

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



Location A5 looking west (September 5)

**Subject:** SITREP # 42  
Kalamazoo River/Enbridge Spill  
Z5JS  
Marshall, MI  
Latitude: 42.2395273 Longitude: -84.9662018

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**Date:** 9/5/10

**Reporting Period:** 1900 hours 9/4/10 to 1900 hours 9/5/10

## **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 Action

**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 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 has submitted and EPA has approved the following deliverables required by the Order including but not limited to: *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 Objective and Command Emphasis

The following incident objectives and command emphasis are taken from the IAP for the Operational Period September 4, 2010, 0700 to September 6, 2010, 0700.

#### Incident Objectives

1. Ensure health and safety of the public and response and recovery personnel.
2. Maintain the isolation of Talmadge Creek and Kalamazoo River from the source area.
3. Ensure effective transition of regulatory oversight of the oil impacted areas from EPA to MDNRE jurisdiction as appropriate.
4. Contain and recover oil and contaminated vegetation in Talmadge Creek and Kalamazoo River.
5. Maintain effective unified communications with cooperating and assisting agencies and the public.
6. Perform remediation and restoration of all affected public and private areas of river and river systems.
7. Provide protection of environmentally and culturally sensitive areas including wildlife and historic properties.
8. Protect threatened and endangered species and continue to recover and rehabilitate injured wildlife.
9. Continue to collect, coordinate, manage and communicate environmental and public health data including maintenance of Joint Information Center function.

#### Command Emphasis

1. Continue to evaluate and enhance submerged oil monitoring in the Kalamazoo River and at Morrow Lake, including assessment, mapping and development of near and long-term capture and management options.
2. Complete final assessment and evaluation of Division A and continue consideration of final assessment process in Division B.
3. Complete necessary sampling, grade restoration and stabilization work along Talmadge Creek as appropriate in accordance with MDNRE guidance.

### 1.3 Strategic Considerations

- 1) Emphasize need for awareness of local traffic and back-to-school safety considerations across all site work locations.



- 2) Emphasis with Enbridge to get submerged oil recovery going at Ceresco Dam.
- 3) Resolve closure process issues for Locations A5 and A6.

## **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. Operationally, 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 map). 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 subdivided 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). Additionally the entire length of the site is now divided into one-quarter mile sections.

The Unified Command organizational charts (ICS 207 forms) are presented in Figures 1- 4. The ICS 207 Forms describe in detail the work breakdown structure for the response action.

The following activities occurred during the reporting period from 1900 hours on September 4, 2010 to 1900 hours on September 5, 2010:

#### **Division A**

Division A has been extended to incorporate the portion of Talmadge Creek from Location A4 to Division Drive.

#### Enbridge reported the following:

- Removal of aqua dam from middle of Talmadge Creek through Location A6.
- Installation of additional boom along west side of banks in Location A5.
- Repaired silt fencing along Location A5.

#### EPA observed the following:

- Roadway maintenance and re-grading on the main access road to the mixing cells during the night shift.
- Heavy use of the DECON pad during the night shift.
- Multiple areas of light to moderate sheen in pooled water from Division A to Location B3.
- Hot spots identified in excavated areas along the banks of Talmadge Creek. Instances have been photo documented.
- Hauling operations on hold pending results of final field screening.
- Daily ongoing repair of silt fences.
- Soil screening at Locations A5 and A6.
- Staging of peat fill material next to source in preparation of future backfill operations.

- Leaching of free product and sheen from areas along creek bank at Location A6. Documented for OSC review and transmittal to the RP.

## **Division B**

### Enbridge reported the following:

- Demobilization of Locations B2, B3, B4, and B5.
- Cleanup digs conducted at hot spots in Locations B4.2 and B4.3
- Removal of sheen and debris from collection points in Locations B4.5 and B4.7.
- Installation of pump around in Location B2.5.
- Investigation and removal of numerous hot spots.
- Relocation of DECON station in Location B2 to a matted area south of Division Street.

### EPA observed the following:

- Excavation of contaminated soil at Location B2.5 during the night shift.
- No work observed at Location B4 during the night shift.
- Continued vacuum removal operations at Location B5 during the night shift.
- Booms and sandbags appeared to be in good condition at Location B5 during the night shift.
- Many of the response rally points (Locations B2, B3, B4, and B5) have been extensively downgraded.
- Removal of silt fence along both sides of Talmadge Creek at Location B2.7 to facilitate in scraping activities.
- Removal of silt fence 450 downstream of 15½ Mile Road at Location B4 to facilitate in scraping activities.
- Silt fences at Locations B2 and B3 appear to be in good condition.
- Replacement of sorbent log boom between Locations B2 and B2.5.
- No excavation activities at Locations B2, B2.5, or B3.
- Staging of an excavator at Location B2.5 in preparation of future scraping.
- Soil staging and processing at Location B4.

Product hotspots are still being found throughout Division A up to Location B3 as reported by night ops.

### Oversight Monitoring Group observed the following:

- River Branch Task Force 1:
  - Damage to silt fence on both sides of Talmadge Creek downstream from Division Road at Location B2.
  - Presence of rainbow sheen and free product along west bank at Location B2.5.
  - Ongoing skimming operations at Location B2.5.
  - Damage to silt fence at Location B2.5. It is expected that daily repair operations will address this situation.
  - Contaminated soil observed along west bank at Location B2.7. Location has been noted and will be delivered to the RP.
  - Replacement of sorbent boom on east bank at Location B2.7.
  - Vacuum removal of free product at Location B2.7.

- Skimming operations using wire baskets lined with sorbent pads mounted on long handles to absorb sheen and free product at Location B3.
- Ongoing excavation at Location B4.
- Contaminated soil and free product between 15 ½ Mile Road and 400 feet downstream of 15 ½ Mile Road.
- Presence of medium sheen in standing water along creek at location B5.

USCG observed the following:

- At Location B4.5:
  - Collection of sheen emanating from nearby bank by flume.
  - Removal of gear from the work site.
  - Soil sampling from west bank.
  - Skimming of oil from ponds. Due to prevailing western winds, oil, sheen, and debris has been collecting on one side of area.
- Personnel decontamination setup remains at Location B4.6.
- Sheen skimming behind the flume by vacuum truck at Location B4.8. Presence of minimal sheen behind the flume.
- Removal of trucks from roadway at Location B4.8. Creek appears clear in most spots.

**Division C**

Enbridge reported the following:

- Continuing reorganization of resources to respond to SCAT focus areas between MP2.25 and MP14.
- At Location C0:
  - Continuing decontamination of equipment by Kemron in preparation of demobilization from site.
  - Continuation of shoreline cleaning operations on the south side of the Kalamazoo River.
- Containment boom added on north bank to old railroad bridge at Location C0.5.
- At Location C1:
  - Skimming operations continue.
  - Removal of 1000 feet of containment boom.
  - Removal of 2000 feet of absorbent boom upstream of dam.
  - Silt curtain boom added upstream of dam.
- Continuation of shoreline cleaning at Location C1.5.
- Collection of debris at Locations C2, C3.9, and C5.
- Shoreline cleaning and collection of debris at Locations C3, C3.2, C3.7, C4.80, and C4.85.
- Snare boom deployed at Location C3.2.
- Termination of activities and site demobilization at Location C6. Boom remains in place.

EPA observed the following:

- From MP2.25 to MP6 (Group 1):
  - Replacement of absorbent boom at MP2.5
  - On Island A at MP3:



- Heavy vegetation removal. SCAT recommends most vegetation be removed.
  - Crew of approximately 20 assigned to this area.
  - Air monitoring conducted to address concerns related to heavy odor in area. No readings were detected.
- Completion of flushing operations on Island B at MP3.25.
- Completion of vegetation cutting operations at MP3.75.
- Flushing of Island E at MP4.0 using low pressure, high volume sprinklers. Released oil is being recovered using snares, pads, and booms.
- Vegetation removal at Locations MP4.5 and MP5.0
- Removal of containment boom at MP5.25 and transfer to boom DECON at Location C0.
- Replacement of absorbent boom at MP5.75.
- MP6.5 to MP10 (Group 2):
  - Cleaning of large inland oil pool by a crew of approximately 30 at MP8.25.
  - Emanation of large area of sheen from the mouth of a creek at MP8.25. Sorbent boom has been deployed to capture sheen. Further investigation identified multiple small pockets of oil.
  - Discovered sheen on a small self-contained pool of water on north side of island at MP8.75. Application of pressure increased the amount of sheen.
  - Discovery of newly fallen tree at MP8.75.
  - EPA and START stopped to talk to a resident near MP9.35. Resident lives on the river and expressed concern about the lack of fish in the river. Resident also offered his property for access if needed.
- From MP10 to MP15 (Group 3 and 4):
  - Saturation of sorbent boom at MP10.5. Replacement is recommended.
  - Boom needed 300 meters upstream on right descending bank of marshy area at MP10.5.
  - Observed debris in piles at MP11 for the third day in a row. Boom 10-20 meters.
  - Coordinated with Overbank Group regarding pooled oil locations between MP11 and MP12.
  - Reported unsafe air boat driver.
  - Downstream 10-12 meters on right descending bank boom is very dirty. No workers present at MP11.
  - Health and safety inspection at MP11.25:
    - Many personnel were lacking fit tests.
    - No plywood or felt on walkways. Condition has been reported and corrected.
  - Identification of heavy oil pocket 200 feet inward of right descending bank at MP11.25.
  - Identification of significant volumes of outwash and waste 50 meters downstream on left descending bank of MP 11.75. No boom present.
  - Presence of heavy oil pools 100 meters from shoreline of left descending bank at MP11.75.
  - Soiled boom 200 meters upstream of MP12.75 on the left descending bank.
  - Excavation of 1 inch of surface soil in area marked with silver tape at MP13.25.

- Seepage of oil through two shoreline veins.
- No booms present to contain oil or sheen.
- Test pit dug 300 feet from shore filled with oil seepage.
- Unsafe driving by a solo air boat operator. Boat identified as Air Boat #10, LA1630.
- Establishment of new work areas at MP14.75 and MP15.

USCG observed the following:

- Operation of decontamination line on both booms and boats at Location C0.
- Cleanup of shorelines and islands as well as boom maintenance by crews of 40 boats at Location C0.3.
- Silt curtain remains in place at Location C1.
- Emission of sheen from oiled boom at Location C1.
- Cleanup of soiled brush and hotspots between MP7 and MP7.25 at Location C1.5.
- Relocation of work crews from islands east of C2 to islands west of C2.
- Continuing maintenance of booms and DECON of boats at Location C5.

**Division D**

Enbridge reported the following:

- Replacement of gabion basket panels at Location D1.
- Maintenance and replacement of sweep boom at Location D2.5.

EPA observed the following:

- Operation and maintenance of both lines of gabion baskets.
- Ongoing maintenance of booms in all areas.
- Consolidation of work force and collection points throughout Division D. All Division D activities will be conducted at Location D3.
- Determination of a booming strategy for the oxbow at Location D5. Booming strategy will include:
  - Hard boom deployment at mouth of each oxbow.
  - Hard boom deployment at oxbow opening directly adjacent to the Custer Street Bridge.
- Cleanup operations at Location D5 have not yet been initiated.
- Clearance of four ¼ mile sections for further evaluation.
- Disrepair of both sets of booms in Division D. The downriver boom may need to be replaced.
- Presence of heavy oil in area being cleared by the SCAT's 5 step process.

**Division E**

Enbridge reported the following:

- At Location E0.5:
  - DECON of gabion baskets only.
  - EQ on site to setup 3 boats to maintain boom and get samples.
  - Continuing construction and maintenance of gabion baskets.
- Continuing demobilization of work crews and boats cleaned to move out in Location E3.

- Sample collection by ERRS at Location E4.
- Skimmer boats and sheen detection boats deployed for lake patrol at Location E4.5.
- No activities in Location E5.

EPA observed the following:

- Continuation of skimmer operations on Morrow Lake.
- Response to reports of sheen on Morrow Lake in a cove near the E4 boom.  
Approximately 10 gallons of oily water were retrieved before the sheen was dispersed by the wind.

### **2.1.2 Branch Operations**

In addition to the East and West Recovery Branches, EPA, USCG and Enbridge Operations have five Branches that conduct activities in all Divisions: DECON, Environmental Compliance and Oversight; Monitoring; Wildlife Environmental/Damage Assessment; and Air Ops.

#### **Technical Services Group**

EPA reported the following:

- Performance of pumping and filtration test in Ceresco Dam pond area.
- Determination that sediments are firm enough for rapid separation of water as well as selective separation of contaminated sediments from non-contaminated sediments at Ceresco Dam.
- Observation of heavy sheen and recovered sediments as well as ¼ to ½ inch oiled flakes.

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

Enbridge reported the following:

- Soil scraping and documentation collection in Locations A6, B2 and B5.
- Soil sampling and documentation collection in Locations A6 and B2.
- Implementation of MDNRE approved Restoration Plan in Locations A5 and A6.
- Completion of ongoing hot spot cleanup in Divisions A and B.
- Oversight of SCAT inspection teams.

EPA reported the following:

- 2 START teams continued oversight of CTEH air monitoring crews.
- 1 START team provided oversight of surface water sampling teams and collected two split samples.

Transportation and Disposal took the following actions:

- Conducted QA/QC on data presented in the 0830 Command and General Staff Meeting.
- Conducted QA/QC on data presented on the EPA website for the Marshall Oil Spill Response.
- Assembled internal EPA solid and liquid projections for IC and OPS Chief
- Conducted ongoing manifest and contractor report auditing.
- Provided oversight on Frac Tank City operations.
- Discussion with Barr Environmental about shredding of debris in the soil staging area.

## DECON Branch

### Enbridge reported the following:

- Continuing construction of central DECON area in Location C0.5 is 25% complete. Completion is anticipated by 9/9/10.
- Central cleaning area for large equipment in Division A is operational.

### EPA reported the following:

- Construction of central decontamination location continued at Location C0.5.
- Awaiting revised DECON plan from Enbridge to address frac tank cleaning.
- Consolidation of DECON locations.
- Implementation of frac tank DECON at Frac Tank City

## Monitoring Branch

Primary responsibility for sampling air sampling activities was turned over to Enbridge personnel on 08/28/10.

### Enbridge reported the following:

- Focused air sampling programs are continuing around the Baker Estates Mobile Home Park, the Day Care, Ceresco Dam, and the source area.
- Ongoing real time monitoring for benzene and VOC's.
- Continuation of air sampling program to collect 24-hour summa mini-can samples, grab samples, and passive dosimeter samples in addition to the real-time air monitoring samples.
- Collection of samples as indicated in Table 1:

**Table 1 - Samples Collected as of 9/5/10 1515**

Sample Type	Number collected
Surface Water	19
Vertical Water Column Samples	0
Private Well Samples	3
Sediment Samples	5
Sheen Samples	0
Other	0
Soil Samples	0

### EPA reported the following actions or observations:

- Took duplicate air samples at 24 locations with no benzene or other air contaminants detected.
- Collection of 33 samples by Enbridge.

- Collection of samples as indicated in Table 2.

**Table 2 - Samples Documented in SCRIBE as of 9/5/10**

Media	Sample Type	Number collected
Air	Summa Canister	0
Air	Tedlar Bags	0
Air	Monitoring Events	27
Surface Water	Grab	0
Sediment	Grab	0

Three SCAT teams reported the following:

- Collection of SCAT data in Division C.
- Reassessment of two areas, one was cleared the other was rejected.

Three Submerged Oil Task Force teams reported the following activities:

- Deployment of three teams to Division C:
  - Collection of 9 core samples in vicinity of Ceresco Dam by Team A.
  - Collection of 9 core samples and 12 transect from MP10.5 to MP11.9 by Team B.
  - Oversight of sediment core logging by Team C.

**Oil recovery and Cleanup (East and West Branches)**

The Overbank group reported the following observations:

- Tour of Division C overbank Locations C1, C2, and C3.
- Recurring oil pooling at MP11.25, MP10.5, MP11.25.

**Wildlife Environmental Damage Assessment Branch**

USFWS reported the following:

- Distribution of business card sized handout with hotline number for workers.
- Cooperation with safety to spread the message to not interfere with traps.
- Reinstallation of deterrence fence that disappeared several days ago.
- Preparation for fish survey this Wednesday that will require closure of all boat traffic in Division C for several hours.
- Discussion of methods of erosion measurement.
- Baiting for oiled herons at new locations.
- Response to wildlife center hotline calls.
- Continuing trap preparation for capture of oiled ducks reported at MP15.
- Trap preparation in area where approximately 11 oiled geese were sighted roosting.
- Capture of three oiled geese at Irving Park after many days of preparation.
- Receipt of first oiled goose brought in by hunters.



As of September 4, 2010 at 0700, the wildlife center reported 268 animals in captivity and 644 released to date.

### **Air Ops Branch**

Since August 23, 2010, both the EPA START Situation Unit FOB and Enbridge have been using the Enbridge funded helicopter for their daily over-flights. The EPA helicopter will be available, as needed, for IC and other federal needs.

#### **Enbridge reported observing the following during two over flights:**

- Changes in Sheen:
  - No sheen at Locations A5 and A6 where minor sheen was reported yesterday.
  - No sheen observed upstream in Division A.
  - No sheen at ponds upstream of Locations B3 and B5.
  - No sheen nor sorbent pads downstream of Location B5 at the confluence of Talmadge Creek and the Kalamazoo River.
  - No sheen in vicinity of islands in Division C.
  - Sheen downstream of the peninsula upstream of Ceresco Dam.
  - Successful containment of sheen at both north and south shores upstream of Ceresco Dam. No sheen was observed flowing over the dam.
  - Light sheen at the boat launch area upstream of Location D2.
  - Diminished sheen at containment areas in the oxbow area at MP21.5.
  - Absence of sheen on the main river way in the oxbow area at MP21.5.
  - Absence of sheen upstream of E0.5 near MP26 where sheen was reported yesterday.
  - Absence of sheen at the Morrow Lake Delta, upstream of E4 at the mouth of Morrow Lake, and on Morrow Lake and its shore.
- Operational Observations:
  - Diminished water at seeded source area.
  - Removal of bladder installed at Location A6 yesterday. Water flow is bypassed via pumping system to allow creek water to flow past the Division Road Bridge and culvert.
  - No activities at previous soil scraping sites at Locations B4.7 and B5.
  - Work on two soil cells at the soil staging area north of Talmadge Creek at Location B5.
  - Continued deployment of booms around islands in Division C.
  - Cleanup activity on islands in Division C. No sheen observed from sediment disruption of boat impellers at this location.
  - Boom maintenance and repair at both the peninsula above Ceresco Dam and at the dam itself.
  - Construction of DECON/roll off staging area at Location C0.5.
    - Placement of trailers in staging area.
    - Installation of orange security fence.
    - Completion of resurfacing of road to A Drive.
    - Placement of gravel and geotextile matting at southwest area.
  - Boat operations on Morrow Lake. Sheen monitors were not active today.

EPA observed the following during one over flight:

- Changes in sheen:
  - Absence of oil and sheen in Division A1 through A4.
  - Presence of sheen along southern shoreline of Talmadge Creek at Location A5.
  - Continuing presence of intermittent sheen along shoreline of Talmadge Creek throughout Locations A5 and A6. Amount of sheen has diminished since yesterday.
  - Absence of sheen at or downstream of the site of yesterdays scraping activities in Location B2.7.
  - Absence of sheen in ponds adjacent to Talmadge Creek east of Interstate 69 at Location B4.
  - Absence of sheen at confluence of Kalamazoo River and Talmadge Creek at Location B5.
  - Continuing presence of minor or no sheen on either side of peninsula upstream of Ceresco Dam.
  - Accumulation of sheen within boomed area on the Kalamazoo River at Location D2.
  - Continuing presence of heavy sheen at oxbow area at MP21.5 in Division D. No sheen observed downstream of the oxbow.
  - Absence of sheen along northern shoreline near MP26 at Location E0.5.
  - Absence of sheen on the Morrow Lake delta and on Morrow Lake.
- Operational Observations:
  - Some standing water was observed on the ground cover in Locations A1 through A4.
  - Heavy activity and significant equipment at Location A5.
  - Removal of bladder installed yesterday at Location A6.
  - DECON area and frac tank city.
    - No loading of trucks.
    - Removal of cell in western staging area.
    - Decontamination of several frac tanks.
  - No activity at Location B2.7. Site of heavy scraping activities yesterday.
  - Observed confluence of Talmadge Creek with Kalamazoo River (B5). Booming operations appeared similar to yesterday. Absorbent pads have been removed.
  - Heavy cleanup activities continue on west end of Island B in Division C.
  - Operation of PVC water system for soil saturation on Island F in Division C.
  - Presence of sampling boat along shore of Ceresco Dam.
  - Presence of absorbent boom throughout the oxbow at MP21.5 in Division D.

### **2.1.3 Progress Metrics**

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

## Boom Report

**Table 3 - Boom Report (9/5/101900)**

Number of Locations	25
Boom Deployed (feet)	141,586

## Soil and Debris Waste Tracking

**Table 4 - Soil and Debris Waste Tracking (9/5/10)**

Waste Stream*	Quantity Shipped (yd3)	Cumulative Quantity Shipped (yd3)
Haz Soil <sup>a</sup>	0	15,369
Non Haz Soil <sup>b</sup>	1,170	15,288
Haz Debris <sup>c</sup>	0	12,075
Non Haz Debris <sup>c</sup>	34	651

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

- a. Haz (Benzene)-impacted soil is being sent to Envirosafe (Oregon, OH).
- b. Non Haz soil is being sent to Westside Recycling (Three Rivers, MI) and EQ/Republic (Marshall, MI).
- c. Roll-off boxes containing waste sorbents, boom, pads, plastic, PPE, and oiled vegetation and biomass are being sent to EQ facility (Michigan Disposal) in Wayne, MI and Republic (Marshall, MI).

## Oil/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.

**Table 5 –Oil water collected by location (9/4/10, 0700) 0000)**

Location	Cumulative Total Collected (gallons)
Division A	4,808,858
Division B	3,389,375
Division C	814,850
Division D	117,825
Division E	56,950
Other Locations*	169,138
<b>TOTAL</b>	<b>9,356,996</b>

**Table 6 - Oil water Separation (09/04/10,**

Oil-Water Separation at Tank 1605, Enbridge Facility in Griffith, IN Facility (gallons)	
Oil	781,000
Other Material	1,545,000
<b>TOTAL</b>	<b>2,326,000</b>

\* Includes Frac, DECON, and Wildlife Center.

**Table 7 – Liquid Shipped Off-site (9/4/10, 0000)**

<b>Oil/Water leaving Site</b>	<b>Destination</b>	<b>Daily Quantity Shipped (Gallons)</b>	<b>Cumulative Quantity Shipped (Gallons)</b>
Haz Water	Dynecol, Detroit, MI	0	2,019,037
Treated Non Haz Water *	Dynecol, Detroit, MI	0	134,200
Treated Non Haz Water *	Battle Creek POTW	0	1,968,700
Treated Non Haz Water	Liquid Industrial Waste Services, Holland, MI	9,000	370,200
Treated Non Haz Water	Plummer, Kentwood, MI	69,000	1,615,800
Oil/Water	Tank 1605, Enbridge Facility, Griffith, IN	21,000	2,326,000
Haz Water	Safety Kleen <sup>a</sup>	0	550
<b>Totals</b>		<b>99,000</b>	<b>8,434,487</b>

\* Treated Non Haz Water no longer sent to this location.

a. New Age lab water and methanol mix generated by mobile laboratory.

**Table 8 - Oil/Water Volume Summary (Gallons)**

Oil/Water Collected <sup>a</sup>	9,356,996
Oil/Water Shipped Off-site <sup>b</sup>	8,434,487
<b>OIL/WATER REMAINING ON-SITE</b>	<b>922,509</b>

a. As of 9/5/10, 0700

b. As of 9/4/10

## 2.2 Planning Section

### Data Management Unit

The Data Management Unit reported the following:

- Updated field maps showing ‘hot spots’ in Division A and B based on field data collected.

The DMU continued processing surface water sampling data, importing preliminary and validated analytical results into SCRIBE. EPA GIS received post-spill imagery from Enbridge, and is evaluating it for use on future map request.

## Situation Unit Field Observers

### Situation Unit FOB observed the following:

- At Division A5-A6
  - Sandbags stacked on top of creek bank to support channel structure.
  - Worker with GPS probe and stakes to mark location to restore creek channel back to its original shape.
  - Rainbow, white or brown sheen in depressions where puddles and small channels form along the bank. Sheen originates from beneath crane mat as runoff or appears as seepage from the bank.
  - Drops of free product in two depressions at coordinates 42.2448 °N, 84.9766 °W.
  - Sorbent pads on left descending bank near MP 0.25.
  - Light intermittent white sheen on Talmadge Creek as it flows into the culvert at coordinates 42.2441 °N, 84.9759 °W.
  - Sorbent boom present.
  - Sampling crews on left and right banks to assess sheen characteristics in soil from Area A5. Two types of tests described: bottle test and stick test. Representative said that they will sample the area every fifty feet.
  - Worker on bank to vacuum wet soil from bank area to vacuum truck.
  - At Area A6 near Division St, small pump to dewater creek bank along the right descending bank. Water discharges to the creek
- At Division C3 at MP12.5 boat launch
  - Crew on johnboat off-loading bags of vegetation to staging area and then to roll-off box.
  - Four roll off boxes present at the boat launch.
- At Division C3-C4 from airboat
  - Oil deposited on many trees bark and rocks.
  - Kalamzoo River water is highly turbid with brown sediment and small organic debris.
  - Sheen present as cloudy patches from MP 11.25 to MP 11.75.
  - Pockets of oil smell in the air at 11.25.
  - Sorbent boom placed at various inlets and backwater areas.
  - Numerous turtle cages. Several turtles out sunning on logs and on top of sorbent boom.
  - Clean-up crews to remove vegetation on left descending bank MP 11.9 -12.0.
  - Low-lying meadow area marked with numerous no-trespassing signs.
  - Boom on both sides of river at MP 13.5.
- At Division C at MP11.25:
  - About 100 workers in marsh area to clear brush and absorb oily ground.
  - Workers in PPE due to the extent of oily ground.
  - Snares carpet large areas to soak up oil. Workers are tromping on snares in areas.
  - Two test plots marked off to test corn material as sorbent. Two particle sizes are being tested – similar to sawdust and similar to cornmeal.
- At Division C at MP13.25:
  - Crews cleaning oily vegetation from shoreline.
  - Slight sheen on surface of Kalamazoo River.



- Oily vegetation in isolated spots on overbank.

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

In the next operational period, Operations will continue similar work activities being performed in Locations A5, A6, Division B and C.

### **2.2.2 Issues**

Calhoun County public health reported the following:

- No report filed.

## **2.3 Logistics Section**

The Logistics staff continues to serve the needs for the communications technology and supplies at the ICP.

## **2.4 Safety Officer**

Enbridge reported the following:

- Improper grounding of vacuum truck at Location A6. Vacuum truck clamped ground wire to bolt used in mat road construction. Proper grounding technique requires the use of a copper grounding rod embedded in the ground with a grounding clamp.
- High winds can cause tree branches to fall from heights that could cause injury or death. Team is advised to observe direction of wind and locations of trees along work areas of Talmadge Creek. Maintain situational awareness.

EPA reported the following safety related incidents:

- One incident report was filed:
  - Crew of four people was relocating to another island by boat and encountered a section of rapids and water entered the boat over the bow. The driver stopped the boat and everyone evacuated before boat capsized. Occupants swam to shore. No injuries were reported. The boat had to be towed back to the staging area. No waste was on board and no fuel or lubricants were released.
- Weston safety officer observed a johnboat operator talking on the phone while driving and nearly hitting an airboat. The near miss incident was reported to Enbridge.
- Three other incident reports were minor.
- Coordinated with Enbridge for the Safety Stand Down.

## **2.5 Liaison Officer**

The Liaison Officer reported the following actions:

- No activities to report.

## 2.6 Finance Section

The current NPFC issued ceiling was \$16 million. Approximately 89.7% of the ceiling had been spent through September 4, 2010, with a burn rate of \$189,270 per day. These cost summaries reflect only EPA-funded expenditures for the incident.

**Table 9 - FPN E10527 - Enbridge Pipeline Oil Spill (09/04/10)**

<b>ERRS Contractors</b>		<b>Est. Expended</b>	<b>Est Burn Rate (Lastest Daily)</b>
EQM (EPS50802)	T057	\$1,251,054	\$0
	T060	218,690	1,600
LATA (EPS50804)		1,451,396	0
ER LLC (EPS50905)		723,669	0
<b>ERRS Contractors</b>		<b>\$3,644,809</b>	<b>\$1,600</b>
TNT Bisso		684,000	27,000
<b>START Contractor</b>			
WESTON (EPS50604)		4,637,035	82,804
<b>Response Contractor Sub-Totals</b>		<b>\$8,965,844</b>	<b>\$91,939</b>
EPA Funded Costs:			
Total EPA Costs		2,576,524	54,200
Pollution Removal Funding			
<b>Total Other Agencies</b>		<b>\$1,024,712</b>	<b>\$19,757</b>
Sub-Totals		\$12,567,080	\$165,896
Indirect Cost (14.15%)		1,778,242	23,474
<b>Total Est. Oil Spill Cost</b>		<b>\$14,345,332</b>	<b>\$189,370</b>

## 2.7 Information Officer

The Public Information Office reported the following activities:

The PIO staff operated the media inquiry line and performed media monitoring.

### **Media Inquiry Line (877-440-7157)**

Calls received during reporting period: 0

Enbridge reported the following call volume and community center visits:

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

Calls received during reporting period: 16

**Community Center Visits: 6**

Visits by location during reporting period:

Battle Creek	4
Marshall	2

Enbridge reported that it received 2 inquiries from its [www.response.enbridgeUS.com](http://www.response.enbridgeUS.com) website bringing the total to 554 comments.

**2.8 Response Actions to Date**

Response Actions to date may be found in Situation Reports 1 through 41.

**3 Participating Entities****3.1 Unified Command**

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

**3.2 Cooperating and Assisting Agencies**

ATSDR	Marshall Police Department
Calhoun Conservation District	Marshall Township Government and Fire
Calhoun County Commission	Department
City of Kalamazoo	Michigan Department of Agriculture
City of Marshall	MDCH
Emmett Township	NOAA
Fredonia Township	Oakland County HAZMAT/RRTN
Kalamazoo County Office of Emergency	PHMSA
Management	USCG
Marshall Area Firefighters Ambulance	U.S. Department of the Interior/USGS
Authority	USFW

**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 Geuck	

#### 4 Personnel On Site

**Table 10. Personnel On Site 9/5/10**

Agency/Entity	Numbers Reported
EPA	41
START	36
Calhoun County Public Health Dept. (CCPH)	1
Calhoun County (CC) Sheriff	6
City of Battle Creek	3
Kalamazoo Sheriff	2
MDNRE	9
Michigan State Police (MSP)	1
NOAA - National Weather Service	2
NOAA- NRDA	2
USCG	8
USFWS	3
USFWS Contractors	0
Enbridge	11
Enbridge Contractors	1,078
<b>Total</b>	<b>1,203</b>

## 5 Definition of Terms

ATSDR	Agency for Toxic Substances and Disease Registry
CCPH	Calhoun County Public Health
CIC	Community Involvement Coordinator
CTEH	Center for Toxicology and Environmental Health
DMU	Data Management Unit
EMT	Emergency Medical Technician
ENVL	Environmental Unit Leader
EPA	Environmental Protection Agency
EQM	Environmental Quality Management
ER	Environmental Restoration
ERRS	Emergency and Rapid Response Services
ERT	Emergency Response Team
EU	Environmental Unit
FOB	Field Observer
GLNPO	Great Lakes National Program Office
H <sub>2</sub> S	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
NOAA	National Oceanic and Atmospheric Administration
NPFC	National Pollution Fund Center
NRC	National Response Center
NRG	National Response Group
OSHA	Occupational Safety and Health Administration
PHMSA	Pipeline and Hazardous Materials Administration
PIO	Public Information Officer
POTW	Publicly Owned Treatment Works
Ppbv	Parts Per Billion Volume
PPE	Personal Protective Equipment
ppm	Parts Per Million
PVC	Polyvinyl Chloride
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



USCG	United States Coast Guard
USDA	United States Department of Agriculture
USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service
U.S. EPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds
yd <sup>3</sup>	Cubic Yards

## **6 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://response.enbridge.com/response/main.aspx?id=13168>.

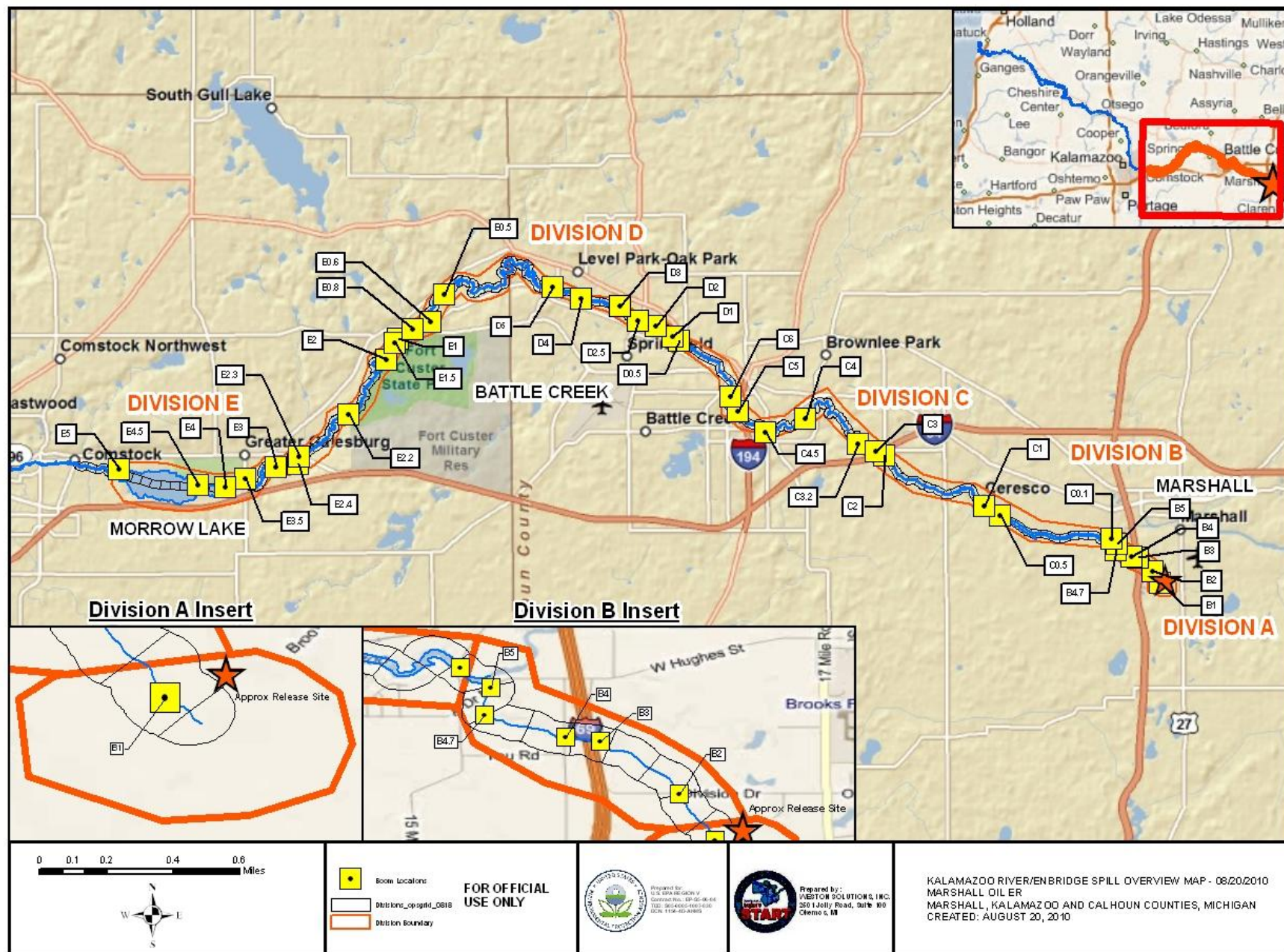
### **6.2 Reporting Schedule**

SITREPs have been created daily and will continue until the UC establishes a different reporting schedule, in conjunction with the planning cycle.

## **7 Situational Reference Materials**

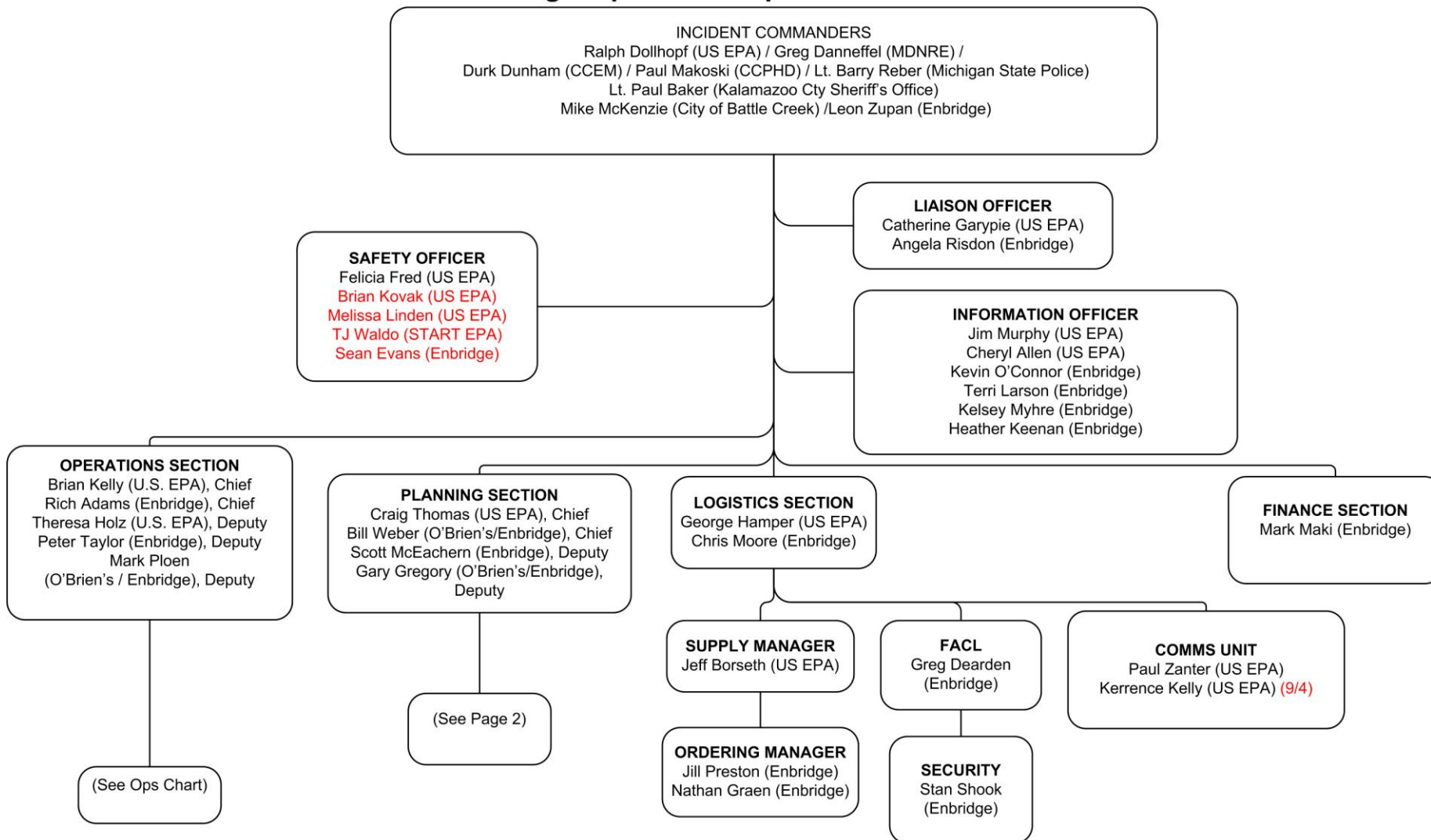
See attached Map, entitled “Kalamazoo River/Enbridge Spill Overview Map,” for more information.

See attached Unified Command Organizational Charts (ICS 207) entitled, “Enbridge Pipelines Response Unified Command”, “Planning Section”, “Operations”, and “Division C.”





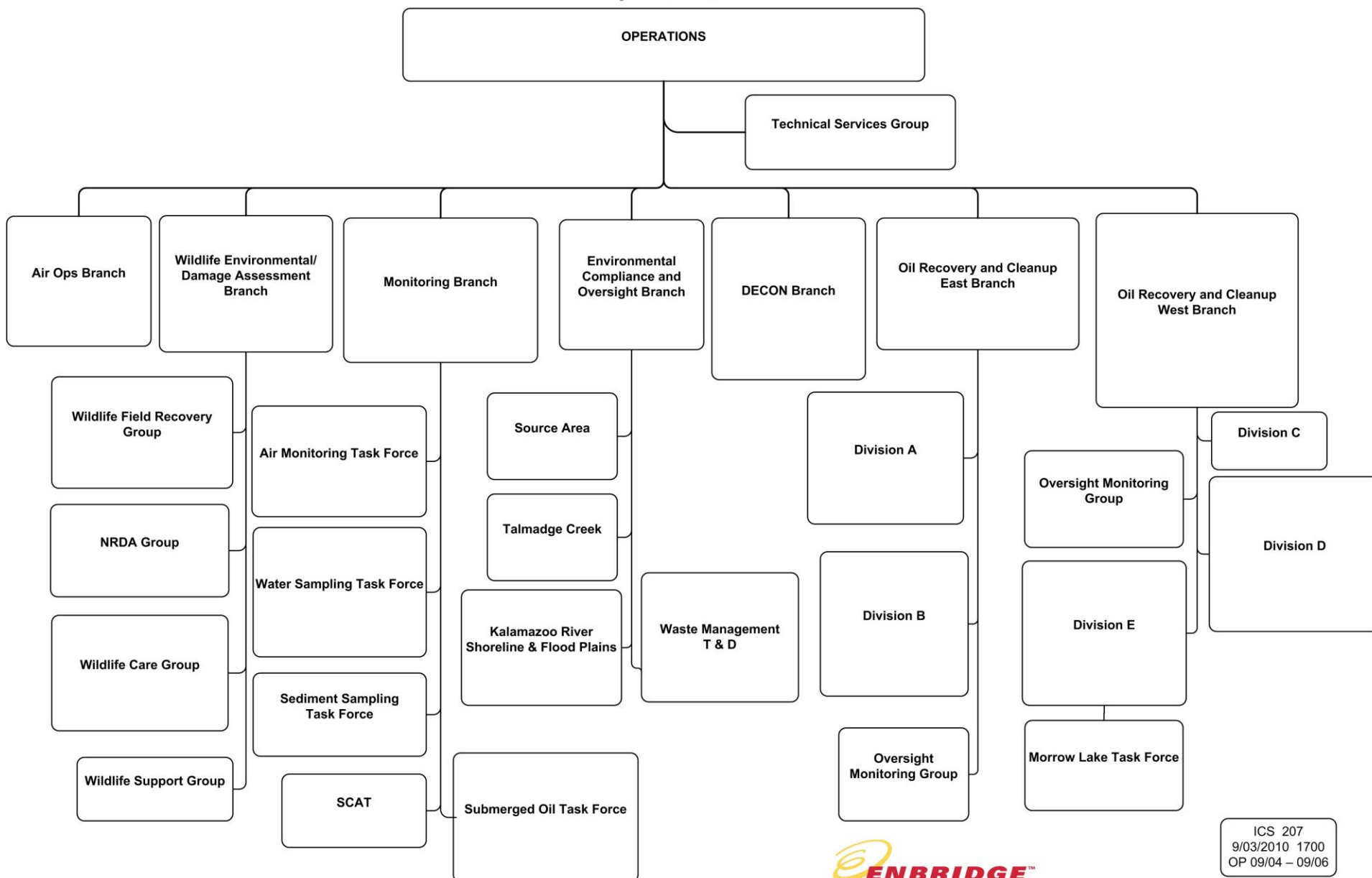
## Enbridge Pipelines Response Unified Command

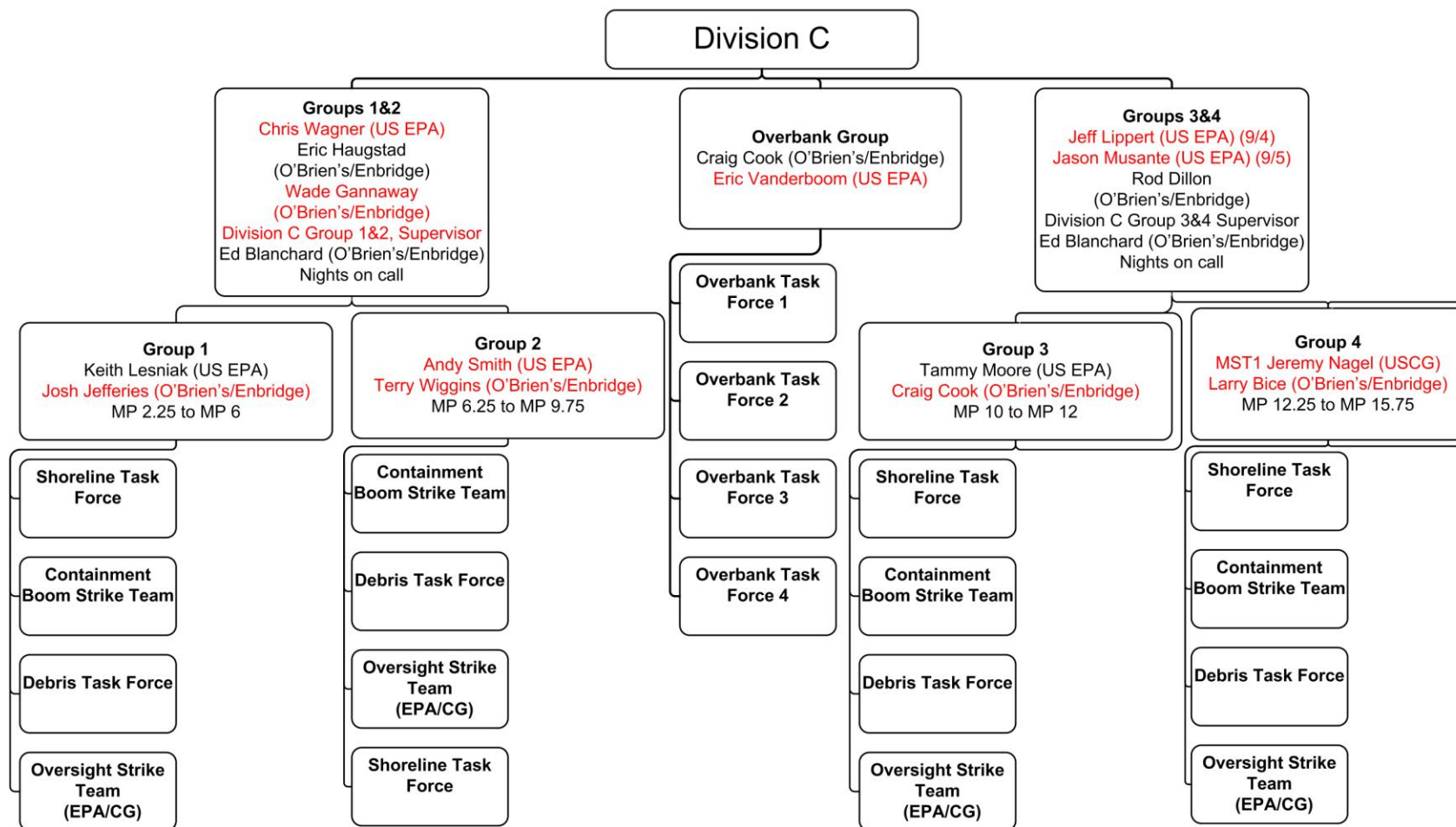






## Operations





ICS 207  
9/03/2010 1700  
OP 9/04 – 9/06

