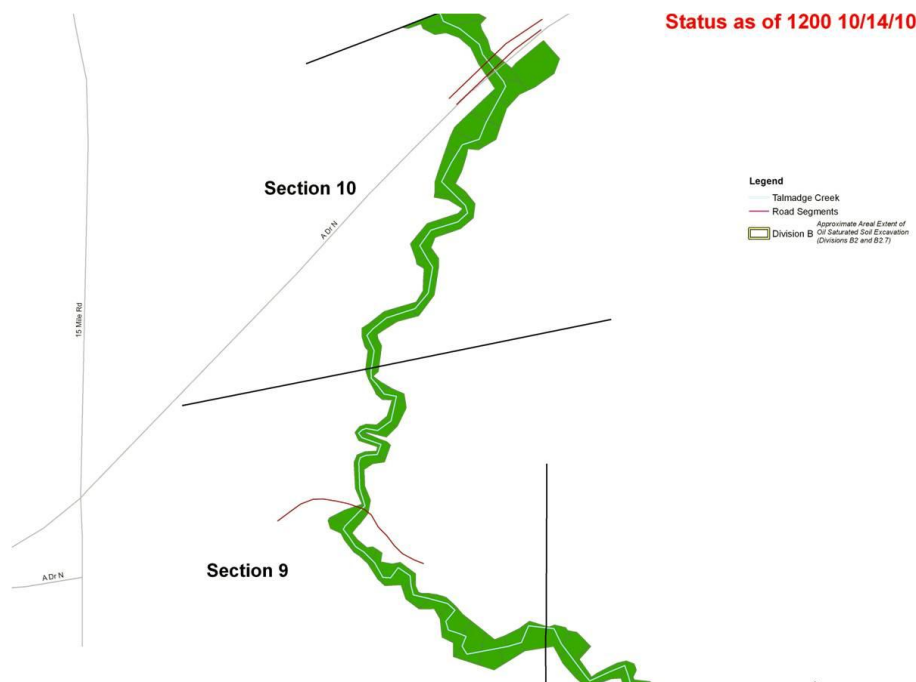


Figure 5 - Division B, Sections 9 and 10 (Locations B4.9 to B5)

### 2.1.3 Submerged Oil Recovery

- Prepared and reviewed areas for recovery operations at MP12.5, MP26.25 and MP37.75.

#### Submerged Oil Task Force (SOTF)

- Continued aeration, flushing, and shallow recovery operations in the Ceresco Dam area, Mill Pond area, and in the Morrow Lake Delta.
- Identified moderate and heavy submerged oil in downstream portion of the MP5.55N area.
- Identified areas of moderate and heavy submerged oil in previously dredged areas within MP5.75S. These areas were located in grids 8.5, 9.4, 9.5, and 8.6.
- Began excavation of the north bank/pond at MP5.8.
- Delineated areas of submerged oil at MP21.5 oxbow, 26.25, and 26.65.
- The SOTF progress is outlined in Table 2.

Table 2 - Submerged Oil Task Force Progress

Submerged Oil Recovery Process	Percent Complete	Cumulative Sections Completed	
		10/14	10/13
Assessment	100%	20	20
Containment	100%	18	18
Work Plan	100%	18	18
Clean-up	65%	15	14
Inspection/Sign-Off	57%	13	12

#### Ceresco Dam Dredging Task Force

- Continued noise, air, and turbidity monitoring. No exceedances of background levels were reported during this operational period except the following:

- One exceedance of the turbidity action level was reported on October 13. This exceedance was caused by maintenance activities being conducted on the downstream Manta Turbidity Monitoring unit and not by dredging activities.
- Discontinued air monitoring activities at 1600 on October 13 due to inclement weather.
- Enbridge reported that submerge oil recovery work in MP5.80S is completed and recommended the area for EPA inspection after the requisite 48 hour waiting period.
- Extended daily dredging hours of operation until 2100 until further notice.
- Continued preparation of the third dredger for operation.
- The dredging progress is depicted in Figure 6.

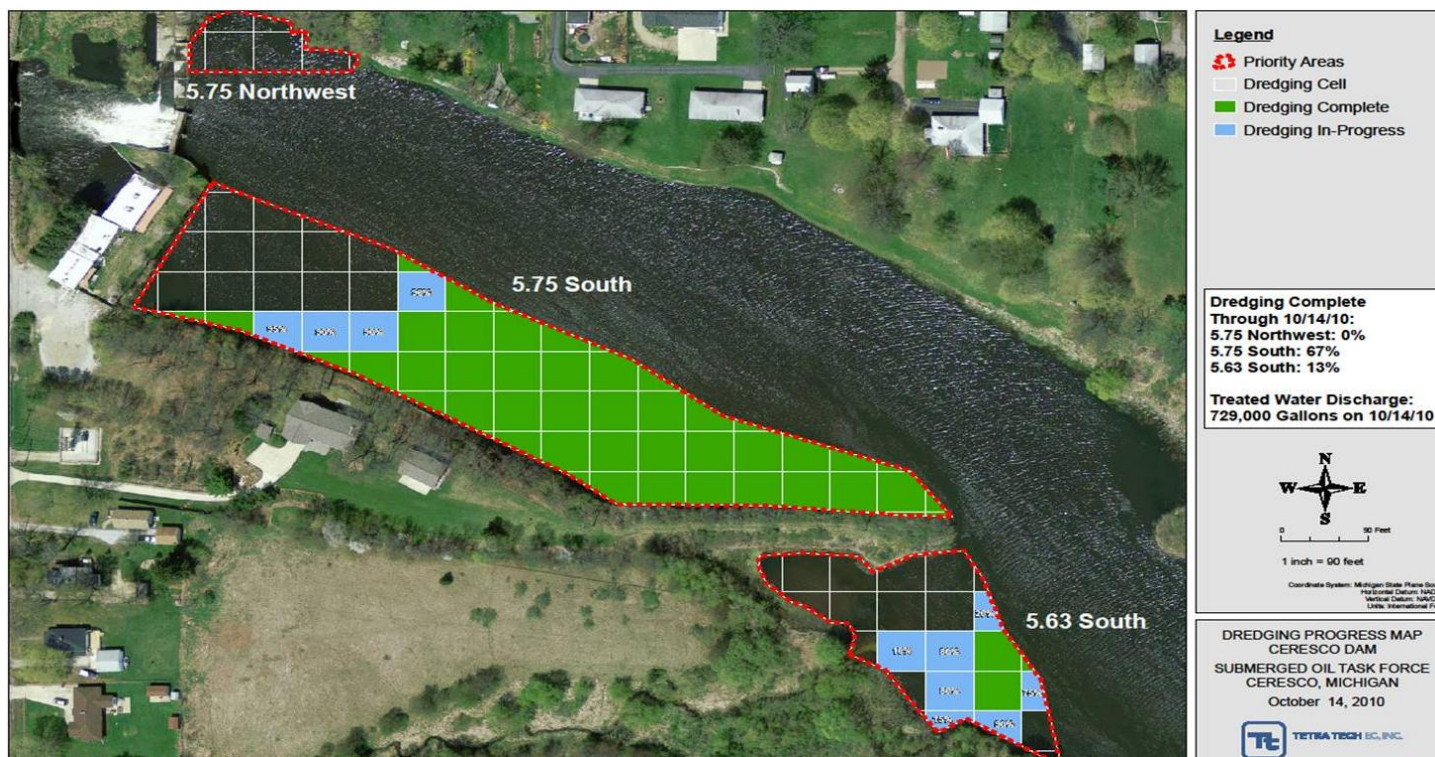


Figure 6 - Ceresco Dam Dredging Progress

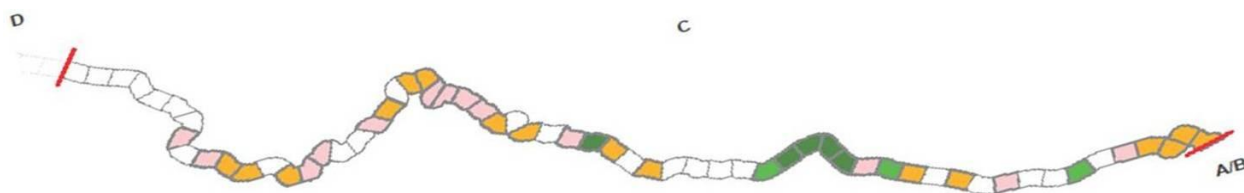
#### 2.1.4 Long Term Operations and Maintenance (O&M)

- Observed hydro-vac removal of sediments within Talmadge Creek at Location B2.
- Continued pump around and excavation within Talmadge Creek at Location B4.5.
- Installation of sediment basin at the confluence of Talmadge Creek and the Kalamazoo River.
- Deployed sorbent materials to recover surface oil observed at MP2.50L1.
- EPA inspected O&M locations and relayed observations and recommendations to the RP.
  - Heavy sheen and tar balls at MP2.75I1.
  - Thick oil in test pit at MP3.25IA. EPA/MDNRE recommends core transecting of the site to define extent and characterization of the contamination.
  - Heavy sheen at MP4.50L1 (lily pads). EPA/MDNRE recommends core transecting of the site to define extent and characterization of the contamination.
  - Sheen at MP6.00R1 and MP6.00R4.

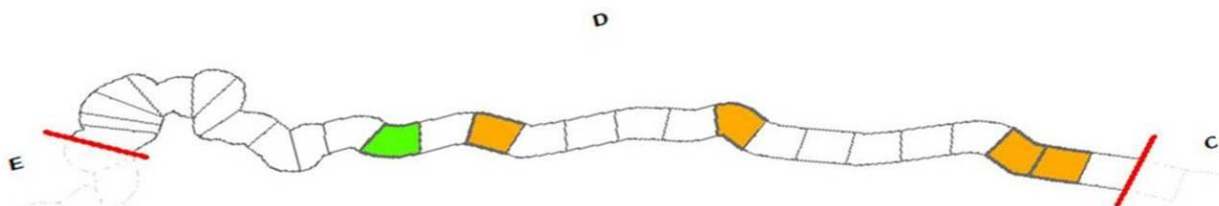


**Table 3 – O&M Maintenance and Monitoring Areas**

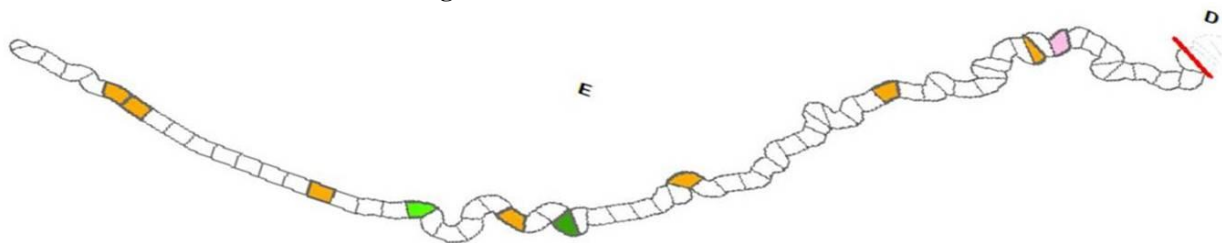
O&M Process	Cumulative Sections Completed	
	10/14	10/13
Active Site	52	52
Monitoring	38	38
Cleared	11	9
Signed Off	6	6



**Figure 7 - Division C O&M Areas**



**Figure 8 - Division D O&M Areas**



**Figure 9 - Division E O&M Areas**

### 2.1.5 Drinking and Groundwater Studies

- Drilled and installed monitoring wells at TA3.
- Re-installed monitoring well at TA6.
- Measured static water levels in various areas. Enbridge reported that groundwater monitoring activities would be on hold for 72 hours post monitoring well development per the work plan.
- Conducted groundwater monitoring at TA2-1 and TA2-3.
  - Samples were collected directly into laboratory containers without purging or measurement of field parameters due to the low recharge rate of the wells.

### 2.1.6 Decontamination

- Equipment and boom that was Deconned during this operational period is outlined in Table 4.

**Table 4 - Equipment Decon Totals**

	<b>10/14</b>	<b>10/13</b>
Frac Tanks	1	2
Vac Trucks-Tankers	1	0
Roll-Off Boxes	-	0
Yellow Iron - Light	-	-
Yellow Iron - Heavy	-	-
Marine Vessels	-	-
Vehicles	-	6
<b>Daily Total</b>	<b>2</b>	<b>8</b>

<b>Boom (feet)</b>	<b>1,650</b>	<b>4,375</b>
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### 2.1.7 Additional Operations

#### Air Ops

- During this operational period, there were 3 overflights.
- During this operational period, EPA conducted two flights of the response area.
- 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

- Implemented 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.
- Samples reported by Enbridge are provided in Table 5.

**Table 5 – Samples Collected By Enbridge**

<b>Sample Type</b>	<b>Number Collected</b>	
	<b>10/14</b>	<b>10/13</b>
Tedlar Bag *	32	16
Mini SUMMA *	10	10
Surface Water	20	23
Private Well Samples	7	3
Groundwater Samples	-	-
Sediment Samples	7	6
Soil Samples	-	-
Sheen Samples	-	-
Other	-	-

\* As observed by the EPA

† Estimated value.

- Sampling and monitoring events conducted by EPA personnel during this operational period are reported in Table 6.

**Table 6 – Sampling and Monitoring Events by EPA as Reported in Scribe**

Sample Type	Number Collected	
	10/14	10/13
Air Monitoring Results	100	69
Tedlar Bags	-	-
SUMMA canisters	-	-
Sediment	-	-
Surface Water	1	-

### 2.1.8 Progress Metrics

All progress metrics in Section 2.1.8 are as reported by Enbridge unless otherwise indicated.

#### Boom Report

**Table 7 - Boom Report**

	10/14	10/13
Number of Locations	18	18
Boom Deployed (feet)	111,469	109,819

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

Waste Stream*	Cumulative <sup>†</sup>	10/14	10/13
Haz Soil (yd <sup>3</sup> ) <sup>a</sup>	15,344	0	0
Non Haz Soil (yd <sup>3</sup> ) <sup>b</sup>	46795	1612	2056
Haz Debris (yd <sup>3</sup> ) <sup>c</sup>	12,075	0	0
Non Haz Household Debris (ton)	64	1	11
Non Haz Impacted Debris (ton) <sup>c</sup>	1332	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 10/13 0700**

Location	Cumulative (gallons)
Division A	5,546,943
Division B	4,766,565
Division C	1,232,950
Division D	119,850
Division E	50,530
Decon	378,580
Other Locations *	268,083
<b>TOTAL</b>	<b>12,363,501</b>

\* Includes Frac, DECON, and Wildlife Center.

**Table 10 - Oil water Separation 10/14**

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	12,363,501
Oil/Water Shipped Off-Site	11,186,331
<b>OIL/WATER REMAINING ON-SITE</b>	<b>1,177,170</b>

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

Oil/Water leaving Site	Destination	Quantity Shipped		
		Cumulative†	10/13	10/12
Haz Water	Dynecol, Detroit, MI	2,572,148	29,200	17,000
Oil/Water	Enbridge Facility, Griffith, IN	2,171,813	13,007	-
Treated Non Haz Water	Liquid Industrial Waste Services, Holland, MI	370,200	-	-
Treated Non Haz Water	Plummer, Kentwood, MI	3,968,445	40,000	83,910
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>11,186,331</b>	<b>82,207</b>	<b>100,910</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 Compliance and Oversight

- Continued remedial investigation in Division A.

## 2.3 Safety Reports

- No major incidents or safety concerns were reported during this operational period.

- Lightning in the afternoon of October 13 closed several sites.
- Areas A and B are changing to a six day work week with Sundays off.
- Potential levels of hydrogen sulfide were identified at MP10.8. Sampling is being conducted.

## 2.4 Liaison Officer

- Engaged in ongoing coordination with cooperating and assisting agencies, the UC, Enbridge, and the PIO. Continues coordinating issues of local concern to property owners.

## 2.5 Public Information Officer

- Received public inquiries as outlined in Table 13.
- Arranged a tour and interview for Battle Creek Enquirer reporter for October 15.

**Table 13 – Public Inquiries**

Location/Media	Inquiries Received	
	10/13	10/12
Battle Creek Community Center	6	5
Marshall Community Center	10	13
Oil Spill Public Information Hotline	22	15
Enbridge Response Website (www.response.enbridgeUS.com)	0	1
<b>Total Public Inquiries</b>	<b>32</b>	<b>34</b>

## 2.6 Finance Section

- The current NPFC issued ceiling is \$21.6 Million. Approximately, 94.4% of the ceiling has been spent through October 13, 2010, with the latest burn rate of \$104,973 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		Est. Expended (Cumulative)	Estimated Burn Rate	
			10/13	10/12
EQM (EPS50802)	T057	\$ 1,250,065	\$ -	\$ -
	T060	\$ 204,905	\$ -	\$ -
LATA (EPS50804)		\$ 1,451,396	\$ -	\$ -
ER LLC (EPS50905)		\$ 723,669	\$ -	\$ -
<b>Total ERRS Contractors</b>		\$ 3,630,035	\$ -	\$ -
Lockheed Martin (EPW09031) -TAGA Support		\$ 150,000	\$ -	\$ -
T&T Bisso (EPA:HS800008 USCG:HSCG8410A8000)		\$ 1,255,000	\$ -	\$ -
<b>START Contractor</b>				
WESTON (EPS50604)		\$ 7,052,077	\$ 53,634	\$ 55,984
<b>Response Contractor Sub-Totals</b>		\$ 12,087,112	\$ 53,634	\$ 55,984
<b>EPA Funded Costs:</b>				
<b>Total EPA Costs</b>		\$ 4,104,023	\$ 33,020	\$ 33,020
<b>Pollution Removal Funding Agreements:</b>				
US FWS		\$ -	\$ -	
<b>Total Other Agencies</b>		\$ 1,391,269	\$ 3,840	\$ 3,840
<b>Sub-Totals</b>		\$ 17,582,404	\$ 90,494	\$ 92,844
Indirect Cost (16.00%)		\$ 2,813,185	\$ 14,239	\$ 14,855
<b>Total Est. Oil Spill Cost</b>		\$ 20,395,589	\$ 104,733	\$ 107,699
Oil Spill Ceiling authorized by USCG		\$ 21,600,000		
<b>Oil Spill Ceiling Available Balance</b>		\$ 1,204,411		
		94.4%		

## 2.7 Response Actions to Date

- Response Actions to date may be found in Situation Reports #1 through #65.

## 3 Participating Entities

### 3.1 Unified Command

U.S. EPA  
MDNRE  
Michigan State Police Emergency  
Management Division  
City of Battle Creek

Calhoun County Public Health Department  
Calhoun County Emergency Management  
Kalamazoo County Sheriff  
Enbridge (Responsible Party)

### 3.2 Cooperating and Assisting Agencies

ATSDR  
Calhoun Conservation District  
Calhoun County Commission  
City of Kalamazoo

City of Marshall  
Emmett Township  
Fredonia Township

Kalamazoo County Office of Emergency  
Management  
Marshall Area Firefighters Ambulance  
Authority  
Marshall Police Department  
Marshall Township Government and Fire  
Department  
Michigan Department of Agriculture

MDCH  
NOAA  
Oakland County HAZMAT/RRTN  
PHMSA  
USCG  
U.S. Department of the Interior/USGS  
USFW

### 3.3 Congressional Presence

State Representative Jase Bolger  
State Representative Kate Segal  
State Representative Ken Kurtz  
State Representative Phil Browne  
State Representative Phyllis Browne  
State Representative Bob Geuck

State Representative Tanya Schuitmaker  
State Senator Mike Nofs  
U.S. Congressman Mark Schauer  
U.S. Senator Carl Levin  
U.S. Senator Debbie Stabenow

## 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	
	10/14	10/13
EPA	27	27
START	31	34
Calhoun County Public Health	1	1
Calhoun County (CC) Sheriff	2	2
City of Battle Creek	2	2
Kalamazoo Sheriff	2	2
MDNRE	10	12
Michigan State Police (MSP)	1	1
NOAA - National Weather	1	3
USFWS	1	1
Enbridge ICP	51	61
Enbridge ICP Contractor	318	306
Enbridge	6	6
Enbridge Contractors	707	638
<b>Total</b>	<b>1,160</b>	<b>1,096</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>.