

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 # 52
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: 09/17/10

Reporting Period: 0700 hours 9/15/10 to 0700 hours 9/17/10

1 Introduction

1.1 Background

1.1.1 Site History

Background Information

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
Demob Date:	Completion Date:
CERCLIS ID:	RCRIS ID:
ERNS No.:	State Notification:
FPN#: E10527	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 September 15, 2010, 0700 to September 18, 2010, 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. Begin implementation of submerged oil containment and recovery tactics for highest priority targets in the Kalamazoo River and at Morrow Lake.
2. Implement plan to ensure thorough assessment 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. Finalize the actions needed to lift the Bottled Water Advisory where appropriate.

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; 4) Submerged Oil Cleanup; and 5) Long-term 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

- Division A and B are currently in the restoration phase with some removal still occurring in Locations A5, A6 and Division B.
- START and EPA will continue to provide observation and documentation of test pit excavations that Enbridge has excavated at 50 feet intervals along the left and right banks of Talmadge Creek.
- EPA and START are working with the Enbridge soil screening crew to ensure the appropriate quality of backfill material.
- Enbridge addressed corrective actions identified by MDNRE and hot spot cleanup areas identified by EPA.

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

Restoration Step		Percent Complete
1. Prepped		86%
2. Cleared		64%
3. Backfilled		24%
4. Restored		9%

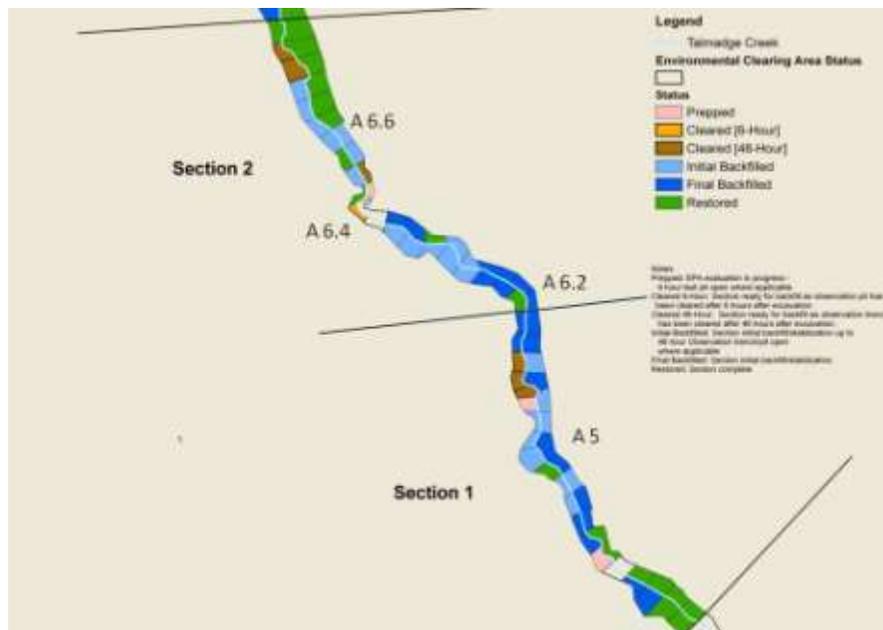


Figure 1. Division A, Sections 1 and 2 (Locations A5 to A6)

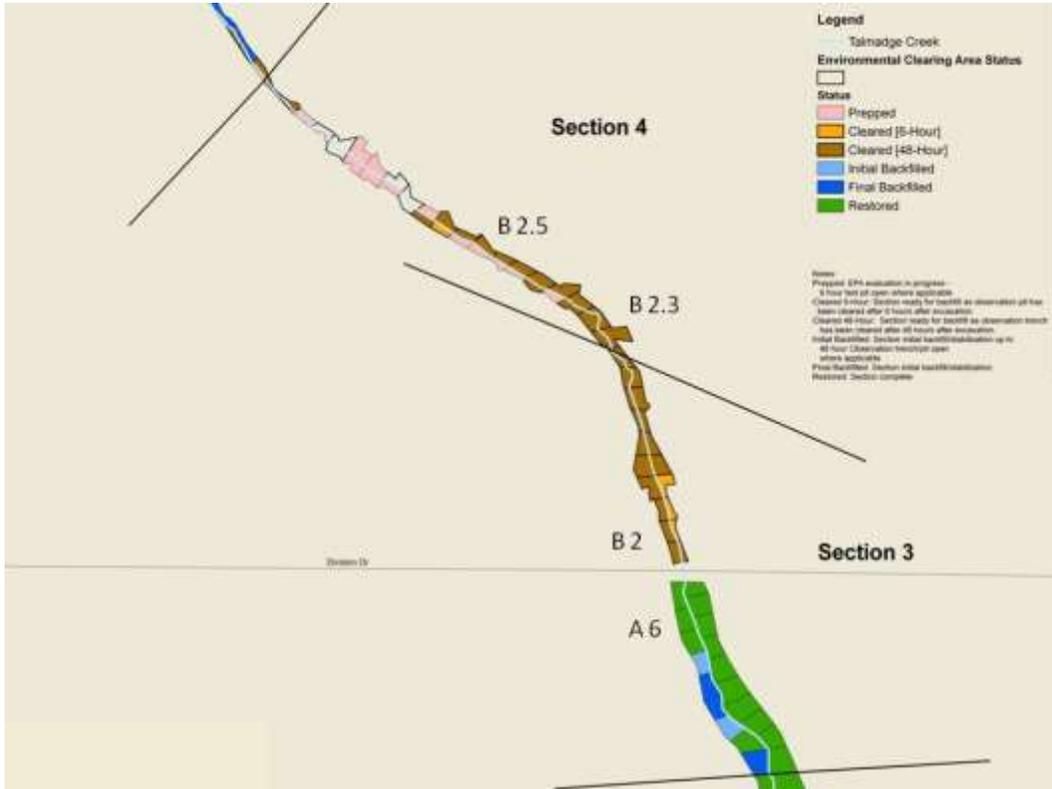


Figure 2. Division B, Sections 3 and 4 (Locations B2 to B2.5)

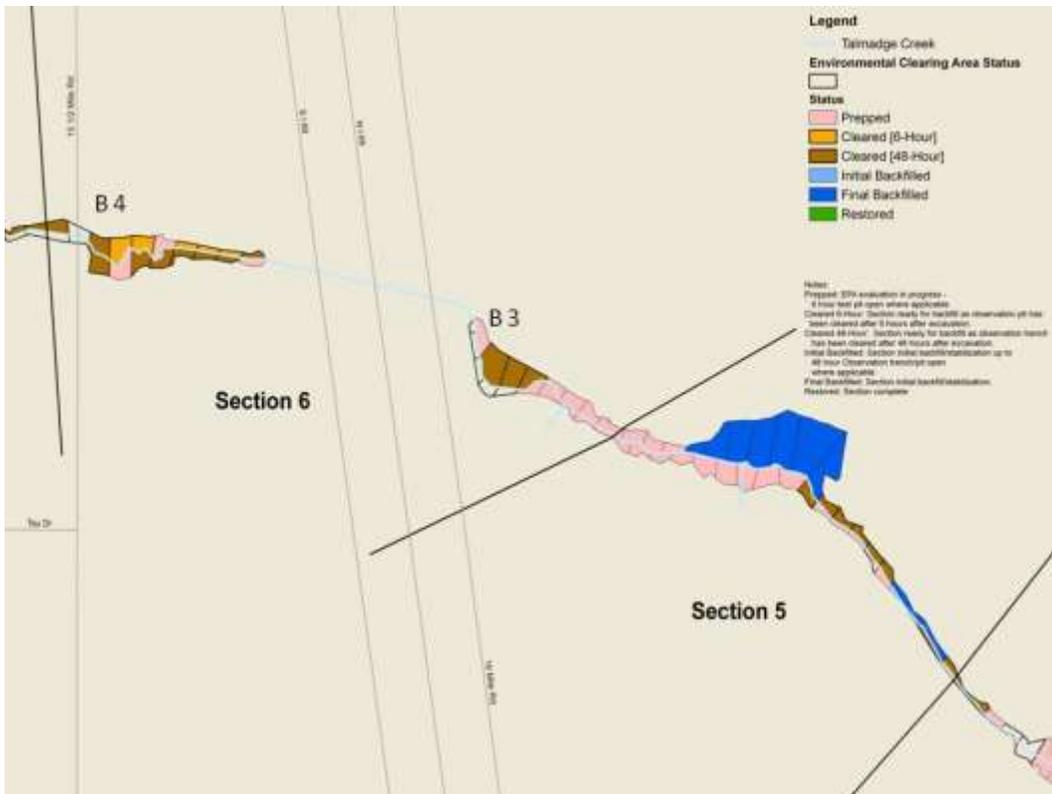


Figure 3. Division B, Sections 5 and 6 (Locations B2.7 to B4)

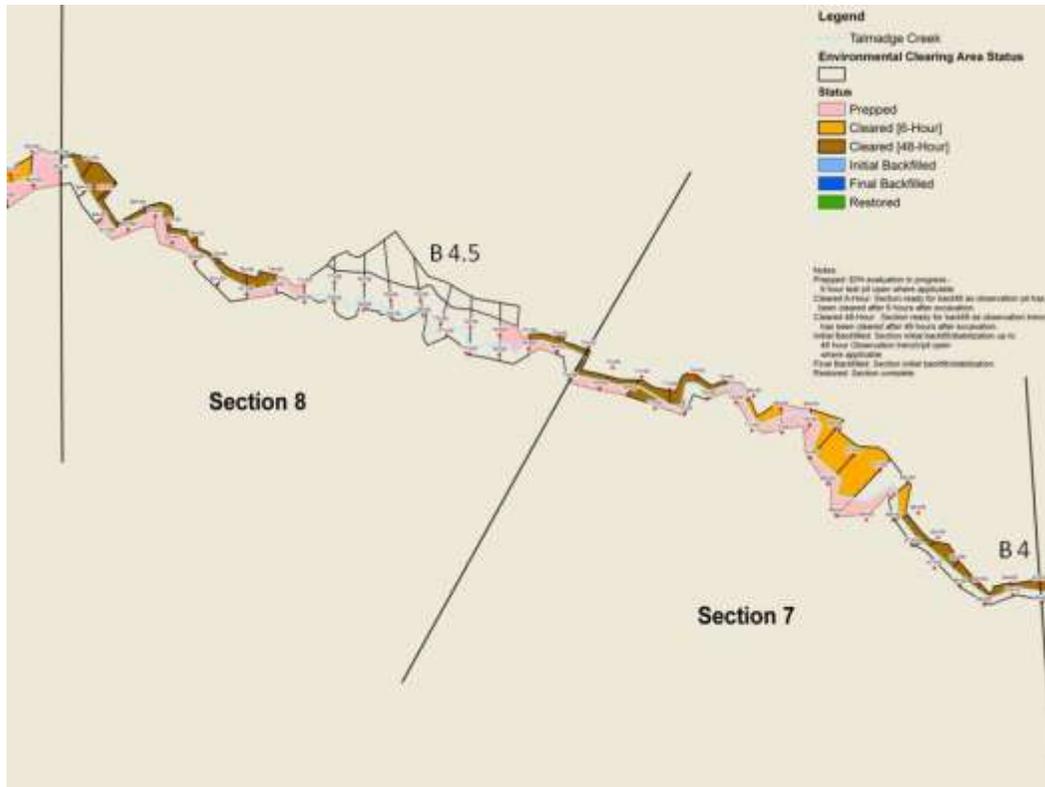


Figure 4. Division B, Sections 7 and 8 (Locations B4 to B4.5)

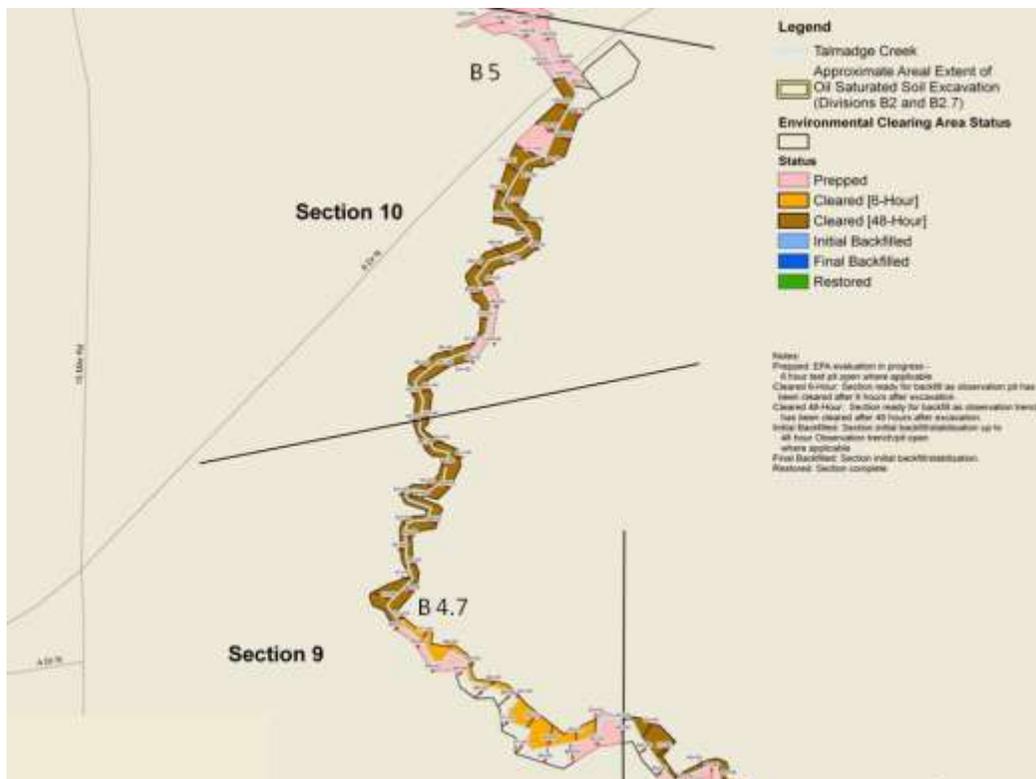


Figure 5. Division B, Sections 9 and 10 (Locations B4.5 to B5)

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.

SCAT is a straightforward and comprehensive way to perform a survey of an affected shoreline. This systematic approach uses standardized definitions and terminology to collect data on shoreline oiling conditions and supports decision-making for shoreline cleanup. The SCAT process ensures that the data collected by the various teams in the field are consistent, comparable, and useful.

Division C

- Intensive focus on shoreline and overbank cleanup phase.
- SCAT Re-Assessment completion reports submitted for 44 of the 61 sites and EPA has signed off on 1 site.
- Airlift activities occurred at MP 11.25 to remove 294 bags of debris from the location. De-watering and excavation work will continue at this location for the next reporting period.
- Enbridge is making recommendations for the two locations in Division C (MP6.5 to MP10) where product continues to re-emerging.
- Technical Services and Health and Safety were contacted for guidance in operational approaches to address issues at areas where approved cleanup procedures are ineffective and potentially damaging.

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)	87%	53
Enbridge/EPA Inslection Completed (Step 3)	84%	51
SCAT Re-Assessment Completed (Step4)	72%	44
EPA Division Supervisor Sign-Off (Step 5)	2%	1

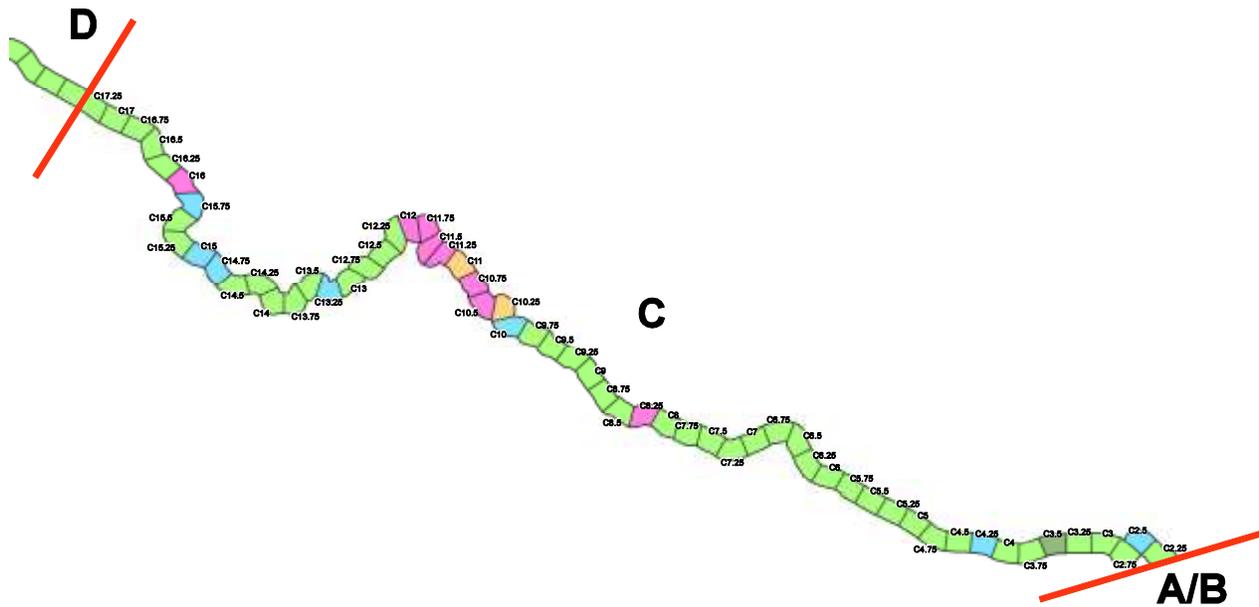


Figure 6. Division C

Division D

- Completing shoreline and overbank cleanup phase.
- SCAT Re-Assessment completion reports submitted for 26 of 27 sites and EPA has signed off on 26 sites.
- Oxbow area at MP21.50 was transferred from the River Branch West to the Submerged Oil Task Force for assessment.

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 Inslection Completed (Step 3)	100%	27
SCAT Re-Assessment Completed (Step4)	96%	26
EPA Division Supervisor Sign-Off (Step 5)	96%	26

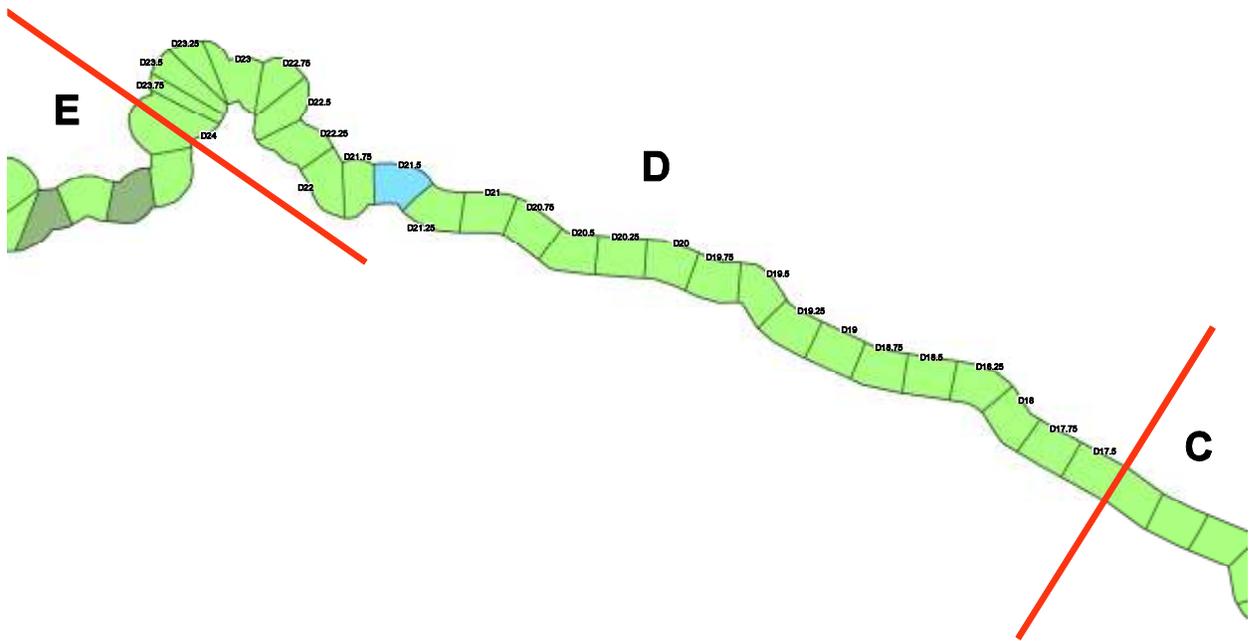


Figure 7. Division D

Division E

- Completing shoreline and overbank cleanup phase.
- SCAT Re-Assessment completion reports submitted for all 64 sites and EPA has signed off on 36 sites.
- Identified potential submerged oil areas in Morrow Lake and the Delta and determining whether to transfer those areas to the Submerged Oil Task Force.

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 Inslection Completed (Step 3)	100%	64
SCAT Re-Assessment Completed (Step4)	100%	64
EPA Division Supervisor Sign-Off (Step 5)	56%	36

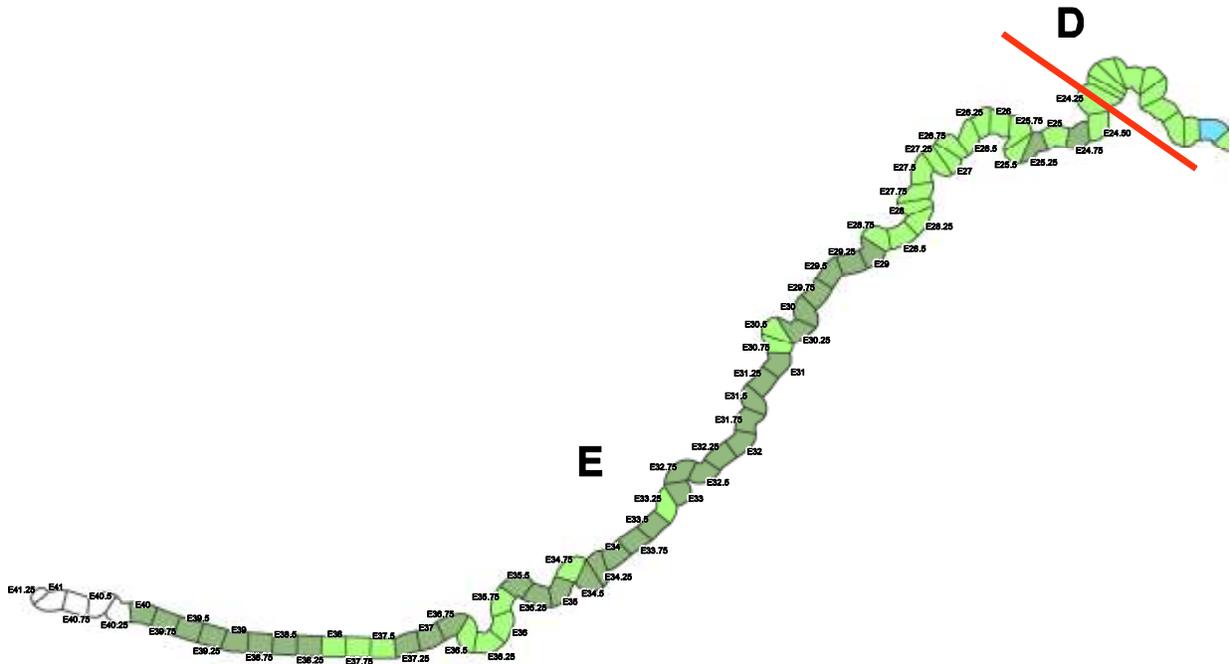


Figure 8. Division E

2.1.4 Decontamination

DECON Branch

- The new decontamination area in Division C is complete.
- Reconnaissance of decontamination sites within divisional locations are ongoing.
- Field testing of a new degreasing agent manufactured by Green Earth Technologies was conducted this reporting period. Assessment of the test was postponed to test if increasing the alcohol percentage would increase effectiveness.

Division A

- Decontamination activities are ongoing on the south end of the source area holding cells. A vacuum truck is staged at this area to removed water produced by decontamination activities.

Division B

- The new decontamination pad located near MP-4.5 appears near completion. Decontamination equipment and materials continuing to be staged at decontamination area.

Division C

- Loading remaining oily hard boom from C0 into roll offs to be sent to C0.5 Decontamination Site.

2.1.5 Submerged Oil Cleanup

The Submerged Oil Task Force provides further evaluation of areas identified during cleanup or restoration operations. Areas selected for submerged oil consideration were assessed. Eighteen sites were designated for work plan development for cleanup activities (adjacent sites were consolidated in some cases).

Divisions C, D, and E

- The Submerged Oil Task Force (SOTF) continued assessing the priority locations with poling (107) and core sampling (27) techniques as well as continued ecological assessments.
- Containment has been placed at 14 of the 18 identified submerged oil locations.
- The SOTF continued performing a hydrographic survey of Morrow Lake.
- The Technical Services Group conducted agitation with aeration and recovery at MP 5.63.
- The Technical Services Group maintained Gabion Baskets in Divisions D and E.
- The Technical Services Group deployed containment boom between MP 26 and MP 33.
- The Technical Services Group completed inspections of 14 potential hot spots in Division E.

Table 5. Submerged Oil Cleanup Status

Submerged Oil Cleanup	Percent Complete	Number of Sites
Assessment	100%	18
Containment	78%	14
Work Plan	0%	0
Cleanup	0%	0
EPA Division Supervisor Sign-Off (Step 5)	0%	0

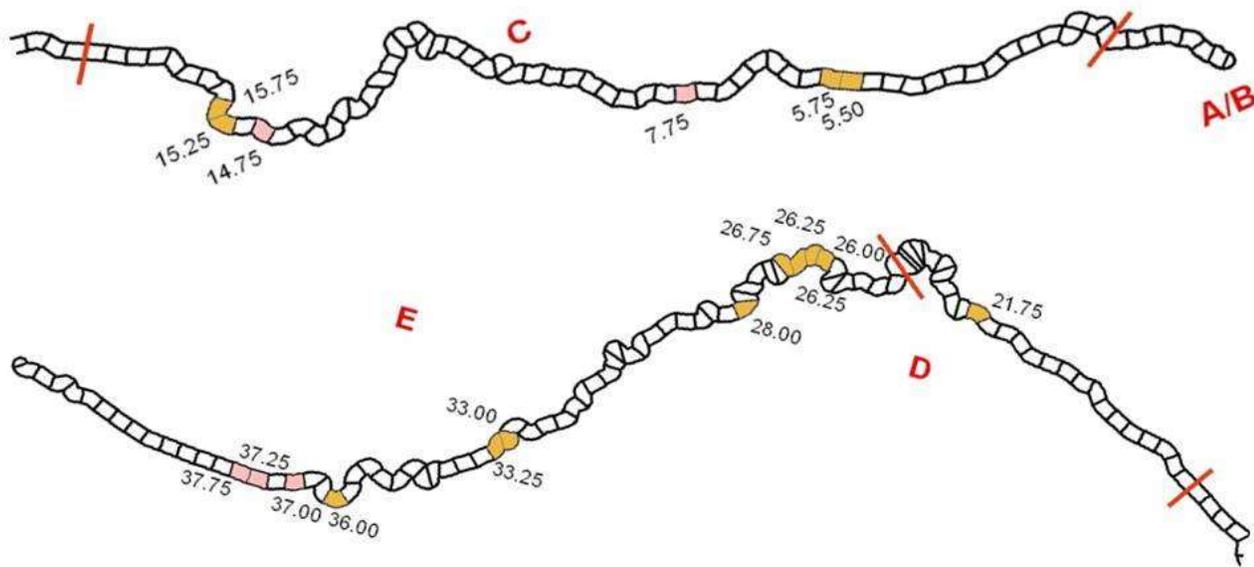


Figure 9. The Submerged Oil Cleanup Sites

2.1.6 Long-term Operation and Maintenance

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: Environmental Compliance and Oversight; Wildlife Environmental/Damage Assessment; Air Operations and Monitoring.

Environmental Compliance and Oversight Branch

- Enbridge continues waste management characterization, documentation, and coordination and implementation of “Source Contamination Removal, Verification, and Backfilling Plan” in Talmadge Creek.
- Transportation and Disposal Group
 - Audits were conducted this reporting period to verify reported hazardous soil data. The process compared manifest numbers/safe ticket weight information against summary information provided by Enbridge. A process was established to formalize data collection methods.

Wildlife Environmental Damage Assessment Branch

- As of September 15, 2010 at 0700, the wildlife center reported 325 animals in captivity and 1129 released.
- During this reporting period the USFWS has developed a plan for field assessment, measurement and release of turtles. Turtles have been captured in Divisions D and E without any oil residue. One hundred and forty-two turtles have been rehabilitated and released.
- A trumpeter swan and great blue heron have been captured and are in the process of rehabilitation.

Air Ops Branch

During this operational period there were 4 overflights.

Monitoring Branch

Enbridge reported the following:

- Focused air sampling programs continued around the Baker Estates Mobile Home Park, the Day Care, Ceresco Dam, and the work areas. 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 9/15	Number Collected 9/16
Air Monitoring	Not Reported	Not Reported
Surface Water	34	21
Vertical Water Column Samples	0	0
Private Well Samples	2	2
Sediment Samples	16	5
Sheen Samples	0	0
Other	0	0
Soil Samples	0	0

EPA reported the following actions or observations:

- One START team continued oversight of CTEH air monitoring crews in Divisions A through E and collected 88 split samples.
- One START oversight team shadowed the Enbridge surface water sampling team and took two split samples in Morrow Lake and one split sample in Division C.

Table 7 - Samples Documented in SCRIBE

Media	Sample Type	Number Collected 9/15	Number collected 9/16
Air	Summa Canister	0	0
Air	Tedlar Bags	0	0
Air	Monitoring Locations	46	38
Surface Water	Grab	1	1
Sediment	Grab	1	1

SCAT

SCAT teams conducted re-evaluations at 11 locations in Divisions C.

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	9/15	9/16
Number of Locations	25	22
Boom Deployed (feet)	96,583	94,018

Soil and Debris Waste Tracking

Table 9 - Soil and Debris Waste Tracking

Waste Stream*	Quantity Shipped On 9/14	Quantity Shipped On 9/15	Cumulative Quantity Shipped
Haz Soil (yd ³) ^a	0	0	15,344
Non Haz Soil (yd ³) ^b	585	972	22,443
Haz Debris (yd ³) ^c	0	0	12,075
Non Haz Debris (ton) ^c	136(142) ^d	18	1198

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

- Haz (Benzene)-impacted soil is being sent to Envirosafe (Oregon, OH).
- Non Haz soil is being sent to Westside Recycling (Three Rivers, MI) and EQ/Republic (Marshall, MI).
- 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).
- Correction based upon receipt of additional manifests.

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 9/15/10

Location	Cumulative Total Collected (gallons)
Division A	5,197,218
Division B	3,510,675
Division C	848,100
Division D	119,200
Division E	50,030
DECON	141,460
Other Locations*	190,751
TOTAL	10,057,434

Table 11 - Oil water Separation 9/15/10

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

* Includes Frac, DECON, and Wildlife Center.

Table 12 – Liquid Shipped Off-site

Oil/Water leaving Site	Destination	Daily Quantity Shipped (Gallons)9/14	Daily Quantity Shipped (Gallons)9/15	Cumulative Quantity Shipped (Gallons)
Haz Water	Dynecol, Detroit, MI	13,600	14,000	2,174,731
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	60,000	50,000	1,929,272
Haz Water	Safety Kleen ^a	0	0	715
Treated Non Haz Water *	Dynecol, Detroit, MI	0	0	134,200
Treated Non Haz Water *	Battle Creek POTW	0	0	1,968,700
Totals		73,600	64,000	8,660,624

* 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

Table 13 - Oil/Water Volume Summary (Gallons)

Oil/Water Collected ^a	10,057,434
Oil/Water Shipped Off-site ^b	8,660,624
OIL/WATER REMAINING ON-SITE	1,396,810

a. As of 9/17/10

b. As of 9/15/10

2.2 Planning Section

Data Management Unit

Data Management Unit continues to process surface water sampling data, importing preliminary and validated analytical results into Scribe, exporting daily briefings and process maps as requested. Assisting with the ecological analysis for the submerged oil task force and analyzing sedimentation data.

Situation Unit Field Observers

One FOB team conducted observations in Divisions A, B and C.

Environmental Unit

The Environmental Assessment Group (EAG) meeting held to discuss residual oil on trees, removal of islands, and nutrient application to island with residual oil. A test will be conducted on wrapping trees with burlap where the residual oil is tacky. Reconnaissance survey was conducted for dredging geotube location.

2.2.1 Anticipated Activities for Next Reporting Period

In the next operational period, Operations anticipates final clearance of Division A and bank stabilization in Division B as well as performing the same or similar activities as in the previous operational period, with a focus on activities in Division C.

2.2.2 Public Health

No report received this reporting period.

2.3 Logistics Section

Planning for an emergency drill at the ICP with the Safety Officer.

2.4 Safety Reports

- There was an issue with the cross-bracing on a power pole on site near the trailer area. Enbridge was notified and the utility company has been contacted. The issue was considered to be routine maintenance and non-life threatening.
- Continued investigation of exposure incident at C8.25, additional air monitoring for methane was conducted and detected 0.1% (1000 ppm).

- Awaiting summa canister sample results for samples collected by mobile lab trailer in warehouse on September 13, 2010.
- Shotgun shells were found on Island E. Authorities were notified and the area was secured. Information will be going out to all supervisors on the possibility of finding live ammunition and appropriate actions to take.
- In Division C at Island E, approximately twenty workers became ill. The symptoms were similar to incident on Island 8.25; nausea, light headed, headache, etc., symptoms quickly subsided when removed to fresh air. All of the workers were checked and monitored by the EMT's. The Medical Unit Leader was contacted and the Medical Coordinator arrived on site for follow-up. A team from CTEH, START and ASO conducted air monitoring on the island. FID readings were up to a high of 2100 ppm at ground level in several spots, but dissipated quickly in the breathing zone (15 ppm). 24 hr. Summa canisters were set out. Work on all islands has been suspended.

2.5 Liaison Officer

No activities reported this reporting period.

2.6 Information Officer

The Public Information Office reported the following activities:

- Responded to seven speaker request inquires using the established procedures developed.
- Responded to two citizens inquires from EPA's Enbridge website.

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: 0

Community Center Visits:	Battle Creek	7
	Marshall	5

Enbridge reported that it received 0 inquiries from its www.response.enbridgeUS.com website.

2.7 Finance Section

The current NPFC issued ceiling was \$21.6 million. Approximately 76.1% of the ceiling had been spent through September 15, 2010, with a burn rate of \$194,196 per day. 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 (9/14/10)	Est Burn Rate (9/15/10)
EQM (EPS50802)	T057	\$1,250,065	0	0
	T060	230,034	1,600	1,600
LATA (EPS50804)		1,451,396	0	0
ER LLC (EPS50905)		723,669	0	0
ERRS Contractors		\$3,655,164	\$1,600	\$1,600
TNT Bisso		943,000	27,00	27,000
START Contractor				
WESTON (EPS50604)		5,407,048	68,604	72,644
Response Contractor Sub-Totals		\$10,005,212	\$97,204	\$101,244
EPA Funded Costs:				
Total EPA Costs		3,243,103	45,450	49,500
Pollution Removal Funding				
Total Other Agencies		\$926,040	\$16,666	\$16,666
Sub-Totals		\$14,174,355	\$159,320	\$167,410
Indirect Cost (16%)		2,267,897	25,491	26,786
Total Est. Oil Spill Cost		\$16,442,252	\$184,812	\$194,196

2.8 Response Actions to Date

Response Actions to date may be found in Situation Reports #1 through #51.

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 9/15	Numbers Reported 9/16
EPA	51	50
START	44	40
Calhoun County Public Health	1	1
Calhoun County (CC) Sheriff	6	6
City of Battle Creek	3	3
Kalamazoo Sheriff	2	2
MDNRE	18	18
Michigan State Police (MSP)	1	1
NOAA - National Weather	2	2
USCG	4	4
USFWS	4	4
USFWS Contractors	0	0
Enbridge ICP	86	89
Enbridge ICP Contractor	379	425
Enbridge	14	13
Enbridge Contractors	1192	1305
Total	1807	1963

5 Source of Additional Information

5.1 Additional Information

For additional information please refer to <http://www.epa.gov/enbridgespill.html>. 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.