

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 # 50
Kalamazoo River/Enbridge Spill
Z5JS
Marshall, MI
Latitude: 42.2395273 Longitude: -84.9662018

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Date: 9/14/10

Reporting Period: 1900 hours 9/12/10 to 1900 hours 9/13/10

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 12, 2010 to 1900 hours on September 13, 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:

- Night operations:
 - Vacuuming water in Pits (1) and (2).
 - Removing soils in Pits (1) and (2).
 - Backfilled Pit (1) and started to install curlex.
 - Moved frac lights for trucks and loading.
 - Received EPA approval to backfill Pits 1 to 4 leaving a trench for drainage.
- Day operations:
 - Continued to prep area around panhandle lines.
 - Continued to maintain sorbent boom along Talmadge Creek.
 - Updating and maintaining the EPA hit list along Locations A5, A6, and B2.
 - Ongoing maintenance of silt fences.
 - Continuing backfilling and restoration of Talmadge Creek at Location A5.
 - Continuing stream restoration at Location A6.
 - Ongoing maintenance of mat roads in Divisions A and B.

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.
 - Seventy-one, 6-hour test pit sections have been cleared.
 - Twenty-one, 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:

- Addressed safety issues on the mat roads.
- DECON area moving from Location B5 to Yard 4.
- Continuing maintenance of silt fences and booms at Locations B4 and B5.
- Excavation of nine test pits at Location B4.
- Dewatered four test pits at Location B4 and restarted 6-hour test interval.
- Continuing survey activity for creek restoration.
- Continued work on clearing B2.

EPA observed the following:

- 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.
- Approximately 203 test pits in Division B:
 - Thirty-eight sections have been prepared,
 - No sections cleared by 6 hour test,
 - No sections cleared by 48 hour test.
- 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.

Oversight Monitoring Group

River Branch Task Force 1 observed the following:

- 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 backfilling, test pit, and clearance operations in coordination with EPA in Locations A5 through A6.
- 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:

- 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.
- Challenges to the observation and approval process include:
 - Hydraulic connections between the test pit and the creek or the test pit and the adjacent overbank areas. Some areas are flooded and the test pit area is identified by lathes, flagging and sorbent log boom.
 - Test pits are not always properly marked. During the rain event on September 11, 2010 the marking procedures were changes from marking locations on lathes to marking

ribbon flagging on lathes. The writing on the flagging is not as clear as marking on the lathes made during dry conditions.

- Access to the test pits is problematic. The wet native material and unconsolidated backfill in some cells makes observation and documentation activities difficult to accomplish.
- 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.
- Deploying absorbent boom at Location C0.5.
- Continuing skimming operations at Location C1.
- Cleaning debris pile at PM8.25 to MP8.75 and vegetation removal at Location C1.5.
- Cleanup on island continues at Location C3.2.
- 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.
- 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):
 - Continuing overbank vegetation operational activities.
 - A boat adrift at MP12.0. Boat retrieved when RP notified.

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: (No new activities reported)

- Maintenance of gabion boxes.

EPA observed the following:

- Ongoing maintenance of both lines of gabion boxes.
- Ongoing boom maintenance in all areas.
- Ongoing shoreline cleanup activities.
- Cleanup at Location D1.5 completed.

Division EEnbridge reported the following:

- 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.
- Maintenance of booms and gabion box inserts and clean up of areas previously flagged by SCAT teams at Location E0.5.
- Debris removal and boom maintenance at Locations E1, E3, E4, E4.5, and E5.

EPA observed the following:

- 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.
- Sheen observed on 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 GroupEPA reported the following:

No report received.

Environmental Compliance and Oversight BranchEnbridge reported the following: (No new activities reported)

- Oversight of backfill operations 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:

- 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 from MP10.75 to MP12.0

DECON Branch

Enbridge reported the following: (No new activities reported)

- Staging area is operational at Location C0.5.
- Construction for DECON area anticipated to be complete by September 14, 2010 at Location C0.5.
- Location B5 DECON area moving to Yard 4, Cell 2. The new DECON area anticipated to be operational in the next two days.

EPA reported the following:

- 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 9/13/10 1500

Sample Type	Number collected
Air Monitoring	Not Reported
Surface Water	24
Vertical Water Column Samples	0
Private Well Samples	16
Sediment Samples	6
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 9/13/10

Media	Sample Type	Number collected
Air	Summa Canister	0
Air	Tedlar Bags	0
Air	Monitoring Locations	16
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.

Three Submerged Oil Task Force teams reported the following:

- Enbridge/Tetra Tech - Team A (As reported by Enbridge/Tetra Tech (No EPA/START Oversight) Division C, C0.5
 - Poled and delineated priority areas between MP15.25 to MP15.75.

- This area was predominantly marshy wetlands with very soft sediment greater than 6 feet depth throughout.
 - Approximately 25-30 locations were poled.
 - Significant sheen and product (large globules) were observed at MP15.25.
 - Quantitative samples were not collected.
- Marked off the extent of oil at MP15.5 marsh area with wood stakes and flagging. This area is approximately 100 feet wide by 500 feet along north bank where the marsh opens up to the main channel.
- Enbridge/Tetra Tech - Team B (As Reported by Enbridge/Tetra Tech (No EPA/START Oversight) E2 Upstream
 - Continued assessment and delineation of priority areas downstream of MP26.65.
 - Assessed 9 transects and poled 25 locations at MP27.25, MP27.5, MP27.9, MP28 (north and south), MP28.25, MP28.5, MP28.75 south, and MP28.75 north.
 - Observe free product, extreme sheen, and odor at MP28.25.
 - Visible sheen also observed at MP27.5 and MP28 north.
 - Other six locations had sheen after agitation.
 - Collected two quantitative cores.
 - Top silt and compacted sand on bottom.
 - 97-100 % recovery.
 - Sheen and submerged oil noted for both samples.
- Enbridge/Tetra Tech - Team C (EPA/START Oversight)E2 – Morrow Lake Delta
 - Completed assessment at approximately 30 poling locations at MP30.25 (near boat launch), MP33, MP33.25, and MP30.75 (backwater channel) - 22 locations exhibited sheen.
 - Locations at MP33 and MP33.25 were also backwater areas with very minimal flow.
 - Oil globules observed after poling agitation and airboat movement.
 - Collected 7 quantitative sediment cores.
 - Organic silt with sand below.
 - Recovery ~ 65 - 100% (Average of 80%).
- Enbridge/Tetra Tech - Team D (EPA/START Oversight) Bathymetry – Morrow Lake Hydrographic Survey of Morrow Lake EPA/START oversight activities on 9/12/10:
 - Oversaw and recorded survey control points and the following bathymetry instrumentation calibration information:
 - Reach ML, Leica
 - Rover HT
 - Hy sweep tide
 - Leica offset
 - Mu draft
 - Difference – no pitch
 - Gyroscope leveling
 - Survey control point QA/QC
 - Enbridge/Tetra Tech conducted a single beam survey of the eastern part of Morrow Lake and west of delta
 - Slow progress reported due to shallow depth in area causes vegetation to wrap onto the six transducers poles.

- Enbridge/Tetra Tech - Core Logging (As Reported by Enbridge/Tetra Tech (No EPA/START Oversight)
 - Logged cores from Morrow Lake delta locations.
 - Typical silt over sand profile at most locations.
 - Visible sheen at most locations. Few with oil spots noted.
 - Visible oil not noted at every location where disturbance caused sheen or globules during core collection.

EPA additional comments:

- Continue working to ensure near term containment in place.
- Poled and delineated priority areas between MP 15.25 to MP 15.75. Approximately 25-30 locations were poled with significant sheen and product (large globules) were observed at MP15.25.
- Continued assessment and delineation of priority areas downstream of MP26.65. Assessed 9 transects and poled 25 locations at MP27.25, MP27.5, MP27.9, MP28 (north and south), MP28.25, MP28.5, MP28.75 south, MP28.75 north.
- Completed assessment at approximately 30 poling locations at MP30.25 (near boat launch), MP33, MP33.25, and MP30.75 (backwater channel). Twenty-two locations exhibited sheen.
- Collected 9 quantitative cores.
- Conducted oversight of Hydrographic Survey of Morrow Lake.
- Oversaw and recorded survey control points and the following bathymetry instrumentation.

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.
- Discussions with Health Team on procedures to lift bottled water advisory.
- Counter-Measure Evaluator on contaminants in sediment at MP31.

Wildlife Environmental Damage Assessment Branch

USFWS reported the following:

- Participated in Environmental Advisory Group providing suggestions for updating cleanup recommendations:
 - Input to mechanized removal plans for overbank arear.
 - Input to fertilizer use to stimulate biodegradation.
- NDRA teams compiling floodplain data into GIS format.
- Continuing planning and coordination for fish survey to be conducted on September 14.
- Responding to hotline calls.
- Continuing trap preparation at MP15.
- Continuing turtle, Canadian goose, heron, and beaver trapping.

- Significant sheen along south shore of pond near confluence of Talmadge Creek and Kalamazoo River. USFWS noted sheen may be of organic origin, but also may be incident related origin. No oiled vegetation was observed but swirling was reported with some “plaque” like edges to some of the sheen.

As of September 12, 2010 at 0700, the wildlife center reported 382 animals in captivity and 932 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, and B4.7.
 - Continuing minor sheen at pond area before I-69.
 - No sheen at Control Point B5.
 - Sheen directly downstream of cleanup operation activities with most sheen contained by booms at a few areas in Division C.
 - Sheen next to the north and south shores, but not at the mouth and downstream of Ceresco Dam.
 - Sheen above Ceresco Dam at the submerged oil treatment cells.
 - Sheen at approximately MP12 next to a tree.
 - Minor contained sheen at island upstream of Control Point C5.
 - Sheen at Mill Pond being contained by boom systems.
 - No sheen at the culvert next to Angel Street.
 - 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.
 - Very light sheen contained upstream of Control Point E2.
 - Light sheen contained on Morrow Lake Delta.
 - No sheen on Morrow Lake and shores.
- Operational Observations:
 - 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.
 - Creek restoration preparation in Division B.
 - Backhoes and earth moving equipment next to Location B2.7.
 - Staging of creek restoration materials to the north of the access site via 16 Mile Road.
 - 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.
 - Boom and equipment decontamination continuing at Location B5.
 - Heavy activity in Division C.
 - Continuing booming around islands during operations 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.
- Activity on the north banks upstream of the dam.
- Silt curtain boom observed near Ceresco Dam.
- Activity at experimental submerged oil treatment cells upstream of Ceresco Dam with sheen leaving the contained area when boats cross the boom.
- Significant work at the peninsula and area to which equipment was airlifted.
- Servicing gabion boxes.
- Installation of additional boom in Division E.
- Boat and worker activities were observed at Control Point E0.5.
- Seven 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 noted in Location A5 extending into 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. Booming strategies were modified from yesterday with a skimmer installed to remove oil sheen.
 - Visible spotty sheen was noted on the pond at Location B4.5 of Talmadge Creek.
 - 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 coming from the left descending bank at MP3.5 where workers were noted. Sheen was extending beyond the boom into the river.
 - Sheen was noted up and downstream of the peninsula and along the south and northern shorelines upstream from Ceresco Dam. The three submerged oil test cells were still in place along the southern shoreline above the dam. Sheen was noted upstream of the test cells.
 - Observed sheen extended from the bank below MP13.25 in to the river no boom was observed. Sheen appeared to be flowing/seeping from a wetland area
 - Observed some sheen near the island at MP14.5 and in the Mill Pond near Location C6. Sheen was contained with the booms at the Mill Pond location.
 - Observed significant sheen in the oxbow area at MP21.25 (D4.25) just west of Custer Road. Booms located within oxbow appeared to be saturated and requiring replacement.
 - New boom was noted with sheen contained within the new booming strategy at MP26, MP26.25, and MP26.75.
 - Significant sheen was observed within all of Morrow Lake delta. No oil or sheen was observed on Morrow Lake.

- Operational Observations:
 - Standing water was observed on the ground cover through Division A. Sprouts of new vegetation could be seen across Location A1 and A4. Restoration work has begun in Location A5, new peat soils and geotextile matting and coconut logs were observed along the banks of Talmadge creek.
 - Observed excavators, graders, and trucks between Locations A5 and A6. Several confirmation test pits were observed along the shorelines of Talmadge Creek in Location A5 extending into A6.
 - At Location B2.7 absorbent pads were observed within the fen area indicating that oil was persisting.
 - A large pompom and absorbent pad area was noted in the overbank area on the right descending bank at Location MP2.5.
 - Workers were present on Island C at MP3.
 - Island F had absorbent pads and pompom within central area of the Island. Workers were present.
 - 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.
 - Observed the island at MP8.5 that has been cordoned off due to H&S concerns. No changes or activity noted.
 - Observed heavy cleanup between MP10 and MP12.25 in Division C.
 - Booms located within oxbow appeared to be saturated and requiring replacement.

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 (9/13/10 1900)

Number of Locations	25
Boom Deployed (feet)	120,645

Soil and Debris Waste Tracking

Table 4 - Soil and Debris Waste Tracking (9/12/10)

Waste Stream*	Quantity Shipped	Cumulative Quantity Shipped
Haz Soil (yd ³) ^a	0	15,344
Non Haz Soil (yd ³) ^b	0	20,454
Haz Debris (yd ³) ^c	0	12,075
Non Haz Debris (ton) ^c	0	983 ^d

* 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).
- Adjustment based upon backlog manifest received.

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 (9/12/10, 0700)

Location	Cumulative Total Collected (gallons)
Division A	5,029,518
Division B	3,444,275
Division C	831,900
Division D	117,825
Division E	50,030
DECON	117,640
Other Locations*	183,751
TOTAL	9,774,939

* Includes Frac, DECON, and Wildlife Center.

Table 6 - Oil water Separation (9/12/10, 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 (9/12/10, 0000)

Oil/Water leaving Site	Destination	Daily Quantity Shipped (Gallons)	Cumulative Quantity Shipped (Gallons)
Haz Water	Dynecol, Detroit, MI	10,000	2,117,501
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	60,000	1,744,800
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		70,000	8,418,922

* 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	9,774,939
Oil/Water Shipped Off-site ^b	8,418,922
OIL/WATER REMAINING ON-SITE	1,356,017

a. As of 9/13/10, 0700

b. As of 9/12/10

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.

Situation Unit Field Observers

Situation Unit FOB observed the following:

Division A:

- Placement of erosion mat and seeding at Location A6.
- Dewatering and free produce removal with Vacuum trucks at Location A5.

Division B:

- Excavation of test pit at Location B2.

MP11.25:

- Dewatered area does not appear to be refilling with water.
- Excavation of contaminated soil.

MP9.5:

- Island red flagged by SCAT.
- Identified small area of overwater branches, two to four inches in diameter, with patches of oil.

MP11.5 to MP 11.75:

- Cleanup operations including vegetation cutting and bagging.
- Sheen observed in backwater area and some free product on branches. No oil pools were observed.

MP15.0 to MP15.25 (Mill Pond)

- Cleanup operations including vegetation cutting and bagging at MP15.0.
- SCAT red flagged area of lily pads at MP15.25 along the north shore. The area is contained with boom. Dead vegetation and sheen within the boomed area.
- No cleanup at MP15.25.

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:

Mobile officer trailers for the Operations Section and MEDL were secured to the ground.

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:

- Seven minor first aid incidents reported at Locations A, C3.2, C3.2, C3, C0.0, MP12.25 and MP13.5. Workers were treated and/or were transported for treatment.

EPA Safety Officer reported the following Health and Safety issues:

- EPA had no health incidents to report.
- EPA START identified a release of methylene chloride and acetone from the venting of the hood in the mobile trailer located in the warehouse at ICP. Levels of methylene chloride and acetone where workers were working were below the PEL, and workers were screened for medical issues. Investigation is ongoing.
- Preparing briefing on implementation of Safety Plans and incorporation into the HASP with Enbridge.
- 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:

- Contacted schools to determine interest in schools getting copies of September 2010 fact sheet.
- Worked with organizers of river cleanups to try to schedule speakers for events.
- Spoke with attorney for Baker Estates and referred to the Liaison Officer.

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: 6

Visits by location during last reporting period:

Battle Creek	4
Marshall	2

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 87.5% of the ceiling had been spent through September 12, 2010, with a burn rate of \$183,767 per day. These cost summaries reflect only EPA-funded expenditures for the incident.

Table 9 - FPN E10527 - Enbridge Pipeline Oil Spill (09/12/10)

ERRS Contractors		Est. Expended	Est Burn Rate (Lastest Daily)
EQM (EPS50802)	T057	\$1,250,017	\$0
	T060	225,234	1,600
LATA (EPS50804)		1,451,396	0
ER LLC (EPS50905)		723,669	0
ERRS Contractors		\$3,650,316	\$1,600
TNT Bisso		868,000	27,000
START Contractor			
WESTON (EPS50604)		5,185,429	66,903
Response Contractor Sub-Totals		\$9,703,745	\$95,508
EPA Funded Costs:			
Total EPA Costs		2,961,503	46,250
Pollution Removal Funding			
Total Other Agencies		917,640	16,667
Sub-Totals		\$13,582,888	\$158,420
Indirect Cost (14.15%)		2,173,262	25,347
Total Est. Oil Spill Cost		\$15,756,150	\$183,767

2.8 Response Actions to Date

Response Actions to date may be found in Situation Reports 1 through 49.

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 9/13/10

Agency/Entity	Numbers Reported
EPA	45
START	43
Calhoun County Public Health Dept. (CCPH)	2
Calhoun County (CC) Sheriff	6
City of Battle Creek	3
Kalamazoo Sheriff	2
MDNRE	4
Michigan State Police (MSP)	1
NOAA - National Weather Service	2
NOAA- NRDA	1
USCG	3
USFWS	3
USFWS Contractors	0
Enbridge ICP	82
Enbridge ICP Contractor	302
Enbridge	14
Enbridge Contractors	1229
Total	1744

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>.

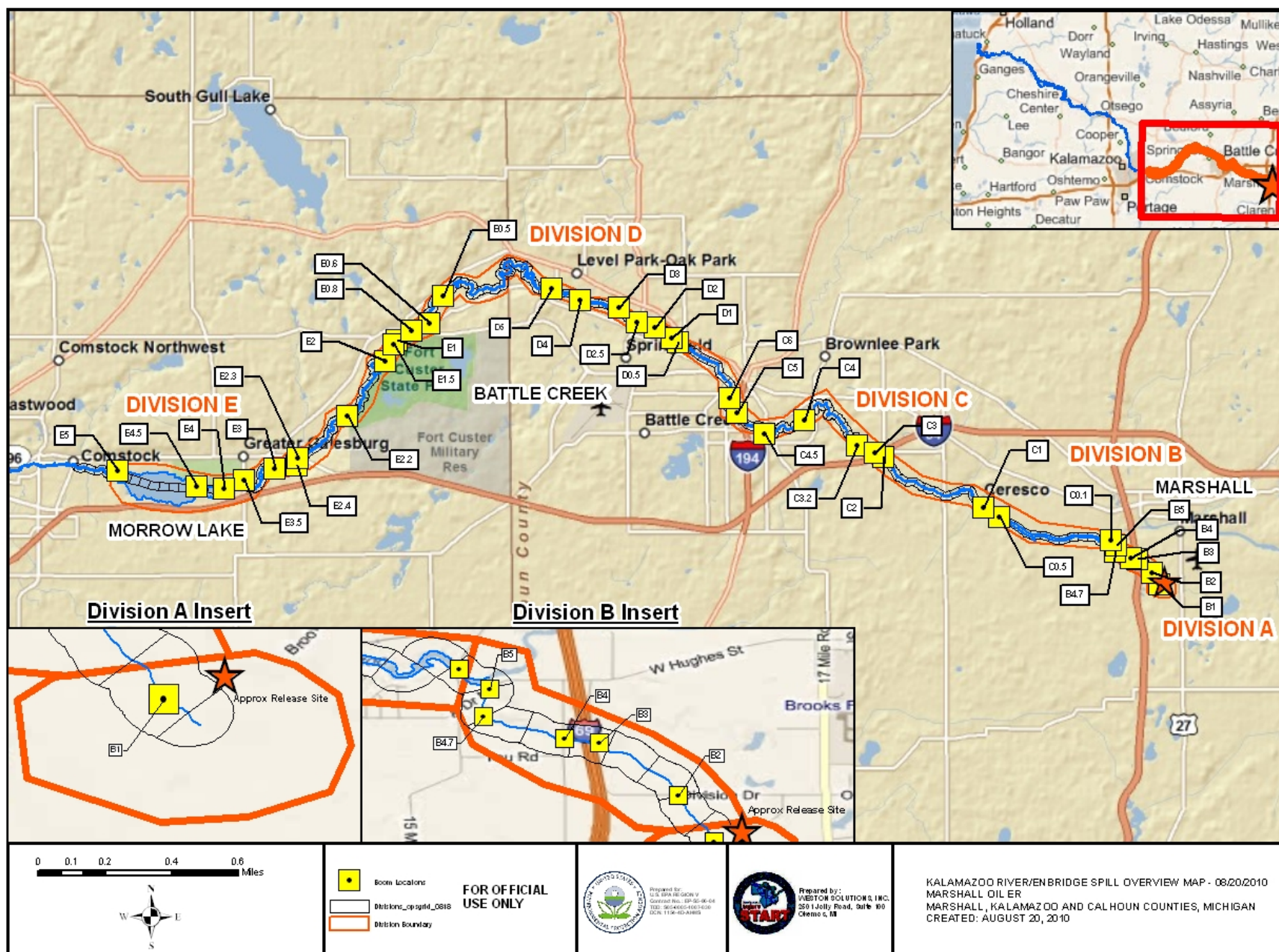
6.2 Reporting Schedule

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.

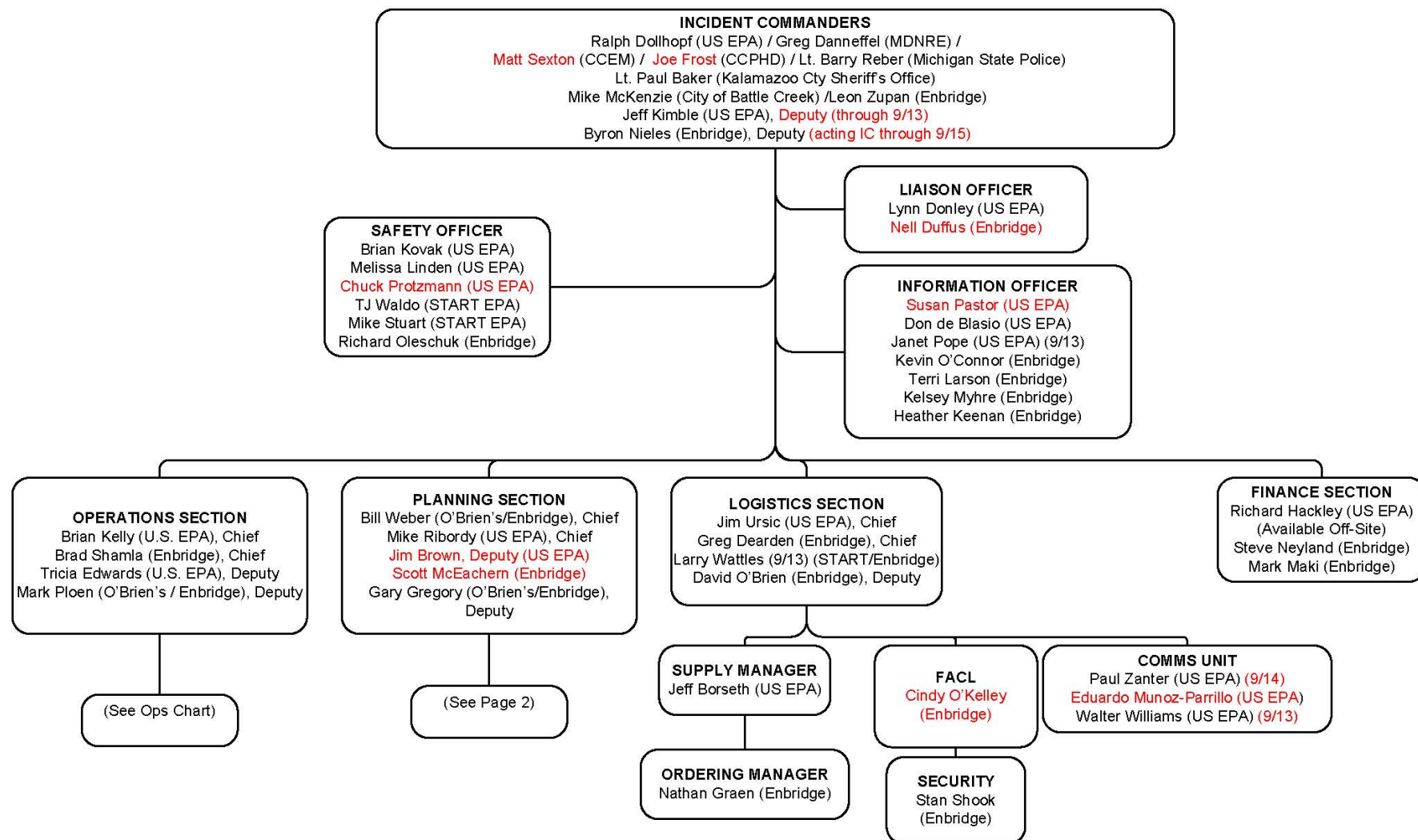
See attached Unified Command Organizational Charts (ICS 207) entitled, “Enbridge Pipelines Response Unified Command”, “Planning Section”, “Operations”, and “Division C.”



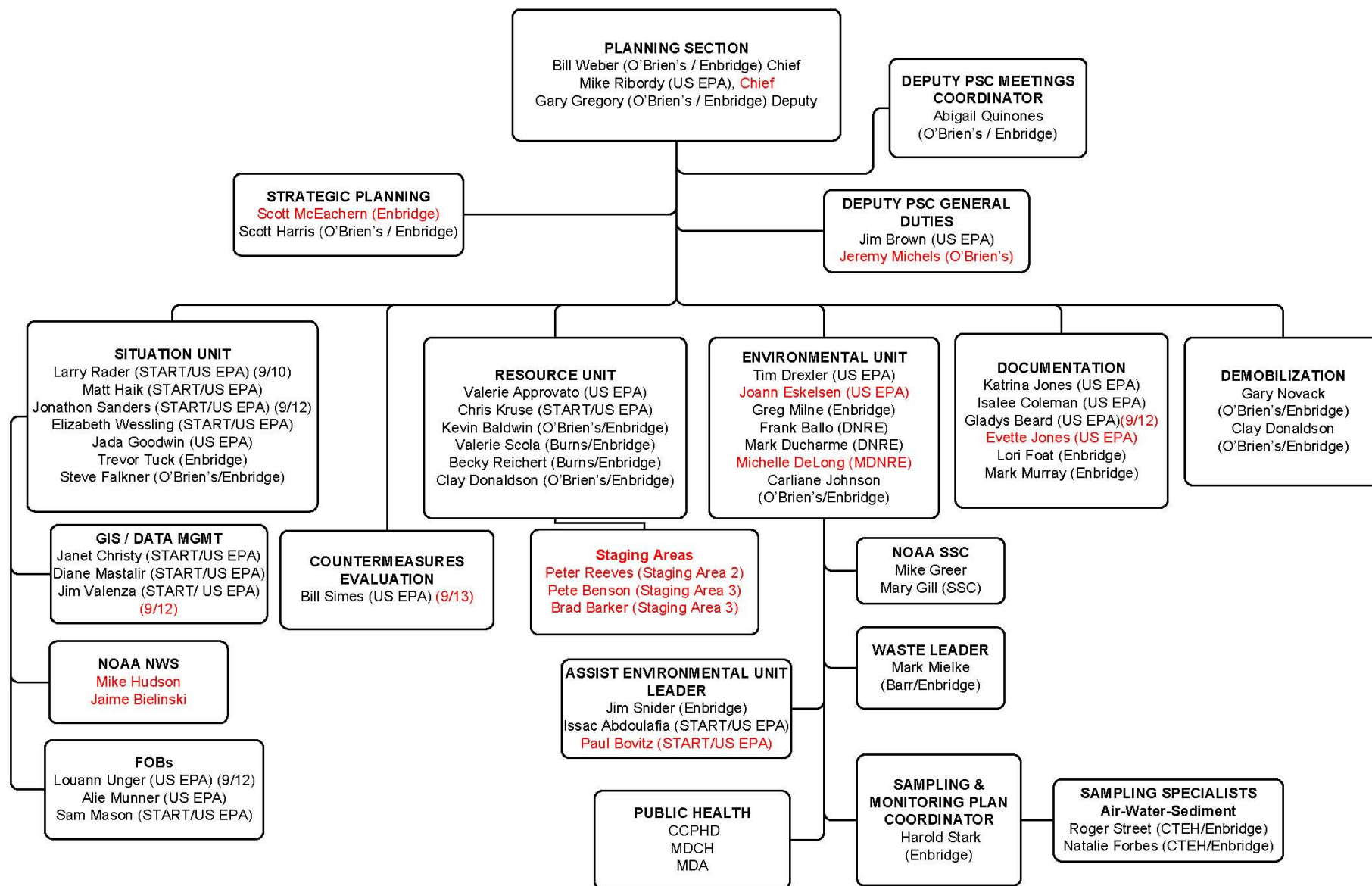
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Enbridge Pipelines Response Unified Command

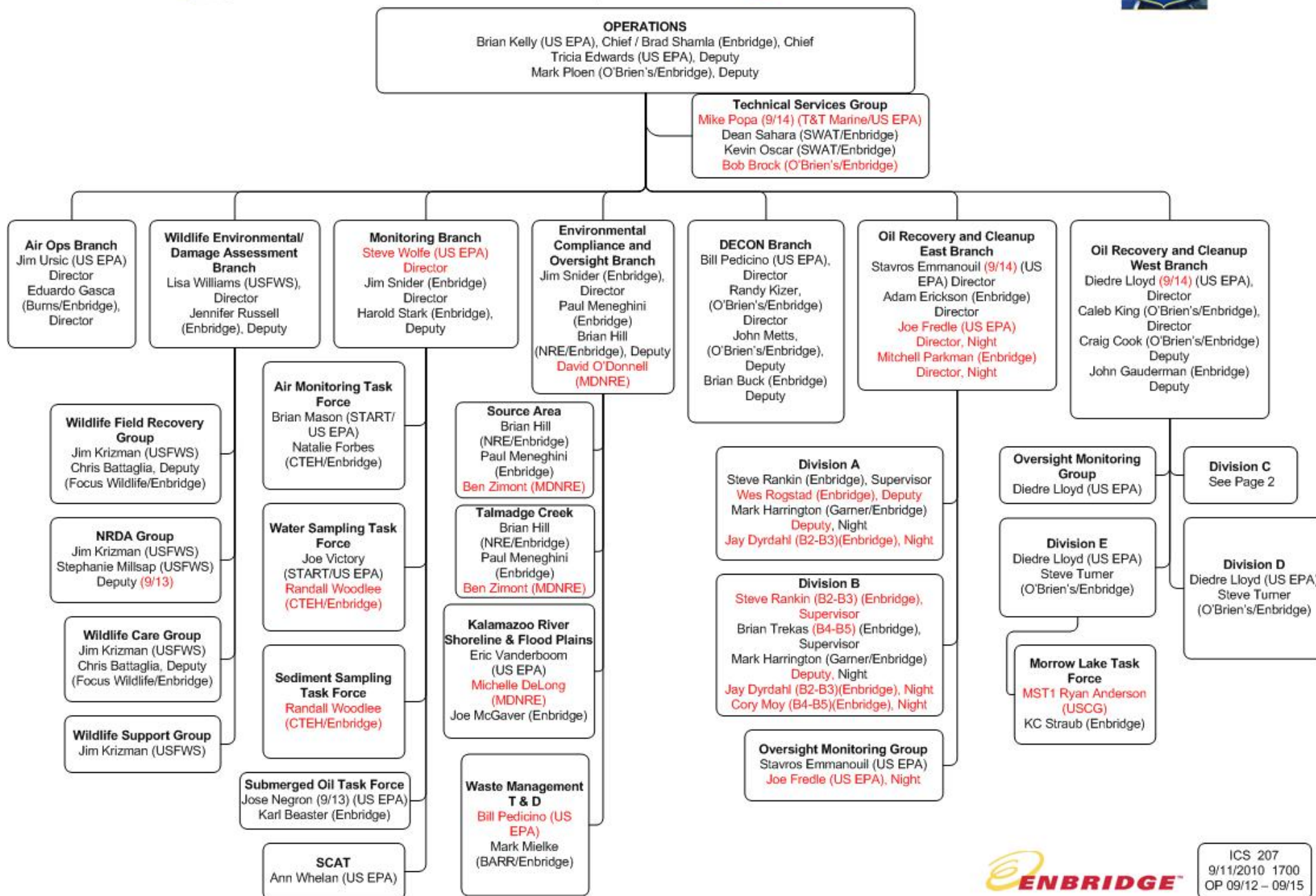


ICS 207
 9/09/2010 1700
 OP 9/12 - 9/15





Operations



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

