

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



Division C MP11.25, Airlift Staging

Subject: **SITREP # 51**
 Kalamazoo River/Enbridge Spill
 Z5JS
 Marshall, MI
 Latitude: 42.2395273 Longitude: -84.9662018

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Date: 9/15/10

Reporting Period: 1900 hours 9/13/10 to 1900 hours 9/14/10

1 Introduction

1.1 Background

1.1.1 Site History

Background Information

Site Number: Z5JS

D.O. Number:

Response Authority: OPA

Response Lead: PRP

NPL Status: Non NPL

Mobilization Date: 7/26/2010

Demob Date:

CERCLIS ID:

ERNS No.:

FPN#: E10527

Contract Number:

Action Memo Date:

Response Type: Emergency

Incident Category: Removal 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 12, 2010, 0700 to September 15, 2010, 0700.

Incident Objectives

1. Ensure health and safety of the public and response and recovery personnel.
2. Ensure effective transition of regulatory oversight of the oil impacted areas from EPA to MDNRE jurisdiction as appropriate.
3. Maintain the isolation of the Kalamazoo River from up-gradient source area.
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. Finalize and begin implementation of submerged oil containment and recovery tactics for highest priority targets in the Kalamazoo River and at Morrow Lake.
2. Review proposed plan to ensure thorough assessment of overbank and areas of concern.
3. Complete necessary grade restoration and stabilization work plans along Talmadge Creek in accordance with approved plans.
4. Finalize the actions needed to lift the Bottled Water Advisory where appropriate.

1.3 Strategic Considerations

1. Begin submerged oil recovery.
2. Emphasis with Enbridge to prioritize submerged oil recovery plan. Focus remains on Ceresco Dam area.
3. Implement plans to augment the identification and documentation of overbank areas of concern.

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 13, 2010 to 1900 hours on September 14, 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:

- Focused on corrective actions identified MDNRE.
- Updating and maintaining the EPA hit list along Locations A5, A6, and B2.
- Continuing to maintain sorbent boom, silt fence, and mat roads.
- Continuing stream restoration at Location A6.
- Continued to prep area around panhandle area.

EPA observed the following:

- Backfill material was used to isolate free product leaching from under the mat road and contaminating the dewatering area. The 48-hour test trench was not left open due to the quantity of free product leaching into the excavation. This approach not approved according to the latest amendment to the work plan and will be corrected in the day shift September 13, 2010. An area under the mat road was determined by the OSC and RP to be the source of contamination. The RP conceded the soil under the mat road is contaminated.
- Placement of fibrous log boom in Locations A6 and A5.
- Placement of erosion control matting in Location A6.
- Modification of excavation operations per “Approach for Source Contamination Removal, Verification, and Backfill” addendum to the work plan. START performing oversight and verification. EPA OSC providing clearance of 50-foot sections as described in the plan.
 - Four excavation and test pit construction crews are operational.

- Ninety-eight sections have been prepared.
 - Eighty-one, 6-hour test pit sections have been cleared.
 - Forty, 48 hour test pit sections have been cleared, and backfill operations have commenced.
- Continuing hauling operations from soil staging area adjacent to the source.
- Continuing as needed operation of wood chipper depending on quantity of mats and trees delivered at any given time.
- Staging of contaminated log boom, sorbent pads, and collection bags are staged adjacent to the wood chipper.
- Collection bags and contaminated materials were observed to be put through the chipper and hauled off with wood material and contaminated soil.
- Continuing silt fence repair with silt fence removed from A6.4 to Division Road.
- Continuing backfilling and dewatering operations on the west side of Talmadge Creek at Location A5 and A6.
- Staging of peat fill material, soil and aggregate mix for backfill operations next to source area.
- Ongoing decontamination activities on the south end of the source are holding cells with a vacuum truck staged for DECON water removal.

Division B

Enbridge reported the following:

- Began backfilling at Location B2.7.
- Continuing backfilling along creek.
- Addressed safety issues on the mat roads.
- Continuing maintenance of silt fences and booms at Locations B4 and B5.
- Excavation of 16 test pits at Locations B4.5 to B5 complete.
- Excavating along creek bank.
- Building access road from Location B3.
- Test pit monitoring and evaluation, boom maintenance Location B4.
- Moving DECON area from Location B5 to Yard 4.
- Requested emergency utility locate and received Dig Ticket for test pits on either side of A Drive.
- Staging and DECON operations area complete in Yard 4.
- Continued work on clearing B2.

EPA observed the following:

- Approximately 297 (revised by RP on September 13, 2010) test pits in Division B:
 - Fifty-five sections have been prepared,
 - Thirty-four sections cleared by 6 hour test,
 - No sections cleared by 48 hour test.
- RP and EPA walked locations B4 and B5 to discuss plan for test pit excavation at locations where mat road only exists on one side of the creek. Excavation of 17 test pits at Location B4, east of 15 ½ Mile Road.
- Excavation of test pits at Location B2.7 with START oversight.
- MDNRE approved interim stream bank and floodplain restoration plan in Division B.
- Ongoing repair of silt fences throughout Division B.

- Continuing ongoing as needed repair and replacement of log boom throughout Division B as recommended by START and EPA.
- Continuing suspension of excavation operations in Locations B3 and B5.
- Soil staging, processing and ongoing hauling operations in Yard 4.
- START observed free product in test pit at Location B2.7(43+75) during the night shift. START day shift will observe in the daylight to confirm and report to the RP for corrective action including the implementation of method B or C of the “Approach for Source Contamination Removal, Verification, and Backfill” modified work plan.

Oversight Monitoring Group

River Branch Task Force 1 observed the following:

- Ongoing backfilling, test pit, and clearance operations in coordination with EPA in Locations A5 through A6. RP has identified Station 11+25L to 15+00L as a hot spot and continues to remove free product with a vacuum truck and excavator.
- Test pit excavation at Location B2.7.
- Backfilling and seeding/mulching operations completed at Location A1 to A4. No construction activity is occurring.
- Suspension of vacuum truck operations at Location B5.
- Snare boom replaced at Location B5.
- Backfilling operations on hold pending MDNRE approval at Location B4.
- Ongoing silt fence operations at Locations B2, B2.5, and B2.7.
- Continuing suspension of excavation activities at Location B2, B2.5, B2.7, and B5.
- Hand skimming operations are ongoing at Location B2.
- Vacuum trucks continue to skim rainbow sheen and dense free product from Talmadge Creek at Location B3.
- Boom maintenance operations are ongoing at Locations B2, B2.5, B2.7, and B4.

River Branch Task Force 1 reported the following:

- RP proposed to sue coarse bubbler aeration in the pond area of Location B4. A request was submitted to the environmental unit and approval is pending. RP proposes to request this approach for pond at Location B3.
- Provided a decision tree illustrating the “Approach for Source Contamination Removal, Verification, and Backfill” to the RP.
- Test pit condition evaluation is following the “Approach for Source Contamination Removal, Verification, and Backfill” with stationing identified prior to observation. EPA is working with RP representative. The conditions are documented photographically and in a field log. An EPA representative makes the final decision on the presence or absence of observed free product.
- RP requested phone call notification of hot spot in Locations A1 to A4 so immediate corrective action can be taken.
- START GIS will continue to provide maps with locations of contaminated areas for Locations A5, A6, B2, B4, and B5 to the Kalamazoo River. RP is provided with these maps.
- RP will review START documented observations and perform necessary remediation.

Division C

Enbridge reported the following:

- Continuing boat operations, shoreline cleanup, and maintenance of sorbent booms at Location C0.
- Boom maintenance and shoreline vegetation removal at Location C0.3.
- Continuing skimming operations at Location C1.
- Water and soil sampling at Location C3.
- Cleanup activities continue at Location C3.2, MP10.75 to MP12.00.
- Vegetation clearing from island at Location C3.7.

EPA observed or reported the following:

- From MP2.25 to MP6 (Group 1):
 - Ongoing cleanup activities throughout Group 1.
 - Incidents of pooled oil, sheen escaping containment, and product seepage, at MP2.25, MP4.25 and MP5.5, and MP2.5; respectively. RP notified and in varying stages of implementing corrective action and closeout.
 - Snare placed at MP2.5 then removed and boom reinforced as a more effective method for residual oil capture.
 - A revised operational approach was developed with EPA approval to address issues at MP2.5 left descending bank.
 - Technical Services was contacted for guidance in an operation approach to address issues at MP4.5 left descending bank work area 1.
- MP6.5 to MP10 (Group 2):
 - Island at MP8.25 remains quarantined pending further sampling.
 - RP removing oiled vegetation from MP7.75 to MP8.25.
- From MP10 to MP15 (Group 3 and 4):
 - START conducted a backwater survey. The survey results were reviewed with SCAT and Enbridge for SCAT recommendations and referral to submerged oil task force.
 - A boat adrift at MP12.0. Boat retrieved when RP notified.
 - RP continue overbank and shoreline activities to address SCAT recommendations.
 - RP dewatering and excavating at MP11.25, right descending bank work area 1.
 - Access route being built at MP11.75, left descending bank.

USCG observed the following:

- Group 4:
 - Sorbent pads escaping boom containment at MP12.5. RP was notified.
 - Cleanup activities at multiple areas of pooled oil at MP12.25.
 - Continuing cleanup activities from MP13.0 to MP15.0 with good shoreline cleanup methods noted at MP13.75.

Division D

Enbridge reported the following:

- Maintenance of snare boom, boom and gabion boxes at Location D1, D2, D2.5, D3, and D5.

EPA observed the following:

- Cleanup at Location D1.5 completed from MP17.0 to MP21.0. Waiting for sign-off sheets.
- Ongoing maintenance of both lines of gabion boxes.
- Ongoing boom maintenance in all areas.
- Ongoing shoreline cleanup activities.

Division E

Enbridge reported the following:

- Maintaining 40 gabion boxes upstream of E0.5 and installing XTEX curtain boom.
- Strike force patrolling lake for sheen and collection samples at Location E4.5.
- Submerged oil task force is conducting 3D imaging of Morrow Lake bottom.
- Cleaning up of areas previously flagged by SCAT teams at Location E0.5, MP24 working downstream.
- Debris removal and boom maintenance at Locations E0.5, E1, E3, E4, E4.5, and E5.

EPA observed the following: (No new activities reported)

- Skimmer boats demobilized from Morrow Lake with no plans for further skimmer boat collection on Morrow Lake.
- Sampling and Submerged Oil Task Force operations in Morrow Lake.

Further evaluation of areas previously referred to the Submerged Oil Task Force from Location E0.5 to the Michigan Street Bridge. Four of the nine areas were delisted and five were prioritized (high, medium, and low) as deserving further attention.

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

Enbridge reported the following:

- Boom maintenance and sediment curtain adjustment at Location C1.0.
- Discussed submerged oil containment and recovery from upstream of Ceresco Dam.
- Alterations to the aeration unit at Location C4.0.
- Completed additional aeration testing at MP5.63.
- Tested aeration unit at several additional test cells, monitoring for sheen and particulate material.
- Continued with primary containment in Division E.
- Completed near term containment at sites around Location E2.0 and completed installation of XTEX curtain.
- Inspected Mill Pond at MP15.25 to determine containment strategies.

EPA reported the following:

No report received.

Environmental Compliance and Oversight Branch

Enbridge reported the following: (No new activities reported)

- Continuing oversight of Talmadge Creek's "Source Contamination Removal, Verification, and Backfill" in Locations A5, A6, and Division B.
- Continuing oversight of SCAT inspection teams.
- Continuing waste management characterization, documentation, and coordination.

Transportation and Disposal reported the following: (No new activities reported)

- Performed site visit at Griffith facility to observe oil and water gauging.
- Following Addendum 1.0 for correlating TPH/Oil and Grease values and waste stream mass for the purpose of auditing Enbridge's calculation for recovered oil.
- Ongoing daily QA/QC of data.

The Overbank Group reported the following:

- Three areas referred to SCAT.
- Excavation and dewatering continues at MP11.25.
- Continuing overbank work between MP10.75 and MP12.0

DECON Branch

Enbridge reported the following:

- Equipment set up at Location C0.5.

EPA reported the following:

- Observation of test of new degreasing agent to replace current agent. Assessment results to follow.
- Assessment of readiness of the DECON area at Location C0.5. Noted roll-offs are on site.
- Ongoing regular assessment of DECON operations within Frac Tank City, confirming adherence to the Enbridge Decontamination of Equipment and Personnel Work Plan, (Revised September 5, 2010) and documenting activities using the DECON checklist.
- Continued reconnaissance of DECON sites within Divisional locations.

Monitoring Branch

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

Enbridge reported the following: (No new activities reported)

- 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.
- 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 9/14/10 1500

Sample Type	Number collected
Air Monitoring	Not Reported
Surface Water	31
Vertical Water Column Samples	0
Private Well Samples	10
Sediment Samples	10
Sheen Samples	0
Other	0
Soil Samples	0

EPA reported the following actions or observations:

- One START team continued oversight of CTEH air monitoring crews in Divisions A through E.
- One START oversight team shadowed the Enbridge surface water sampling team and took one split sample in Division C.
- Collection of samples as indicated in Table 2.

Table 2 - Samples Documented in SCRIBE as of 9/14/10

Media	Sample Type	Number collected
Air	Summa Canister	0
Air	Tedlar Bags	0
Air	Monitoring Locations	0
Surface Water	Grab	2
Sediment	Grab	0

Three SCAT teams reported the following:

- Conducted SCAT re-evaluations in Divisions C at MP12.25, MP12.5, MP12.75, MP13, MP33.25, and MP34.75.

Five Submerged Oil Task Force teams reported the following:

- Enbridge/Tetra Tech - Team A: As reported by Enbridge/Tetra Tech (No EPA/START Oversight)

- Delineated extent of contamination along north side of Ceresco Dam and installed stakes for containment placement.
- Delineated extent of contamination at MP 5.55 and installed stakes for containment placement.
- Collected 10 core samples between MP 4 to MP 4.75.
- Recovery of approximately 80%.
- Samples were silt over sand.
- Significant sheen and product (large globules) were observed at MP 15.25.
- Quantitative samples were not collected.
- Enbridge/Tetra Tech - Team B (EPA/START Oversight)
 - Assessment and delineation of priority areas at MP 29.
 - Assessed 5 transects and poled 15 locations at Mileposts 29 north, 29 south, 29.1, 29.15, 29.25.
 - Completed 5 poling transects at oxbow located at MP 29.25 - sheen and strong odor observed in the oxbow.
 - Observed overbank pools of water with sheen at MP 29.15.
 - Collected 1 quantitative core sample from MP 29.15.
 - No sheen originally but heavy sheen after poling agitation w/ odor.
- Enbridge/Tetra Tech - Team C (EPA/START Oversight)
 - Completed assessment at 9 transects with approximately 25 poling locations at MP 30 and 30.5.
 - No significant findings at these locations.
 - Collected 2 quantitative cores.
 - Organic silt with sand below.
 - Recovery average of 85%
- Enbridge/Tetra Tech - Team D (No EPA/START Oversight) Hydrographic Survey of Morrow Lake As Reported by Enbridge/Tetra Tech:
 - Cross over booms with assistance from two air boats arranged by Enbridge
 - Continue single beam survey at 0845 of the western part of Morrow Lake delta area
 - Good progress and not as much vegetation problems with six transducer poles as yesterday.
- Enbridge/Tetra Tech - Core Logging (Partial EPA/START Oversight)
 - EPA/START logged Mill Pond Core SOTF-C-Q-15.25-R01
 - EPA/START collected 2 split sediment samples for TPH analysis at Kar Labs.
 - SOTF-E-Q-36.96-L01 (0.0-0.4) Morrow Lake Delta
 - SOTF-C-Q-15.25-R01 (0.0-0.9) Mill Pond
 - Activities Reported by Enbridge Tetra Technician:
 - 8 sediment cores logged:
 - Cores logged from Morrow Lake delta locations, Ceresco dam area, and MP 15.25 (Mill Pond south).
 - Two samples SOTF-E-Q-36.96-L01 and SOTF-E-Q-37.05-L01 had a visible oil sheen on top of the cores.
 - Most of the cores had high fines content, with many containing very fine to fine sand.

- High organics content (plant fragments, roots) were seen in the cores from the delta upstream of Morrow Lake.

EPA additional comments:

- Continue working to ensure near term containment in place. Four person airboats are in use.
- Third vessel was added to focus on Morrow Lake Delta.
- Fourth vessel began conducting hydrographic survey at Morrow Lake.
- Tetra Tech will place primary focus on qualitative analysis/mapping extent of submerged oil.
- START oversight at Morrow Lake noted that sheen is bubbling up from the sediment when the vessel pulls anchor (east end).
- Tetra Tech informed WESTON that due to weight limits, oversight personnel will not be able to ride-along for bathymetry survey of Morrow Lake.
- Tetra Tech reportedly in process of integrating data into SCRIBE.

Environmental Unit:

EPA reported the following:

- Worked with data management and GIS support to develop maps of:
 - Sediment thickness and oil presence,
 - Recent sediment and surface water sampling results, and,
 - Sediment and surface water result from monitoring.
- Coordinating roles performed by Enbridge and EPA.
- Counter-Measure Evaluator on contaminants in sediment at MP28.75 to MP31.75.

Wildlife Environmental Damage Assessment Branch

USFWS reported the following:

- Participated in execution of electrofishing in Divisions C and D.
- An oiled heron was caught and teams continue to bait traps in response to sighting of oiled herons.
- NDRA teams are planning for erosion occurring due to the incident and compiling floodplain data into GIS format.
- Enbridge teams shifted from turtle traps to hand netting.
- Planning and coordination for fish survey to be conducted on September 16.
- Responding to hotline calls.
- Continuing trap preparation at MP15.
- Reduction in staffing trapping turtle, Canadian goose, heron, and beaver due to spill in IL.

As of September 13, 2010 at 0700, the wildlife center reported 399 animals in captivity and 989 released to date.

Air Ops Branch

Enbridge reported observing the following during two over flights:

- Changes in Sheen:
 - No sheen at Locations A5, A6, B2, B3, Control Point 5, nor upstream or downstream from a point in Division E where workers were observed stirring up sediments.
 - Minor contained sheen at pond area before I-69.

- Contained sheen upstream of Location C0.3.
- Sheen at bend next to train tracks at MP25.5.
- Sheen next to the north and south shores, but not at the mouth and downstream of Ceresco Dam.
- Sheen at approximately MP13.5 (previously reported as MP12) next to a tree.
- Minor contained sheen at island upstream of Control Point C5.
- Sheen at Mill Pond being contained by boom systems.
- Sheen near the shores of the oxbow and no sheen in the main section of the river.
- Light sheen upstream of Location E0.5 contained by boom.
- Light sheen contained on Morrow Lake Delta.
- No sheen was observed when an EPA boat swept through the Delta.
- No sheen on Morrow Lake and shores.
- Operational Observations:
 - Test pits observed at multiple Locations in Division A and B.
 - Submerged oil activity upstream of the dam with significant turbidity and notable disturbed sediment.
 - Source area shows more vegetation growth.
 - Additional creek restoration, bank stabilization, top soil placement, and test pit activity in Division A.
 - Backfilling operations continue throughout Division A.
 - Significant activity at Frac Tank City DECON area; however there were fewer Frac Tanks.
 - Backfilling at Location B2.7.
 - Two central cells undergoing work in Division B.
 - Decontamination pad with liner at Area B, former soil management unit at Cell 2 with one active cell.
 - Backfill soil stockpile at Cell 2.
 - Boom and equipment decontamination continuing at Location B5.
 - Heavy activity in Division C.
 - Continuing booming around islands in Division C.
 - Construction of DECON/Roll-off staging area at Location C0.5.
 - Equipment trailers and additional roll off boxes
 - Activity at clean equipment and boom areas.
 - Site construction is close to complete.
 - Continuing boom activity at the peninsula above and at the Ceresco Dam.
 - Significant work at the peninsula and area to which equipment was airlifted.
 - Mat placement at area where slough is located.
 - Mill Pond main waterway and confluence of the Kalamazoo and Battle Creek turbid.
 - Servicing gabion boxes.
 - Installation of additional boom in Division E.
 - Boat and worker activities were observed at Control Point E0.5.
 - Several boats on Morrow Lake, including one boat performing investigational activities and one operating boom maintenance.

EPA observed the following during one over flight:

The over flight was conducted prior to any rain event.

- Changes in sheen:

- No evidence of oil or sheen was visible from the air in Locations A1 through A5.
- No sheen was noted at Location A6. No sheen noted along the shorelines of Talmadge Creek through Location A6.
- Visible sheen was observed in the pond Talmadge Creek at Location B3 just east of Interstate 69.
- Visible sheen observed at the confluence of Talmadge Creek with Kalamazoo River at Location B5. Visible evidence of sheen was noted within the webbed booming configuration.
- Sheen was noted up and downstream of the peninsula and along the south and northern shorelines upstream from Ceresco Dam. Sheen was noted upstream of the test cells.
- Visible spotty sheen was noted on the pond at Location B4.5 of Talmadge Creek.
- Observed sheen extended from the bank below MP13.25 in to the river boom was observed. Sheen appeared to be flowing/seeping from a wetland area.
- Observed some sheen near the island at MP14.5.
- Mill Pond MP15.5 sheen was noted within Kalamazoo River. Sheen was contained with the booms and outside of the boom.
- Observed significant sheen in the oxbow area at MP21.25 (D4.25) just west of Custer Road.
- Operational Observations:
 - Standing water was observed on the ground cover through Division A. Sprouts of new vegetation could be seen across Locations A1 and A4. Restoration work continues in Location A5, new peat soils and geotextile matting and coconut logs were observed along the banks of Talmadge creek.
 - Observed restoration work is progressing through Location A6 backfilling of soils, coconut logs, silt fencing and geotextile matting was noted.
 - Backfilling of the fen area has begun.
 - Booming strategies were modified from yesterday with a skimmer installed to remove oil sheen at Location B3.
 - Pompom and absorbent pads have been removed from the overbank area at MP2.5, right descending bank.
 - Booms located within oxbow appeared to be saturated and requiring replacement.
 - Island MP4.25 had absorbent pads and pompom within central area removed from the Island. Area was caution taped off. Workers were present.
 - Between MP4.5 & MP4.75 new absorbent booming has been deployed along the left descending bank.
 - The new decontamination pad located near MP4.5 appears near completion.
 - Shoreline cleanup was observed along the north shore of the Kalamazoo River upstream of the peninsula and Ceresco Dam.
 - The three submerged oil test cells were still in place along the southern shoreline above Ceresco Dam.
 - Observed the island at MP8.25 that has been cordoned off due to H&S concerns. No changes or activity noted.
 - Peninsula MP11.25 excavation continues. Super sacks are being staged and ready for airlifting off the peninsula.
 - Observed heavy cleanup between MP10 and MP12.25 in Division C.

2.1.3 Progress Metrics

All progress metrics in Section 2.1.3 are as reported by Enbridge unless otherwise indicated.

Boom Report

Table 3 - Boom Report (9/14/10 1900)

Number of Locations	25
Boom Deployed (feet)	114,178

Soil and Debris Waste Tracking

Table 4 - Soil and Debris Waste Tracking (9/13/10)

Waste Stream*	Quantity Shipped	Cumulative Quantity Shipped
Haz Soil (yd ³) ^a	0	15,344
Non Haz Soil (yd ³) ^b	432	20,886
Haz Debris (yd ³) ^c	0	12,075
Non Haz Debris (ton) ^c	52	1035

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

- Haz (Benzene)-impacted soil is being sent to EnviroSafe (Oregon, OH).
- Non Haz soil is being sent to Westside Recycling (Three Rivers, MI) and EQ/Republic (Marshall, MI).
- 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 (9/13/10, 0700)

Location	Cumulative Total Collected (gallons)
Division A	5,101,018
Division B	3,490,875
Division C	837,600
Division D	117,825
Division E	50,030
DECON	123,640
Other Locations*	183,751
TOTAL	9,904,739

* Includes Frac, DECON, and Wildlife Center.

Table 6 - Oil water Separation (9/13/10, 0000)

Oil-Water - Enbridge Facility in Griffith, IN Facility (gallons)	
Oil	699,823
Other Material	1,382,983
TOTAL	2,082,806

Table 7 – Liquid Shipped Off-site (9/13/10, 0000)

Oil/Water leaving Site	Destination	Daily Quantity Shipped (Gallons)	Cumulative Quantity Shipped (Gallons)
Haz Water	Dynecol, Detroit, MI	36,053	2,148,506
Oil/Water	Enbridge Facility, Griffith, IN	0	2,082,806
Treated Non Haz Water	Liquid Industrial Waste Services, Holland, MI	0	370,200
Treated Non Haz Water	Plummer, Kentwood, MI	64,972	1,809,772
Haz Water	Safety Kleen ^a	0	715
Treated Non Haz Water *	Dynecol, Detroit, MI	0	134,200
Treated Non Haz Water *	Battle Creek POTW	0	1,968,700
Totals		101,025	8,514,988

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

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

† Volumes have decreased due to an EPA audit conducted 09/03 through 09/06. Results concurred with Enbridge

Table 8 - Oil/Water Volume Summary (Gallons)

Oil/Water Collected ^a	9,904,739
Oil/Water Shipped Off-site ^b	8,514,988
OIL/WATER REMAINING ON-SITE	1,389,751

a. As of 9/14/10, 0700

b. As of 9/13/10

2.2 Planning Section

Data Management Unit

The Data Management Unit reported the following:

- Continuing processing surface water sampling data.
- Continuing importing preliminary and validated data into Scribe.
- Continuing to process maps, as requested.
- Analyzing sediment data with trend plots for TPH and SVOCs.
- Mapping sediment coring and poling data.
- Creating field maps for submerged oil task force.
- Assisting with graphic output for the IAP photo map summary.

Situation Unit Field Observers

Situation Unit FOB observed the following:

Division A:

- Silt barrier maintenance at Location A6.
- Backfilling from Talmadge Creek to trench within timber mat and dewatering at Location A5.

Division B:

- No sheen in the boon network at the confluence at Location B5.
- Test pit excavation near A Drive Bridge.
- Backfilling and test pit excavation.

Division C, near Ceresco Dam:

- On-going skimming of sheen from concrete wall area of spillway.

Division C, Location C0.0 to C0.3:

- Contaminated vegetation clearing and bagging inland south shore of Location C0.0 and on Islands A to F including small island east of Island A.
- Island surrounded by hard and absorbent boom.

2.2.1 Anticipated Activities for Next Reporting Period

In the next operational period, Operations anticipates final clearance of Division A and bank stabilization in Division B as well as performing the same or similar activities as in the previous operational period, with a focus on activities in Division C.

2.2.2 Issues

Calhoun County public health reported the following:

No report received.

2.3 Logistics Section

Logistics reported the following:

- Met with Michigan State Police Unified Staff to discuss radio operations in response to a request on behalf of USFWS.
- Implemented securing incident radios within the IT server room in the communications trailer.

2.4 Safety Reports

The following health and safety items were noted:

- Night operations suspended due to lightning from 0013 to 0204 September 13, 2010.
- Damp soil conditions at East Branch soil handling area eliminated fugitive dust and ash issues. Dust issues continue to be monitored.
- Strong odors noted above Ceresco Dam.
- Boat traffic in area above Ceresco Dam should be limited to workers only.

Enbridge Safety Officer reported the following Health and Safety issues:

- Four minor first aid incidents reported at Locations C0, C3.2, and an unknown location. Workers were treated and returned to work.
- Two minor traffic incidents reported at Frac City and an unknown location.
- Ongoing incident investigation and comprehensive sampling conducted at island at MP8.25. Samples were submitted for analysis and a recommendation will be developed upon review of the analytical results. The island remains closed.
- Preliminary incident reports now include fatigue management information.
- UTV Policy/Orientation process established with roll out on 09/14/10.
- Medical Unit and Medical Unit Leader on site at ICP.
- Revised incident reporting procedures to promote timely and appropriate follow up.
- Ventilation issues with mobile lab indicated high levels of VOCs in IC warehouse.

EPA Safety Officer reported the following Health and Safety issues:

- EPA had no health incidents to report.
- Ongoing investigation of the mobile laboratory incident. Observed collection of air samples.
- Returned to island at MP8.25 and observed collection of Summa canisters.
- Accompanied Enbridge Safety and MIOSHA for inspections at Location C0.5 DECON, Frac City, and Staging Area A. Findings are pending.
- Continued working on Facility Safety Plan.
- Continued to work with Medical Unit Leader of ICS procedures.

2.5 Liaison Officer

The Liaison Officer reported the following actions:

The Liaison Officer coordinated with the Environmental Advisory Group to plan and achieve community outreach activities.

2.6 Information Officer

The Public Information Office reported the following activities:

Community Involvement Coordinators:

- Participated in meeting with liaison officer and IC regarding speaker request.
- Responded to one citizen telephone inquiry.

Media Inquiry Line (877-440-7157)

Calls received during last reporting period: 0

Enbridge reported the following call volume and community center visits:

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

Calls received during last reporting period: 0

Community Center Visits: 25

Visits by location during last reporting period:

Battle Creek	16
Marshall	9

Enbridge reported that it received 0 inquiries from its www.response.enbridgeUS.com website.

2.7 Finance Section

The current NPFC issued ceiling was \$18 million. Approximately 88.4% of the ceiling had been spent through September 13, 2010, with a burn rate of \$184,097 per day. These cost summaries reflect only EPA-funded expenditures for the incident.

Table 9 - FPN E10527 - Enbridge Pipeline Oil Spill (09/13/10)

ERRS Contractors		Est. Expended	Est Burn Rate (Lastest Daily)
EQM (EPS50802)	T057	\$1,250,065	\$0
	T060	226,834	1,600
LATA (EPS50804)		1,451,396	0
ER LLC (EPS50905)		723,669	0
ERRS Contractors		\$3,651,964	\$1,600
TNT Bisso		893,000	27,000
START Contractor			
WESTON (EPS50604)		5,253,886	67,988
Response Contractor Sub-Totals		\$9,798,850	\$96,588
EPA Funded Costs:			
Total EPA Costs		3,003,803	45,450
Pollution Removal Funding			
Total Other Agencies		920,160	16,667
Sub-Totals		\$13,722,813	\$158,705
Indirect Cost (14.15%)		2,195,650	25,393
Total Est. Oil Spill Cost		\$15,918,463	\$184,097

2.8 Response Actions to Date

Response Actions to date may be found in Situation Reports 1 through 50.

3 Participating Entities

3.1 Unified Command

U.S. EPA
MDNRE
Michigan State Police Emergency
Management Division
City of Battle Creek

Calhoun County Public Health
Department
Calhoun County Emergency Management
Kalamazoo County Sheriff
Enbridge (Responsible Party)

3.2 Cooperating and Assisting Agencies

ATSDR
Calhoun Conservation District
Calhoun County Commission
City of Kalamazoo
City of Marshall
Emmett Township
Fredonia Township
Kalamazoo County Office of Emergency
Management
Marshall Area Firefighters Ambulance
Authority

Marshall Police Department
Marshall Township Government and Fire
Department
Michigan Department of Agriculture
MDCH
NOAA
Oakland County HAZMAT/RRTN
PHMSA
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 9/14/10

Agency/Entity	Numbers Reported
EPA	49
START	38
Calhoun County Public Health Dept. (CCPH)	2
Calhoun County (CC) Sheriff	6
City of Battle Creek	3
Kalamazoo Sheriff	2
MDNRE	19
Michigan State Police (MSP)	1
NOAA - National Weather Service	2
NOAA- NRDA	1
USCG	4
USFWS	3
USFWS Contractors	0
Enbridge ICP	82
Enbridge ICP Contractor	368
Enbridge	18
Enbridge Contractors	1301
Total	1911

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
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>.

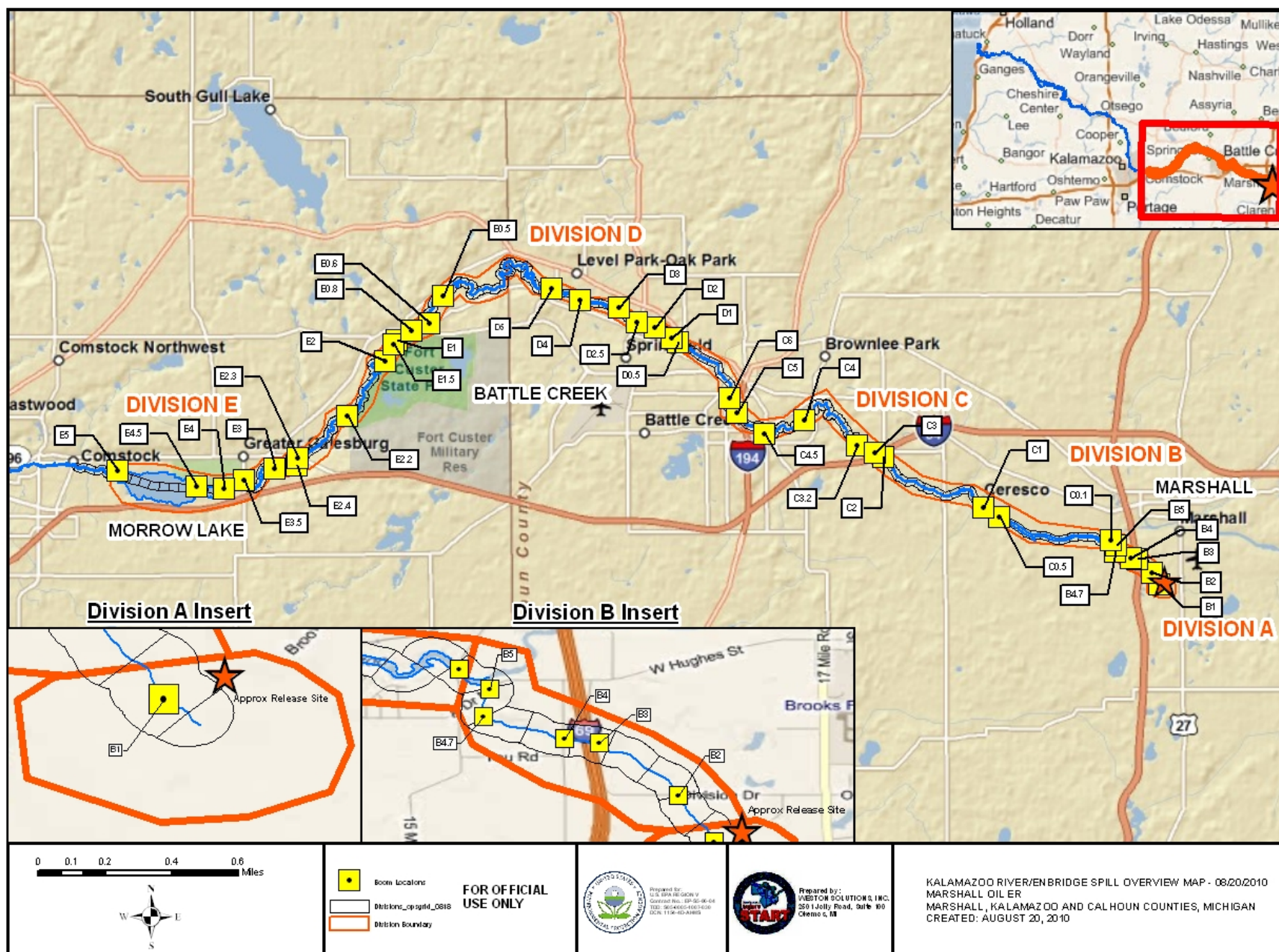
6.2 Reporting Schedule

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.

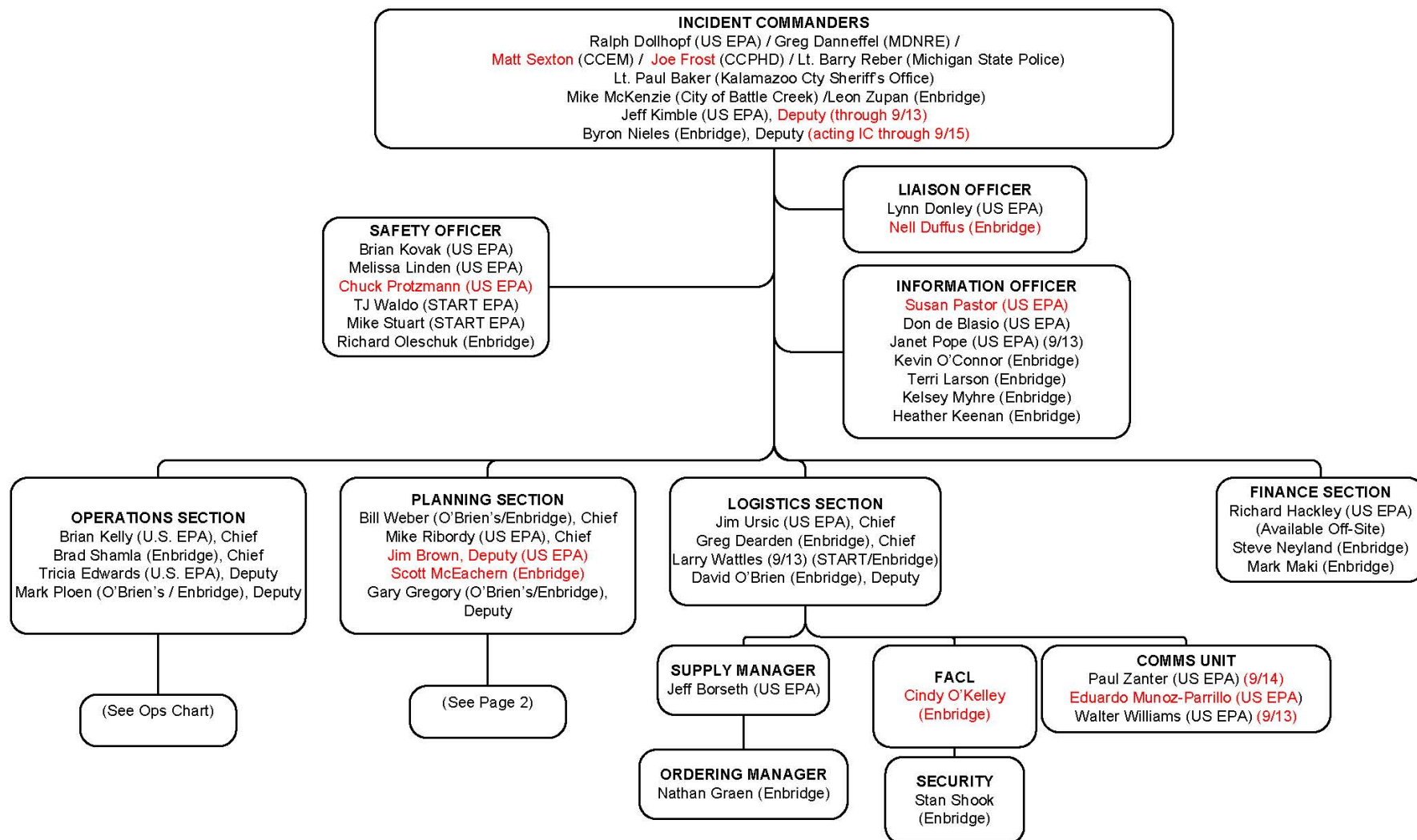
See attached Unified Command Organizational Charts (ICS 207) entitled, “Enbridge Pipelines Response Unified Command”, “Planning Section”, “Operations”, and “Division C.”



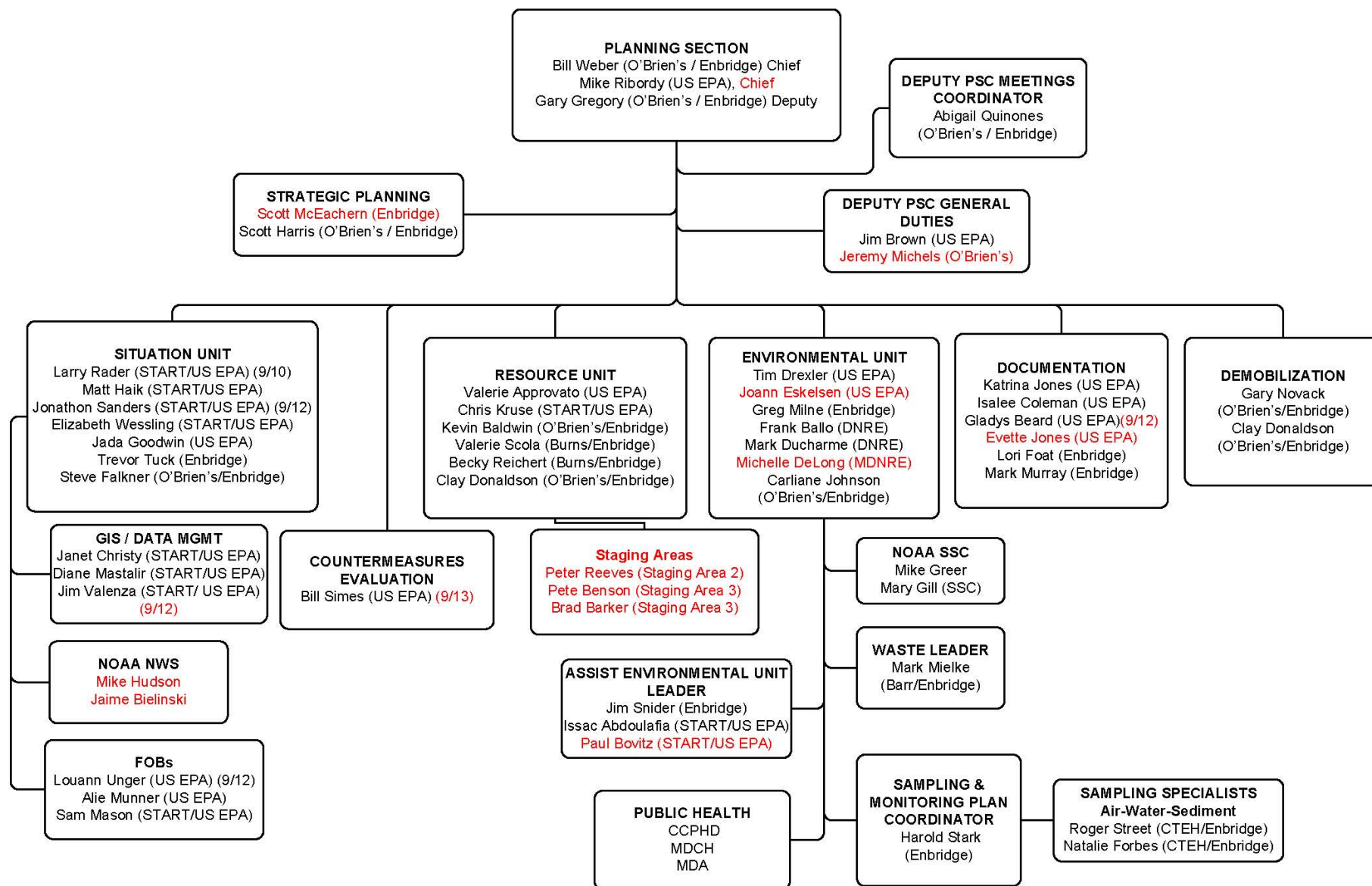
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Enbridge Pipelines Response Unified Command

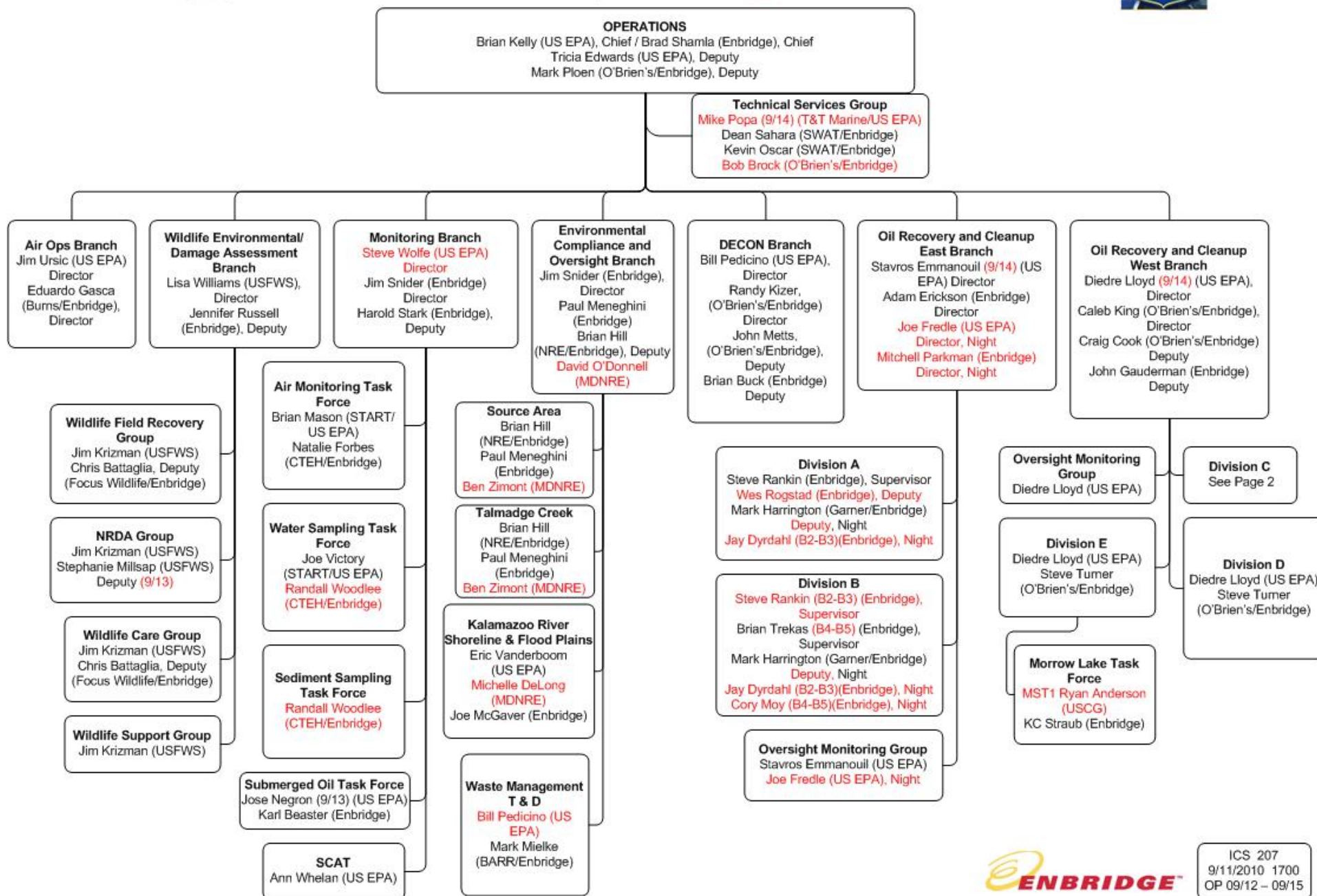


ICS 207
 9/09/2010 1700
 OP 9/12 - 9/15





Operations



ICS 207
 9/11/2010 1700
 OP 09/12 - 09/15

