

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 # 43
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
Brian Whitsett, Michigan State Police, Emergency Mgt.
Greg Danneffel, MDNRE
Kathy Schley, 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
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
Mark Durno, U.S. EPA Deputy Incident Commander

Date: 9/6/10

Reporting Period: 1900 hours 9/5/10 to 1900 hours 9/6/10

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 6, 2010, 0700 to September 8, 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. Determine 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 5, 2010 to 1900 hours on September 6, 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:

- Staging for restoration activities at Locations A5 and A6.
- Discovery of oil by Weston along Locations A5 and A6. Sorbent pads used to collect oil.
- Repair of silt fence in selected areas.

EPA observed the following:

- No oil or sheen removal activities at Location A5 to A6 during night operations.
- Inspections by START field crew throughout Division A during the night shift.
- Postponement of hauling activities pending the completion of field soil screening throughout Division A.
- Apparent hold on excavation activities throughout Division A.
- Ongoing vacuum truck operations. No locations reported.
- Intermittent operation of wood chipper depending on quantity of mats and trees delivered at any given time.
- Ongoing repair and maintenance of silt fences. Areas in disrepair were communicated to the RP by EPA.
- Completion of soil screening at Location A5. Written results have been requested by the RP.
- Continuation of soil screening at Location A6.

- Suspension of grade restoration activities pending receipt and review of soil screening results by EPA.
- Staging of peat fill material near source in preparation for future back filling operations.
- Identification of sporadic hot spots during night shift at Locations A5 and A6.

EPA reported the following:

- Informed Enbridge site inspector of several areas of oil concerns observed by START during the night shift. A map was provided and Enbridge was very receptive. Field crews were directed to deploy absorbent pads to the noted areas.

Division B

Enbridge reported the following:

- Identification of sporadic hot spots during night shift at Location B2.
- Continuation of pump around activities at Location B2.5.
- Soil scraping at Location B2.5.
- Replacement of underflow dam at Location B2.5.
- Cleanup of hot spot at Location B4.
- Relocation of mat road and removal of soil beneath mat at Location B4.
- Cleanup of hot spot at Location B4.5.
- Repair of silt fence at select locations.

EPA observed the following:

- Removal of silt fence along Location B2.7 to facilitate soil scraping operations.
- Silt fences at Locations B2 and B3 appear to be in good condition.
- Ongoing repair and maintenance of silt fences at Locations B2, B3, B4, and B5 as needed.
- Repair and replacement of log boom throughout Division B as recommended by START and EPA.
- Suspension of grade restoration activities pending receipt and review of soil screening by EPA.
- Ongoing excavation at bypass pumping area at Location B2.5.
- No excavation activities at Location B3.
- Excavation at Location B4 upstream of 15 ½ Mile Road. Dump trucks are staged and hauling operations are ongoing.
- Soil staging and processing at staging area next to Location B4.

USCG observed the following:

- Removal of soil contamination by “super sucker” at Location B2. Pumps being used to move water along and create a greater flow.
- Identification of pooled oil at Location B4.
- Cleanup of sheen in pond at Location B4.5.
- Installation of previously removed railroad ties at Location B4.5.

Oversight Monitoring Group

River Branch Task Force 1 observed the following:

- Completion of backfilling, seeding, and mulching at Location A1.4.

- No construction activities at Location A1.4.
- Completion of soil screening at Location A5. No firm date for delivery of soil screening results.
- Removal of silt fence and sorbent log boom at Location A6.
- Enbridge field soil screening with START oversight and documentation at Location A6.
- Suspension of excavation activities at Location B2, B2.7, and B5.
- Silt fencing operations at Location B2.
- Booming operations at Location B2.
- Completion of underflow dam construction downstream of bypass pumping operations at Location B2.5.
- Ongoing bypass pumping operations at Location B2.5.
- Ongoing excavation operations at the bypass pump site at Location B2.5.
- Vacuum truck operations at Locations B2.7 and B3.
- Ongoing boom repair and maintenance at Location B3.
- Excavation upstream of 15 ½ Mile Road at Location B4.
- Ongoing vacuum truck operations at Location B5.

START GIS provided map of East Branch Division for day and night shift use in identifying hot spot locations at Location A5, A6, B2, B3, B4, and B5. Maps were delivered to RP who is reviewing and will perform necessary remediation.

Division C

Enbridge reported the following:

- At Location C0:
 - Collection of debris.
 - Continuation of decontamination by CMC.
 - Maintenance of boom as required.
- Cleanup of shoreline and island at Location C0.3.
- Access to Locations C0.4 and C2 denied by locked gates.
- Removal of sorbent boom along north shoreline at Location C0.5.
- Skimming operations at Location C1. Two men with backpack blowers pushing oil towards the skimmer.
- Deployment of 400 foot silt curtain by Enbridge at Location C1.
- Continuing shoreline cleaning at Location C1.5.
- Completion of cleanup at 4 red flag sites at Location C3.2.
- Cleanup of hot spot areas at Location MP12.25.
- Shoreline cleanup and disposal of debris bags at Locations C4.8, C1.5, C4.80, and C5.

EPA observed or reported the following:

- From MP2.25 to MP6 (Group 1):
 - Identified new oiled area on left descending bank near a private dock between MP2.5 and MP2.75. Notified Enbridge contractors who moved a crew to this area.
 - Deployment of sorbent pads and snares to left descending bank at MP2.5.
 - Replacement of sorbent boom at MP2.5.

- Ongoing cleanup activities along both banks and on a small unnamed island between MP2.5 and MP3.0.
- Inspection of cleanup activities between MP2.5 and MP3.0 by EPA and START. Nothing negative to report.
- Removal of vegetation and oiled padding by a 30 man crew at MP4.5. Area is anticipated to be ready for SCAT step 3 review soon.
- Advisement of work crews to avoid parking boats atop containment booms. Boats were relocated as advised.
- At Island A:
 - Cutting and raking of vegetation.
 - Deployment of snare booms to west end of island.
 - Presence of minor odors. CTEH responded to air quality concerns, no elevated readings were detected.
- Continuation of minor vegetation removal at Island B.
- At Island C:
 - Continuing vegetation removal.
 - Growth below cut areas is heavily oiled.
 - Adherence to SCAT established guidelines for vegetation removal.
- Vegetation removal by crew of 13 at Island D. Operation is going well.
- At Island E:
 - Continuation of flushing operations.
 - Air monitoring to address presence of minor odor. No readings detected above background.
- Vegetation removal along left descending bank from MP4.5 to MP4.75.
- Minor sheen outside of containment at MP4.5 and MP4.75. Crews are working in area so the source is likely submerged oil.
- Identification of hot spots by START and EPA personnel along left descending bank at MP5.25:
 - Enbridge contractor was notified. Hot spots were investigated by EPA and Enbridge.
 - Presence of heavy sheen leading to an overbank area.
 - Contaminated area exhibits wetland properties with cattail and willow growth.
 - The area was traced to a large overbank area. Overbank coordinator was informed.
 - Further investigation will be conducted in upcoming operational period.
- MP6.5 to MP10 (Group 2):
 - Vegetation cutting by large ER crew at MP8.25. Additional area of oiled vegetation and product identified on far east bank. Enbridge contractors notified.
 - Presence of small, but very thick pools of oil on the island at MP8.75:
 - Crews had previously conducted vegetation removal at this location.
 - Oil had surfaced since last week.
 - EPA consulted with Enbridge who recommended flushing the area.
 - Heavy sheen is now emanating from island due to flushing activities.
 - Island has been surrounded with boom
 - Inspection of “cut area” at MP9.0 by division leader. Area seeps oil despite having been cleaned. Deployment of boom at this location is planned.

- Inspection of Island at MP9.75:
 - Placement of clean brush upon contaminated soils. Division leader advised supervisor to check areas before dropping brush.
 - Discovery of open pocket of contaminated water. “Globs” of product are floating to the surface.
 - Moderate odor in vicinity.
 - START conducted air monitoring. No detections above background levels.
- From MP10 to MP15 (Group 3 and 4):
 - Replacement of sorbent booms and pickup of bagged waste conducted in a timely manner at MP10.5, MP10.75, and MP11. Contractor change out is now complete.
 - 35 feet inland of right descending bank 150 feet downstream of MP10.75:
 - Application of pom-poms effective at absorption of product.
 - Application of pom-poms ineffective at reduction of oil expression.
 - Surface soil excavation by contractor.
 - Recommended installation of walkways for second day in a row.
 - Recommendation reinforced by division leader.
 - 200 feet inland of right descending bank at MP11.25:
 - Application of pom-poms effective at absorption of product.
 - Application of pom-poms ineffective at reduction of oil expression.
 - Product is in subsurface vadose zone. Expression is influenced by fluctuating groundwater levels.
 - Surface soil excavation by contractor.
 - Installation of felt and plywood walkways.
 - Wetland/bog area extends approx ½ mile inland.
 - Deployment of sorbent boom on right descending bank at outfall area downstream of peninsula.
 - Presence of three turtles, one of which was oil saturated along the right descending bank at MP11.25. USFWS was notified.
 - Discovery of thick deposits of oil 30-50 feet inland of the right descending bank at MP11.5.
 - Deployment of booms 175 yards upstream of MP11.75 to prevent seepage. Heavy sheen observed behind boom.
 - Presence of outwash and waste 50 yards downstream of MP11.75. No boom present.
 - Discovery of 3-4 inch deep oil pools 100 yards from left descending bank at MP11.75.

USCG observed the following:

- Shoreline cleanup and hot spot cleanup at Location C0.3. Over 90 workers staged at this location.
- Violation of EPA safety procedures at Location C1.
- Brush cleaning and hot spot cleanup by ER at Location C1.5.
- Drop-off of soiled booms and debris at Location 11.25 (formerly identified as MP3.8).
- Soiled sorbent boom 200-300 feet downstream on right descending bank at MP12.5.
- Inspection of Clean Harbors excavation of surface soil on left descending bank at MP13.25.
 - Excavations in excess of 1 foot below ground. Instance has been photo documented.
 - Reported to O’Brien’s supervisor.

- No current excavations in shoreline area.
 - Excavations in overbank locations.
- Bag pickup and decontamination at Location C5.

Division D

Enbridge reported the following:

- Cleaning of hotspots and replacing snare box panels.

EPA observed the following:

- Operation and maintenance of both lines of gabion baskets.
- Ongoing maintenance of booms in all areas.
- Replacement of boom with 6 foot sediment curtain cut by pontoon boat at Location D2.
- Presence of large sheen traveling downstream of Location D2. Likely the result of damaged boom noted above.
- Incomplete cleanup of shoreline from MP16.5 to MP16.75.
 - Lack of understanding of SCAT guidelines, possibly due to miscommunication resulting from contractor realignment.
 - Contractors are not receiving adequate directions.
 - Miscommunications among crew and foremen.
 - No boom deployed during flushing activities.
 - EPA reported to Enbridge who are addressing the situation.
- Clearance and approval by Division D Signature of four ¼ mile sections by step 4 ReSCAT.
- Installation of boom along the oxbow at Location D5. Additional equipment and materials required to complete sorbent booming and sediment curtain installation.

Division E

Enbridge reported the following:

- At Location E0.5:
 - DECON of gabion basket inserts by small team.
 - Maintenance of booms and clearing of debris by two EQ boats.
 - Continuing construction and maintenance of gabion baskets.
- Inactivity at Locations E1, E4, and E5.
- Inactivity at Location E2. Site operates as a boat launch only.
- Demobilization and shutdown of site at Location E3.
- Patrol by skimmer boat at Location E4.5.
- Departure of EQ for sweep boom maintenance at Location E4.5.
- Analytical sampling by CTEH at Location E4.5.

EPA observed the following:

- Continuation of skimmer operations on Morrow Lake. No sheen reported however strong winds and scattered rainfall potentially prevented any observations of sheen.

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:

- Set up test cells at Ceresco Dam pond area to perform submerged oil recovery methods.
- Commencement of water agitation test on top 4-5 inches of sediment.
- Oil was flushed from soil and allowed to surface for recovery. Test determined large concentrations of submerged oil and very heavy sheen.
- Preparation for removal of contaminated vegetation at Location C6.
- Ongoing research of submerged oil recovery techniques.

Environmental Compliance and Oversight Branch

Enbridge reported the following:

- Completion of soil scraping and documentation collection in Locations A6, B2 and B5.
- Collection of soil samples and documentation at Location A6 and B2.
- Initial 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:

- Two START teams continued oversight of CTEH air monitoring crews in Divisions A, B, D, and E.
- One START team provided oversight of surface water sampling teams and collected two split samples on Morrow Lake.

Transportation and Disposal took the following actions:

- Conducted QA/QC on data prior to its presentation at the 0830 Command and General Staff Meeting.
- Discussion with Barr Engineering pertaining to acquisition of weight tickets and total mass on an individual truck load basis for each waste stream to off-site disposal facilities.
- 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 EPA.

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 roll off staging in Location C0.5 can handle 40 roll off boxes.
- Establishment of a new cleaning area for large equipment.

EPA reported the following:

- Receipt of revised DECON plan from Enbridge. Currently under review.
- Monitoring of construction of DECON area at Location C0.5.

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 VOCs.
- Duplicate air monitoring conducted at 27 locations with benzene or other air contaminants detected.
- 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 9/6/10 1515

Sample Type	Number collected
Surface Water	29
Vertical Water Column Samples	0
Private Well Samples	0
Sediment Samples	13
Sheen Samples	0
Other	0
Soil Samples	0

EPA reported the following actions or observations:

- Collection of samples as indicated in Table 2.

Table 2 - Samples Documented in SCRIBE as of 9/6/10

Media	Sample Type	Number collected
Air	Summa Canister	0
Air	Tedlar Bags	0
Air	Monitoring Samples	25
Surface Water	Grab	0
Sediment	Grab	0

Three SCAT teams reported the following:

- No sheen observed in areas identified in aerial photos from September 2.

Three Submerged Oil Task Force teams reported the following activities:

- Deployment of three teams to Division C:
 - Collection of 7 cores from the following areas at the silt curtain above Ceresco Dam by Team A:
 - One control point.
 - Three from within agitation area.
 - Two along inside of silt curtain.
 - One between silt curtain and south bank.
 - Oversight of sediment coring and qualitative/quantitative analysis of sediment impact by Team B:
 - 10 core samples from potential submerged oil areas.
 - 12 polling transects completed.
 - Assessment of downstream of MP13.1.
 - Oversight of sediment core logging of 4 core samples by Team C.
 - Oversight of TetraTech processing, data logging, and visual observations of sediment cores.
 - Processing of 2 cores upstream of Ceresco Dam from MP5.56 and MP5.72 with visual evidence of free product and/or sheen in the top 6 inches.
 - Processing of 2 cores upstream of Ceresco Dam from MP5.64 and MP5.70 with no visual evidence of free product and/or sheen in the top 6 inches.
 - Oversight of sediment consolidation/leachate observations for MP5.56. Split sample collected for TPH analysis.
- Presence of high volume of sheen/tar flecks in ponded area behind the Ceresco Dam. Anchor and boat fan caused submerged oil to surface and dissipate into sheen.
- Soil agitation pilot testing conducted at silt fence above Ceresco Dam.
- Surfacing of sheen noted when a vessel pulled anchor near the east end of Morrow Lake.
- Identification of 37 primary and secondary potential submerged oil areas. Characterization and confirmation of six of these areas have been completed.

- Qualitative and quantitative assessment within Division C with focus on high priority areas, especially the Ceresco Dam.
- Agitation test on sediment at south bank upstream of Ceresco Dam. Test revealed large quantities of submerged oil. Large volume sediment vacuum or excavate and haul methods are needed for this area.

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.
- Baiting for oiled herons at new locations.
- Response to wildlife center hotline calls.
- Continuing trap preparation for capture of oiled ducks reported at MP15.
- Continuing trap preparation in area where approximately 11 oiled geese were sighted roosting.
- Completion of turtle release record review.
- Briefing for Unified Command on turtle hibernation.
- Turtle, heron, and beaver trapping continue.
- Preparation for September 15 congressional testimony.
- Began planning for deer hunter education and outreach.

As of September 5, 2010 at 0700, the wildlife center reported 302 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:
 - Several sheen areas observed at Location A5 and A6.
 - Sheen on creek upstream of culvert crossing at Location A5.
 - Sheen contained by boom upstream of Location B3.
 - Absence of Sheen at pond area before Interstate 69 in Division B.
 - Sheen on pond at Location B4.7.
 - Increased sheen throughout Division C between the islands. Most sheen is upstream of booms.
 - No sheen observed upstream or downstream of booms immediately surrounding islands in Division C.
 - Accumulation of floating matter and sheen at boom downstream of Location C0.3.
 - Sheen upstream and downstream of peninsula at Ceresco Dam.
 - Sheen south of small island at Location C10.75.

- Light sheen upstream of boat launch area contained by boom at Location D2.
- Sheen contained by boom at island upstream of Location C5.
- No sheen observed at the confluence, Baker Estates, or downstream of Ceresco Dam.
- Discharge of sheen from a culvert downstream of Kendall Street in Division C.
- Diminished sheen upstream of Location D2. Sheen contained by boom.
- Sheen on water at the oxbow at MP21.5. No sheen on main waterway.
- Sheen upstream of E0.5 at one of the river bends near MP26.5.
- Sheen and floating debris at the Morrow Lake Delta contained by boom upstream of Location E4 at the mouth of Morrow Lake.
- Absence of sheen on Morrow Lake.
- Operational Observations:
 - Addition of top soil at source area in areas of pooled water.
 - Continuing operation of creek bypass at Location A6.
 - No activities at Location B2.7.
 - Less activity noticed in Division B.
 - Ground crews present on islands in Division C.
 - Effective containment of sheen around islands in C as well as upstream on both north and south sides of Ceresco Dam.
 - Construction of DECON/roll off area at Location C0.5. Some equipment already in place. Installation of orange security fence. Completion of gravel and geotextile placement at south west area.
 - Boat activity on Morrow Lake included four manned boats.

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.
 - Absence of sheen at the intersection of Interstate 69 and Talmadge Creek.
 - 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.
 - Heavy sheen noted on the pond north of the creek at Location B2.7.
 - Absence of sheen at confluence of Kalamazoo River and Talmadge Creek at Location B5.
 - Significant sheen along the south shoreline of the peninsula upstream of Ceresco Dam.
 - Significant sheen in the Mill Pond near Location C6. Sheen was contained but significantly increased relative to yesterday.
 - Sheen emanating from culvert on the north side of the Kalamazoo River just west of the Angell Street Bridge.
 - Heavy sheen in the oxbow area at MP21.5. No Sheen downstream of the oxbow at 21.75.
 - Sheen along the northern shore near Location E0.5.
 - Sheen in several locations of the Morrow Lake Delta.

- No oil or sheen on Morrow Lake.
 - Overall, more sheen was visible in Divisions A, B, and C than yesterday.
- Operational Observations:
 - Some standing water was observed on the ground cover through Division A. Additional topsoil was being added to the area immediately southwest of the release Site.
 - Active DECON of several frac tanks at the south end of Frac Tank City. No loading trucks were observed.
 - Vacuum truck operations at Location B2.7.
 - Booming strategy at the confluence of Talmadge Creek and the Kalamazoo River appeared unchanged.
 - No sorbent pads at the confluence.
 - Heavy cleanup activities on the west end of Island B and Island F in Division C.
 - Three submerged oil test cells were observed along the southern shoreline above Ceresco Dam.
 - Presence of sorbent boom in the oxbow area at MP21.5. No activity was observed.
 - The current booming setup at the Morrow Lake delta appears effective at containing sheen.

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 (9/6/10 1900)

Number of Locations	25
Boom Deployed (feet)	138,147

Soil and Debris Waste Tracking

Table 4 - Soil and Debris Waste Tracking (9/6/10)

Waste Stream*	Quantity Shipped (yd3)	Cumulative Quantity Shipped (yd3)
Haz Soil ^a	0	15,369
Non Haz Soil ^b	0	15,288
Haz Debris ^c	0	12,075
Non Haz Debris ^c	0	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 (9/5/10, 0700)

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
TOTAL	9,356,996

* Includes Frac, DECON, and Wildlife Center.

Table 6 - Oil water Separation (9/5/10, 0000)

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

Table 7 – Liquid Shipped Off-site (9/5/10, 0000)

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

* 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 ^a	9,356,996
Oil/Water Shipped Off-site ^b	8,434,487
OIL/WATER REMAINING ON-SITE	922,509

a. As of 9/6/10, 0700

b. As of 9/5/10

2.2 Planning Section

Data Management Unit

The Data Management Unit reported the following:

The DMU continued processing surface water sampling data, importing preliminary and validated analytical results into SCRIBE.

Situation Unit Field Observers

Situation Unit FOB observed the following:

- At Division B
 - Limited operations at Location B5 activity included vacuum truck operations at the boom location immediately upstream of the Kalamazoo River, and site security.
 - Excavation and hauling along left descending bank at Location B4.

- Sheen on Talmadge Creek on the east side of 15 1/2 Mile Road. Sheen was light, stringy and spotty. Sorbent booms and pads were in place and appeared to collect the sheen.
- Light sheen at an excavated area on the right descending bank of Talmadge Creek at 42.25184886W; 84.98752400N.
- Long stick excavation along the right descending bank of Talmadge Creek at Location B3.
- Skimming for oil and sheen by vacuum trucks at Location B3.
- Light rainbow sheen on Talmadge Creek at Location B2.
- Crew at boat launch off-loading bags of vegetation from johnboats
- Pump diversion of Talmadge Creek at Location B2.5.
- Excavation of soil along left descending bank at Location B2.5.
- Spotty sheen at Location B2.5; 42.2479080N; 84.9737629W.
- At Division C.
 - Surface sheen consisting of light, stringy rainbow sheen near Burnham Bridge at Location C6. Hard boom was in place to collect surface oil and sheen.
 - Hard boom backed by a sorbent strip at the outlet of the lilly pad area upstream of Burnham Street on the right descending bank at MP 15.25. The sorbent strip was brown and weathered.
 - Installation of silt fence by four workers and two johnboats at the outlet of the lilly pad area near Burnham Street at Location C6.
 - Maintenance of sorbent booms at Location C6.
 - Storage and deployment of new supplies equipment and materials at Staging Area #3.
 - Oil skimming and boom maintenance at Ceresco Dam.
 - Pilot testing of potential cleanup techniques.
 - Containment area for waste materials, including discarded batteries (Universal Waste) and discarded aerosol cans (Hazardous Waste).
 - Deployment of decoy animal birds of prey and orange fence by wildlife exclusion team to discourage animal contact with oil. Wildlife exclusion team reported theft of some fencing material and decoys.
 - Presence of empty clam shells along right descending bank at 42.27053318N; 85.06253020W.
 - Decontamination, material and equipment staging, and boat operations at Location C0.

2.2.1 Anticipated Activities for Next Reporting Period

In the next operational period, Operations performing the same or similar activities as in the previous operational period, with a focus on activities in Division B and Division C.

2.2.2 Issues

Calhoun County public health reported the following:

- No report filed.

2.3 Logistics Section

The Logistics staff met with the Incident Commander for the Michigan State Police about improving our radio communication procedures. Some improvements will begin immediately. Logistics staff continues to serve the needs for the communications technology and supplies at the ICP.

2.4 Safety Officer

The following health and safety concerns were expressed:

- Elevation of emphasis of slip and fall hazards due to rain events.
- Advised of taking care when crossing Division Road and 15 ½ Mile road.
- Strong odors noted above Ceresco Dam.
- Boat traffic in the area above Ceresco Dam should be limited to only workers in that area.

EPA reported the following safety related incidents:

- Delivery of school traffic safety message at the 0630 Operations Briefing.
- Commented on the MIOSHA worker safety investigation.
- Commented on the “Warnings and Communication Plan”.
- Six incident reports were filed:
 - One boat capsized when workers were installing a motor. Crew was startled when a passing boat caused a wave. No injuries were reported.
 - 4 minor incidents (sprained ankle, insect bites, poison ivy, blister)
 - 1 oil spill (1/2 gallon of hydraulic fluid leaked on ground pads used to clean up spill.)

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 92.1% of the ceiling had been spent through September 5, 2010, with a burn rate of \$92,617 per day. These cost summaries reflect only EPA-funded expenditures for the incident.

Table 9 - FPN E10527 - Enbridge Pipeline Oil Spill (09/05/2010)

ERRS Contractors		Est. Expended	Est Burn Rate (Lastest Daily)
EQM (EPS50802)	T057	\$1,251,054	\$0
	T060	220,290	1,600
LATA (EPS50804)		1,451,396	0
ER LLC (EPS50905)		723,669	0
ERRS Contractors		\$3,646,409	\$1,600
TNT Bisso		684,000	27,000
START Contractor			
WESTON (EPS50604)		4,705,223	63,492
Response Contractor Sub-Totals		\$9,035,632	\$92,092
EPA Funded Costs:			
Total EPA Costs		2,637,274	54,200
Pollution Removal Funding			
USFWS		284,520	2,500
Total Other Agencies		\$1,027,232	\$19,757
Sub-Totals		\$12,700,138	\$166,049
Indirect Cost (14.15%)		2,032,022	26,568
Total Est. Oil Spill Cost		\$14,732,160	\$192,617

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: 13

Community Center Visits: 4

Visits by location during reporting period:

Battle Creek	3
Marshall	1

Enbridge reported that it received 2 inquiries from its 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 42.

3 Participating Entities

3.1 Unified Command

U.S. EPA	Calhoun County Public Health
MDNRE	Department
Michigan State Police Emergency Management Division	Calhoun County Emergency Management
City of Battle Creek	Kalamazoo County Sheriff
Cooperating and Assisting Agencies	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 Management	PHMSA
Marshall Area Firefighters Ambulance Authority	USCG
	U.S. Department of the Interior/USGS
	USFW

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

Table 10. Personnel On Site 9/6/10

Agency/Entity	Numbers Reported
EPA	45
START	39
Calhoun County Public Health Dept. (CCPH)	1
Calhoun County (CC) Sheriff	6
City of Battle Creek	3
Kalamazoo Sheriff	2
MDNRE	7
Michigan State Police (MSP)	1
NOAA - National Weather Service	2
NOAA- NRDA	2
USCG	8
USFWS	3
USFWS Contractors	3
Enbridge	9
Enbridge Contractors	1,144
Total	1,277

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 ₂ 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 ³	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>.

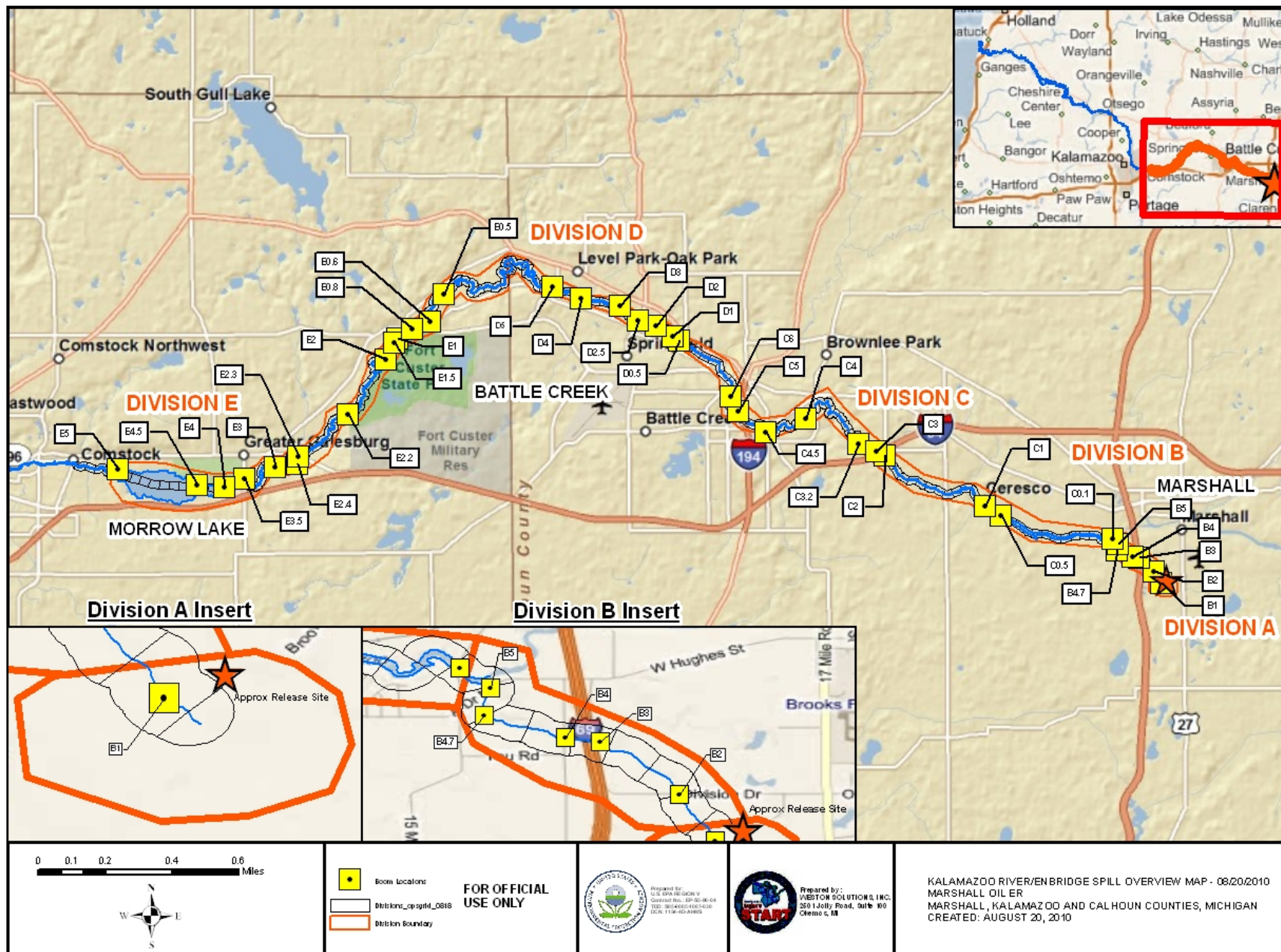
6.2 Reporting Schedule

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.

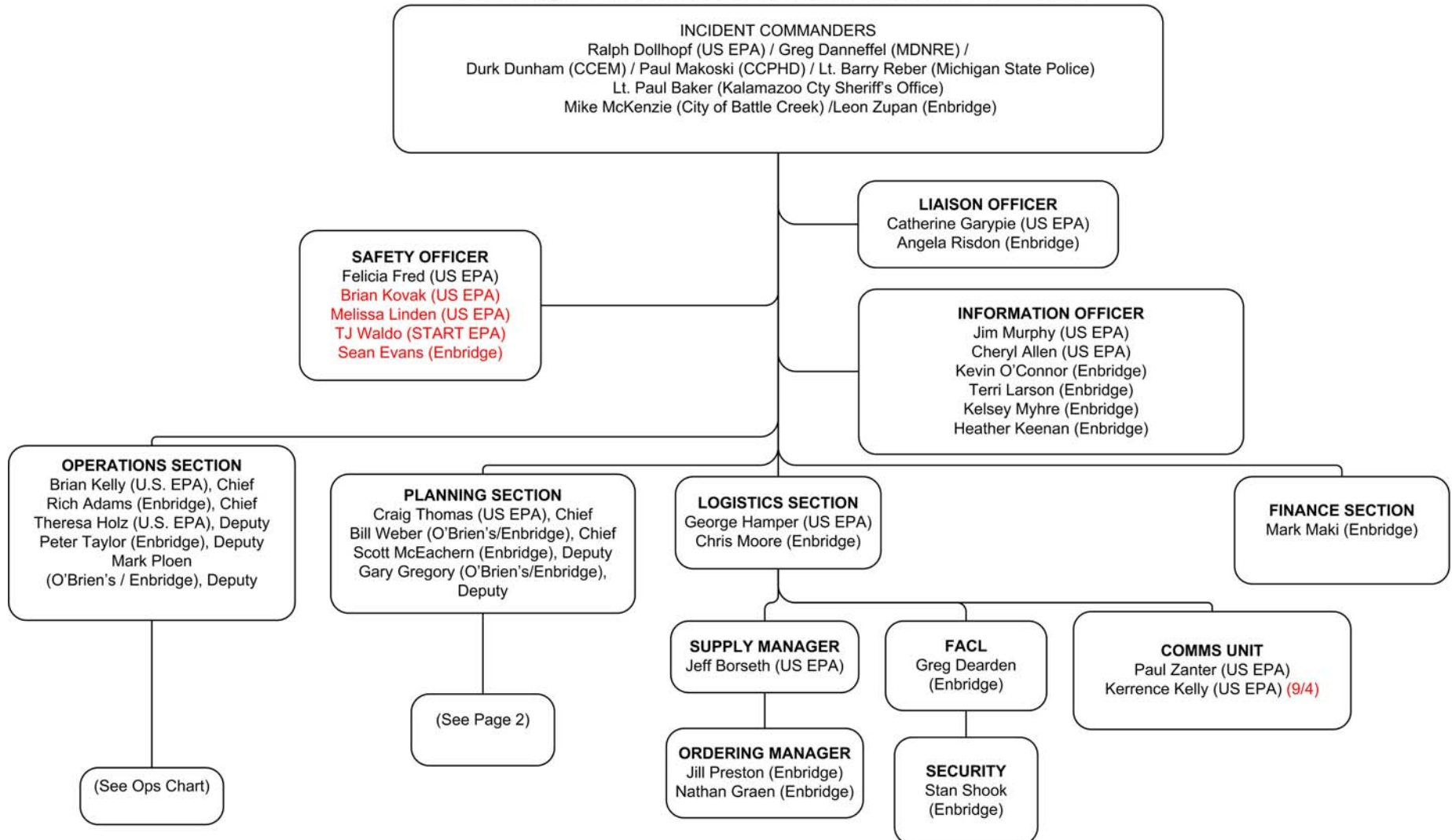
See attached Unified Command Organizational Charts (ICS 207) entitled, “Enbridge Pipelines Response Unified Command”, “Planning Section”, “Operations”, and “Division C.”



File: \\10.1.1.5\planning\epa_share\gis_data\Marshall_Oil_ER\GIS\MXD\20100820\Overview_Map_BoomLabels_20100820.mxd, 20-Aug-10 03:37, Dell



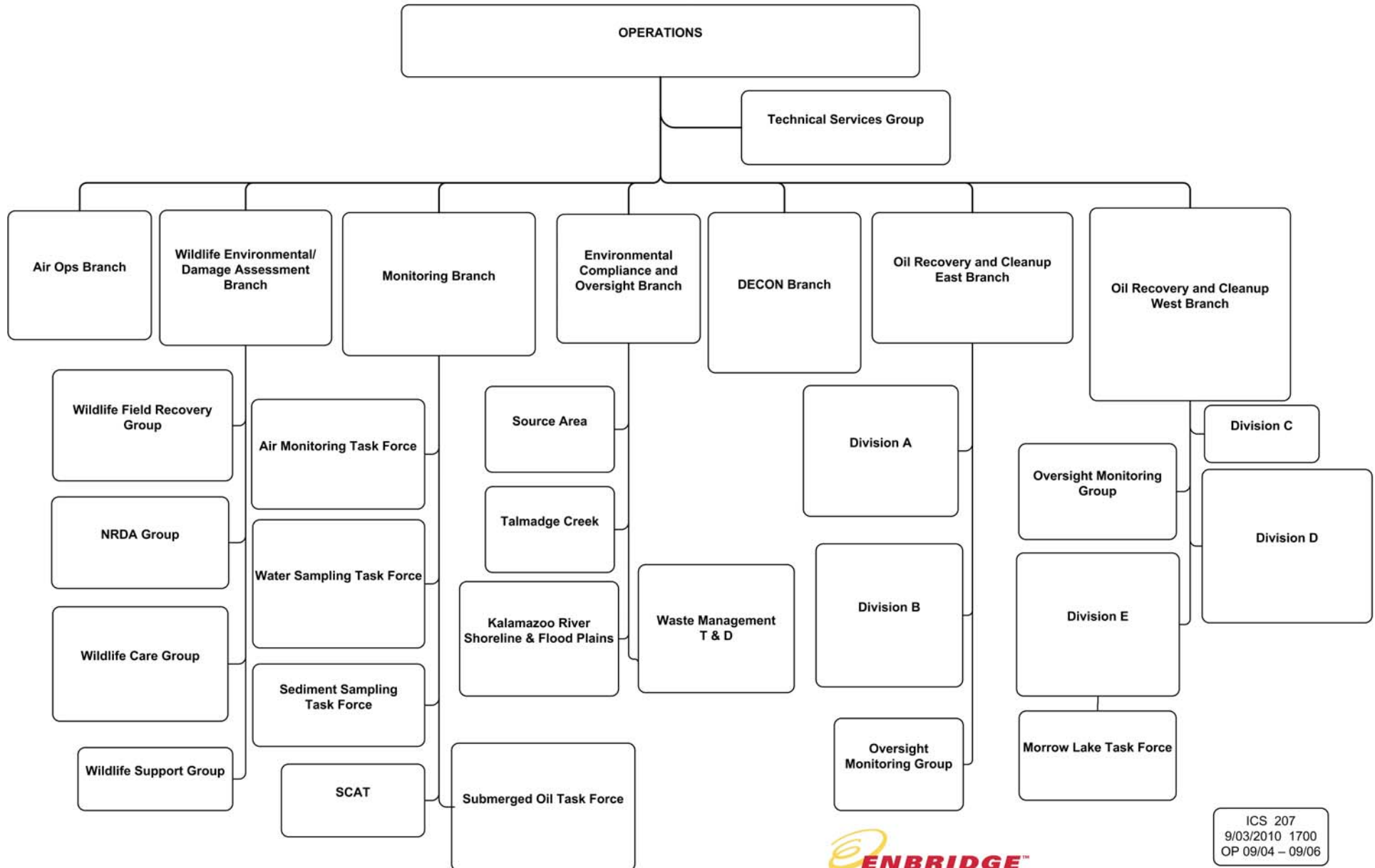
Enbridge Pipelines Response Unified Command

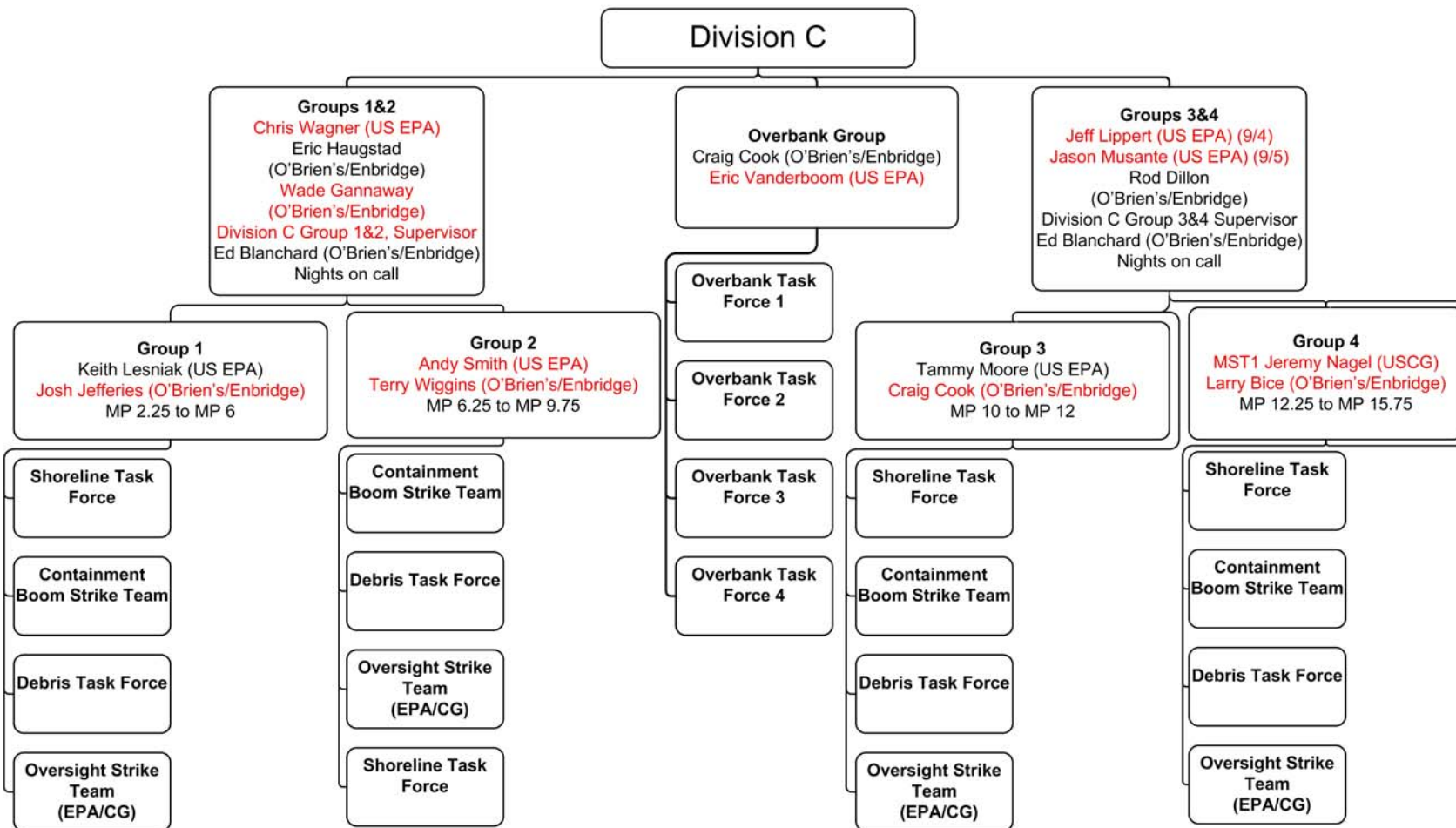


ICS 207
9/03/2010 1700
OP 9/04 – 9/06



Operations





ICS 207
9/03/2010 1700
OP 9/04 – 9/06



