US ERA 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 #21

Kalamazoo River/Enbridge Spill

Z5JS

Marshall, MI

Latitude: 42.2395273 Longitude: -84.9662018

To: Sheriff Richard Fuller, Kalamazoo County Sheriff's Office

Paul Makoski, Calhoun County Public Health Department

Captain Matt Saxton, Calhoun County Emergency Management

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

Mike Masterson, 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: 08/15/10

Reporting Period: 1900 hours 08/14/10 to 1900 hours 08/15/10

1. Introduction 1.1 Background

1.1.1 Site History

Background Information

Site Number: Z5JS Contract Number: D.O. Number: Action Memo Date:

Response Authority: OPA **Response Type:** Emergency

Response Lead: PRP **Incident Category:** Removal Assessment

NPL Status: Non NPL **Operable Unit:**

Mobilization Date: 7/26/2010 **Start Date:** 7/26/2010

Demob Date: Completion Date:

CERCLIS ID: RCRIS ID:

ERNS No.: State Notification: FPN#: E10527 Reimbursable Account

1.1.2 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 transition of planning cycle and IAP development 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 branches: the East Branch and the West Branch. 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 14 to 1900 hours on August 15, 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.

EPA

EPA observed Enbridge wrapping the pipeline. Enbridge continued to vacuum water from the excavation trench and oily water from the impacted wetland. Oil was vacuumed from ponds of standing water. Contaminated soils were placed onto staging pads prior to off-site disposal. A silt fence was installed in Tallmadge Creek through location B1.5.

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

Enbridge

Enbridge conducted oil collection at the release site with vacuum tankers. Scraping and clearing of oiled vegetation and soil continued from Talmadge Creek downstream toward Division B; Enbridge removed contaminated soil to the containment and disposal site. Enbridge continued non-destructive testing, sandblasting and coating 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. Talmadge Creek has been excavated 60 % of the way to location B3. EPA observed skimming and vacuuming operations at locations B2, B3, B4, B4.7 and B5. EPA observed boom maintenance at location B3 and B2. Silt fences were installed along Talmadge Creek as required. Excavated oil-contaminated soil was transported to the staging area prior to disposal. Enbridge continued placing swamp mats for access to Talmadge Creek. There was no night excavation of Talmadge Creek north of location B2.

EPA and START conducted turbidity monitoring in Talmadge Creek while Enbridge crews were excavating the bank. Enbridge continued collecting oil at collection points and scraping the banks of Talmadge Creek between B2 and B3.

USCG observed activities at all locations in Division B.

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 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. Enbridge is creating Staging Area 4 and containment cell 2 between 15 ½ Mile Road and the Kalamazoo River.

Division C

EPA

EPA observed skimming, boom maintenance, vegetation cleaning and removal operations at all locations in Division C. At locations C6 and C1.1 large amounts of oil were observed. An oily sheen was observed at location C1.

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

Enbridge

Enbridge continued shoreline cleaning, cutting, and removal of oiled vegetation. Crews removed lily pads above the dam. Enbridge conducted boom maintenance at location C1, and skimming operations and boom maintenance at locations C4, C5 and C6. An oily sheen was observed on the river at location C1.

Division D

EPA

EPA observed skimming and vacuuming operations, the collection of oiled debris, and/or boom maintenance activities at locations D0.5, D1, D2, D2.5, D3 and D5. At location D1 EPA observed crews installing Gabion boxes in the river filled with adsorbent boom. EPA observed crews installing a new silt curtain at location D2 after the curtain installed the day before failed. At locations D2.5, D3 and D5, EPA observed vegetation removal along the shoreline. Crews have completed the north shoreline from the staging area at location D3 to location D5.

Enbridge

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

Division E

EPA

EPA observed air curtain and silt curtain operations between locations E3 and E4.5.

Enbridge

Enbridge conducted boom maintenance and replaced adsorbent pads.

Morrow Lake Task Force

The silt screen at location E4 in Morrow Lake needs to be redesigned, therefore it was removed.

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

EPA conducted air monitoring in all divisions including the pipeline release zone. 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 picked up Summa canister air samplers from the Division B exposure units. A total of 72 air samples were reported as being collected and sent to the laboratory for analysis. 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 water samples from stations 2, 4, 5, and 6 in Morrow Lake. Sheen was observed on sediment samples from stations 2, 4 and 5 and on the lake surface near the boat launch to Station 1. At Station 1, the Mudpuppy crew collected a sheen sample that is being shipped for fingerprint analysis.

Enbridge

Enbridge planned to collect approximately 30 surface water samples, 15 potable water samples, 1 sediment sample, 6 24-hour grab air samples, 29 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 34 surface water samples and 16 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 221 animals in live care, the majority of which are Canada Geese and turtles. A total of 105 animals have been rehabilitated and released.

Air Ops Branch

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

Special Operations

EPA special operations visited the potential new staging area (Staging Area 4) with Enbridge's T&D representative and reviewed Enbridge's T&D Plan.

2.1.2 Progress Metrics

All progress metrics below are as reported by Enbridge.

Boom Report

Number of Locations	40
Boom Deployed (feet)	155,425

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 8/14/2010*	Cumulative Quantity Shipped*	Quantity On-Site Awaiting Disposal*
Soil 1	$1,075 \text{ yd}^3$	$5,844 \text{ yd}^3$	$7,150 \text{ yd}^3$
Debris ²	470 yd ³	$3,270 \text{ yd}^3$	635 yd^3
Untreated Water ³	80,556 gallons		
Pre-treated Water ⁴	185,700 gallons		

Information for water (other than daily quantity shipped) is reported in other tables below.

- 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	2,845,324
Division B	2,309,042
Division C	672,100
Division D	100,900
Division E	33,750
Undetermined	223,000
TOTAL	6,184,116

^{*} Some of the volumes have been audited and reconciled by Enbridge and may not correlate with previously reported volumes.

Oil-Water Shipped Off-Site		
Oil-Water Leaving Site	Destination	Cumulative Quantity Shipped (gallons)*
Untreated Water (Hz.Waste)	Dynecol, Detroit MI	767,961
Pre-treated Water	Battle Creek POTW	1,021,500
Oily Water	RP facility, Griffith IN	2,234,400
	TOTAL	4,023,861

Oil-Water Volume Summary (gallons)	
Oil-Water Collected	6,184,116
Oil-Water Shipped Off-site	4,023,861
OIL-WATER	2,160,255
REMAINING ON-SITE	

Oil-Water Separation at Griffith IN Facility (gallons)	
Oil	621,600
Water	1,612,800
TOTAL	2,234,400

2.2 Planning Section

SCAT field teams continued to review shoreline for Phase 2 cleanup activities. The SCAT Leader presented the results of the cleanup method tests and cleanup recommendations to the Science Team and the UC.

The USGS field team conducted bathymetric surveys of impacted areas of the river upstream from the Burnam Street bridge.

The DMU briefed the UC on Scribe and Picasa Web Albums. The DMU continued to manage field and analytical data in the Scribe database and implemented additional QA/QC measures for Scribe.

The Resource Unit completed the IAP for the Operational Period from August 16-17, 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 received validated results from the Summa canister air samples collected from areas west of I-69 (Units 10 and 7). The results showed that the air concentrations of benzene are below established action levels. It is anticipated that the area west of I-69 will be cleared for re-occupancy on August 16, 2010.

The Public Health Unit developed a protocol for residents returning to their homes after extended absences. The protocol will be presented to the UC on August 16, 2010.

The Summa canisters deployed east of I-69 on August 14, 2010, have been collected and sent for analysis.

2.3 Logistics Section

EPA Logistics met with the MDMB and Enbridge Logistics to discuss the ICP relocation.

2.4 Finance Section

The current NPFC issued ceiling (based on EPA requests) is \$11 million. Approximately 85 % of the ceiling has been spent through August 14, 2010, with a burn rate of \$335,720 per day. These cost summaries reflect only EPA expenditures for the incident.

	Est. Expended (\$)	Est. Burn Rate (\$)
EQM	1,310,393	20,000
LATA	1,451,396	0
ER LLC	723,669	0
ERRS Contractors	3,485,458	20,000
WESTON START	2,096,933	150,129
Federal & Other Agencies	2,619,470	123,975
Sub-Totals	8,201,861	294,104
Indirect Costs (12.6%)	1,160,563	41,616
Est. Total Oil Spill	9,362,424	335,720

2.5 Safety Officer

There was a boating incident involving a capsized boat in the vicinity of location C5. No injuries resulted, but there was some property damage/loss. The incident is currently under investigation. There was one minor incident that required medical aid.

2.6 Liaison Officer

The LNO facilitated the briefing and site tour for Senator Carl Levin. Local government officials participated in the site tour.

2.7 Information Officer

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 manned a booth at the Calhoun County Fair. CICs handed out fact sheets and spoke with concerned citizens.

CICs were interviewed by one media outlet at the Kalamazoo River Fest.

The PIO supported the visit of Senator Levin by providing briefing material packages and photographic coverage of the briefing.

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

Media Inquiry Line (888-363-8632)*

Calls received during reporting period:

1

Enbridge reported the following call volume and community center visits:

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

Calls received during reporting period: 150

Community Center Visits: 88

Visits by location during reporting period:

Battle Creek 69 Marshall 19

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 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

MDNRE Department

Michigan State Police Emergency Calhoun County Emergency

Management Division

Management

City of Battle Creek Kalamazoo County Sheriff

Enbridge (Responsible Party)

3.2 Cooperating and Assisting Agencies

Cooperating Agencies

51st Civil Support Team Michigan Marshall Area Firefighters Ambulance

National Guard Authority

ATSDR Marshall Police Department

Allegan County Emergency Marshall Township Government and

Management Fire Department

American Red Cross Michigan Department of Agriculture

Calhoun Conservation District MDCH
Calhoun County Commission MIOSHA

City of Kalamazoo National Transportation Safety Board

City of Marshall Natural Resource Group

Emmett Township NOAA

Federal Energy Regulatory Commission Oakland County HAZMAT

Fredonia Township OSHA

Kalamazoo County Office of Emergency PHMSA

Management USCG

Kalamazoo River Watershed Council

U.S. Department of the Interior/USGS

USFWS

3.3 Congressional Presence

State Representative Jase Bolger State Representative Tanya Schuitmaker

State Representative Kate Segal State Senator Mike Nofs

State Representative Ken Kurtz U.S. Congressman Mark Schauer

State Representative Phil Browne U.S. Senator Carl Levin

State Representative Phyllis Browne U.S. Senator Debbie Stabenow

State Representative Bob Geuctk

4. Personnel On Site

	Numbers
Agency/Entity	reported
EPA	56
MDNRE	24
Michigan State Police	10
City of Battle Creek	2
ССРН	2
MDA	1
MDCH	4
Calhoun County Sheriff	14
Kalamazoo County Sheriff	2
USCG	13
USFWS	12
USDA	2
ERRS	2
START	87
Enbridge	28
Enbridge Contractors	1094
Total	1353

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

H2S 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

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

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

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

vd³ Cubic Yards

VOCs Volatile Organic Compounds

6.0 Source of Additional Information

6.1 Additional Information

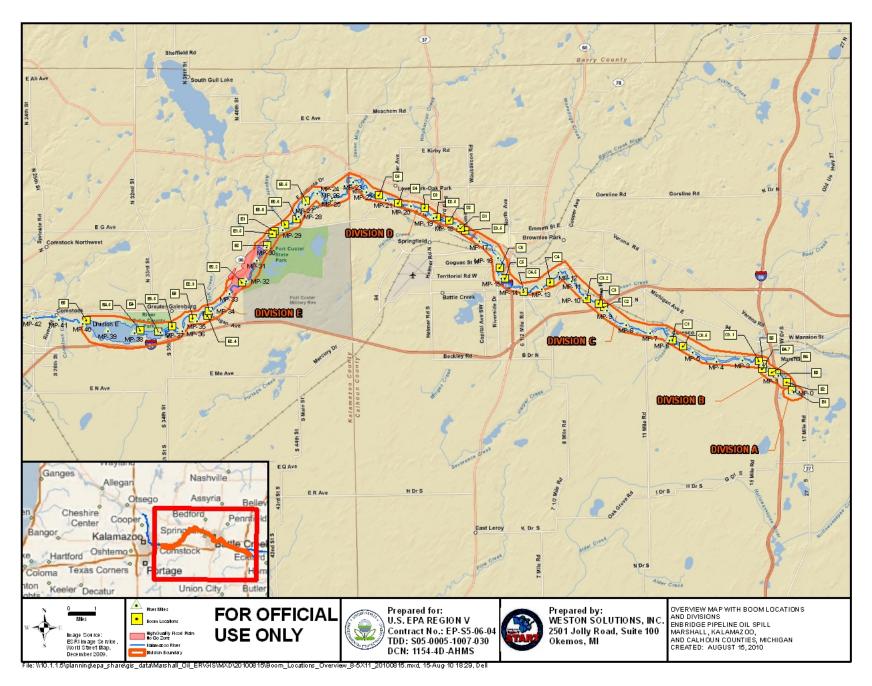
For additional information please refer to http://www.epa.gov/enbridgespill.html. For sampling analysis data, please see http://www.epa.gov/enbridgespill/data/datawater.html

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.



Page 17 of 17