

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 #23  
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  
F/LT Bonnie Kanicki-Wilson, Michigan State Police, Emergency Mgt.

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 Mike McKenzie, City of Battle Creek  
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 Connie Gibson, Calhoun County Sheriffs Office  
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 David Chung, U.S. EPA  
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 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  
 Mark Durno, U.S. EPA Deputy Incident Commander

**Date:** 08/17/10

**Reporting Period:** 1900 hours 08/16/10 to 1900 hours 08/17/10

**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 later fell and stranded oil in some backwaters, wetlands and floodplains. Talmadge Creek was boomed off at the confluence to the Kalamazoo River. Containment and absorbent boom were deployed along the Kalamazoo River and Talmadge Creek. Containment and absorbent boom also were 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 required by the Order including but not limited to the following: *Operational Health and Safety Plan; Pipeline Repair Workplan; Sampling and Analysis Plan; Quality Assurance Project Plan; Oil Containment and Recovery Plan; Source Area Remediation Plan; Remediation Plan for Downstream Impacted Areas; and Waste Treatment, Transportation, and Disposal 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) Protect threatened and endangered 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) Enbridge to maintain primary responsibility for planning cycle and IAP development:
  - Monitor effectiveness of IAP briefing and use by Operations; and
  - Continue transition of IAP development from EPA to Enbridge
- 2) Concentrate resources for river, shore, and floodplain cleanup and sheen management in Division C.
- 3) Review SCAT recommendations with Science Team, with emphasis on Division C, to coordinate near term cleanup efforts.
- 4) Identify and secure facility for new unified command post.
- 5) Continue efforts to remove oil and contaminated soil from pipeline release zone.
- 6) Re-evaluate and enhance current, continuous, comprehensive on-water analytical sheen and subsurface monitoring, sediment investigation, reporting, control and recovery at Morrow Lake.
- 7) Continue to monitor overall effectiveness of community outreach.
- 8) Science Team, SCAT Team and Unified Command visitation of work areas in Division A, B, and C.

### **1.3 Strategic Considerations**

- 1) Continue transition of planning cycle and IAP development to Enbridge.
- 2) Evaluate need for operational ramp-up in Division C below Ceresco Dam.

## 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. The response has been divided into two Oil Recovery and Cleanup Branches: East and West. These branches have 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 East Branch includes Divisions A and B and the West Branch includes Divisions C, D and E. Division C is currently an area of command emphasis and has been further broken down into four groups performing similar response activities in order to accelerate cleanup progress in that Division. Certain control points are denoted by division letter then control point number (i.e. C3 refers to control point three within Division C), and the entire length of the site is now divided into one-quarter mile sections based on milepost.

The following activities occurred during the reporting period from 1900 hours on August 16 to 1900 hours on August 17, 2010:

#### Division A

Division A has extended into the upstream portion of Division B (to the upstream side of location B2) since the operations required there are more similar to those in Division A than Division B. This area is referred to as Area A1, and operations in that area are reported here with Division A.

#### **Enbridge**

Enbridge conducted oil collection at the release site with vacuum tankers. Enbridge excavated and transported contaminated soil to the containment and disposal site. In Area A1, Enbridge continued boom maintenance and clearing activities along Talmadge Creek and completed installing silt fence along the creek. Enbridge is nearing completion of sandblasting and coating of the excavated pipeline.

#### **EPA**

EPA observed Enbridge coating the pipeline in preparation for hydrotesting. Enbridge continued to vacuum water from the excavation trench and oily water from the impacted wetland south of the pipeline release. Contaminated soils were excavated from wetland areas and placed onto staging pads prior to off-site disposal. In Area A1, silt fence installation continued along Talmadge Creek north of location B1.5. EPA observed Enbridge conducting skimming operations at locations B1 and B1.5. During night operations, EPA observed that ponded areas downstream of location B1 appeared to be holding heavy ends of crude oil. This was also observed to the west of location B2 and in

other downstream ponded areas. During daytime operations, EPA observed that Enbridge had removed standing oil from ponds of water.

## **Division B**

### **Enbridge**

Enbridge continued oil collection at boom containment sites and replaced contaminated boom as required. Enbridge placed additional swamp mat roads along Talmadge Creek, West of I-69. Crews worked on scraping oiled bank vegetation and soil downstream to the Kalamazoo River and placed material in the containment site. Enbridge reported that bank scraping is complete from location B2 to location B3 along the south side of the creek. Enbridge installed silt fence along Talmadge Creek as required. Enbridge continued building containment cell 2 between 15 ½ Mile Road and the Kalamazoo River.

Enbridge reported that they have conducted shoreline scraping along approximately 4,088 feet on the north bank of Talmadge Creek and 4,852 feet on the south bank, for a total of 8,940 feet.

### **EPA**

EPA observed that Talmadge Creek had been excavated as far north as location B3 on the west side of the creek, and that the mat road also extended to that location. There was no nighttime excavation of Talmadge Creek. EPA observed skimming and vacuuming operations at locations B2, B2.5, B3, B4, B4.7 and B5. A significant volume of oil was observed on the water just south of location B3. Oily water was drained from the wetlands at location B5.

EPA and START conducted turbidity monitoring in Talmadge Creek while Enbridge crews conducted scraping operations along the bank. EPA observed that the wetland excavation is approximately 60% complete near location B3. Excavated soils were transported to the staging area prior to off-site disposal. EPA observed Enbridge collecting oil at the collection points and scraping the banks of Talmadge Creek between locations B2 and B3. EPA observed that the silt fence is complete as far as location B2.6.

## **Division C**

### **Enbridge**

Enbridge continued shoreline cleaning, cutting, and removal of oiled vegetation. Crews removed oiled lily pads above the dam. Enbridge conducted boom maintenance at location C3.2, and skimming operations and boom maintenance at locations C5 and C6.

Enbridge reported that they have completed shoreline washing along approximately 4.6 miles of the Kalamazoo River bank in Division C.

**EPA**

EPA observed boom maintenance at locations C1 and C5. Oil was observed at location C1. Crews were collecting oiled debris at location C6 and removing oiled vegetation and debris from the island at location C4.

EPA observed approximately 35 to 40 boats in the water between MP2.25 and MP6 conducting boom maintenance and shoreline washing and removing oiled vegetation. EPA observed that there were approximately 20 to 30 boats between MP6.25 and MP9.75 removing and/or replacing boom, and cutting limbs hanging over the river along the south bank. EPA observed crews cleaning the shoreline between MP6.25 and MP9.75. EPA observed oil running into the river at four locations near location C-4.

**Division D****Enbridge**

Enbridge conducted boom maintenance and skimming operations, replaced absorbent pads, and conducted decontamination operations. Enbridge maintained the Gabion boxes in location D1, and made adjustments to the sediment curtain at location D2.

**EPA**

EPA observed boom maintenance activities and the collection of oiled debris at locations D0.5, D1, D2, D2.5, D3 and D5.

**Division E****Enbridge**

Enbridge conducted boom maintenance and replaced absorbent pads and sweep boom as necessary.

**Morrow Lake Task Force**

The Morrow Lake Task Force inspected potential locations for the new X-TEX silt curtain.

**EPA**

EPA observed boom maintenance activities, and noted that the air curtain at location E4 was not operating.



## **Branch Operations**

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

### **Cleanup and Remediation Branch**

The Cleanup and Remediation Branch performed ongoing oversight of cleanup in Divisions A and B, including placement of the swamp mat road east of I-69. Enbridge personnel had ongoing discussions with SCAT and EPA on developing Phase II Shoreline Cleanup Recommendations. In Division C, Cleanup and Remediation Branch personnel cataloged dead woody vegetation.

### **Monitoring Branch**

#### **Enbridge**

Enbridge planned to collect approximately 30 surface water samples, 15 potable water samples, 1 sediment sample, 8 24-hour grab air samples, 22 air mini-summa samples, 4 air grab samples and 4 passive dosimeter samples. Enbridge continued its focused air sampling program around the Baker Estates trailer park, the Ceresco dam and the pipeline release site. Real-time air monitoring for benzene and VOCs continued.

Enbridge reported that they collected 33 surface water samples, 14 potable water samples, and 1 sample identified as “other.”

#### **EPA**

EPA conducted air monitoring in all divisions. EPA collected tedlar bag air samples in the Division B exposure units and the five focus areas (Daycare Center, Baker Estates, Friendship Lane, Ceresco Dam, and Tau Drive), and collected summa canister air samples that had been previously deployed in the Division B exposure units. EPA collected upstream background sediment samples for analysis from one location in Talmadge Creek and three locations in the Kalamazoo River.

The GLNPO Mudpuppy crew collected sediment and surface water samples from stations 2, 4, 5, 6 and 9 in Morrow Lake. Sheen was observed on sediment samples collected from stations 2, 4 and 5. No sheen was observed on the surface of the water.

A total of 60 air samples and 4 surface water samples were reported as being sent to the laboratory for analysis.

Wildlife Branch

USFWS worked with the Wildlife Branch to address oil-impacted wildlife. The wildlife center continued to receive oiled animals collected along the Kalamazoo River. There are 220 animals in live care, the majority of which are Canada Geese and turtles. A total of 137 animals have been rehabilitated and released.

Air Ops Branch

**Enbridge**

Enbridge conducted seven over flights of the river. Enbridge reported that they observed sheen in Divisions D and E and saw no sheen on the river downstream of location E4. Enbridge reported that there was heavy boat activity on the river, especially in Division C, and that the air curtains were working at locations E1 and E3.

**EPA**

EPA conducted two over flights of the river. Observations made during these over flights are reported at the daily situational briefings.

Special Operations

EPA special operations continued to work with Enbridge’s T&D representative and observed collection operations including waste collection and handling at locations B4.7 and B5. EPA special operations personnel briefed the EPA IC on the status of T&D oversight and plans to increase inspections and measurements of all Enbridge waste streams.

**2.1.2 Progress Metrics**

All progress metrics in Section 2.1.2 are as reported by Enbridge unless otherwise indicated.

**Boom Report**

Number of Locations	41
Boom Deployed (feet)	165,565

Note: Since the transition of EPA’s contractor’s to Enbridge at 1900 hrs on 08/12/10, all boom is now controlled by Enbridge.

**Waste Tracking**

Waste Stream	Quantity Shipped 8/15/2010	Cumulative Quantity Shipped*	Quantity On-Site Awaiting Disposal*
Soil <sup>1</sup>	1,077 yd <sup>3</sup>	7,241 yd <sup>3</sup>	11,850 yd <sup>3</sup>
Debris <sup>2</sup>	550 yd <sup>3</sup>	4,465 yd <sup>3</sup>	NA
Untreated Water <sup>3</sup>	116,842 gallons		
Pre-treated Water <sup>4</sup>	189,300 gallons		

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

NA – Not provided by Enbridge

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.

**Oily 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.

Oily Water Collected by Location	
Location	Cumulative Total Collected (gallons)
Division A	3,377,578
Division B	2,390,025
Division C	690,600
Division D	119,325
Division E	38,350
Undetermined	223,000
<b>TOTAL</b>	<b>6,838,878</b>

Oily Water Shipped Off-Site		
Oily Water Leaving Site	Destination	Cumulative Quantity Shipped (gallons)
Untreated Water (Hz.Waste)	Dynecol, Detroit MI	991,882
Pre-treated Water	Battle Creek POTW	1,373,800
Oily Water	RP facility, Griffith IN	2,005,000
<b>TOTAL</b>		<b>4,370,682</b>

Oily Water Volume Summary (gallons)	
Oily Water Collected	6,838,878
Oily Water Shipped Off-site	4,370,682
<b>OILY WATER REMAINING ON-SITE</b>	<b>2,468,196</b>

Oil-Water Separation at Griffith IN Facility (gallons)	
Oil	580,000
Water	1,425,000
<b>TOTAL</b>	<b>2,005,000</b>

## 2.2 Planning Section

The Environmental Unit reviewed Enbridge's *Quality Assurance Project Plan* and *Sampling and Analysis Plan* and recommended conditional approval pending specified modifications.

The ENVL briefed the UC on air sampling data, and met with the Public Health Unit to discuss air sampling data for the exposure units that have not yet been cleared for reoccupation.

The SCAT Team participated in a field cleanup demonstration with Environment Canada.

The USGS field team conducted bathymetric surveys and collected water surface elevation data at nine bridge locations and at the Ceresco Dam.

The DMU imported validated Tedlar bag air sampling data into Scribe, addressed data QA/QC issues with an Enbridge contractor, and continued to support situational briefings using Google Earth.

The Resource Unit completed the IAP for the Operational Period from August 18-19, 2010. Enbridge has assumed responsibility for the planning cycle and development of the IAP.

### 2.2.1 Anticipated Activities for Next Reporting Period

In the next operational period, Operations anticipates performing the same or similar activities as in the previous operational period, with a focus on activities in Division C, below the Ceresco Dam.

### 2.2.2 Issues

The Public Health Unit submitted a press release to the JIC with information regarding the evacuation zone. As soon as validated data from summa canister air samples in the remaining evacuated exposure units is received, the Public Health Unit will make a decision on re-occupancy of those areas. The Public Health Unit conducted a community survey in the evacuation area in conjunction with home air testing.

## 2.3 Logistics Section

EPA Logistics met with the Enbridge Move Team to discuss the ICP relocation. EPA Logistics visited the new ICP location at 1601 Pratt Avenue, Marshall, Michigan.

**2.4 Finance Section**

The current NPFC issued ceiling (based on EPA requests) is \$11 million. Approximately 90 % of the ceiling has been spent through August 16, 2010, with a burn rate of \$338,536 per day. These cost summaries reflect only EPA-funded expenditures for the incident.

ERRS Contractors		Est. Expended	Est Burn Rate (Lastest Daily)
EQM (EPS50802)	T057	\$1,279,393	\$1,500
	T060	74,000	18,500
LATA (EPS50804)		1,451,396	0
ER LLC (EPS50905)		723,669	0
ERRS Contractors		\$3,528,458	\$20,000
<b>START Contractor</b>			
WESTON (EPS50604)		2,416,587	155,037
	-Analytical		
Contractor Sub-Totals		\$5,945,045	\$175,037
<b>Federal &amp; Other Agencies</b>			
Total Federal & Other Agencies		\$2,739,361	\$121,534
Sub-Totals		\$8,684,406	\$296,571
Indirect Cost (14.15%)		1,228,843	41,965
Total Est. Oil Spill Cost		\$9,913,250	\$338,536

**2.5 Safety Officer**

There were two minor incidents that required first aid. The safety officer finalized the Water Safety Response Amendment to the HASP.

**2.6 Liaison Officer**

The LNO participated in a tour of Division A with the Cooperating and Assisting Agencies.

**2.7 Information Officer**

PIO staff continued preparations for the public meeting scheduled for August 19, 2010, at the Kalamazoo County Expo Center/Fairgrounds located at 2900 Lake Street in Kalamazoo. The event will include an open house at 1800 hrs, public meeting at 1900 hrs, and an open house following the public meeting. Meeting announcement flyers were distributed to location government offices and automated calls were made to residents in the Kalamazoo area reminding them of the public meeting.

JIC staff operated the media inquiry line and performed media monitoring.

**Media Inquiry Line (888-363-8632)**

Calls received during reporting period: **2**

Enbridge reported the following call volume and community center visits:

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

Calls received during reporting period: **274**

**Community Center Visits: 139**

Visits by location during reporting period:

Battle Creek	108
Marshall	31

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

## 2.8 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 shoreline 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.

A voluntary evacuation was issued by CCPH, in consultation with MDCH and ATSDR, 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. On August 16, 2010, CCPH lifted the recommended evacuation for the northwest portion of the voluntary evacuation zone after air monitoring and sampling results showed benzene levels below established action levels. Air monitoring and sampling of the remaining affected areas is being conducted to determine when re-occupancy of those remaining areas 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.

On August 17, 2010, EPA approved the following revised plans submitted by Enbridge: *Remediation Plan for Downstream Impacted Areas, Source Area Remediation Plan, Quality Assurance Project Plan and Sampling and Analysis Plan*. All plans submitted by Enbridge as required by the July 27, 2010, Administrative Order have now been approved.

### 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

51 <sup>st</sup> Civil Support Team Michigan National Guard	Calhoun Conservation District
ATSDR	Calhoun County Commission
Allegan County Emergency Management	City of Kalamazoo
American Red Cross	City of Marshall
	Emmett Township

Federal Energy Regulatory Commission  
 Fredonia Township  
 Kalamazoo County Office of Emergency Management  
 Kalamazoo River Watershed Council  
 Marshall Area Firefighters Ambulance Authority  
 Marshall Police Department  
 Marshall Township Government and Fire Department  
 Michigan Department of Agriculture  
 MDCH

MIOSHA  
 National Transportation Safety Board  
 Natural Resource Group  
 NOAA  
 Oakland County HAZMAT  
 OSHA  
 PHMSA  
 USCG  
 U.S. Department of the Interior/USGS  
 USFWS

**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**

<b>Agency/Entity</b>	<b>Numbers reported</b>
EPA	66
MDNRE	30
Michigan State Police	12
City of Battle Creek	2
CCPH	4
MDA	1
MDCH	6
Calhoun County Sheriff	11
Kalamazoo County Sheriff	2
USCG	10
USFWS	14
USDA	4
ERRS	2
START	90
Enbridge	18
Enbridge Contractors	1251
<b>Total</b>	<b>1523</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
EMT	Emergency Medical Technician
ENVL	Environmental Unit Leader
EPA	Environmental Protection Agency
ERRS	Emergency and Rapid Response Services
ERT	Emergency Response Team
EU	Environmental Unit
GLNPO	Great Lakes National Program Office
H2S	Hydrogen Sulfide
HASP	Health and Safety Plan
IAP	Incident Action Plan
IC	Incident Commander
ICP	Incident Command Post
IN	Indiana
JIC	Joint Information Center
LEL	Lower Explosive Limit

LNO	Liaison Officer
LSC	Logistics Section Chief
MDA	Michigan Department of Agriculture
MDCH	Michigan Department of Community Health
MDMB	Michigan Department of Management and Budget
MDNRE	Michigan Department of Natural Resources and Environment
MI	Michigan
MIOSHA	Michigan Occupational Safety and Health Administration
MP	Mile Post
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
QA/QC	Quality Assurance/Quality Control
RP	Responsible Party
SCAT	Shoreline Contamination Assessment Team
START	Superfund Technical Assessment and Response Team
T&D	Transfer and Disposal
UC	Unified Command
USDA	United States Department of Agriculture
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

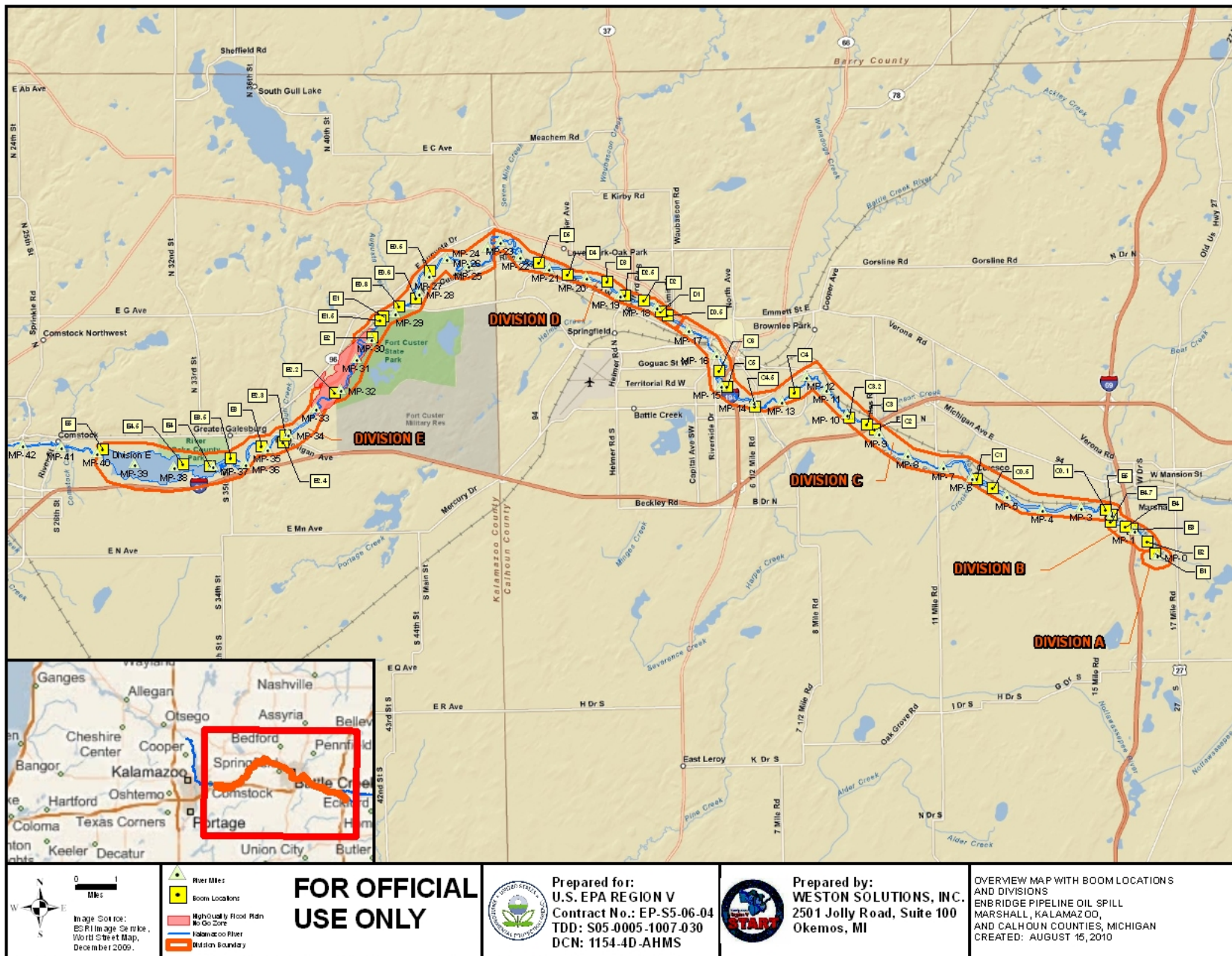
For additional information please refer to <http://www.epa.gov/enbridgespill.html>. For sampling analysis data, please see <http://www.epa.gov/enbridgespill/data/datawater.html>.

### 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 figure, entitled “Overview Map with Boom Locations and Divisions,” for more information.



File: W:\0.1.15\planning\epa\_share\gis\_data\Marshall\_Oil\_ERV\GIS\MXD\20100815\Boom\_Locations\_Overview\_8-5\11\_20100815.mxd, 15-Aug-10 18:29, Dell