

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



Flushing operations at the Mill Pond (MP15.0)

Subject: **SITREP # 62**
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 Sheriff's 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: 10/07/2010

Reporting Period: 0700 hours 10/05/2010 to 0700 hours 10/07/2010

1 Introduction

1.1 Background

1.1.1 Site History

Background Information

Site Number: Z5JS

D.O. Number:

Response Authority: OPA

Response Lead: PRP

NPL Status: Non-NPL

Mobilization Date: 7/26/2010

Demob Date:

CERCLIS ID:

ERNS No.:

FPN#: E10527

Contract Number:

Action Memo Date:

Response Type: Emergency

Incident Category: Removal Action

Operable Unit:

Start Date: 7/26/2010

Completion Date:

RCRIS ID:

State Notification:

Reimbursable Account

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 04, 2010, at 0700 to October 08, 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. 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 and Millpond areas.
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.
5. Continue messaging on project status and next steps for public awareness.

2 Current Activities

2.1 Operations Section

2.1.1 Narrative

The command Objectives and Emphasis for this reporting period focused on Operations and Maintenance, Decon/Demob, and responding to areas identified as requiring further action. Operations is assessing areas of submerged oil, inspecting and evaluating O&M progress, addressing areas of concern, and installing containment measures as approved in the work plan. For a detailed account of work assigned as well as the operations section organization structure, see the IAP for the operational period October 04 to October 08.

2.1.2 Oil Recovery and Cleanup Operations and Maintenance Branch

Containment and Recovery Operations and Maintenance Task Force

This task force operates from Ceresco Dam to Morrow Lake and is responsible for responding to areas of concern requiring monitoring, cleanup, boom deployment/recovery, and staging waste/debris for disposal. Reporting the following:

- Aeration and agitation operations off the right descending bank (RDB) at MP5.75 downstream of 12 Mile Road Bridge continue. Skimming operations above Ceresco Dam continue.
- EPA O&M inspected 43 locations between MP5.75 and MP15.0.
 - Inspections involved evaluation of boom, pads, and other sorbent materials for proper placement and other maintenance issues.
 - Observations and recommendations were relayed to Enbridge.
 - Sheen, strong odors, and/or free product were observed at multiple locations.
 - Seven locations were approved for closeout under the O&M program.
- Additional work was recommended for the site along the RDB at MP10.8.
- After inspections by EPA and MDNRE excavation and backfilling operations at MP 13.25 are complete. Restoration has begun, natural materials are secured in place, and sediment control fence is installed.
- CTEH responded to an air quality complaint by a resident. Sheen was observed, but no air quality issues were reported.

Shoreline and Overbank Operations and Maintenance Task Force

This task force operates throughout the response area and is responsible for completing the activities as outlined in the O&M list. The Shoreline and Overbank O&M Task Force reported the following:

- Conducted boom and collection point maintenance at multiple locations.
- Sheen observed at MP2.75.
- EPA O&M inspected 17 locations between MP2.0 and MP4.5 where saturated oil, some sheen, and tarred soil were observed. Sorbent and monitoring are recommended at all areas.
- At MP2.75 and MP3.0 sorbent materials were deployed and the area is scheduled for daily monitoring.
- Six test pits were hand dug on Island A. Each hole accumulated free product.
- Vacuum operations and peat material clean up methods are now deployed at Lily Pads at MP4.25.
- Flushed inland rock channel at MP10.75.

The O&M maintenance and monitoring areas are outlined in Table 1 and depicted in Figures Figure 1 - Figure 3.

Table 1 – O&M Maintenance and Monitoring Areas

Restoration Step		Percent Complete	Number of Sites	Total at Completion
1. Active Site		100%	48	48
2. Clean up complete		73%	35	48
3. Cleared		10%	5	48
4. Signed Off		0%	0	48

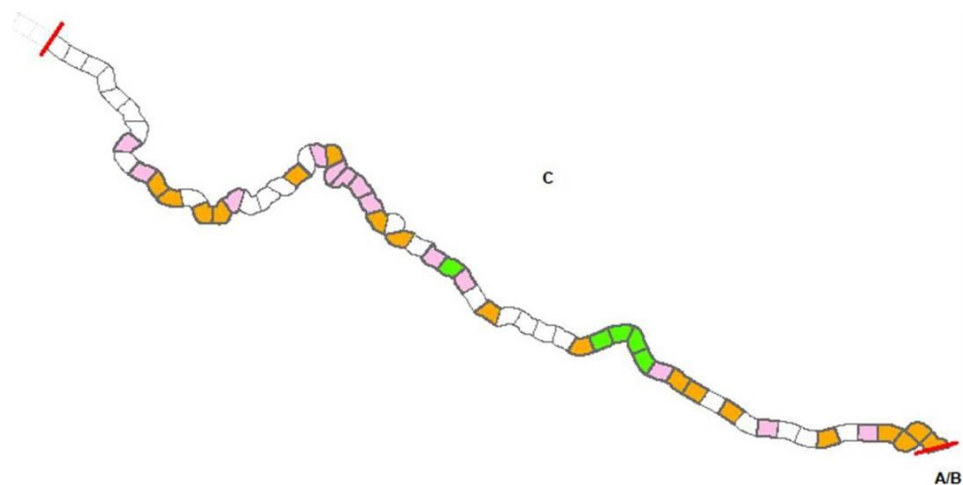


Figure 1 – Division C O&M Maintenance and Monitoring Areas

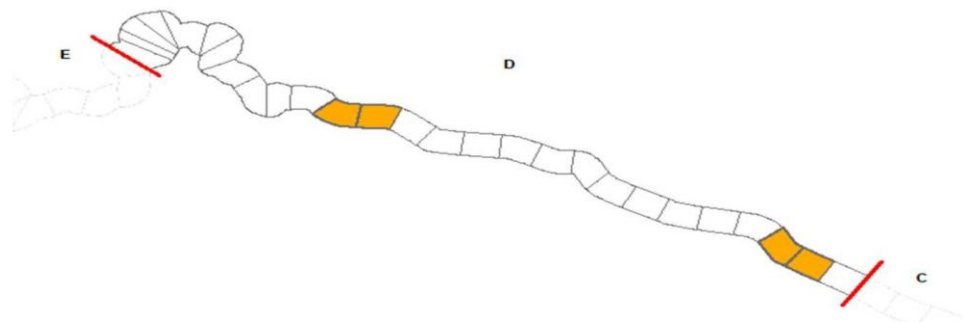


Figure 2 - Division D O&M Maintenance and Monitoring areas

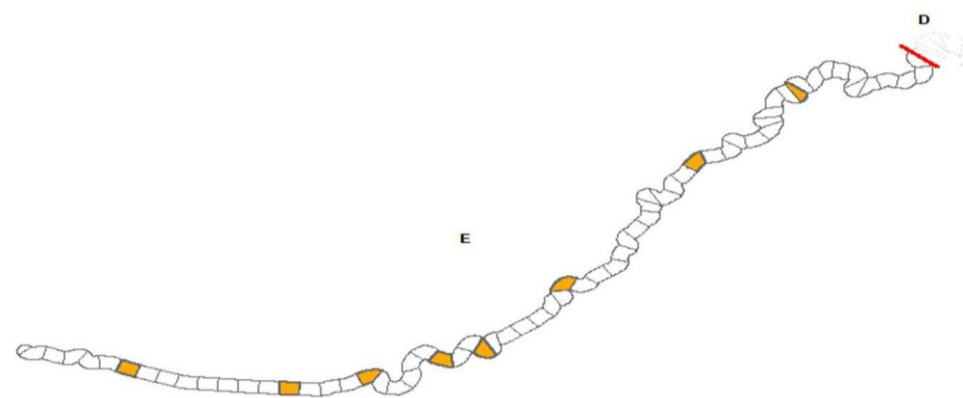


Figure 3 - Division E O&M Maintenance and Monitoring areas

Source Area and Talmadge Creek Operations and Maintenance Task Force

This task force operates from the source area to the confluence of Talmadge Creek and the Kalamazoo River. Reporting the following:

- Backfilling, restoration, mat road removal, and installation of erosion control matting continued throughout Divisions A and B.
- Mat road removal completed along LDB Location A5 and LDB at Location A6.
- A monitoring well is being installed at Location A5.
- Vacuum truck operations continued at Locations B2.3, B2.8, and B4.

- Excavation of the ponds at Location B4.5 was completed. Restoration work is pending.
- Hay bail check dam system appears effective.

The clean up and restoration phase for Talmadge Creek is being tracked using a four-step process. The progress of the restoration is outlined in Table 2 and is depicted in Figure 4 – Division A, Sections 1 and 2 (Location A4 to B2) through Figure 8.

Table 2 - Division A and B Restoration Progress, Sections 1-10

Restoration Step		Percent Complete
1. Prepped		100%
2. Cleared		100%
3. Backfilled		100%
4. Restored		95%

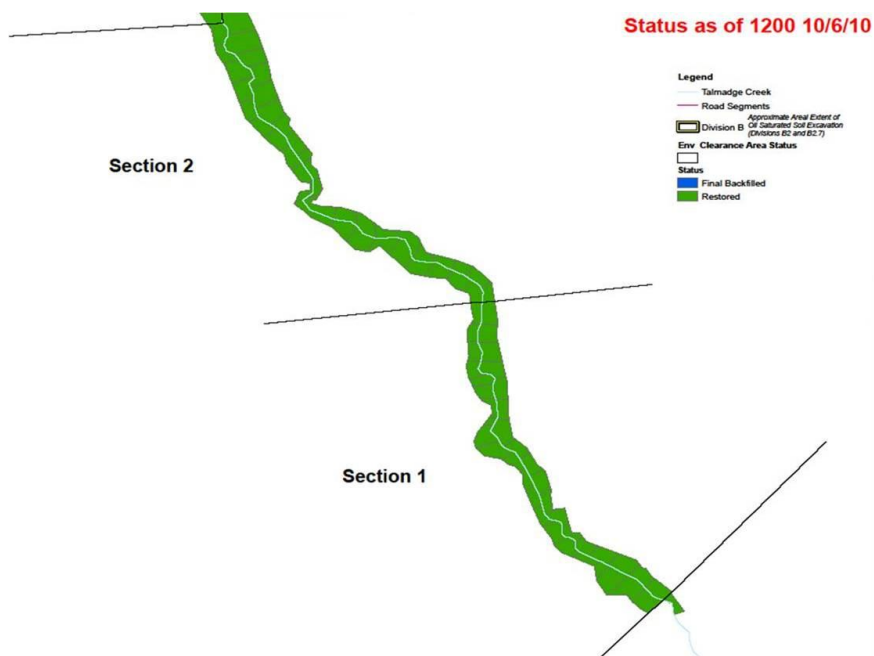


Figure 4 – Division A, Sections 1 and 2 (Location A4 to B2)

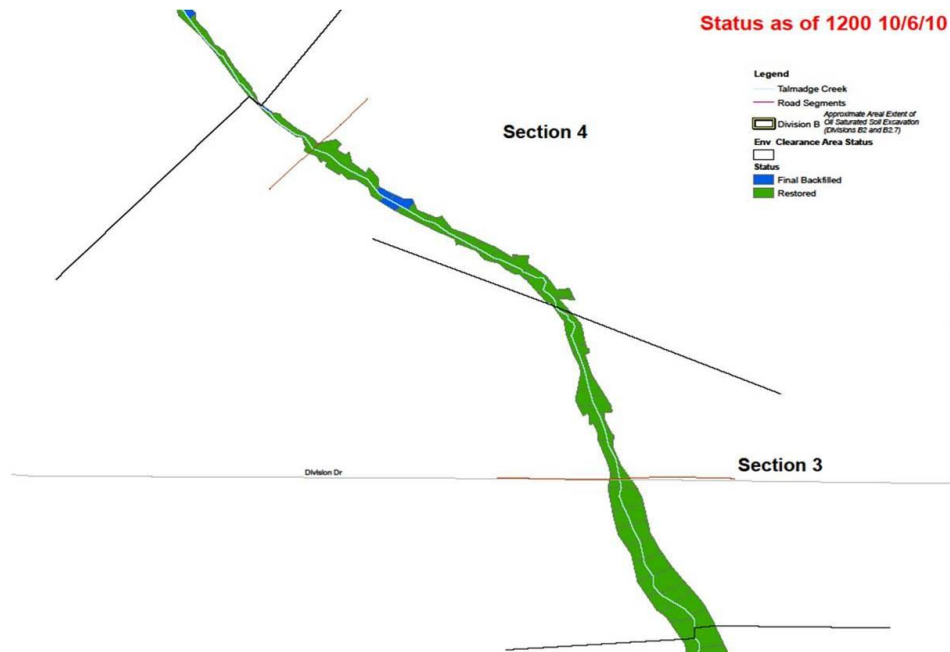


Figure 5 - Division B, Sections 3 and 4 (Location B2 to B2.5)

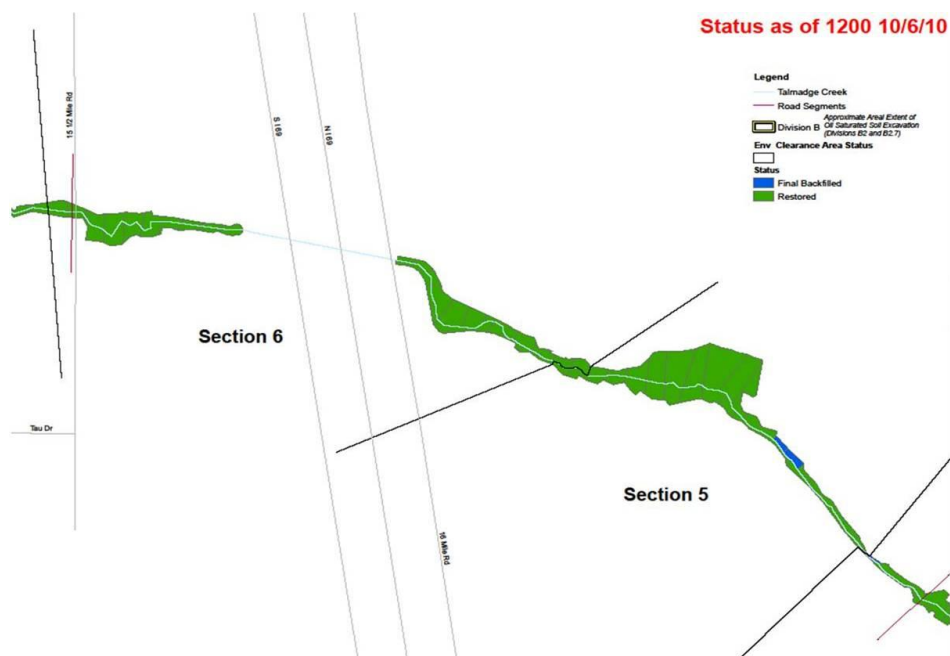


Figure 6 - Division B, Sections 5 and 6 (Location B2.5 to B4)

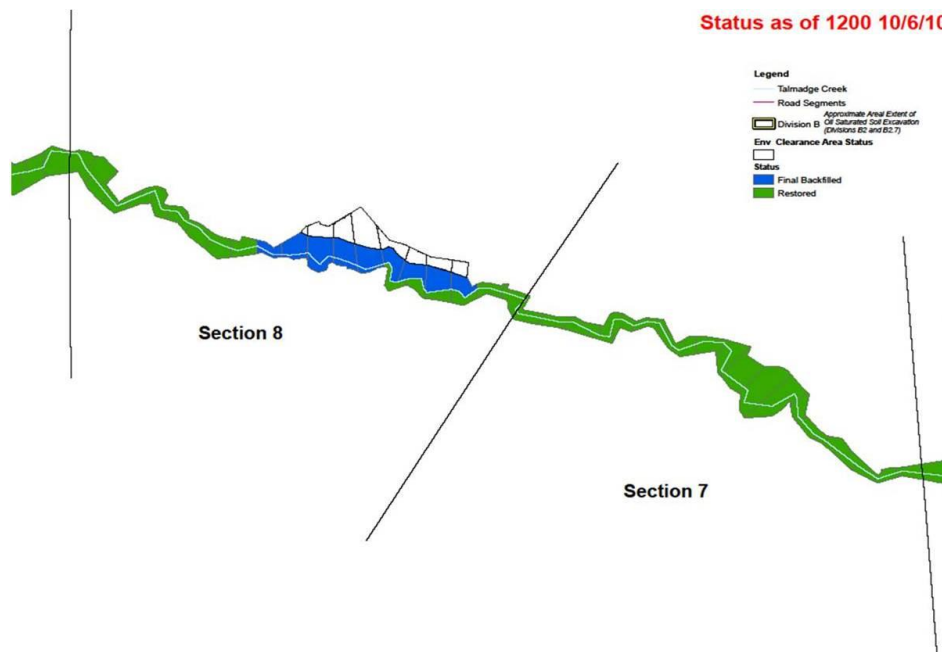


Figure 7 - Division B, Sections 7 and 8 (Locations B4 to B4.8)

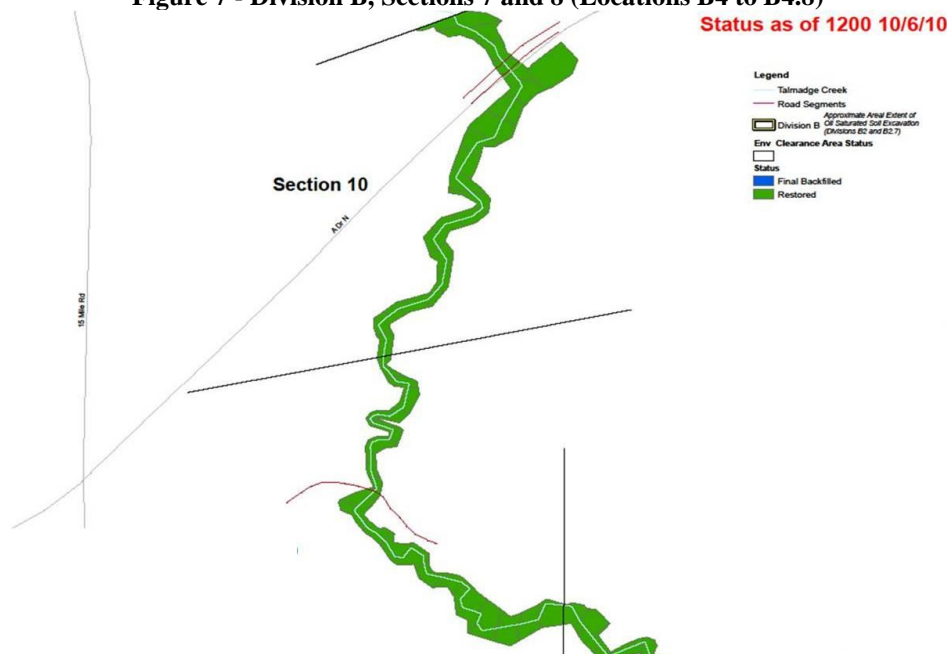


Figure 8 - Division B, Section 9 and 10 (Locations B4.9 to B5)

2.1.3 Oil Recovery and Cleanup Submerged Oil Branch

Ceresco Dam Dredging Task Force

This task force operates in the vicinity of the Ceresco Dam and is responsible for conducting cleanup and dredging operations.

- Dredging operations continue at Ceresco Dam.
- Free product produced during aeration at MP5.8.
- Dredging progress is outlined in Figure 9.

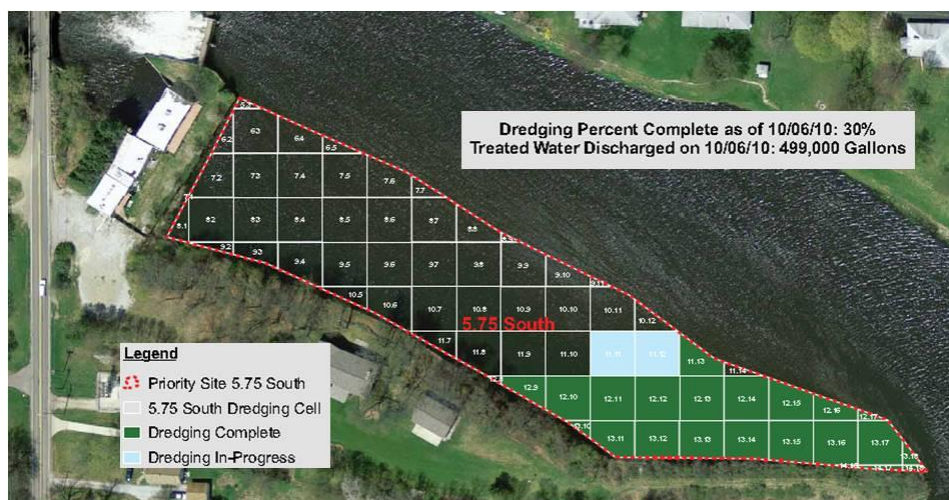


Figure 9 – Dredging Progress

Submerged Oil Recovery Task Force

This task force operates throughout the response area and is responsible for conducting submerged oil recovery operations.

- Alternative cleanup options are being evaluated, after water flushing operations at C5.75N.
- Water flushing operations began at the Mill Pond area (MP15.25) and at the Oxbow.
- Aeration and agitation operations around Ceresco Dam continue.

Changes to priority area status and operations reported by Enbridge and EPA during this SITREP period are outlined in Table 3. Submerged Oil cleanup sites are depicted in Figure 10.

Table 3 – Priority Area Status and Operations

Location	Habitat/Vegetation Value	Current Operations	Recovery Status	EPA Inspection Status
MP1.65 (B4.5 ponds)	Low	Dewatering and vacuum extraction	Ongoing	-
MP4.53	-	Recovery options under review	-	-
MP5.31	-	Recovery options under review	-	-
MP5.55	Sensitive	Aeration completed, dredging pending	Complete	Ready
MP5.63	-	Aeration completed, dredging pending	Ongoing	-
MP5.75	-	Aeration completed, dredging pending	Complete	Ready
MP7.75	Sensitive	None	Complete	Approved
MP5.81	Sensitive	Aeration ongoing, further action under review	Ongoing	-
MP12.5	Sensitive	None	-	-
MP14.75	Low	None	Complete	Approved
MP15.25	Sensitive	Area boomed, aeration	Ongoing	-

Location	Habitat/Vegetation Value	Current Operations	Recovery Status	EPA Inspection Status
(Mill Pond)		ongoing		
MP15.5 (Mill Pond)	Sensitive	Area boomed, aeration ongoing	Ongoing	-
MP18.6 (Point bar)	-	-	-	-
MP21.5	Sensitive	None, recovery options under review	Pending	-
MP26.0	Low	None	Complete	Approved
MP26.25	Low	Recovery operations complete. Possible future operations pending	Pending	-
MP26.65	Low	None	Complete	Approved
MP27.9	Low	None	Complete	Approved
MP28.25	Low	None	Complete	Approved
MP29.175	-	-	-	-
MP33.25	Low	None	Complete	Approved
MP36.25	Sensitive	Area boomed, No operations planned	-	-
MP36.6 (south bank)	-	-	-	-
MP36.5 to MP37.5 (Morrow Lake Delta)	Sensitive	Area boomed, recovery options under review	Pending	-
MP36.8	-	-	-	-

Table 4 - Submerged Oil Cleanup Status

Submerged Oil Cleanup	Percent Complete	Number of Sites	Total at Completion
Assessment	100%	20	20 ^a
Containment	100%	18	18
Work Plan	100%	18	18
Cleanup	78%	14	18
EPA Division Supervisor Sign-Off (Step 5)	50%	9	18
^a - After assessment, it may be determined that submerged oil is not present and no further activity is required.			

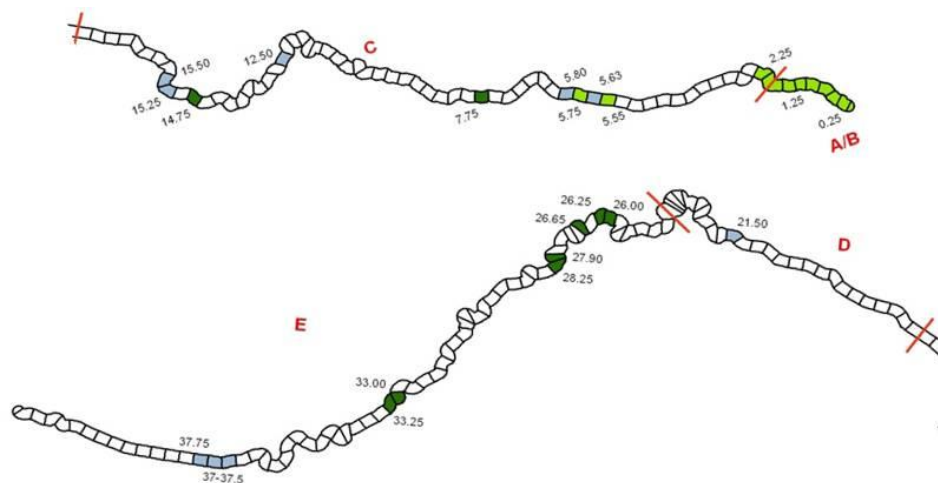


Figure 10 - Submerged Oil Cleanup Sites

2.1.4 Environmental Compliance and Oversight Branch

- Continued oversight of the removal of mat roads and restoration of Talmadge Creek.
- Responded to sites of concern throughout the response area.
- Focused on transition to O&M.

Waste Management Transportation and Disposal Group

This group is responsible for the oversight of the characterization, manifesting, and disposal of waste generated from the response and clean up activities. Reporting the following:

- T&D is coordinating with the SOTF and Enbridge contractors to determining the most accurate sampling technique for correlating TPH/O&G recovery from aqueous influent per the dredging operation.
- Continued oversight of waste treatment, disposal, manifests, weight tickets, and auditing bills of lading.

2.1.5 Monitoring Branch

This group is responsible for all SOTF activities, conducting the Hydrogeological Investigations as outlined by the Sampling and Analysis Plan.

- Sediment and surface water samples were collected.
- Air monitoring was conducted near oil collection sites, around excavation operations, in and around the water treatment plant, and in community areas including Baker Mobile Park. No readings in excess of the background were reported.
- Duplicate UltraRAE and MultiRAE samples and one split sample from Division C were collected.
- Real-time air monitoring around Ceresco Dam, the dredging operations and the surrounding residential community was conducted. No readings in excess of the background were reported.

Hydrogeological Investigations

This task force is evaluating the potential hydrogeological impacts in the response area.

- Completed drilling at several boring locations and documented the hydrogeological characteristics.

- A clay interval was encountered in several of the boring locations and is being considered as a potential confining layer.
- Requested clarification with regards to the scope and objectives in order to make operational adjustments based on hydrogeological characteristics of the completed borings.

Submerged Oil Task Force (SOTF)

This Task Force operates throughout the response area evaluating the efficiency of proposed remedial options, and implementing and documenting cleanup in designated areas.

- Poling of multiple locations in Division C and in the Morrow Lake Delta.
- Surveyed boom locations in several areas.
- Continued documentation of aeration work at Ceresco Dam and at the Mill Pond.

Table 5 – Samples Collected (as reported by Enbridge)

Sample Type	Number Collected 10/05	Number Collected 10/06
Air Monitoring	Not Reported by Enbridge	Not Reported by Enbridge
Surface Water	26	20
Private Well Samples	0	3
Sediment Samples	8	0
Soil Samples	0	9
Sheen Samples	0	0
Other	0	0
Vertical Water Column Samples	0	0

Table 6 – Samples Documented in SCRIBE (as reported by EPA)

Media	Sample Type	Number Collected 10/03	Number collected 10/04
Air	Monitoring Locations	135	136
Air	Tedlar Bags	0	0
Air	Summa Canister	0	0
Sediment	Grab	0	0
Surface Water	Grab	0	1

2.1.6 Air Ops Branch

The Air Ops Branch is comprised of representatives from EPA and Enbridge conducting daily over-flights of the entire response area and reports any relevant observations.

The Air Ops Branch reported the following:

- During this operational period, there were 4 over-flights.
- Air Ops observed and documented cleanup and restoration progress in all operational areas.
- Air Ops continued to investigate areas of interest and report on hot spots, oil mobilization, O&M, and DECON.

2.1.7 Additional Operations

The DECON Branch, Wildlife Environmental Damage Branch, and Air Operations conducted activities in all Divisions.

DECON Branch

The DECON branch predominantly operates out of four major DECON areas (Frac Tank City, C0.5 DECON Site, Division A DECON Site, and Yard 4).

The DECON Branch reported the following:

- Inspected multiple DECON locations. Checklists were completed for each.
- Continued development of site specific DECON procedures.

Wildlife Environmental Damage Branch

The Wildlife Environmental Damage Branch is responsible for capturing, cleaning, caring, and releasing impacted wildlife and providing turtle capture points to GIS for mapping. The Wildlife Environmental Damage Branch operates throughout the response area and beyond.

The Wildlife Environmental Damage Branch reported approximately 408 animals in care and 1842 animals released as of October 6.

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

Date	10/05	10/06
Number of Locations	19	19
Boom Deployed (feet)	135,175	122,645

Soil and Debris Waste Tracking

Table 8 - Soil and Debris Waste Tracking

Waste Stream*	Quantity Shipped On 10/4	Quantity Shipped On 10/05	Cumulative Quantity Shipped[†]
Haz Soil (yd ³) ^a	0	0	15,344
Non Haz Soil (yd ³) ^b	1,166	1,107	37,731
Haz Debris (yd ³) ^c	0	0	12,075
Non Haz Debris (ton) ^c	1	0	1,376

* 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 10/06/10 0700

Location	Cumulative Total Collected (gallons)
Division A	5,541,143
Division B	4,618,365
Division C	1,056,250
Division D	119,850
Division E	50,030
DECON	305,080
Other Locations*	239,283
TOTAL	11,930,001

* Includes Frac, DECON, and Wildlife Center.

Table 10 - Oil water Separation 10/06/10

Oil-Water - Enbridge Facility in Griffith, IN Facility (gallons)	
Oil	758,756
Other Material	1,400,050
TOTAL	2,158,806

Table 11 - Oil/Water Volume Summary (Gallons)

Oil/Water Collected	11,930,001
Oil/Water Shipped Off-site	10,677,214
OIL/WATER REMAINING ON-SITE	1,252,787

Table 12 – Liquid Shipped Off-site

Oil/Water leaving Site	Destination	Daily Quantity Shipped (Gallons)10/04	Daily Quantity Shipped (Gallons)10/05	Cumulative Quantity Shipped (Gallons)†
Haz Water	Dynecol, Detroit, MI	8,000	16,000	2,458,948
Oil/Water	Enbridge Facility, Griffith, IN	0	0	2,158,806
Treated Non Haz Water	Liquid Industrial Waste Services, Holland, MI	0	0	370,200
Treated Non Haz Water	Plummer, Kentwood, MI	70,000	84,900	3,585,535
Haz Water	Safety Kleen ^a	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
Totals		78,000	100,900	10,677,214

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

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

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

2.2 Planning Section

2.2.1 Situation Unit

Data Management Unit/GIS Unit

- Continued to process surface water data, import preliminary and validated analytical results into Scribe, and process maps as requested.
- Assisted with data organization and mapping of benzene monitoring results at Ceresco Dam.

2.2.2 Environmental Unit

- The Environmental Unit reviewed Enbridge work plans, provided oversight of the dredging operations, and conducted operations as usual.

Public Health

- Provided flu shots to response personnel.
- No public health concerns reported at this time.

2.3 Anticipated Activities for Next Reporting Period

The next reporting period (SITREP #63) will cover October 7, 2010 0700 to October 9, 2010 0700. Operations will be focused on the submerged oil cleanup (hot spots are being identified and addressed through a punch list process), and DECON/demobilization and restoration.

2.4 Logistics Section

- Coordinated with various other units within the ICS to ensure smooth operations.
- Provided technical assistance with computer and communications equipment to ICP staff.

2.5 Safety Reports

- Inspected Wildlife Center and made safety recommendation.
- Conducted feasibility test regarding the relocation of Location D1 operations to Location D2.
- Reviewed and updated the IAP as necessary.
- Law enforcement is now present at Morrow Lake during daily operations.

2.6 Liaison Officer

- Engaged in ongoing coordination with cooperating and assisting agencies, the UC, Enbridge, and the PIO.

2.7 Information Officer

- Enbridge reported public inquiries as outlined in Table 13.

Table 13 – Public Inquiries

	10/04	10/05
Battle Creek Community Center	6	0
Marshall Community Center	8	7
Oil Spill Public Information Hotline	25	13
Enbridge Response Website	3	0
Total Public Inquiries/Claims	42	20

2.8 Finance Section

The current NPFC issued ceiling was \$21.6 million. Approximately 90.8% of the ceiling had been spent through October 5, 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 (10/5/10)	Est. Burn Rate (10/04/10)
EQM (EPS50802)	T057	\$1,250,065	0	0
	T060	204,905	0	0
LATA (EPS50804)		1,451,396	0	0
ER LLC (EPS50905)		723,669	0	0
ERRS Contractors		\$3,630,035	0	0
Lockheed Martin (EPW09031)		150,000	0	0
T&T Bisso		1,255,000	0	0
START Contractor				
WESTON (EPS50604)		6,645,055	56,166	51,044
Response Contractor Sub-Totals		\$11,680,090	56,166	\$51,044
EPA Funded Costs:				
Total EPA Costs		3,858,703	30,200	30,200
Pollution Removal Funding Agreements:				
Total Other Agencies		\$1,359,709	3,840	\$3,840
Sub-Totals		\$16,898,502	90,206	\$85,084
Indirect Cost (16.00%)		2,703,760	14,433	13,613
Total Est. Oil Spill Cost		\$19,602,262	104,639	\$98,697

2.9 Response Actions to Date

Response Actions to date may be found in Situation Reports #1 through #62.

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

Table 15 - Personnel On Site

Agency/Entity	Numbers Reported 10/5	Numbers Reported 10/6
EPA	29	30
START	37	36
Calhoun County Public Health	1	1
Calhoun County (CC) Sheriff	6	6
City of Battle Creek	3	3
Kalamazoo Sheriff	2	2
MDNRE	8	8
Michigan State Police (MSP)	1	1
NOAA - National Weather	1	1
USFWS	2	2
Enbridge ICP	57	60
Enbridge ICP Contractor	280	310
Enbridge	11	9
Enbridge Contractors	742	744
Total	1180	1211

* Staffing numbers not reported

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.