

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 #18  
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  
Durk Dunham, Calhoun County Emergency Management  
F/LT Bonnie Kanicki-Wilson, Michigan State Police, Emergency Mgt.  
Gregory 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  
 Duty Officer, NRC  
 Michael Chezik, U.S. Department of Interior  
 Linda Nachowicz, U.S. EPA  
 OSLTF USCG, USCG  
 Jill Slaght, 7th District of Michigan  
 Ken Brock, 7th District of Michigan  
 Bruce Vanotteren, MDNRE  
 Brian Pierzina, PHMSA Central Region  
 Thomas Hemminger, USCG Grand Haven  
 Ronna Beckmann, U.S. EPA  
 CAPT Stephen Torpey, USCG  
 Scott Corbin, Allegan County EMA Director

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

**Date:** 08/12/10

**Reporting Period:** 1900 hours 08/11/10 to 1900 hours 08/12/10

**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 Assessment
<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 Incident Category**

Emergency Response -- Pipeline Rupture

### **1.1.3 Site Description**

A 30-inch pipeline ruptured, releasing crude oil (NRC report of 19,500 barrels) into a culvert leading to Talmadge Creek. Talmadge Creek is a tributary to the Kalamazoo River. The response site is along Talmadge Creek and the Kalamazoo River running from Marshall, Michigan, to downstream of Battle Creek, Michigan. The Kalamazoo River is bordered by marshland and developed properties for the approximate 30-mile stretch of the response site.

### **1.1.4 Preliminary Removal Assessment/Removal Site Inspection Results**

Approximately 30 miles of the Kalamazoo River have been impacted. The Kalamazoo River experienced flooding before and after the spill. The river levels have fallen and stranded oil in some backwaters and wetlands. Talmadge Creek has been boomed off at the confluence to the Kalamazoo River. Containment and absorbent boom has been deployed along the Kalamazoo River and Talmadge Creek. Containment and absorbent boom have also been deployed in Morrow Lake.

### **1.1.5 Enforcement Activities, Identity of Potentially Responsible Parties**

Enbridge is the RP.

On July 27, 2010, EPA issued an Administrative Order under section 311(c) of the Clean Water Act to Enbridge. Enbridge is actively addressing all the deliverables of the Order including but not limited to: drafting an overall site work plan; health and safety plan; and sampling and analysis plan.

## **1.2 Incident Objectives and Command Emphasis**

### **Incident Objectives**

- 1) Ensure health and safety of the public and response & recovery personnel.
- 2) Maintain the isolation of Talmadge Creek and Kalamazoo River from the source area.
- 3) Contain and recover oil and contaminated vegetation in Talmadge Creek and Kalamazoo River.
- 4) Maintain effective unified communications with cooperating & assisting agencies and the public.
- 5) Perform remediation & restoration of all affected public & private areas of river & river systems
- 6) Provide protection of environmentally and culturally sensitive areas including wildlife and historic properties.

- 7) Identify threatened species & continue to recover & rehabilitate injured wildlife.
- 8) Maintain Joint Information Center function.
- 9) Continue to collect, coordinate, manage and communicate environmental and public health data.
- 10) Obtain input from multi-agency Science Team to help establish protocols to guide cleanup of environmentally impacted areas.

### **Command Emphasis**

- 1) Concentrate resources for river, shore, and floodplain cleanup and sheen management in Division C.
- 2) Review SCAT recommendations with Science Team, with emphasis on Talmadge Creek and Division C, to coordinate near term cleanup effort.
- 3) Continue efforts to remove oil and contaminated soil from pipeline release zone.
- 4) Monitor effectiveness of IAP briefing and use by Operations
- 5) Maintain continuous comprehensive on-water/analytical sheen monitoring, sediment investigation, reporting and recovery at Morrow Lake.
- 6) Continue to monitor overall effectiveness of community outreach.
- 7) Monitor effectiveness of IAP briefing and use by Operations personnel.
- 8) Continue transition of EPA logistics/procurement functions to Enbridge.
- 9) Continue transition of IAP 204 and 205 development from EPA to Enbridge.

### **1.3 Strategic Considerations**

- 1) Enbridge will assume primary responsibility for the planning cycle and IAP development by 8/16/10.
  - a. Continue transition of EPA logistics/procurement functions to Enbridge;
  - b. Continue transition of IAP development from EPA to Enbridge; and
  - c. Monitor effectiveness of IAP briefing and use by Operations.

## **2. Current Activities**

### **2.1 Operations Section**

#### **2.1.1 Narrative**

The response site extends from the pipeline break to the dam at the end of Morrow Lake. It has been geographically divided into five Divisions, A through E, with Division A starting at the pipeline break and Division E ending at the western edge of Morrow Lake (see attached figure). The Divisions are split into two Branches, with the East Branch covering Divisions A and B and the West Branch covering Divisions C, D and E. The Divisions are further broken down into control points that are denoted by division letter then control point number (i.e. C3 refers to control point three within Division C).

## **Division A**

### **EPA**

EPA observed pipeline welding and coating of the pipeline in preparation for its return to service; work around the pipeline was conducted in level D PPE. Talmadge Creek has been excavated and re-boomed through location B2. EPA observed the use of vacuum trucks to lower the water table in the back wetland area. The back wetland area was drained down approximately one foot. Dewatering operations continued while contaminated soil was excavated from Division A. EPA observed that contaminated soils were placed on staging pads prior to off-site disposal.

U.S. EPA and START conducted air monitoring for VOCs, LEL, H<sub>2</sub>S, and benzene. Turbidity monitoring in Talmadge Creek also was conducted. START collected air-monitoring data during Enbridge's work effort within Division A. The highest benzene reading was 0.2 ppm at the release site.

### **Enbridge**

Enbridge conducted oil collection at the release site with vacuum tankers and removed contaminated soil to the containment and disposal site. Enbridge continued implementation of the pipe cut-out and repair plan. Cleanup activities were conducted starting at Talmadge Creek and working downstream, scraping oiled vegetation and surface soils with an excavator in accordance with SCAT recommendations. Enbridge continued chipping and clearing activities and installed silt fence along Talmadge Creek.

## **Division B**

### **EPA**

EPA observed skimming, vacuuming and boom maintenance operations at locations B1.5, B2, B3, B4, and B4.7. EPA observed Enbridge clearing brush at location B4 and between locations B1 and B2. EPA observed installation of swamp mats, and completion of bank scraping up to location B2.

USCG observed operations at locations B5, B4, B3, B2 and B4.7.

### **Enbridge**

Enbridge continued oil collection at boom containment sites and replaced contaminated boom as required. Enbridge placed swamp mat roads along Talmadge Creek downstream of US Highway 69. Crews worked on scraping oiled bank vegetation and soil on Talmadge Creek up to the Kalamazoo River and placed material in a containment site, in accordance with SCAT recommendations. Enbridge installed silt fence along Talmadge Creek as required.



## **Division C**

### **EPA**

EPA observed skimming and vacuuming operations at locations C1.1 and C3. EPA observed boom maintenance at locations C3 and C6. At location C1.1, EPA observed shoreline cleaning operations. EPA observed vegetation removal/washing at location C0.5. EPA observed crews manually collecting oiled debris from the river.

USCG observed skimming operations at locations C4, C3, and C1. USCG observed vegetation removal and shoreline washing at locations C4 and C2.

EPA contractors continued boom maintenance and decontamination of equipment at location C0.

### **SCAT**

SCAT observed vegetation cutting and booming operations.

### **Enbridge**

Crews collected and removed 13 cubic yards of oiled debris, 146 bags of oiled debris, and 3,040 gallons of oily water in locations C1, C3, C4, C5 and C6. Crews deployed 1,100 feet of snare boom and deployed/replaced 1,750 feet of sorbent boom. Crews completed preliminary shoreline vegetation remediation from River Mile 2.75 to River Mile 3.5. Crews conducted preliminary flushing and mobilization operations of free oil and collected the oil from River Mile 6 to River Mile 7.75.

## **Division D**

### **EPA**

EPA observed skimming and vacuuming operations, removal of oiled debris from the river and boom maintenance at locations D0.5, D1, D2, D2.5, D3, D4 and D5. EPA observed vegetation removal/washing at location D2.5.

START conducted air monitoring at boom locations D1, D2, D2.5, D3, and D5.

EPA contractors continued boom maintenance, decontamination of equipment, and vacuum and skimmer maintenance operations at location D2.5.

### **Enbridge**

Enbridge deployed/replaced 900 feet of sorbent boom.

## **Division E**

### **EPA**

EPA observed operations at Division E, including the air curtain and silt curtain at location E4. Sheen was observed at the east end of Morrow Lake. Skimmer boats were deployed to collect the sheen. EPA observed the deployment of boom at location E4.

EPA contractors continued boom maintenance at location E3.

### **Enbridge**

Enbridge collected 45 bags of oiled debris, deployed/replaced 120 feet of sorbent boom and deployed 100 feet of snare boom at location E2.

### **Morrow Lake Task Force**

Enbridge collected water samples every 4 hours.

### **Branch Operations**

EPA, USCG and Enbridge Operations have a Monitoring Branch, Wildlife Branch and Air Ops Branch that conduct activities in all Divisions.

### **Monitoring Branch**

#### **EPA**

A total of 63 air samples were reported as being collected and sent to the laboratory for analysis.

#### **Enbridge**

Enbridge planned to collect 40 surface water samples, 10 potable water samples, 15 24-hour grab air samples, 20 air mini-summa samples, 3 air grab samples and 4 passive dosimeter samples. Enbridge continued focused air sampling around the Baker Estates trailer park. Real-time air monitoring for benzene and VOCs continued.

### **Wildlife Branch**

USFWS worked with the Wildlife Branch to address impacted wildlife. The wildlife center continued to receive oiled animals collected along the Kalamazoo River. There are 189 animals in live care, the majority of which are Canada Geese and turtles. A total of 52 animals have been rehabilitated and released.



Air Ops Branch

No update was provided for this operational period.

Special Operations

EPA START observed operations at the soil/sediment staging area.

**Boom Report**

	<b>Enbridge</b>	<b>EPA</b>	<b>TOTALS</b>
<b>Number of Locations</b>	32	5	37
<b>Boom Deployed (feet)</b>	87,176	88,325	175,501

**Waste Tracking**

<b>Waste Stream</b>	<b>Quantity Shipped 8/11/2010</b>	<b>Cumulative Quantity Shipped</b>
Soil <sup>1</sup>	820 yd <sup>3</sup>	2,960 yd <sup>3</sup>
Debris <sup>2</sup>	400 yd <sup>3</sup>	1,950 yd <sup>3</sup>
Untreated Water <sup>3</sup>	40,138 gallons	542,720 gallons
Pre-treated Water <sup>4</sup>	128,800 gallons	529,200 gallons

1. Benzene-impacted soil is being sent to Envirosafe.
2. Roll-off boxes containing waste sorbents, boom, pads, plastic, PPE, and oiled vegetation and biomass are being sent to Michigan Disposal.
3. Untreated water (hazardous waste) is being sent to Dynecol.
4. Pre-treated water is being sent to the Battle Creek POTW.

**2.2 Planning Section**

The EU, in coordination with the DMU, tested EPA’s ability to provide Google Earth files of sampling results to the Public Health Work Group.

The SCAT Leader briefed the UC on the Phase 2 shoreline treatment tests scheduled for August 13, 2010.

The SCAT Leader conducted a boat tour of the river with an ERT Alternative Countermeasures Expert and briefed him on the response activities; the ERT expert is providing technical advice on shoreline and wetland remediation.

The DMU finished converting all air sampling laboratory data to standard units for reporting. The DMU established daily reporting queries which will allow the EU to review recently validated analytical data. The DMU added operational data layers to the Google Earth file for display on the [www.epa.gov/enbridgespill/](http://www.epa.gov/enbridgespill/) website.

The Resource Unit completed the IAP for the Operational Period from August 13-14, 2010.

### **2.2.1 Anticipated Activities for Next Reporting Period**

In the next operational period, Operations anticipates performing the same activities as in the previous operational period.

### **2.2.2 Issues**

The results of all tedlar bag air samples collected from Exposure Unit 4 on August 10 and 11, 2010, showed benzene levels less than 6 ppb. Based on these results, EPA is deploying six 24-hour summa canister air samplers. EPA collected the summa canisters that were previously deployed in Unit 7 and Unit 10 and sent them to the laboratory for analysis. The Public Health Unit continues to communicate with the EU about sample collection locations.

The Public Health Unit completed the August 12, 2010, Calhoun County Public Health Enbridge Oil Spill Updates report describing the status of environmental sampling, lifting of the evacuation recommendation, and public health resources. The Public Health Unit continued to work with the EPA PIO to provide public health context to the sampling results that will be posted on the EPA website.

The MDCH Field Epidemiology Team updated its surveillance database with new reports received by the surveillance center within the past 24 hours.

### **2.3 Logistics Section**

EPA Logistics met with Enbridge's new Project Manager for the ICP move and discussed logistical needs for the move. The LSC also conducted a driving tour for PIO staff of the area surrounding the proposed ICP to develop an address list of residences near the proposed ICP.

### **2.4 Finance Section**

The current NPFC issued ceiling (based on EPA requests) is \$11 million. Approximately 72 % of the ceiling has been spent through August 11, 2010, with a burn rate of \$541,020 per day. These cost summaries reflect only EPA expenditures for the incident.

	Est Expended (\$)	Est Burn Rate (\$)
EQM	1,182,928	64,648
LATA	1,283,333	135,281
ER LLC	684,564	29,084
ERRS Contractors	3,150,825	229,013
WESTON START	1,627,551	142,139
Federal & Other Agencies	2,295,971	109,328
Sub-Totals	7,074,347	480,480
Indirect Costs (12.6%)	891,368	60,540
Est Total Oil Spill	7,965,715	541,020

### 2.5 Safety Officer

A worker in Division D experienced red, swollen feet that required off-site medical treatment. This is likely a symptom of excessive moisture. There were no major safety incidents reported for this operational period.

### 2.6 Liaison Officer

The LNO reported no significant activities for this operational period.

### 2.7 Information Officer

#### 2.7.1 Public Information Officer

#### Oil Spill Response Hotline (888-363-8632)—Incoming Calls

**TOTAL CALLS:** 1  
 Calls were sent to:  
 DNRE 1

The caller asked whether it was safe to eat the wild birds he hunts and questioned if he would be able to cross the river during deer hunting season in October.

A media tour was conducted with three media representatives at the Wildlife Response Center. A turtle release is scheduled for the evening of August 12, 2010. The next bird release is scheduled for August 13, 2010.

#### PIO Activities

The CICs toured several facilities and selected the Kalamazoo Expo Center at the Kalamazoo County Fairgrounds for the August 19, 2010, Kalamazoo public meeting. The CICs also secured booth space for the Calhoun County Fair.

The PIO created a mailing list from question sheets submitted at the August 10, 2010, Battle Creek public meeting.

The JIC posted EPA's disapproval notices for Enbridge's *Quality Assurance Project Plan* and *Sampling and Analysis Plan* and also posted PHMSA's disapproval of the pipeline restart plan.

## 2.9 Response Actions to Date

Recovery of oil and contaminated soil and debris continues. Containment boom, sorbent boom, skimming equipment, vacuum trucks and other equipment have been used to support oil collection and removal along Talmadge Creek and the Kalamazoo River. Contaminated soils are being excavated from Divisions A and B. Replacement of the damaged pipeline and stabilization of the excavation are progressing. Contaminated vegetation along the creek and river is being cleaned or removed to control sheen. Recovered materials are being handled on-site and prepared for off-site transport. Tanker trucks are transporting the recovered oil to a facility owned by the RP with available storage in Griffith, Indiana. Oil-contaminated soils and other materials are being transported off-site for disposal.

EPA, ERT, START and RP contractors, with the support of the ERT Mobile Lab and Michigan National Guard Civil Support Team, have monitored and sampled air quality along the river and throughout multiple residential areas. A heavy emphasis was placed on specific monitoring for benzene as it is a recognized contaminant of concern for this response.

Water samples were collected for analysis from surface water, river and lake water columns, and private drinking wells along the length of the impacted areas of the Kalamazoo River. Water samples also were collected downstream of the Morrow Lake Dam. Validated analytical sampling results are now being posted to the public incident website (<http://www.epa.gov/enbridgespill/data/datawater.html>).

Enbridge removed the affected area of pipe, followed the cut out/repair plan, and completed a pipe investigation (50 feet upstream and downstream of the cut points) on August 7, 2010. The affected length of pipe has been repaired but is not yet operational.

The voluntary evacuation issued by CCPH in consultation with MDCH and ATSDR remains in effect for several residences located immediately downstream of the spill site along Talmadge Creek, up to its confluence with the Kalamazoo River. This voluntary evacuation was based on review of air monitoring results for benzene around oil collection areas. Air monitoring and sampling of the affected area is being conducted to determine when re-occupancy can occur, in accordance with the re-occupancy strategy approved by the UC.

A Contingency Plan for Morrow Lake has been developed in case oil moves past the lake.

EPA has disapproved the following plans submitted by Enbridge: *Remediation Plan for Downstream Impacted Areas, Source Area Remediation Plan, Quality Assurance Project Plan and Sampling and Analysis Plan.*

**3. Participating Entities**

**3.1 Unified Command**

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

**3.2 Cooperating and Assisting Agencies**

**Cooperating Agencies**

51st Civil Support Team Michigan National Guard	Marshall Township Government and Fire Department
ATSDR	Marshall Police Department
Allegan County Emergency Management	MDCH
American Red Cross	Michigan Dept of Agriculture
Augusta Police Department	MIOSHA
Calhoun Conservation District	NOAA
Calhoun County	Oakland County HAZMAT
Calhoun County Treasurer’s Office	OSHA
Calhoun Greenation District	Natural Resource Group
City of Kalamazoo	National Transportation Safety Board
City of Marshall	PHMSA
Federal Energy Regulatory Commission	USCG
Fredonia Township Fire Department	U.S. Department of the Interior
Kalamazoo County Office of Emergency Management	U.S. Geological Survey
Kalamazoo Public Safety	USDOT
Kalamazoo Watershed Council	USFWS

**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**

<b>Personnel</b>	<b>Numbers reported for 8/11/2010</b>
EPA	60
MDNRE	39
Michigan State Police	23
City of Battle Creek	2
CCPH	7
Calhoun County Sheriff	13
Kalamazoo County Sheriff	2
USCG	15
USFWS	16
ERRS	109
START	92
Enbridge	36
Enbridge Contractors	859
<b>Total</b>	<b>1273</b>

**5. Definition of Terms**

ATSDR                      Agency for Toxic Substances and Disease Registry  
 CCPH                      Calhoun County Public Health  
 CIC                        Community Involvement Coordinator  
 DMU                       Data Management Unit  
 EPA                        Environmental Protection Agency  
 ERRS                      Emergency and Rapid Response Services  
 ERT                        Emergency Response Team  
 EU                         Environmental Unit  
 H2S                        Hydrogen Sulfide  
 HASP                      Health and Safety Plan  
 IAP                        Incident Action Plan  
 ICP                        Incident Command Post

JIC	Joint Information Center
LEL	Lower Explosive Limit
LNO	Liaison Officer
LSC	Logistics Section Chief
MDCH	Michigan Department of Community Health
MDNRE	Michigan Department of Natural Resources and Environment
MI	Michigan
MIOSHA	Michigan Occupational Safety and Health Administration
NRC	National Response Center
NOAA	National Oceanic and Atmospheric Administration
NPFC	National Pollution Fund Center
OSHA	Occupational Safety and Health Administration
PHMSA	Pipeline and Hazardous Materials Administration
PIO	Public Information Officer
PPE	Personal Protective Equipment
ppm	Parts Per Million
POTW	Publicly Owned Treatment Works
RP	Responsible Party
SCAT	Shoreline Contamination Assessment Team
START	Superfund Technical Assessment and Response Team
UC	Unified Command
USCG	United States Coast Guard
USDOT	United States Department of Transportation
U.S. EPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
yd <sup>3</sup>	Cubic Yards
VOCs	Volatile Organic Compounds

## 6.0 Source of Additional Information

### 6.1 Additional Information

For additional information please refer to <http://www.epa.gov/enbridgespill.html>. For sampling analysis data, please see <http://www.epa.gov/enbridgespill/data/datawater.html>

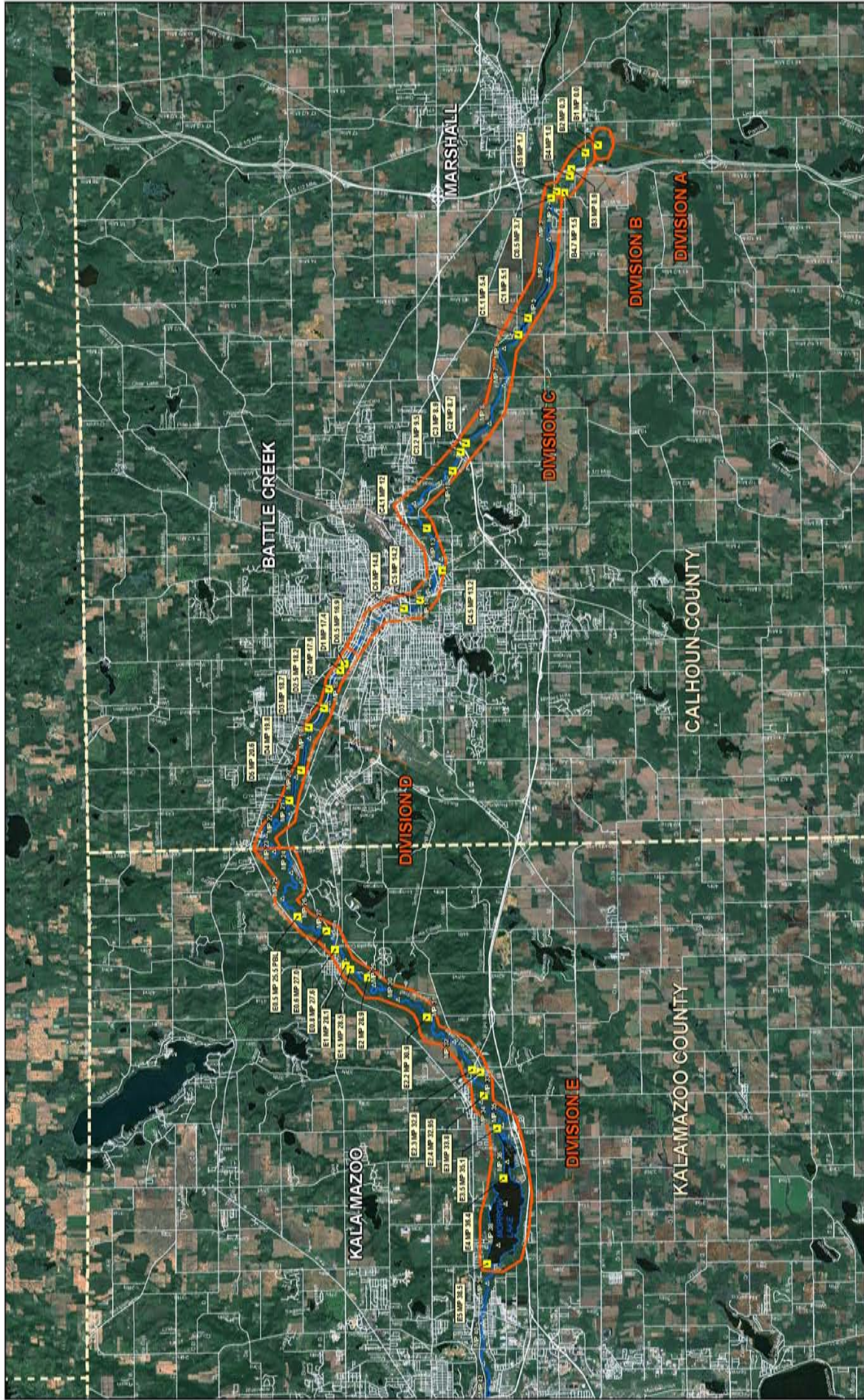
### 6.2 Reporting Schedule

SITREPs have been created daily and will continue until the UC establishes a different reporting schedule.

## 7.0 Situational Reference Materials

See attached “Boom Locations with Road Details” map for more information.





**FOR OFFICIAL USE ONLY**

Prepared for:  
U.S. EPA REGION V  
Contract No.: EP-S5-06-04  
TDD: 506-0005-1007-030  
DCR: 1154-4D-AHMS

Prepared by:  
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Okemos, MI

MARSHALL OIL RIVER  
MARSHALL, KALAMAZOO AND CALHOUN COUNTIES, MICHIGAN  
CREATED: AUGUST 9, 2010