

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 # 60
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
 Mike McKenzie, City of Battle Creek
 Leon Zupan, Enbridge
 Susan Hedman, U.S. EPA Regional Administrator
 Rebecca Humphries, MDNRE
 Jim Sygo, MDNRE
 Connie Gibson, Calhoun County Sheriff's Office
 Cheryl Vosburg, City of Marshall
 David Chung, U.S. EPA
 Jason El-Zein, U.S. EPA
 Michael Chezik, U.S. Department of Interior
 Linda Nachowicz, U.S. EPA
 OSLTF USCG, USCG
 Bruce Vanotteren, MDNRE
 Brian Pierzina, PHMSA Central Region

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: 10/03/2010

Reporting Period: 0700 hours 10/01/2010 to 0700 hours 10/03/2010

1 Introduction

1.1 Background

1.1.1 Site History

Background Information

| | | | |
|----------------------------|-----------|-----------------------------|----------------|
| Site Number: | Z5JS | Contract Number: | |
| D.O. Number: | | Action Memo Date: | |
| Response Authority: | OPA | Response Type: | Emergency |
| Response Lead: | PRP | Incident Category: | Removal Action |
| NPL Status: | Non NPL | Operable Unit: | |
| Mobilization Date: | 7/26/2010 | Start Date: | 7/26/2010 |
| Demob Date: | | Completion Date: | |
| CERCLIS ID: | | RCRIS ID: | |
| ERNS No.: | | State Notification: | |
| FPN#: | E10527 | Reimbursable Account | |

1.1.2 Preliminary Site Inspection and Response Activities

See SITREP #51 for a comprehensive description of preliminary operations.

1.2 Incident Objective and Command Emphasis

The following incident objectives and command emphasis are taken from the IAP for the Operational Period September 30, 2010, at 0700 to October 04, 2010, at 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. Implement systematic DECON/demobilization of project resources.
2. Continue recovery of submerged oil and sediment in the Kalamazoo River with prioritization of the Millpond area and re-evaluation of Morrow Lake delta.
3. Complete necessary grade restoration and stabilization work along Talmadge Creek in accordance with the approved plans.
4. Implementation of transition to long-term operation and maintenance of containment and submerged oil recovery.
5. Continue messaging and tactics on project status and next steps for public awareness.

2 Current Activities

2.1 Operations Section

2.1.1 Narrative

As described in SITREP #58, Command Emphasis has been realigned to match the progress of the cleanup. Operations are now focused on Operations and Maintenance, DECON/demobilization, and recovery of submerged oil. In addition, as noted in SITREP #58, the Operations Section was restructured during the previous operations period. Figure 10 is a depiction of the current Operations Section Organization Chart and is included at the end of this SITREP. Important focus areas, as noted by Task Forces established within the Branches include: dredging (Ceresco Dam); submerged oil recovery from hot spots; hydrogeological investigation; decontamination of equipment; removal of booms, mat roads, silt fences; and the continued recovery, care, and support of wildlife. Unified Command has also extended the Operational Period for this response to four days.

2.1.2 Oil Recovery and Cleanup Operations and Maintenance Branch

Containment and Recovery Operations and Maintenance Task Force

- Continued skimming operations at Ceresco Dam.
- Accumulated significant amounts of oil and sheen on the LDB at MP4.25 (Lily Pad).
 - Sorbent pads and booms are in place.
 - EPA and Enbridge visited the site to finalize cleanup plan.
- Inspected cleanup efforts at cleanup locations along LDB and RDB between MP5.75 and 6.0:
 - No evidence of sheen along LDB near the power house, RDB at small pond below 12 Mile Road bridge, or RDB 200 feet downstream of 12 Mile Road Bridge.
 - Boom in need of maintenance between the dam and the bridge and downstream of 12 Mile Road Bridge.
 - Sheen along RDB 200 feet downstream of 12 Mile Road Bridge.
- Heavy sheen along RDB at MP10.75.
- Small area in need of additional O&M identified along RDB at MP11.25.
- Significant oil was released during the removal of hard booms in Mill Pond at MP15.25. Oil and sheen were captured by a downstream boom.

Shoreline and Overbank Operations and Maintenance Task Force

- Inspected 21 O&M locations between MP5.75 and MP13.5 and 12 O&M locations between MP2.0 and MP5.0.
- Excavation of subsurface oil at test pit site at MP13.25.
 - A series of exploratory trenches have been cut.
 - Thick oil was evident in one trench.
 - Excavation will continue towards the suspected source.

The O&M maintenance and monitoring areas are outlined in Table 1

Table 1 – O&M Maintenance and Monitoring Areas

| Restoration Step | | Percent Complete |
|----------------------|--|------------------|
| 1. Active Site | | 100% |
| 2. Clean up complete | | 0% |
| 3. Cleared | | 0% |
| 4. Signed Off | | 0% |

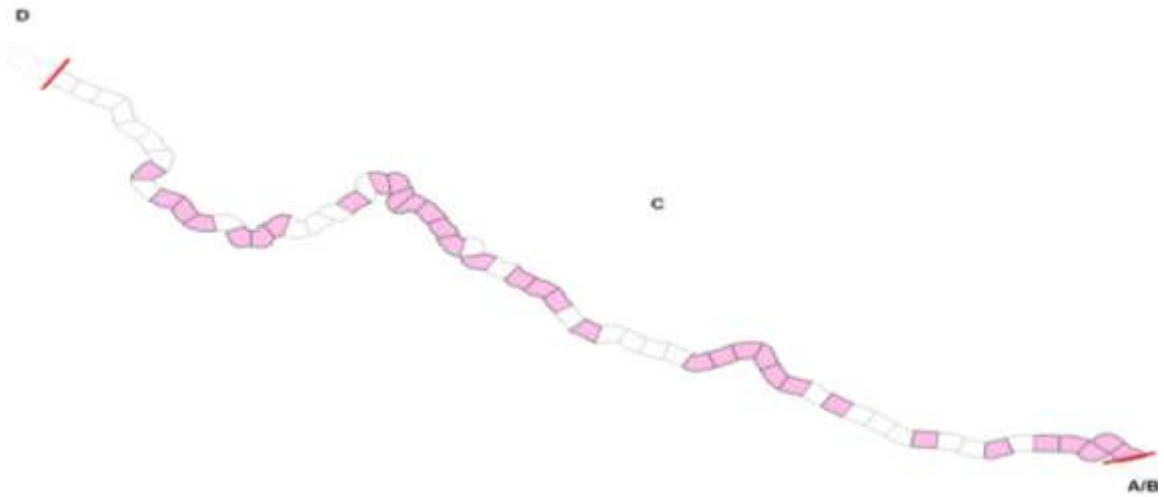


Figure 1 – Division C O&M Maintenance and Monitoring Areas

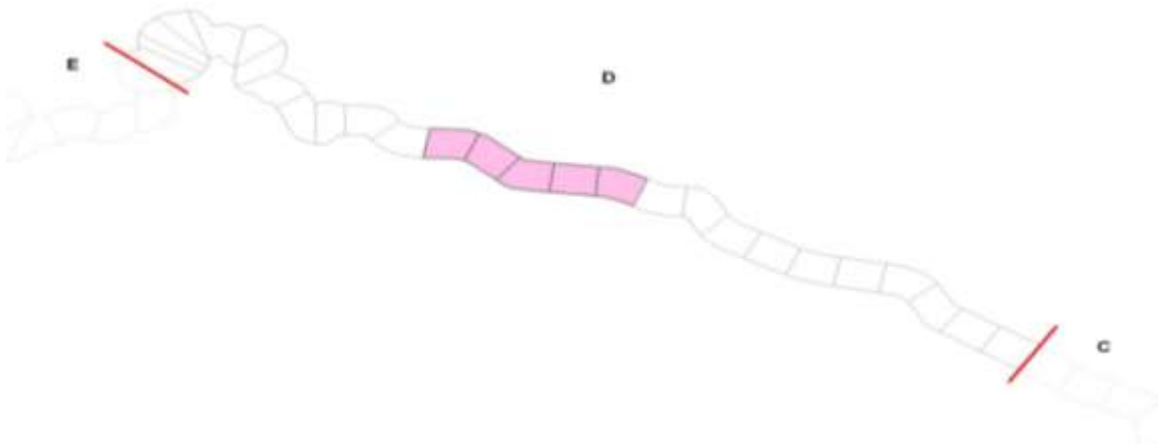


Figure 2 - Division D O&M Maintenance and Monitoring areas



Figure 3 - Division E O&M Maintenance and Monitoring areas

Source Area and Talmadge Creek Operations and Maintenance Task Force

- Continuing backfilling, restoration, and installation of erosion control matting throughout Divisions A and B.
- Removal of mat roads and placement of straw in areas where mats are being removed.
- Dewatering of the bridge area at the intersection of Locations A5 and A6.
- Vacuum truck removal of sediment from creek bed at Location A6.
- Dewatering and long stick vacuum operations at the ponds at Location B4.5. Sheen and product were observed at these locations.
- Deployment of gabion baskets and silt fencing at the confluence.

The clean up and restoration phase for Talmadge Creek is being tracked using a four step process:

1. Prepped - Six hour trench /pit observation and EPA evaluation of trench/pit and preparation in progress. Forty-eight hour observation trench/pit where applicable.
2. Cleared - EPA evaluation completed and section ready for backfill.
3. Backfilled - Initial backfill/stabilization completed. Forty-eight hour observation trench/pit where applicable.
4. Restored - Section complete.

The progress of the restoration is outlined in Table 2 and is depicted in Figure 4 through Figure 8.

Table 2 - Division A and B, Sections 1-10

| Restoration Step | | Percent Complete |
|------------------|--|------------------|
| 1. Prepped | | 100% |
| 2. Cleared | | 100% |
| 3. Backfilled | | 100% |
| 4. Restored | | 87% |

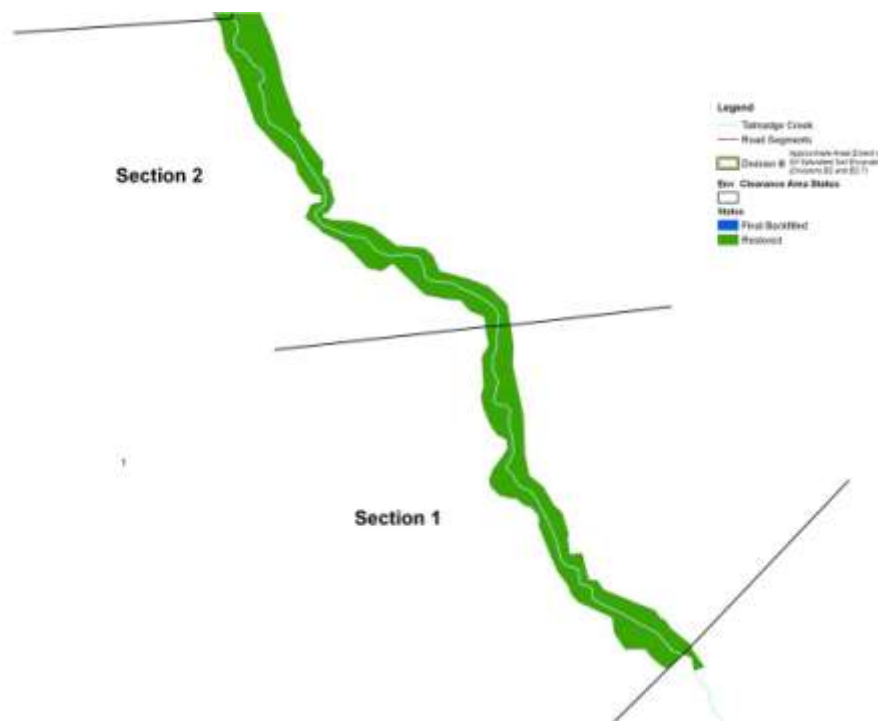


Figure 4 - Division A, Sections 1 and 2 (Locations A5 to A6)

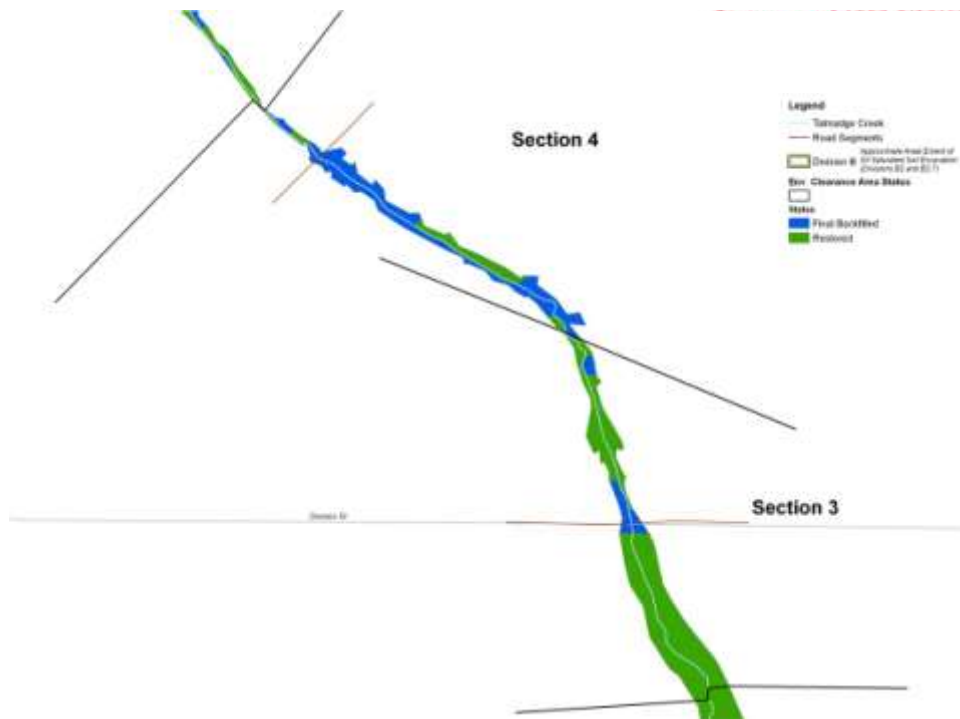


Figure 5 - Division B, Section 3 and 4 (Locations B2 to B2.5)



Figure 6 - Division B, Sections 5 and 6 (Locations B2.7 to B4)



Figure 7 - Division B, Sections 7 and 8 (Locations B4 to B4.5)

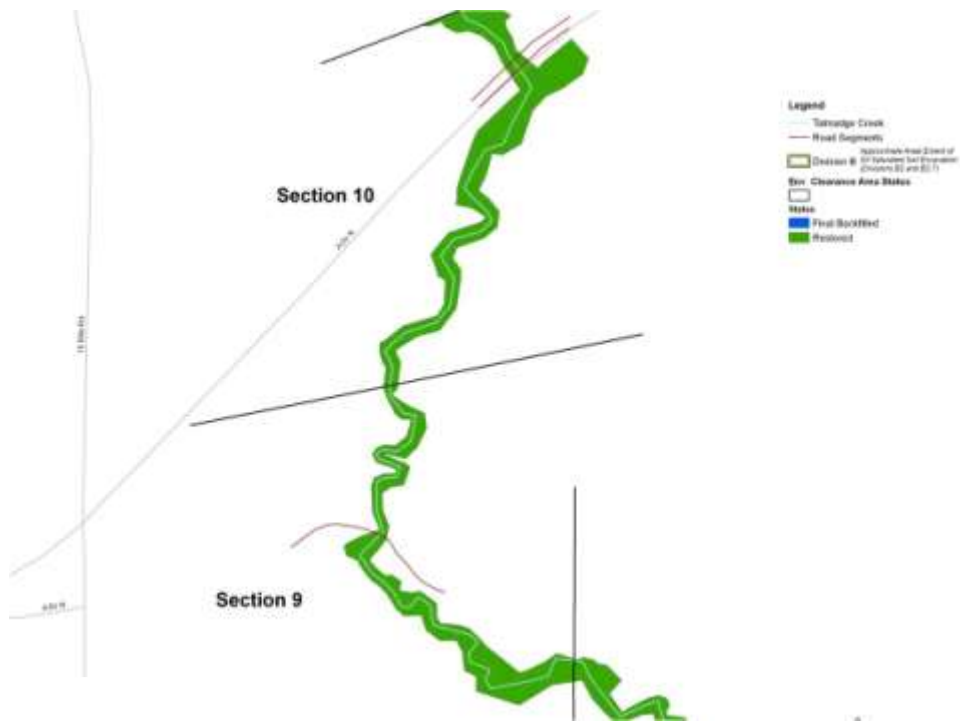


Figure 8 - Division B, Sections 9 and 10 (Locations B4.5 to B5)

2.1.3 Oil Recovery and Cleanup Submerged Oil Branch

Ceresco Dam Dredging Task Force

- Deployed Eureka Environmental Manta 2 Multiprobes for surface water monitoring.

- Completed installation, testing and began operations of influent and effluent piping, water treatment system, and dredge extraction/suction line.
- Established dredging grid and began dredging operations.
- Identified new priority areas at MP4.53, 5.31, and 5.81. Recovery options are being evaluated.
- Commenced dredging at MP5.75.

Submerged Oil Recovery Group

- Priority area status and operations reported by Enbridge and EPA during this SITREP period are outlined in Table 3.

Table 3 – Priority Area Status and Operations

| Location | Habitat/Vegetation Value | Current Operations | Recovery Status | EPA Inspection Status |
|---|--------------------------|---|-----------------|-----------------------|
| MP1.65 (B4.5 ponds) | Low | Dewatering and vacuum extraction | Ongoing | - |
| MP7.75 | Low | None | Complete | Approved |
| MP14.75 | Low | None | Complete | Approved |
| MP26.0 | Low | None | Complete | Ready |
| MP26.25 | Low | Shallow recovery / raking, water flushing, and debris removal | Ongoing | - |
| MP26.65 | Low | None | Complete | Ready |
| MP27.9 | Low | None | Complete | Ready |
| MP28.25 | Low | None | Complete | Ready |
| MP33.0A | Low | None | Complete | Approved |
| MP33.0B | Low | None | Complete | Approved |
| MP33.25 | Low | None | Complete | Ready |
| MP12.5 | Sensitive | None | - | - |
| MP15.25 (Mill Pond) | Sensitive | Area boomed, recovery options under review | Pending | - |
| MP15.5 (Mill Pond) | Sensitive | Area boomed, recovery options under consideration | Pending | - |
| MP21.5 | Sensitive | None, recovery options under review | Pending | - |
| MP36.25 | Sensitive | Area boomed, No operations planned | - | - |
| MP36.5 to MP37.5 (Morrow Lake Delta) | Sensitive | Area boomed, recovery options under review | Pending | - |

Table 4 - Submerged Oil Cleanup Status

| Submerged Oil Cleanup | Percent Complete | Number of Sites | Total at Completion |
|---|------------------|-----------------|---------------------|
| Assessment | 100% | 20 | 20 ^a |
| Containment | 100% | 18 | 18 |
| Work Plan | 100% | 18 | 18 |
| Cleanup | 44% | 8 | 18 |
| EPA Division Supervisor Sign-Off (Step 5) | 28% | 5 | 18 |

^a - After assessment, it may be determined that submerged oil is not present and no further activity is required.

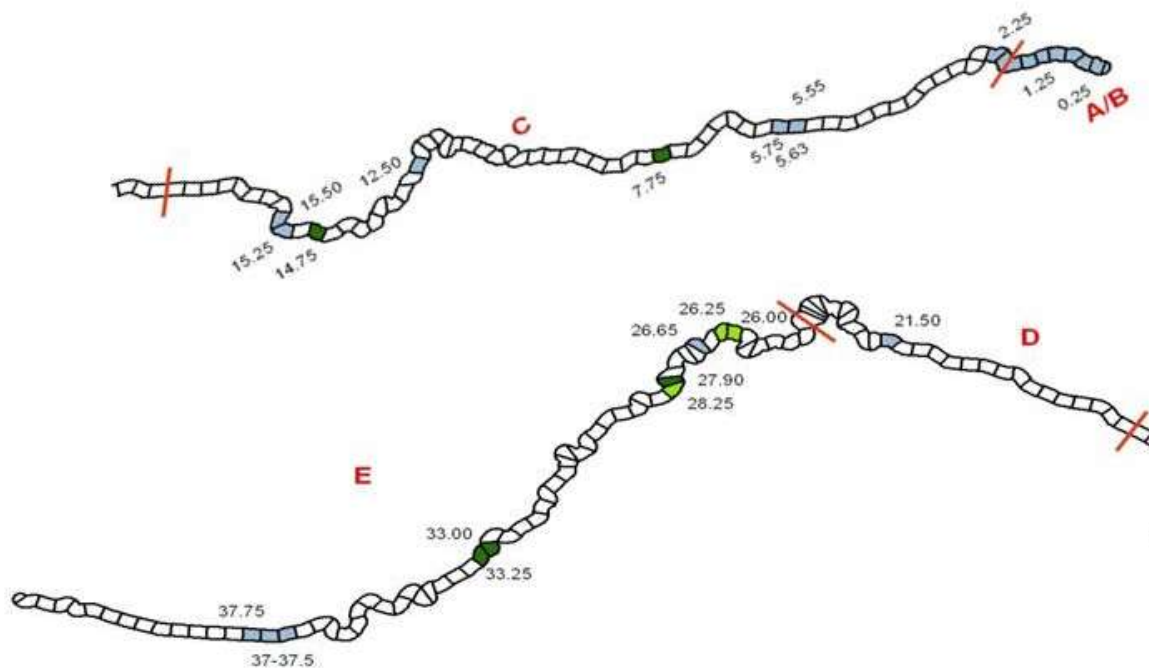


Figure 9 - Submerged Oil Cleanup Sites

2.1.4 Environmental Compliance and Oversight Branch

Source Area/Talmadge Creek

- Oversight of restoration and excavation activities.
- Planning of and transitioning toward operation and maintenance activities.

Transportation and Disposal Group

- Approved disposal of material from soil cell 1, fill 4.
- Continued investigation of the co-mingling of oily and non oily debris at access and operation demobilization areas.
- Continued to perform audits of manifests, weight tickets, and bills of lading.

2.1.5 Monitoring Branch

- Collected multiple sediment and surface water samples.
- Conducted air monitoring near oil collection sites, excavation operations, and community areas including Baker Mobile Park. No readings in excess of the background were reported.

- Oversight included 16 duplicate UltraRAE and MultiRAE samples. In addition, one split sample was collected from Division C (refer to Table 3).

Submerged Oil Task Force

- No SOTF investigative activities were reported on October 1.
- 40 poling locations and 30 dredge depth markers between MP4.4 and Ceresco Dam.
- Identified two areas of submerged oil at MP4.9 North and MP4.9 South.
- Poling of multiple locations within Mill Pond.
- Identified area of heavy submerged oil at MP14.75.
- Collected cores at 11 sample Locationst at MP33A, MP33B, and MP33.25.
- Identified 8 areas of moderate to heavy submerged oil between MP30.65 and 31.75.

Table 5 – Samples Collected (as reported by Enbridge)

| Sample Type | Number Collected 10/01 | Number Collected 10/02 |
|-------------------------------|--------------------------|--------------------------|
| Air Monitoring | Not Reported by Enbridge | Not Reported by Enbridge |
| Surface Water | 30 | 18 |
| Vertical Water Column Samples | 0 | 0 |
| Private Well Samples | 4 | 0 |
| Sediment Samples | 10 | 5 |
| Sheen Samples | 0 | 0 |
| Other | 0 | 0 |
| Soil Samples | 0 | 0 |

Table 6 – Samples Documented in SCRIBE (as reported by EPA)

| Media | Sample Type | Number Collected 10/01 | Number collected 10/02 |
|---------------|----------------------|------------------------|------------------------|
| Air | Monitoring Locations | 74 | 79 |
| Air | Tedlar Bags | 0 | 0 |
| Air | Summa Canister | 0 | 0 |
| Sediment | Grab | 0 | 0 |
| Surface Water | Grab | 0 | 0 |

2.1.6 Air Ops Branch

- During this operational period, there were 2 overflights.
- Air Ops observed and documented cleanup and restoration progress in all operational areas.
- Air Ops continued to investigate areas of interest and report on hot spots, oil mobilization, O&M, and DECON.

2.1.7 Additional Operations

The DECON Branch, Wildlife Environmental Damage Branch, and Air Operations conducted activities in all Divisions.

DECON Branch

- Inspected the four major DECON locations. Checklists were completed for each.

- Discussed ongoing modifications to the four major DECON areas.
- Inspected DECON areas at Locations C1, C3.9, and C5.

Wildlife Environmental Damage Branch

- The wildlife center reported approximately 372 animals in care and 1788 animals released as of October 2.

2.1.8 Progress Metrics

All progress metrics in Section 2.1.8 are as reported by Enbridge unless otherwise indicated.

Boom Report

Table 7 - Boom Report

| Date | 10/01 | 10/02 |
|----------------------|--------------|--------------|
| Number of Locations | 24 | 24 |
| Boom Deployed (feet) | 127,951 | 126,621 |

Soil and Debris Waste Tracking

Table 8 - Soil and Debris Waste Tracking

| Waste Stream* | Quantity Shipped On 9/30 | Quantity Shipped On 10/01 | Cumulative Quantity Shipped[†] |
|--|-------------------------------------|--------------------------------------|--|
| Haz Soil (yd ³) ^a | 0 | 0 | 15,344 |
| Non Haz Soil (yd ³) ^b | 906 | 784 | 34,796 |
| Haz Debris (yd ³) ^c | 0 | 0 | 12,075 |
| Non Haz Debris (ton) ^c | 6 | 0 | 1369 |

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

† Due to the auditing of waste manifests, cumulative quantities may not reconcile with previous reports.

a. Haz soil (benzene impacted) is being transported 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 9 –Oil water collected by location 10/01/10 0700

| Location | Cumulative Total Collected (gallons) |
|------------------|--------------------------------------|
| Division A | 5,492,343 |
| Division B | 4,535,165 |
| Division C | 986,700 |
| Division D | 119,850 |
| Division E | 50,030 |
| DECON | 265,310 |
| Other Locations* | 230,283 |
| TOTAL | 11,679,681 |

* Includes Frac, DECON, and Wildlife Center.

Table 10 - Oil water Separation 10/2/10

| Oil-Water - Enbridge Facility in Griffith, IN Facility (gallons) | |
|--|------------------|
| Oil | 758,756 |
| Other Material | 1,400,050 |
| TOTAL | 2,158,806 |

Table 11 - Oil/Water Volume Summary (Gallons)

| | |
|------------------------------------|------------------|
| Oil/Water Collected | 11,679,681 |
| Oil/Water Shipped Off-site | 10,411,814 |
| OIL/WATER REMAINING ON-SITE | 1,267,867 |

Table 12 – Liquid Shipped Off-site

| Oil/Water leaving Site | Destination | Daily Quantity Shipped (Gallons)9/30 | Daily Quantity Shipped (Gallons)10/01 | Cumulative Quantity Shipped (Gallons)† |
|-------------------------|---|--------------------------------------|---------------------------------------|--|
| Haz Water | Dynecol, Detroit, MI | 0 | 8,250 | 2,418,448 |
| Oil/Water | Enbridge Facility, Griffith, IN | 0 | 0 | 2,158,806 |
| Treated Non Haz Water | Liquid Industrial Waste Services, Holland, MI | 0 | 0 | 370,200 |
| Treated Non Haz Water | Plummer, Kentwood, MI | 30,000 | 4,410 | 3,360,635 |
| Haz Water | Safety Kleen ^a | 0 | 0 | 825 |
| Treated Non Haz Water * | Dynecol, Detroit, MI | 0 | 0 | 134,200 |
| Treated Non Haz Water * | Battle Creek POTW | 0 | 0 | 1,968,700 |
| Totals | | 30,000 | 12,660 | 10,411,814 |

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

† Due to the auditing of waste manifests, cumulative quantities may not reconcile with previous reports.

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

2.2 Planning Section

Data Management Unit/GIS Unit

- Continued to process surface water data, import preliminary and validated analytical results into Scribe, and process maps as requested.
- Assisted with data organization and mapping of benzene monitoring results at Ceresco Dam.
- Technical issues prevented the export of scribe data to various entities. Technical support has been contacted to resolve the issue.

Environmental Unit

- Worked with Enbridge and the DMU to resolve issues with the scribe database.

2.2.1 Anticipated Activities for Next Reporting Period

The next reporting period (SITREP #61) will cover October 3, 2010 0700 to October 5, 2010 0700. October 3 will be Day 4 of the current Operational Period and October 4 will be Day 1 of the next Operational Period. Operations are focused on the submerged oil cleanup (hot spots are being identified and addressed through a punch list process). Additionally, the focus remains on DECON/demobilization and restoration.

2.2.2 Public Health

- No new activities were reported.

2.3 Logistics Section

- Coordinated with various other units within the ICS on multiple projects.

2.4 Safety Reports

- EPA and Enbridge safety reported no major injuries and only minor PPE infractions.
- Gun shots and hunting activities were noted in proximity to sampling activities at Morrow Lake. A safety stand down is being implemented in the area of Morrow Lake for weekend activities.
- Significant improvements made to E0.5 Decon area.

2.5 Liaison Officer

- The LNO engaged in ongoing coordination with cooperating and assisting agencies, the UC, Enbridge, and the PIO.

2.6 Information Officer

- Participated in media tour of command post.
- Drafted speaking points for IC presentation in Battle Creek.
- Enbridge reported public inquiries as outlined in Table 13.

Table 13 – Public Inquiries

| | 9/30 | 10/1 |
|--------------------------------------|-----------|-----------|
| Battle Creek Community Center | 4 | 8 |
| Marshall Community Center | 5 | 6 |
| Oil Spill Public Information Hotline | 14 | 14 |
| Enbridge Response Website | 2 | 1 |
| Total Public Inquiries/Claims | 25 | 29 |

2.7 Finance Section

The current NPFC issued ceiling was \$21.6 million. Approximately 88.0% of the ceiling had been spent through September 29, 2010 (see burn rates below). These cost summaries reflect only EPA-funded expenditures for the incident.

Table 14 - FPN E10527 - Enbridge Pipeline Oil Spill

| ERRS Contractors | | Est. Expended | Est Burn Rate (9/30/10) | Est Burn Rate (10/01/10) |
|---------------------------------------|------|----------------------|--------------------------------|---------------------------------|
| EQM (EPS50802) | T057 | \$1,250,065 | 0 | 0 |
| | T060 | 204,905 | 0 | 0 |
| LATA (EPS50804) | | 1,451,396 | 0 | 0 |
| ER LLC (EPS50905) | | 723,669 | 0 | 0 |
| ERRS Contractors | | \$3,630,035 | 0 | 0 |
| Lockheed Martin (EPW09031) | | 150,000 | 0 | 0 |
| T&T Bisso | | 1,255,000 | 0 | 0 |
| START Contractor | | | | |
| WESTON (EPS50604) | | 6,446,711 | 56,918 | 53,466 |
| Response Contractor Sub-Totals | | \$11,481,746 | \$56,981 | \$53,466 |
| EPA Funded Costs: | | | | |
| Total EPA Costs | | 3,742,403 | 34,900 | 34,900 |
| Pollution Removal Funding Agreements: | | | | |
| Total Other Agencies | | \$1,342,669 | \$3,840 | \$3,840 |
| Sub-Totals | | \$16,566,818 | \$95,658 | \$92,206 |
| Indirect Cost (16.00%) | | 2,650,691 | 15,305 | 14,743 |
| Total Est. Oil Spill Cost | | \$19,217,509 | \$110,963 | \$106,959 |

2.8 Response Actions to Date

Response Actions to date may be found in Situation Reports #1 through #59.

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 15 - Personnel On Site

| Agency/Entity | Numbers Reported 10/1 | Numbers Reported 10/2 |
|------------------------------|-----------------------|-----------------------|
| EPA | 27 | 27 |
| START | 33 | 35 |
| Calhoun County Public Health | 1 | 1 |
| Calhoun County (CC) Sheriff | 6 | 6 |
| City of Battle Creek | 3 | 3 |
| Kalamazoo Sheriff | 2 | 2 |
| MDNRE | 4* | 8 |
| Michigan State Police (MSP) | 1 | 1 |
| NOAA - National Weather | 1 | 1 |
| USFWS | 1 | 0 [†] |
| Enbridge ICP | 76 | 58 |
| Enbridge ICP Contractor | 329 | 313 |
| Enbridge | 22 | 14 |
| Enbridge Contractors | 897 | 888 |
| Total | 1327 | 1357 |

* Staffing numbers do not included water ops

† Staffing numbers not reported

5 Source of Additional Information

5.1 Additional Information

For additional information, please refer to <http://www.epa.gov/enbridgespill>. For sampling analysis data, please see <http://response.enbridge.com/response/main.aspx?id=13168>.

5.2 Reporting Schedule

SITREPs are now being created every other day and will continue until the UC establishes a different reporting schedule.

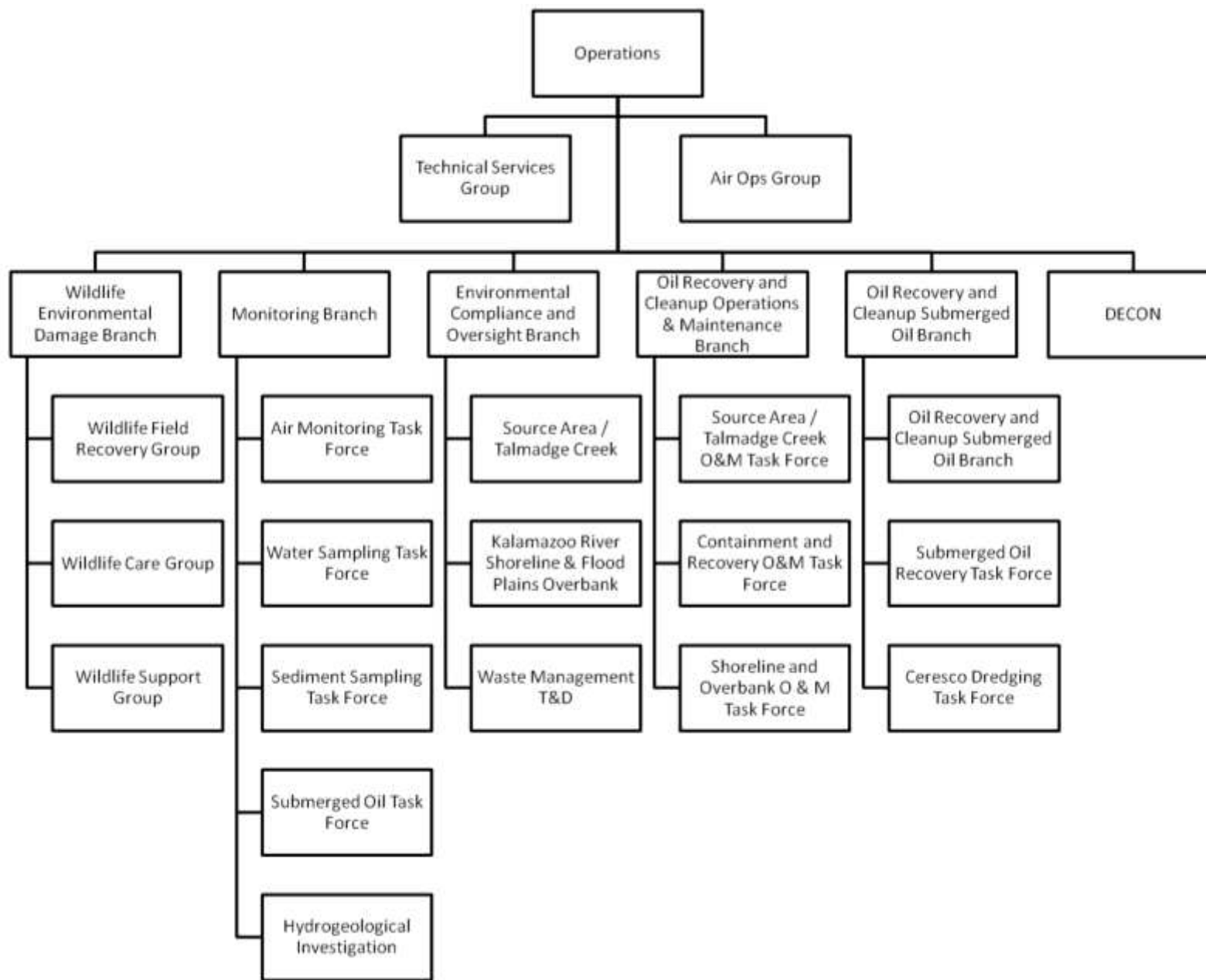


Figure 10 – Revisions to the Incident Command Structure