

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 #20
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
 Sam Borries, U.S. EPA Deputy Incident Commander

Date: 08/14/10

Reporting Period: 1900 hours 08/13/10 to 1900 hours 08/14/10

1. Introduction

1.1 Background

1.1.1 Site History

Background Information

Site Number: Z5JS

D.O. Number:

Response Authority: OPA

Response Lead: PRP

NPL Status: Non NPL

Mobilization Date: 7/26/2010

Demob Date:

CERCLIS ID:

ERNS No.:

FPN#: E10527

Contract Number:

Action Memo Date:

Response Type: Emergency

Incident Category: Removal Assessment

Operable Unit:

Start Date: 7/26/2010

Completion Date:

RCRIS ID:

State Notification:

Reimbursable Account

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 have 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 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) 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) Enbridge to assume primary responsibility for planning cycle and IAP development by 8/16/10
 - Continue transition of EPA logistics/procurement functions to Enbridge;
 - Continue transition of IAP development from EPA to Enbridge; and
 - Monitor effectiveness of IAP briefing and use by Operations.
- 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) Maintain continuous comprehensive on-water/analytical sheen monitoring, sediment investigation, reporting and recovery at Morrow Lake.
- 7) Continue to monitor overall effectiveness of community outreach.

1.3 Strategic Considerations

- 1) Continue orderly shift of operational planning to Enbridge.
- 2) Continue systematic operational ramp-up in Division C.
- 3) Provide health agencies with final data for evacuation/relocation closure.

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 branches: River Branch East and River Branch 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. Each Division is 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); these designations are transitioning into a system that designates divisions by milepost.

The following activities occurred during the reporting period from 1900 hours on August 13 to 1900 hours on August 14, 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 currently referred to as Area A1.

EPA

EPA observed that skimmer and vacuum operations at B1 and B1.5 (currently part of Area A1) were not occurring during the night shift. The Enbridge night supervisor was contacted and operations were restarted. EPA observed Enbridge sandblasting the pipeline in preparation for coating. Enbridge continued to vacuum water from the excavation trench. EPA observed that Enbridge completed vacuuming oily water from the impacted wetland, and began excavation of the area. EPA observed dewatering and excavation activities and the placement of contaminated soils onto staging pads prior to off-site disposal.

START collected Tedlar bag air samples during operations in Division A.

EPA and START conducted air monitoring for VOCs, LEL, H₂S, and benzene.

Enbridge

Enbridge conducted oil collection at the release site with vacuum tankers and removed contaminated soil to the containment and disposal site. Enbridge continued non-destructive testing of the excavated pipeline. Enbridge continued boom maintenance, clearing activities, and silt fence installation along Talmadge Creek.

Division B**EPA**

EPA observed brush cutting and excavation work in Talmadge Creek approximately halfway to the Kalamazoo River. Additional swamp mats were installed along Talmadge Creek. EPA observed skimming and vacuuming operations at locations B2, B3, B4, B4.7 and B5. Enbridge laid absorbent pads and deployed boom at location B5. EPA observed boom maintenance at location B3 and B2. Silt fences were installed along Talmadge Creek as necessary.

EPA and START conducted turbidity monitoring in Talmadge Creek while Enbridge crews were excavating the bank.

USCG observed skimming and vacuuming operations, boom maintenance, and shoreline flushing at locations B5, B4, B3, B2, B4.5 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 downstream to the Kalamazoo River and placed the material in a containment site, in accordance with SCAT recommendations. Enbridge installed silt fence along Talmadge Creek as required.

Division C**EPA**

Between locations C1 and C.0, EPA observed approximately 30 boat crews removing oiled vegetation and replacing snare booms and absorbent pads. EPA observed crews marking wetlands and removing oiled vegetation. Between locations C2 and C0.5, EPA observed crews cleaning the shoreline and bagging oiled debris. Approximately 20-30 boats were working both sides of the river washing the shoreline. EPA observed skimming and vacuuming operations at locations C1, C6 and C0.

USCG observed skimming operations, boom maintenance and vegetation removal at locations C6, C5, C4, C3, C2, C1 and C0.5.

Enbridge

Enbridge continued shoreline cleaning, cutting, and removal of oiled vegetation. Crews removed lily pads above the dam.

Division D

EPA

EPA observed skimming and vacuuming operations, the collection of oiled debris, and boom maintenance activities at locations D0.5, D1, D2, D2.5, D3 and D5. A silt boom was installed at locations D1 and D2. EPA observed a crew installing a Gabion box¹ at location D1. The Gabion box was later removed for the installation of the silt boom.

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

Enbridge

Enbridge conducted boom maintenance and skimming operations, and replaced absorbent pads. Gabion boxes were placed in location D1.

Division E

EPA

EPA observed boom maintenance operations at locations E4.5, E4, E3, E3.5 and E2.5. EPA observed air curtain and silt curtain operations near Morrow Lake. Little or no sheen was observed on Morrow Lake.

Enbridge

Enbridge conducted boom maintenance and replaced adsorbent pads.

Morrow Lake Task Force

Enbridge installed curtain boom at Morrow Lake.

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 66 air samples were reported as being collected and sent to the laboratory for analysis.

¹ The Gabion boxes are filled with adsorbent boom and are used to collect any subsurface dispersed oil or particulates moving downstream.

The GLNPO Mudpuppy crew collected sediment and water samples from stations 1, 3, 9 and 10 in Morrow Lake. Sheen was observed on sediment samples and on the lake surface around the boat dock in the morning. The Mudpuppy crew noted that pulling up the anchor often causes a sheen.

Enbridge

Enbridge planned to collect approximately 28 surface water samples, 8 potable water samples, 15 24-hour grab air samples, 21 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 23 surface water samples and 5 private well samples.

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 218 animals in live care, the majority of which are Canada Geese and turtles. A total of 70 animals have been rehabilitated and released. A document with information on wildlife trapping was prepared for public distribution.

Air Ops Branch

EPA conducted one over flight of the river. Enbridge conducted two over flights of the river.

Special Operations

EPA special operations personnel prepared a memorandum summarizing Enbridge's waste handling and disposal procedures for liquid and solid waste, and also prepared a memorandum responding to Enbridge's request to use oily water from fractionation tanks during pipe testing.

Boom Report

Number of Locations	40
Boom Deployed (feet)	175,501

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. The values above were reported by EPA. Enbridge cannot confirm some of the boom previously deployed by EPA due to lack of access to some areas of the river.

Waste Tracking

Waste Stream	Quantity Shipped 8/13/2010 [*]	Cumulative Quantity Shipped [*]
Soil ¹	843 yd ³	4,947 yd ³
Debris ²	550 yd ³	2,800 yd ³
Untreated Water ³	72,296 gallons	
Pre-treated Water ⁴	163,900 gallons	

^{*} All values as reported by Enbridge. Cumulative totals for water are reported in a separate table.

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.

Oil-Water Recovery Tracking

Oil-Water Collected by Location	
Location	Cumulative Total Collected (gallons)*
Division A	2,572,622
Division B	2,217,142
Division C	673,400
Division D	95,900
Division E	33,750
Undetermined	208,900
TOTAL	5,801,714

^{*} All values as reported by Enbridge.

Oil-Water Shipped Off-Site		
Oil-Water Leaving Site	Destination	Cumulative Quantity Shipped (gallons)*
Untreated Water (Hazardous Waste)	Dynecol, Detroit MI	660,107
Pre-treated Water	Battle Creek POTW	1,011,962
Oily Water	RP facility, Griffith IN	1,896,299
TOTAL		3,568,368

^{*} All values as reported by Enbridge. Values are those recorded leaving the fractionation tanks.

Oil-Water Volume Summary (gallons)	
Oil-Water Collected	5,801,714
Oil-Water Shipped Off-site	3,568,368
OIL-WATER REMAINING ON-SITE	2,233,346

2.2 Planning Section

The EU received Enbridge's revised *Sampling and Analysis Plan* and *Quality Assurance Project Plan* and began reviewing the documents.

A USGS survey crew conducted reconnaissance in Division C and identified shallow areas where the acoustic bathymetry data would need to be supplemented with rod and level surveys. The bathymetric data will be used to support operations and ongoing monitoring and modeling efforts.

Two SCAT boats conducted shoreline assessments and large woody debris inventory in Division C. The SCAT Leader observed floodplain clearing operations near Baker Estates in Division C, and discussed operational endpoints for Enbridge's response (i.e., the point at which there is no net environmental benefit from further active cleanup operations).

The DMU managed field and analytical data in the Scribe database and added additional QA/QC measures to the database. The DMU provided validated analytical data to the PIO for publishing on the www.epa.gov/enbridgespill/ public website.

The Resource Unit completed the IAP for the Operational Period from August 14-15, 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 Public Health Unit is waiting to receive validated results from the Summa canister air samples collected from areas west of I-69 (Units 10 and 7). The results are required for a decision on re-occupancy of this area. The Public Health Unit is developing a protocol for residents returning to their homes after extended absences.

Summa canisters that were deployed east of I-69 experienced regulator failures and were replaced. The re-occupancy decision has been delayed until the validated air sampling data are available.

The Public Health Unit, in collaboration with the Michigan Poison Control Center, completed and distributed information to local medical doctors to assist in treating patients with oil exposure related symptoms.

2.3 Logistics Section

EPA Logistics met with Enbridge Logistics to discuss the ICP relocation. The number and type of trailers required for the new ICP was communicated to Enbridge.

2.4 Finance Section

The current NPFC issued ceiling (based on EPA requests) is \$11 million. Approximately 81 % of the ceiling has been spent through August 13, 2010, with a burn rate of \$331,908 per day. These cost summaries reflect only EPA expenditures for the incident.

	Est. Expended (\$)	Est. Burn Rate (\$)
EQM	1,285,893	20,000
LATA	1,451,396	0
ER LLC	723,669	0
ERRS Contractors	3,460,958	20,000
WESTON START	1,946,804	150,129
Federal & Other Agencies	2,479,470	124,638
Sub-Totals	7,887,232	294,767
Indirect Costs (12.6%)	993,791	37,141
Est. Total Oil Spill	8,881,023	331,908

Note: Reported costs are through August 13, 2010.

2.5 Safety Officer

No injuries were reported today. There was one minor vehicle accident reported.

2.6 Liaison Officer

The LNO had nothing significant to report.

2.7 Information Officer

2.7.1 Public Information Officer

Media Inquiry Line (888-363-8632)*

Calls received on August 14, 2010: **0**

* Note: Prior SITREPS referred to this phone number as the Oil Spill Response Hotline

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

Calls received on August 14, 2010: **191**

Community Center Visits: 200

Visits by Location:

Battle Creek	158
Marshall	42

PIO Activities

A public meeting is 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.

PIO staff personnel are manning booths at the Calhoun County Fair and the Kalamazoo River Fest.

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

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*. Revised versions of the plans submitted by Enbridge are under review.

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 st Civil Support Team Michigan National Guard	Kalamazoo County Office of Emergency Management
ATSDR	Kalamazoo River Watershed Council
Allegan County Emergency Management	Marshall Area Firefighters Ambulance Authority
American Red Cross	Marshall Police Department
Calhoun Conservation District	Marshall Township Government and Fire Department
Calhoun County	Michigan Department of Agriculture
City of Kalamazoo	MDCH
City of Marshall	MIOSHA
Emmett Township	National Transportation Safety Board
Federal Energy Regulatory Commission	Natural Resource Group
Fredonia Township	NOAA

Oakland County HAZMAT

OSHA

PHMSA

USCG

U.S. Department of the Interior/USGS

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

Personnel	Numbers reported for 8/13/2010
EPA	64
MDNRE	25
Michigan State Police	10
City of Battle Creek	2
CCPH	4
Calhoun County Sheriff	12
Kalamazoo County Sheriff	2
USCG	13
USFWS	15
ERRS	2
START	82
Enbridge	28
Enbridge Contractors	988
Total	1247

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
EPA	Environmental Protection Agency
ERRS	Emergency and Rapid Response Services
ERT	Emergency Response Team

EU	Environmental Unit
GLNPO	Great Lakes National Program Office
H ₂ S	Hydrogen Sulfide
IAP	Incident Action Plan
ICP	Incident Command Post
IN	Indiana
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
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 ³	Cubic Yards
VOCs	Volatile Organic Compounds

6.0 Source of Additional Information

6.1 Additional Information

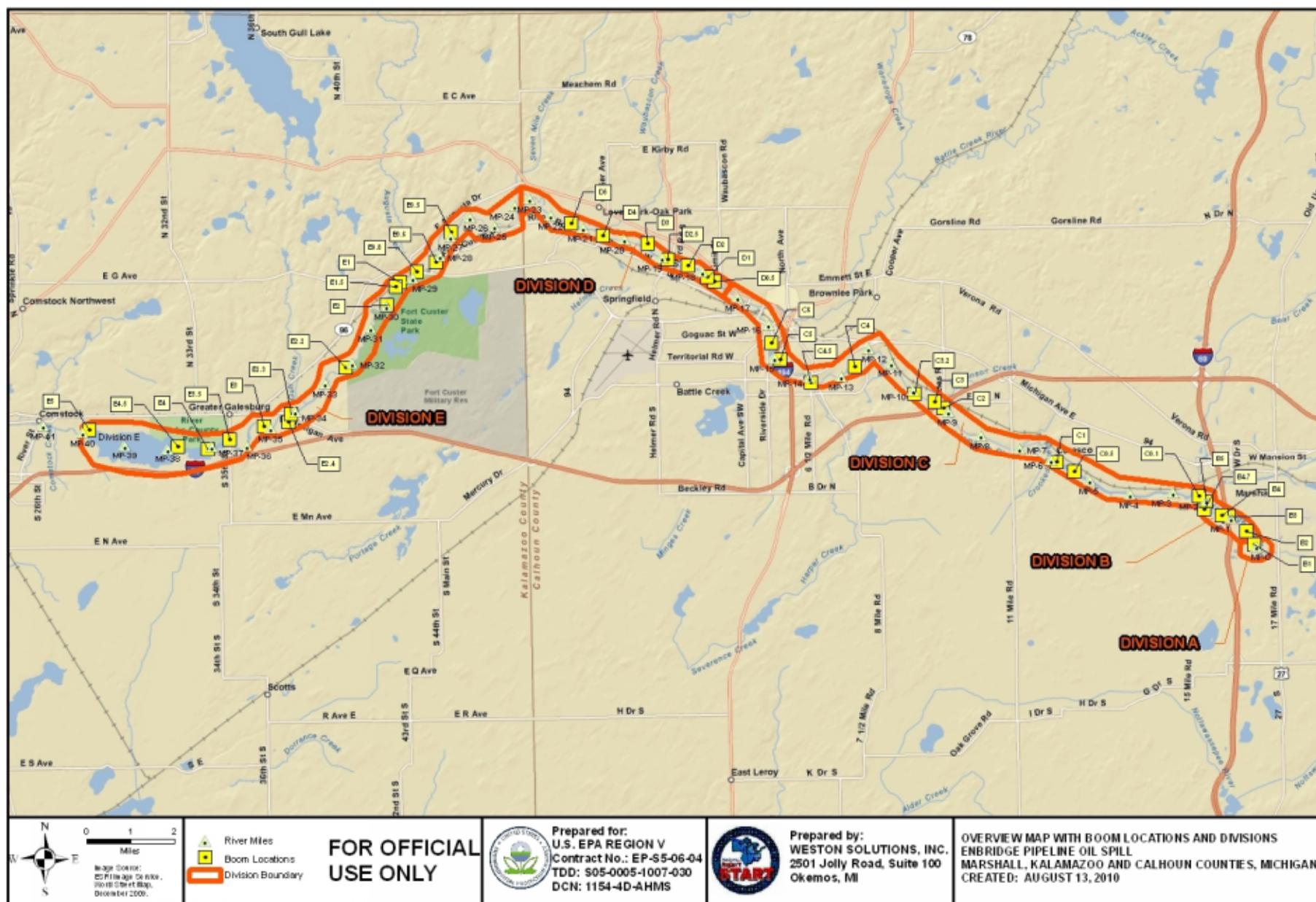
For additional information please refer to <http://www.epa.gov/enbridgespill.html>. For sampling analysis data, please see <http://www.epa.gov/enbridgespill/data/datawater.html>

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: V:\01.1.0\planning\epa_share\epa_data\Marshall_Oil_Spill\Map\20100813\Booms_Locations_Overview_F1X17_20100813.mxd, 13-Aug-10 08:56, 0.d