

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 # 55**  
**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  
 Jim Sygo, MDNRE  
 Connie Gibson, Calhoun County Sheriffs Office  
 Cheryl Vosburg, City of Marshall  
 David Chung, U.S. EPA  
 Jason El-Zein, U.S. EPA  
 Michael Chezik, U.S. Department of Interior  
 Linda Nachowicz, U.S. EPA  
 OSLTF USCG, USCG  
 Bruce Vanotteren, MDNRE  
 Brian Pierzina, PHMSA Central Region

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: 09/23/2010

Reporting Period: 0700 hours 9/21/2010 to 0700 hours 9/23/2010

**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 September 21, 2010, at 0700 to September 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 up-gradient source area.
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. Implementation of tactics for recovery of submerged oil and sediment in the Kalamazoo River and Morrow Lake with prioritization of the Mill Pond area.
2. Implement plan to ensure thorough assessment and cleanup of overbank and areas of concern with focus on Division C.
3. Complete necessary grade restoration and stabilization work plans along Talmadge Creek in accordance with approved plans.
4. Continue timely submittal to EPA of all required documentation for clean-up performed to date.
5. Planning for transition to operation and maintenance of containment, submerged oil recovery, including systematic DECON/demobilization.

## 2 Current Activities

### 2.1 Operations Section

#### 2.1.1 Narrative

See SITREP #51 for a comprehensive description of the operational area.

The current operational phases of the response consist of: 1) Talmadge Creek Restoration; 2) Shoreline and Overbank Cleanup; 3) Decontamination and Disposal; 4) Submerged Oil Cleanup; and 5) Operations and Maintenance (O&M).

### 2.1.2 Talmadge Creek Restoration

The restoration phase of the response is being tracked using a four step process:

1. Prepped - Six hour trench /pit observation and EPA evaluation of trench/pit and preparation in progress. Forty-eight hour observation trench/pit where applicable.
2. Cleared - EPA evaluation completed and section ready for backfill.
3. Backfilled - Initial backfill/stabilization completed. Forty-eight hour observation trench/pit where applicable.
4. Restored - Section complete.

#### Division A and B

- Most sites are in the backfill step with EPA observing test pits for free product when applicable.
- Bypass pumping was commenced at Location A6 to allow operations to align the creek to match the restoration plan.
- Location B3 has been isolated to allow for dewatering and contaminated sediment removal. The area has been divided into 50 foot cells for remediation.

Table 1. Division A and B, Sections 1-10

Restoration Step		Percent Complete
1. Prepped		93%
2. Cleared		72%
3. Backfilled		53%
4. Restored		17%

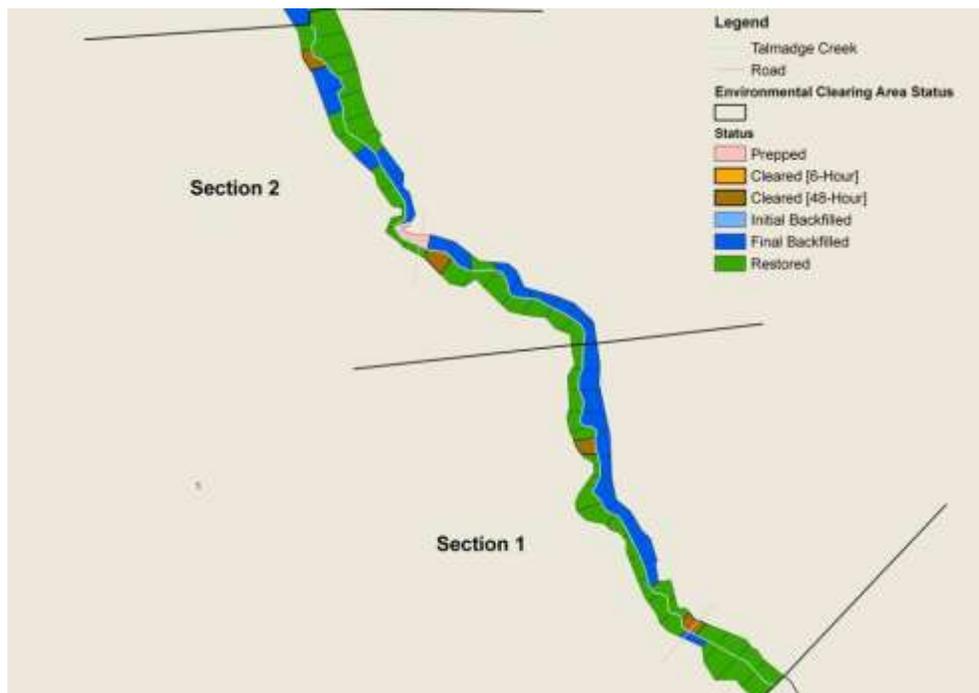


Figure 1. Division A, Sections 1 and 2 (Locations A5 to A6)

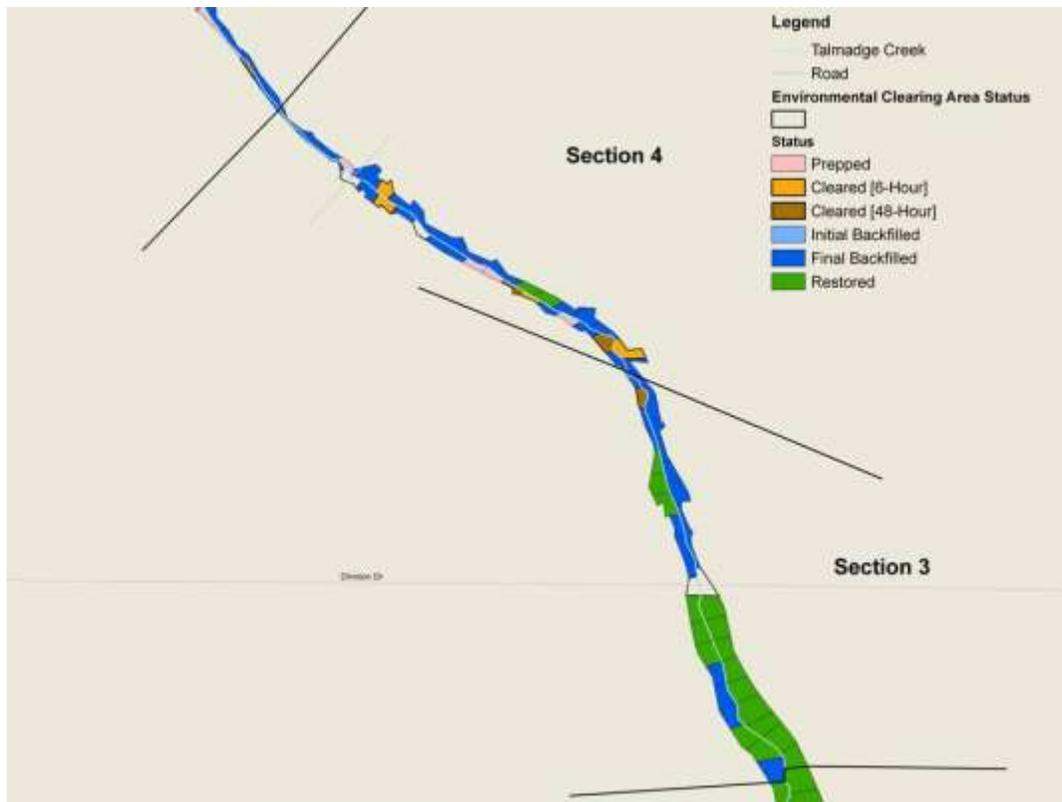


Figure 2. Division B, Sections 3 and 4 (Locations B2 to B2.5)



Figure 3. Division B, Sections 5 and 6 (Locations B2.7 to B4)

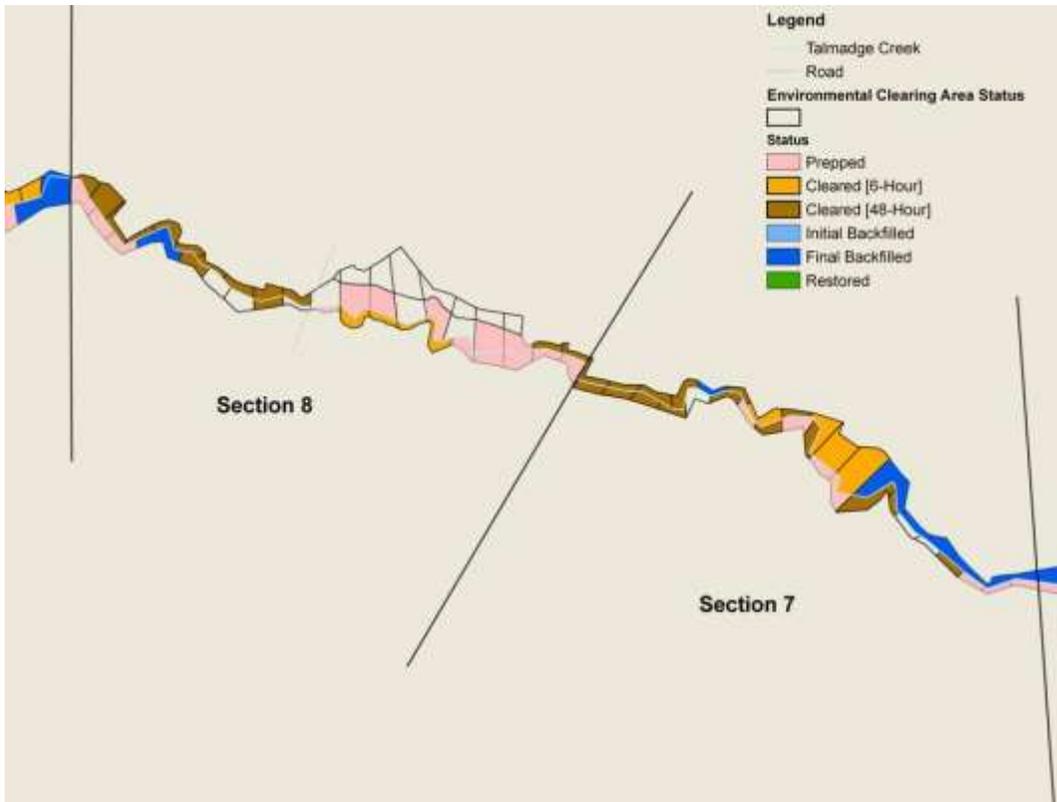


Figure 4. Division B, Sections 7 and 8 (Locations B4 to B4.5)

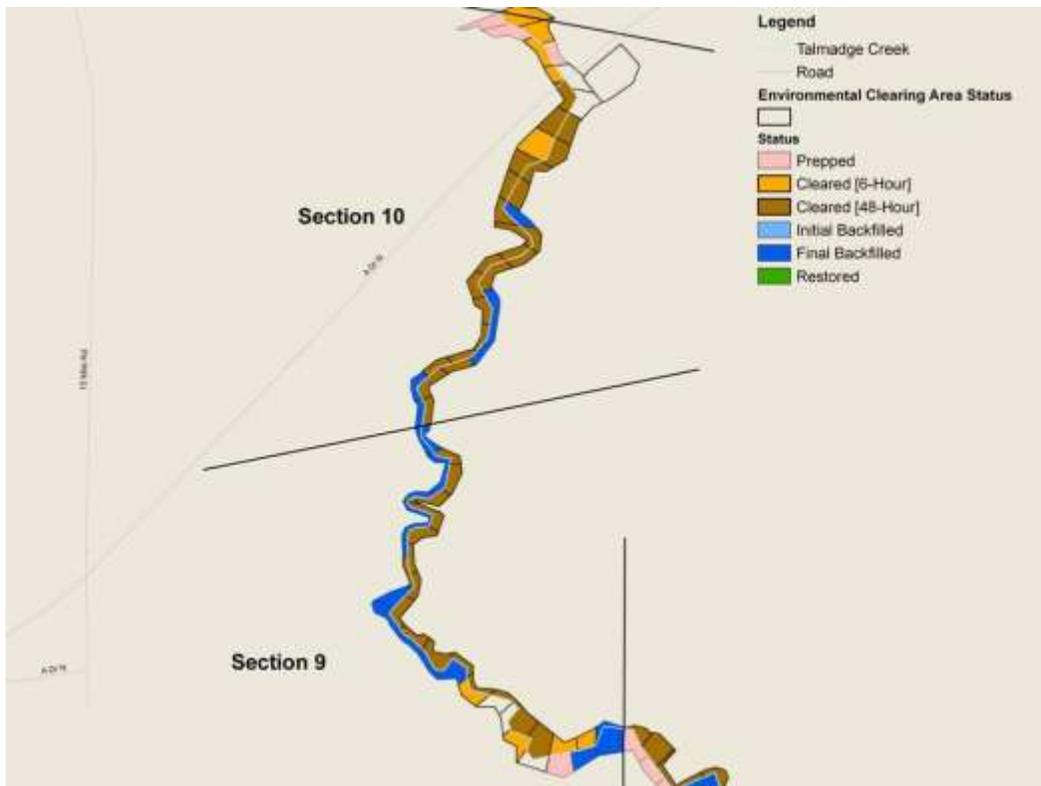


Figure 5. Division B, Sections 9 and 10 (Locations B4.5 to B5)

### 2.1.3 Shoreline and Overbank Cleanup

The shoreline and overbank cleanup actions for this response are guided by a five step process:

1. Shoreline Cleanup and Assessment Techniques (SCAT) assessments completed.
2. Operations cleanup completed.
3. Enbridge/EPA inspection completed.
4. SCAT re-assessment.
5. EPA Division Supervisor sign-off.

#### Division C

- Enbridge continues to address overbank cleanup, SCAT points, hot spots and boom maintenance. Inclement weather caused intermittent work stoppages.
- Cleanup operations at the Island at MP8.25 have been completed.
- Identified rock areas near Location C0.5 with tar impacts that required further cleaning.
- Identified hot spot area near MP 14.75 and crew responded for cleanup.
- Excavation and airlifting of contaminated soil continued at MP 11.25.
- SCAT Re-Assessment completion reports have been submitted for 57 of the 61 sites and EPA has signed off on 32 sites.

Table 2. Division C

Shoreline and Overbank Cleanup Step	Percent Complete	Number of Sites
SCAT Assessment Completed (Step 1)	100%	61
Operations Cleanup Completed (Step2)	100%	61
Enbridge/EPA Inspection Completed (Step 3)	100%	61
SCAT Re-Assessment Completed (Step4)	93%	57
EPA Division Supervisor Sign-Off (Step 5)	56%	32

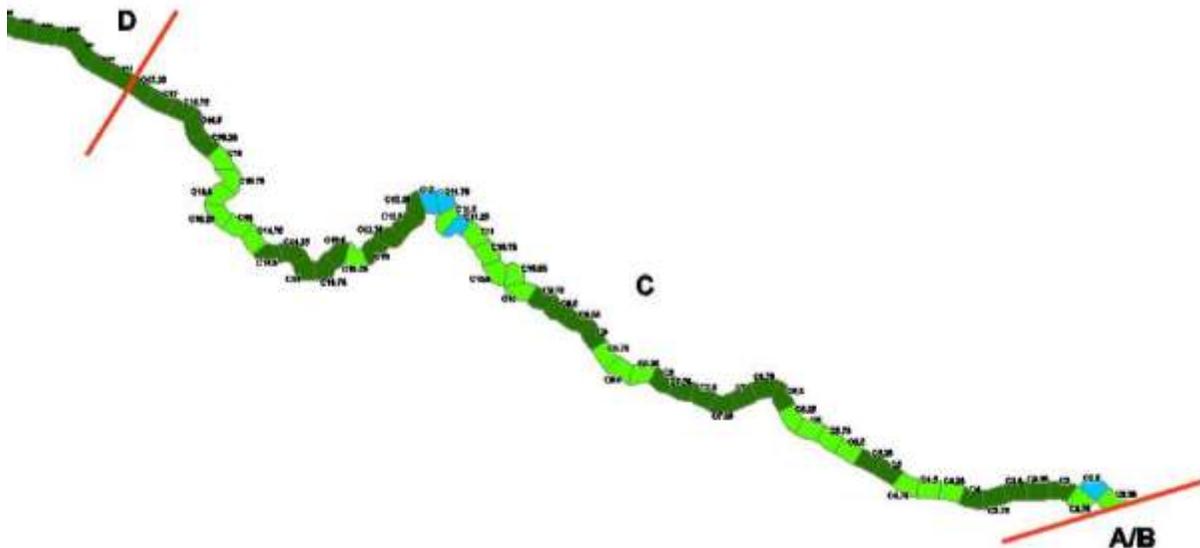


Figure 6. Division C

Division D

- Continued maintenance of Gabion baskets and boom. Inclement weather caused intermittent work stoppages.
- SCAT Re-Assessment completion reports have been submitted for 27 of 27 sites and EPA has signed off on 26 sites.

Table 3. Division D

Shoreline and Overbank Cleanup Step	Percent Complete	Number of Sites
SCAT Assessment Completed (Step 1)	100%	27
Operations Cleanup Completed (Step2)	100%	27
Enbridge/EPA Inspection Completed (Step 3)	100%	27
SCAT Re-Assessment Completed (Step4)	100%	27
EPA Division Supervisor Sign-Off (Step 5)	96%	26

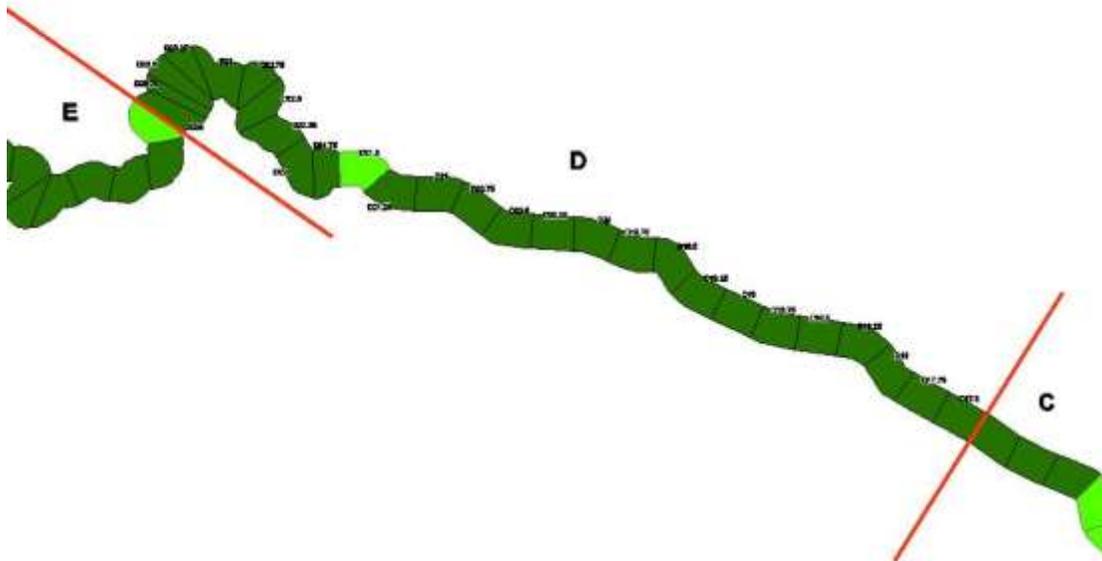


Figure 7. Division D

Division E

- Continued maintenance of Gabion baskets and boom. Inclement weather caused intermittent work stoppages.
- Skimming activities are ongoing in Morrow Lake and Delta area.
- SCAT Re-Assessment completion reports have been submitted for all 64 sites and EPA has signed off on 63 sites.

Table 4. Division E

Shoreline and Overbank Cleanup Step	Percent Complete	Number of Sites
SCAT Assessment Completed (Step 1)	100%	64
Operations Cleanup Completed (Step2)	100%	64
Enbridge/EPA Inspection Completed (Step 3)	100%	64
SCAT Re-Assessment Completed (Step4)	100%	64
EPA Division Supervisor Sign-Off (Step 5)	88%	63

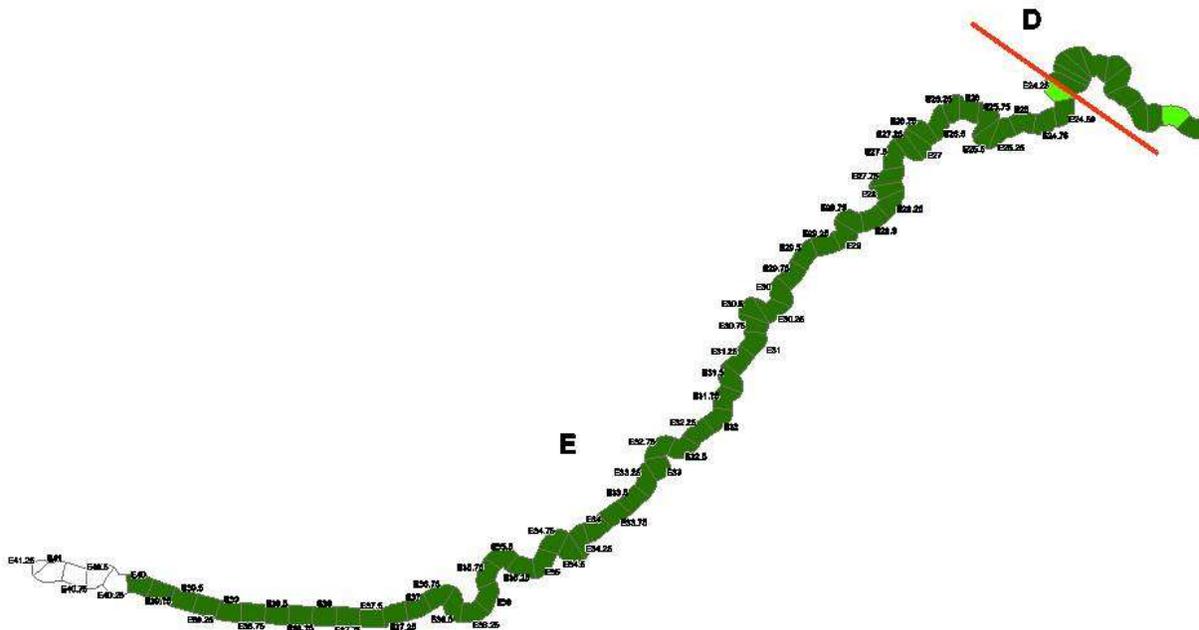


Figure 8. Division E

### 2.1.4 Decontamination and Disposal

#### DECON Branch

- Visited decontamination sites in Division A, B and C to observe decontamination activities and completed decontamination checklists at each location.
- There are currently 4 large decontamination locations: the Division A soil staging area, Frac City, the Division B soil staging area and C0.5 that provide decontamination for large equipment and boating operations. There are also decontamination locations at B2, B3, B4, B4.6/7, C0, C3.2 and E0.5
- Coordinated with National (Enbridge contractor) on use of Draeger tubes at Frac City to determine presence of benzene and potential interference by cleaning product.

#### Transportation and Disposal Group

- Coordinated with Enbridge Planning for briefing to Unified Command on transportation and disposal.
- Observed field activities in Divisions A, B, and C including soil staging and mixing operations.
- Continued audits on the impacted soil, water and debris data from the response.

### 2.1.5 Submerged Oil Cleanup

#### Submerged Oil Task Force (Talmadge Creek and Divisions C, D, and E)

- Continued assessing the locations with poling (327) and core sampling (29) techniques as well as continued ecological assessments.
- Containment has been placed at 17 of the 18 identified submerged oil locations.
- In Talmadge Creek, crews are raking to free up product trapped below the sediment.
- Conducted aeration operations to prepare a clean area for Amphibex dredge to enter the river.
- Conducted aeration activities at multiple locations with sufficient water depth.
- Partitioned oxbow at MP 28.25 into grids to prepare for aeration activities.

Table 5. Submerged Oil Cleanup Status

Submerged Oil Cleanup	Percent Complete	Number of Sites	Total at Completion
Assessment	100%	20	20 <sup>a</sup>
Containment	89%	17	18
Work Plan	50%	9	18
Cleanup	0%	0	18
EPA Division Supervisor Sign-Off (Step 5)	0%	0	18

a- After assessment, it may be determined that submerged oil is not present or that no further activity is required.

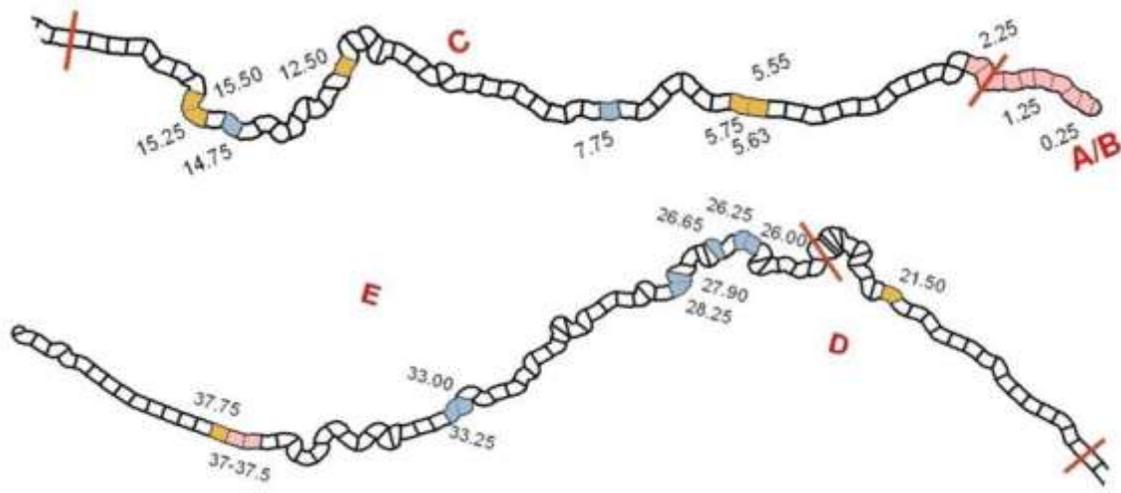


Figure 9. The Submerged Oil Cleanup Sites

**2.1.6 Operation and Maintenance**

Division D and E

- Conducted inspections of potential O&M locations to inform short term plan development process.

The Long-Term Operation and Maintenance Plan is being developed by Enbridge.

**2.1.7 Additional Operations**

EPA, USCG and Enbridge Operations have Branches that conduct activities in all Divisions: Technical Services Group, Environmental Compliance and Oversight, Wildlife Environmental/Damage Assessment, Air Operations and Monitoring.

Technical Services Group

- Technical Services Group evaluated different cleanup techniques for submerged oil within the Mill Pond area. Recommended use of sheen machine and developing booming strategy.
- Technical Services Group developed 2-phase booming strategy for the Kalamazoo River and presented the plan to the Unified Command.

Environmental Compliance and Oversight Branch

- Enbridge continued waste management characterization, documentation, and coordination and implementation of source contamination removal, verification, and backfilling in Talmadge Creek.

Wildlife Environmental Damage Assessment Branch

- As of September 21, 2010, the wildlife center reported approximately 306 animals in captivity and 1347 animals released.
- During this reporting period, the USFWS reported approximately 110 turtles captured including one clean turtle which had been previously captured in Division E. Ten additional clean turtles were weighted, measured and immediately released.

- Deterrence fencing is being evaluated and marked for removal in areas that meet SCAT cleaning recommendations.

Air Ops Branch

- 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.

Monitoring Branch

Enbridge reported the following:

- Focused air sampling programs continued around the Baker Estates Mobile Home Park, Daycare, Ceresco Dam, and the work areas. Tedlar bag air samples, 24-hour summa mini-can samples, grab samples, and passive dosimeter samples were collected as well as real-time air monitoring samples.
- Ongoing real time monitoring for benzene and VOCs in work areas.

**Table 6 - Samples Collected**

Sample Type	Number Collected 9/21	Number Collected 9/22
Air Monitoring	Not Reported by Enbridge	Not Reported by Enbridge
Surface Water	23	36
Vertical Water Column Samples	0	0
Private Well Samples	12	5
Sediment Samples	11	10
Sheen Samples	0	0
Other	0	0
Soil Samples	0	0

EPA reported the following actions or observations:

- START oversight team shadowed the Enbridge surface water sampling team and took one split sample in Morrow Lake and 2 split samples in Division C.

**Table 7 - Samples Documented in SCRIBE**

Media	Sample Type	Number Collected 9/21	Number collected 9/22
Air	Summa Canister	0	0
Air	Tedlar Bags	0	0
Air	Monitoring Locations	0	17
Surface Water	Grab	2	1
Sediment	Grab	0	0

SCAT

SCAT teams conducted re-evaluations at 9 locations.

### 2.1.8 Progress Metrics

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

#### Boom Report

**Table 8 - Boom Report**

Date	9/21	9/22
Number of Locations	23	25
Boom Deployed (feet)	84,772	124,796

#### Soil and Debris Waste Tracking

**Table 9 - Soil and Debris Waste Tracking**

Waste Stream*	Quantity Shipped On 9/20	Quantity Shipped On 9/21	Cumulative Quantity Shipped
Haz Soil (yd <sup>3</sup> ) <sup>a</sup>	0	0	15,344
Non Haz Soil (yd <sup>3</sup> ) <sup>b</sup>	756	934	26,104
Haz Debris (yd <sup>3</sup> ) <sup>c</sup>	0	0	12,075
Non Haz Debris (ton) <sup>c</sup>	28	34	1322

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

- a. Haz (Benzene)-impacted soil is being sent 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 10 –Oil water collected by location 9/22/10 0700**

Location	Cumulative Total Collected (gallons)
Division A	5,329,293
Division B	3,925,505
Division C	911,550
Division D	119,850
Division E	50,030
DECON	190,760
Other Locations*	201,251
<b>TOTAL</b>	<b>10,728,239</b>

**Table 11 - Oil water Separation 9/22/10**

Oil-Water - Enbridge Facility in Griffith, IN Facility (gallons)	
Oil	699,823
Other Material	1,382,983
<b>TOTAL</b>	<b>2,082,806</b>

\* Includes Frac, DECON, and Wildlife Center.

**Table 12 - Oil/Water Volume Summary (Gallons)**

Oil/Water Collected	10,728,239
Oil/Water Shipped Off-site	9,196,445
<b>OIL/WATER REMAINING ON-SITE</b>	<b>1,531,794</b>

**Table 13 – Liquid Shipped Off-site**

Oil/Water leaving Site	Destination	Daily Quantity Shipped (Gallons)9/20	Daily Quantity Shipped (Gallons)9/21	Cumulative Quantity Shipped (Gallons)
Haz Water	Dynecol, Detroit, MI	28,511	18,503	2,300,479
Oil/Water	Enbridge Facility, Griffith, IN	0	0	2,082,806
Treated Non Haz Water	Liquid Industrial Waste Services, Holland, MI	0	0	370,200
Treated Non Haz Water	Plummer, Kentwood, MI	20,000	75,680	2,339,235
Haz Water	Safety Kleen <sup>a</sup>	0	0	825
Treated Non Haz Water *	Dynecol, Detroit, MI	0	0	134,200
Treated Non Haz Water *	Battle Creek POTW	0	0	1,968,700
<b>Totals</b>		<b>48,511</b>	<b>94,183</b>	<b>9,196,445</b>

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

a. New Age lab water and methanol mix generated by mobile laboratory.

† Volumes have decreased due to an EPA audit conducted 09/03 through 09/06. Results concurred with Enbridge

## 2.2 Planning Section

### Data Management Unit/GIS Unit

The DMU continue to process surface water data, importing preliminary and validated analytical results into Scribe, and continue to process maps as requested. Continue to complete hot spot mapping. Ecological analysis mapping is complete.

### Environmental Unit

Enbridge presented a matrix to the EAG to describe the process of selecting stained trees for covering and potential materials for that activity.

ENV coordinating with data management and CTEH to ensure consistent site IDs are utilized.

The EU reviewed changes to the Submerged Oil Aeration SOP and provided comments.

### 2.2.1 Anticipated Activities for Next Reporting Period

In the next operational period, Operations anticipates transitioning to focused cleanup activities to finalize shoreline and overbank activities in Talmadge Creek and the Kalamazoo River and continue submerged oil cleanup. Hot spots will continue to be addressed as identified.

### 2.2.2 Public Health

Public Health will begin meeting only once per week. They continued discussions on the addendums to the Sampling and Analysis Plan and the process for lifting the bottled water advisory.

Enbridge was asked to clarify the status of drinking water sample locations and sampling efforts.

### 2.3 Logistics Section

Logistics investigated a concern raised by the Nottawaseppi Huron Band of the Pottawatomis of oil and debris on the Highway 96 near Staging Area 3. At the time of the visit, the highway was clean and Staging Area 3 had satisfactory housekeeping practices in place.

### 2.4 Safety Reports

- Reviewed the Enbridge Hazard Assessment for work on Island E. Work to be performed in Level C and with mechanized equipment. Four gas meters will monitor O<sub>2</sub> levels.
- Reviewed air data from the island at MP8.25 showed the highest concentration was for methane at 500 ppm.
- An individual was harassing the site at Location E4.5. Kalamazoo sheriff was notified and site workers were instructed to call 911 if the individual shows up at the site again. State Police are also investigating the incident.
- Finalized report for mobile laboratory trailer incident and provided report to Incident Commander.
- Continued investigation of benzene detection at Location B2.5 and confirming proper calibration and functionality of instrument.

### 2.5 Liaison Officer

The LNO met with the Environmental Director for the Nottawaseppi Huron Band of the Pottawatomis to discuss issues of concern to the Tribe, including activities at Staging Area 3.

### 2.6 Information Officer

The Public Information Office reported the following activities:

- Met with Marshall School Superintendent to discuss presentations for local schools on oils spill and response.
- Coordinated with Liaison Officer to address concerns of the Nottawaseppi Huron Band of the Pottawatomis .

Media Inquiry Line (877-440-7157)

Calls received during last reporting period: 0

Enbridge reported the following call volume and community center visits:

Oil Spill Public Information Hotline (800-306-6837)

Calls received during last reporting period: 73

Community Center Visits:	Battle Creek	14
	Marshall	12

Enbridge reported that it received 5 inquiries from its [www.response.enbridgeUS.com](http://www.response.enbridgeUS.com) website.

## 2.7 Finance Section

The current NPFC issued ceiling was \$21.6 million. Approximately 82.0% of the ceiling had been spent through September 21, 2010 (see burn rates below). These cost summaries reflect only EPA-funded expenditures for the incident.

**Table 14 - FPN E10527 - Enbridge Pipeline Oil Spill**

ERRS Contractors		Est. Expended	Est Burn Rate (9/20/10)	Est Burn Rate (9/21/10)
EQM (EPS50802)	T057	\$1,250,065	0	0
	T060	239,634	1,600	1,600
LATA (EPS50804)		1,451,396	0	0
ER LLC (EPS50905)		723,669	0	0
<b>ERRS Contractors</b>		<b>\$3,664,764</b>	<b>\$1,600</b>	<b>\$1,600</b>
Lockheed Martin (EPW09031)		150,000	0	0
TNT Bisso		1,099,000	27,000	27,000
<b>START Contractor</b>				
WESTON (EPS50604)		5,834,524	71,507	74,331
<b>Response Contractor Sub-Totals</b>		<b>\$10,748,288</b>	<b>\$100,107</b>	<b>\$102,931</b>
EPA Funded Costs:				
Total EPA Costs		3,385,403	50,000	45,800
Pollution Removal Funding				
<b>Total Other Agencies</b>		<b>\$1,133,680</b>	<b>\$9,280</b>	<b>\$9,280</b>
Sub-Totals		\$15,267,371	\$159,387	\$158,011
Indirect Cost (16.00%)		2,442,779	25,502	25,282
<b>Total Est. Oil Spill Cost</b>		<b>\$17,710,150</b>	<b>\$184,889</b>	<b>\$183,293</b>

## 2.8 Response Actions to Date

Response Actions to date may be found in Situation Reports #1 through #54.

## 3 Participating Entities

### 3.1 Unified Command

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

### 3.2 Cooperating and Assisting Agencies

ATSDR	Marshall Police Department
Calhoun Conservation District	Marshall Township Government and Fire Department
Calhoun County Commission	Michigan Department of Agriculture
City of Kalamazoo	MDCH
City of Marshall	NOAA
Emmett Township	Oakland County HAZMAT/RRTN
Fredonia Township	PHMSA
Kalamazoo County Office of Emergency Management	USCG
Marshall Area Firefighters Ambulance Authority	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

**Table 15. Personnel On Site**

Agency/Entity	Numbers Reported 9/21	Numbers Reported 9/22
EPA	41	42
START	41	43
Calhoun County Public Health	4	5
Calhoun County (CC) Sheriff	6	6
City of Battle Creek	3	3
Kalamazoo Sheriff	2	2
MDNRE	7*	9
Michigan State Police (MSP)	1	1
NOAA - National Weather	2	2
USCG	4	3
USFWS	3	3
Enbridge ICP	85	70
Enbridge ICP Contractor	359	384
Enbridge	13	27
Enbridge Contractors	1256	1254
<b>Total</b>	<b>1827</b>	<b>1854</b>
* indicates that an update was not received and the number is an estimate based upon the previous reported number.		

#### 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>.

##### 5.2 Reporting Schedule

SITREPs are now being created every other day and will continue until the UC establishes a different reporting schedule.