

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 #24  
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.

Greg Danneffel, MDNRE  
 Mike McKenzie, City of Battle Creek  
 Leon Zupan, Enbridge  
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 Connie Gibson, Calhoun County Sheriffs Office  
 Cheryl Vosburg, City of Marshall  
 David Chung, U.S. EPA  
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 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  
 Jeff Kimble, U.S. EPA Deputy Incident Commander  
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**Date:** 08/18/10

**Reporting Period:** 1900 hours 08/17/10 to 1900 hours 08/18/10

**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, with emphasis below Ceresco Dam.
- 3) SCAT update on lower Division C, below Ceresco Dam.
- 4) Review SCAT recommendations with Science Team, with emphasis on Division C, to coordinate near-term cleanup efforts.
- 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) Unified Command visitation of work areas in Division C.

### **1.3 Strategic Considerations**

- 1) Increase emphasis on improving work efficiencies in Division C.
- 2) Continue shift of monitoring resources (air, water, sediment) and analytical resources from EPA to Enbridge.

## **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 river milepost.

The following activities occurred during the reporting period from 1900 hours on August 17 to 1900 hours on August 18, 2010:

### **Division A**

Division A has been redefined to include 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 now referred to as Area A1.

### **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 sandblasting and coating the pipe in preparation for hydrotesting. EPA also observed excavation occurring in the wooded area directly south of the pipeline break and the mixing of wood chips in the adjacent wetland. One vacuum truck pumped residual oily liquids from the wetland area. Enbridge continued installation of the silt fence along Talmadge Creek north of location B1.5 to location B2.8. Sausage boom has been placed behind the silt fence through B1.5. Oil skimmers operated at location B1 and location B1.5. EPA observed that Enbridge removed standing oil from ponds of water in areas downstream of location B1. This was also observed west of location B2 and in other downstream ponded areas. Excavated contaminated soils were placed in containment cells prior to off-site disposal.

### **Division B**

### **Enbridge**

Enbridge continued oil collection at boom containment sites and replaced contaminated boom as required. Enbridge continued to construct swamp mat roads along Talmadge Creek, West of I-69. Crews worked on scraping oiled bank vegetation and soil along Talmadge Creek. This material was placed at 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.

## **EPA**

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 between B3 and B5. EPA observed that the wetland excavation is approximately 95% 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 B2.8.

## **Division C**

### **Enbridge**

Enbridge continued shoreline cleaning, cutting, and removal of oiled vegetation between locations C1 and C5. Enbridge reported clearing overhead branches and debris in location C2.

## **EPA**

EPA observed Enbridge cleaning oil from the upper pond area. Enbridge reported to EPA that night operations were discontinued at locations C2 through C6. EPA observed boom maintenance at locations C0, C1 and C5. Oil was observed at location C1. Crews were collecting oiled debris and/or vegetation at locations C1, C2, and C4. EPA observed pooled oil draining into the river at multiple locations near C4.

EPA observed approximately 40 to 50 boats in the water between River Mile 2.25 and 6 conducting boom maintenance, shoreline washing, and removal of oiled vegetation. EPA observed that there were approximately 20 to 30 boats between River Mile 6.25 and 9.75 removing and/or replacing boom, along the north and south banks, as well as cleaning the shoreline. EPA observed two boats cutting vegetation at location C5.

## **Division D**

### **Enbridge**

Enbridge reported moving all Gabion boxes from downstream of 20<sup>th</sup> Street Bridge to upstream. Boom maintenance and skimming operations were conducted, absorbent pads were replaced absorbent pads, and decontamination operations were conducted.

### **EPA**

EPA observed boom maintenance activities and the collection of oiled debris and vegetation as well as the placement of three Gabion boxes at location D1. EPA discussed strategies to address sheening from dirty Gabion box retrieval at location D1 with Enbridge.

## **Division E**

### **Enbridge**

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

### **EPA**

EPA observed boom maintenance activities, and discussed the air curtain at locations E1 and E3 with Enbridge. EPA observed that the air bubbler at E4 needs to be replaced or removed.

## **Branch Operations**

EPA, USCG and Enbridge Operations have four Branches that conduct activities in all Divisions: Environmental Compliance and Oversight (formerly Cleanup and Remediation); Monitoring; Wildlife Environmental Damage Assessment (formerly Wildlife/Damage Assessment); and Air Ops.

### **Environmental Compliance and Oversight Branch**

Enbridge did not provide a report for the Operational Period of this Situation Report.

EPA's Decontamination Evaluation Unit reported discussions with Enbridge at wastewater treatment area as well as performance of numerous oversight activities such as reviewing manifests to verify volumes and weights.



## Monitoring Branch

### **Enbridge**

Enbridge planned to collect approximately 30 surface water samples, 15 potable water samples and 1 sediment sample. Enbridge reported that they collected 25 surface water samples, 11 potable water samples, and 1 sediment sample.

### **EPA**

EPA conducted air monitoring in all divisions. Tedlar bag air samples were collected in the Division B exposure units and three of the five focus areas (Daycare Center, Baker Estates, and Ceresco Dam). Results from the summa canister air samples that had been previously deployed in the Division B were below recommended action levels. EPA observed the Enbridge air monitoring crew in Divisions B and C. Summa canisters collected in the grid areas showed results below action levels.

EPA collected water and sediment samples from five sites on Morrow Lake. EPA observed Enbridge surface water sampling teams and one potable water sampling team and collected three split samples from the surface water.

EPA initiated the bathymetric survey of the river, within Division C, completing 75% of the work.

The GLNPO R/V Mudpuppy crew collected sediment and surface water samples from stations 7 and 9 in Morrow Lake. No sheen was observed on the sediment samples or the water surface.

## Wildlife Damage Assessment 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 205 animals in live care, the majority of which are Canada Geese and turtles. A total of 166 animals have been rehabilitated and released.

## Air Ops Branch

### **Enbridge**

Enbridge reported that all over-flights were cancelled during this operational period due to hydro-testing.

### **EPA**

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

**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)	156,290

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 8/17/2010	Cumulative Quantity Shipped*	Quantity On-Site Awaiting Disposal*
Soil <sup>1</sup>	1,286 yd <sup>3</sup>	8,527 yd <sup>3</sup>	14,950 yd <sup>3</sup>
Debris <sup>2</sup>	660 yd <sup>3</sup>	5,125 yd <sup>3</sup>	NA
Untreated Water <sup>3</sup>	89,297 gallons		
Pre-treated Water <sup>4</sup>	184,700 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	3,623,801
Division B	2,417,825
Division C	693,100
Division D	119,325
Division E	38,350
Undetermined	223,000
<b>TOTAL</b>	<b>7,115,401</b>

<b>Oily Water Shipped Off-Site</b>		
<b>Oily Water Leaving Site</b>	<b>Destination</b>	<b>Cumulative Quantity Shipped (gallons)</b>
Untreated Water (Haz Waste)	Dynecol, Detroit MI	1,081,179
Pre-treated Water	Battle Creek POTW	1,558,500
Oily Water	RP facility, Griffith IN	2,018,000
<b>TOTAL</b>		<b>4,657,679</b>

<b>Oily Water Volume Summary (gallons)</b>	
Oily Water Collected	7,115,401
Oily Water Shipped Off-site	4,370,682
<b>OILY WATER REMAINING ON-SITE</b>	<b>2,744,719</b>

<b>Oil-Water Separation at Griffith IN Facility (gallons)</b>	
Oil	580,000
Water	1,431,000
<b>TOTAL</b>	<b>2,018,000</b>

**2.2 Planning Section**

The ENVL presented air sampling data and reoccupation details at the Command and General Staff meeting, provided an air monitoring update at the Planning meeting and reported validated air results for the southeast portion of the recommended evacuation zone.

The SCAT Leader presented the phase 2 recommendations at the Command and General Staff meeting and observed floodplain areas with pooled oil.

The SCAT technical specialist attended demonstrations of field clean-up technologies.

The USGS field team conducted bathymetric surveys and collected water surface elevations from Division C.

The DMU imported validated air-sampling data into Scribe, and addressed related data QA/QC issues.

The Resource Unit continues to work with the Region 5 EOC in Chicago to staff the response.

**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 that provided an update related to the spill.

**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. Three trailers have arrived at the new location and wiring and cabling are being installed. The communications plan was revised to reflect a change in the event channel and to add ten radios.

**2.4 Finance Section**

The NPFC issued ceiling (based on EPA requests) of \$11 million was raised by \$2 million. The current NPFC issued ceiling is \$13 million. Approximately 80 % of the ceiling has been spent through August 17, 2010, with a burn rate of \$346,958 per day. These cost summaries reflect only EPA-funded expenditures for the incident.

		Est. Expended	Est Burn Rate (Lastest Daily)
<u>ERRS Contractors</u>			
EQM (EPS50802)	TO-57	\$1,282,393	\$1,500
	TO-60	92,500	18,500
LATA (EPS50804)		1,451,396	0
ER LLC (EPS50905)		723,669	0
<u>ERRS Contractors</u>		<u>\$3,549,958</u>	<u>\$20,000</u>
<u>START Contractor</u>			
WESTON (EPS50604)		2,508,275	140,565
Response Contractor Sub-Totals		\$6,058,233	\$160,565
<u>EPA Funded Costs:</u>			
Total EPA Funded Costs		1,779,703	103,100
<u>Pollution Removal Funding Agreements:</u>			
Total Other Agencies		\$1,212,712	\$40,284
Sub-Totals		\$9,050,648	\$303,949
Indirect Cost (14.15%)		1,280,667	43,009
<u>Total Est. Oil Spill Cost</u>		<u>\$10,331,315</u>	<u>\$346,958</u>

**2.5 Safety Officer**

An airboat overturned at location C3.2; there were no injuries or property damage. Three minor first aid injuries were also reported, unrelated to the airboat incident.

## 2.6 Liaison Officer

The LNO participated in a conference call with Enbridge, EPA, Calhoun County and Kalamazoo County legal representatives to address site access issues.

## 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.

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: **251**

### **Community Center Visits: 94**

Visits by location during reporting period:

Battle Creek 76

Marshall 18

Enbridge reported that it received eight inquiries 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 has 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 were also 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. On August 18, 2010, air sampling results for the remaining evacuation zone areas confirmed that benzene levels were below action levels allowing for re-occupancy. The Calhoun County Health Department worked on notifying residents.

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

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**

**Cooperating Agencies**

51<sup>st</sup> Civil Support Team Michigan  
 National Guard  
 ATSDR  
 Allegan County Emergency Management  
 American Red Cross  
 Calhoun Conservation District  
 Calhoun County Commission  
 City of Kalamazoo  
 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	65
MDNRE	23
Michigan State Police	11
City of Battle Creek	2
CCPH	4
MDA	1
MDCH	6
Calhoun County Sheriff	12
Kalamazoo County Sheriff	2
USCG	8
USFWS	13
USDA	4
ERRS	2
START	94
Enbridge	29
Enbridge Contractors	1276
<b>Total</b>	<b>1552</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

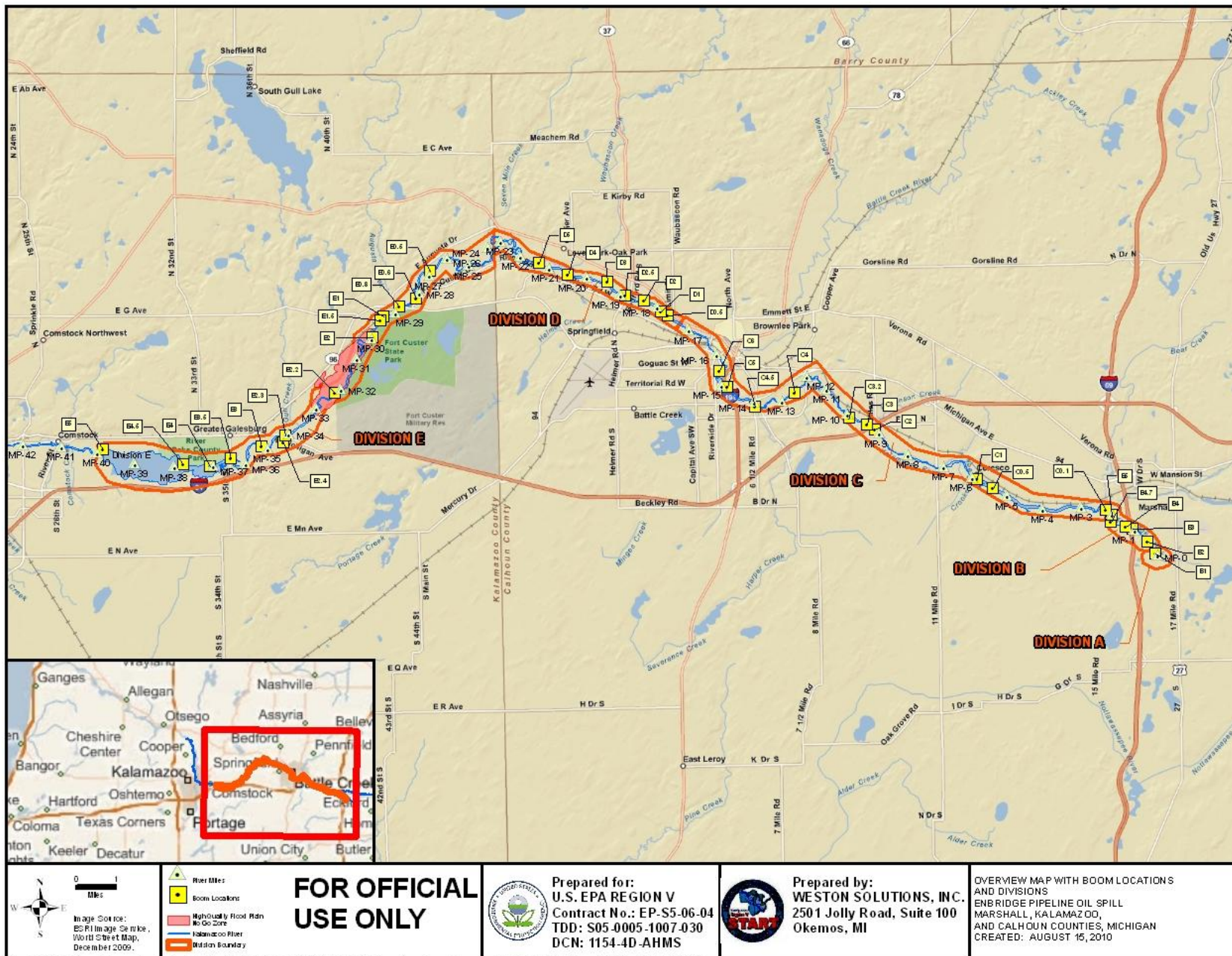
For additional information please refer to <http://www.epa.gov/enbridgespill.html>. For sampling analysis data, please see <http://www.epa.gov/enbridgespill/data/datawater.html>.

### 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:\0.1.18\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