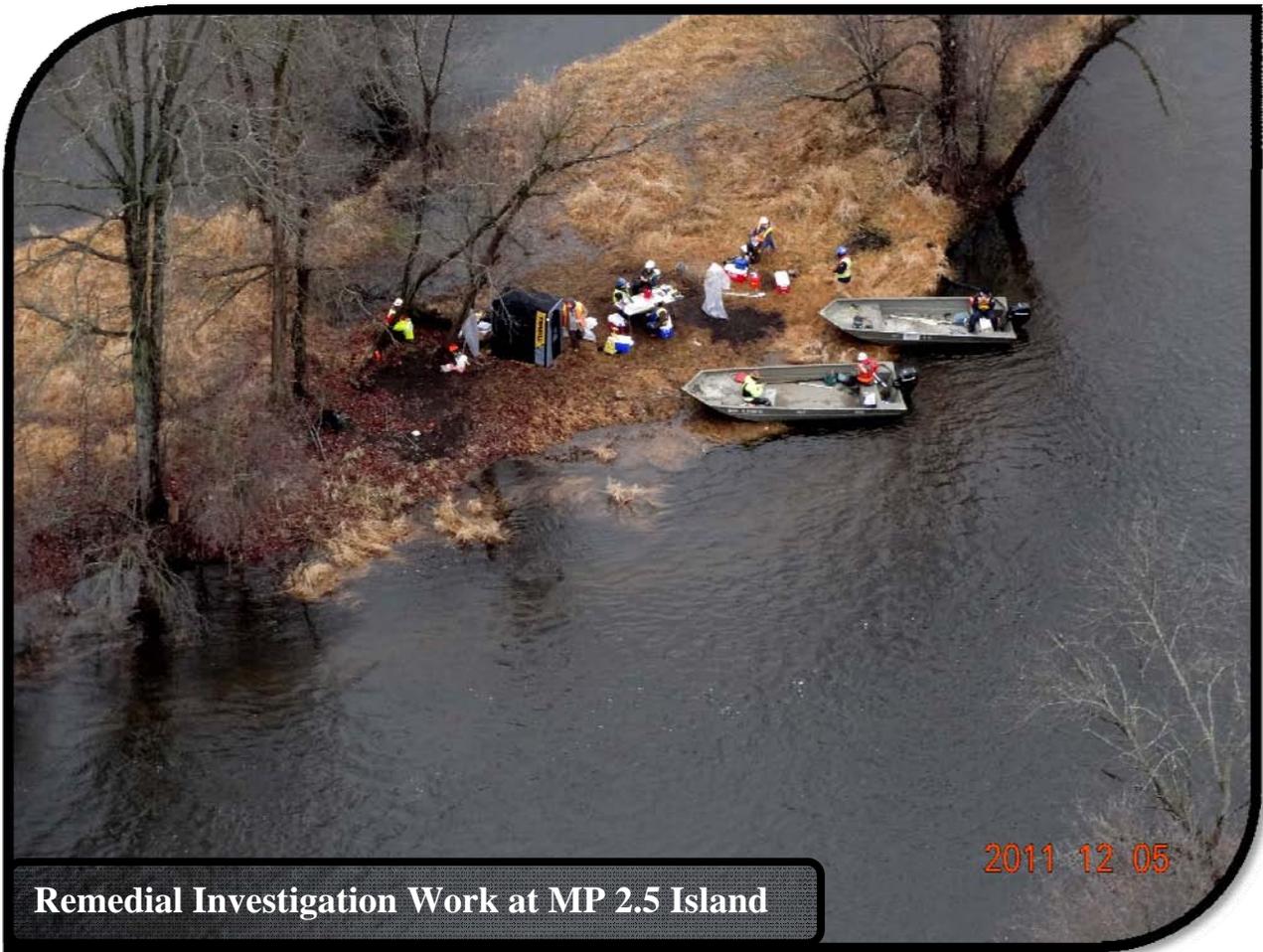


US EPA ARCHIVE DOCUMENT

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION V
POLLUTION/SITUATION REPORT #126



KALAMAZOO RIVER/ENBRIDGE SPILL – REMOVAL
SITE # Z5JS
MARSHALL, MICHIGAN
LATITUDE: 42.2395273; LONGITUDE: -84.9662018



Remedial Investigation Work at MP 2.5 Island

US EPA ARCHIVE DOCUMENT

To: Susan Hedman, U.S. EPA Regional Administrator
James Sygo, MDEQ
Mark DuCharme, MDEQ
Mike Alexander, MDEQ
Lt. Barry Reber, Michigan State Police, Emergency Management
Deb Cardiff, Kalamazoo County
Lt. Paul Baker, Kalamazoo County Sheriff's Office
James Rutherford, Calhoun County Public Health Department
Durk Dunham, Calhoun County Emergency Management
Mike McKenzie, City of Battle Creek
Cheryl Vosburg, City of Marshall
Christine Kosmowski, City of Battle Creek

From: Ralph Dollhopf, U.S. EPA, Federal On-Scene Coordinator

Date: 12/14/2011

Reporting Period: 0700 hours 11/28/2011 through 0700 hours 12/08/2011

1. Site Data

| | | | |
|-----------------------------|-----------|------------------------------|----------------|
| 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 |
| Demobilization Date: | | Completion Date: | |
| CERCLIS ID: | | RCRIS ID: | |
| ERNS No.: | | State Notification: | |
| FPN#: | E10527 | Reimbursable Account: | |

2. Previous Response Actions and Current Response Governance

- Previous response actions performed to date may be found in SITREPs #1 through #125.
- Governance for the project is provided by the U.S. Environmental Protection Agency (U.S. EPA) Federal On-Scene Coordinator (FOSC) and the Michigan Department of Environmental Quality (MDEQ). The structure of the response is the Incident Command System (ICS), with the FOSC serving as the Incident Commander (IC).
- The Operational Periods covered in this report are as follows:
 - 0700 hours on 11/28/2011 through 0700 hours on 12/01/2011, and
 - 0700 hours on 12/01/2011 through 0700 hours on 12/08/2011.

3. Operations Section

- The organizational response structure consisted of the following Branches: 1) Overbank; 2) Submerged Oil; 3) Containment; 4) OSCAR; 5) Kalamazoo River; 6) Talmadge Creek; 7) Air Operations; and 8) Waste Management.
- The Operations Section focused on strategy development and tactics for containment of submerged oil in the Delta and the Fan of Morrow Lake and development of Branch priorities and schedules for implementation.

3.1 Overbank Branch

3.1.1 Overbank Science Group

- The Overbank Science Group developed plans for addressing Outstanding Sites Characterization and Reconciliation (OSCAR) sites.
- Teams conducted a visual assessment of 8.75 R1.

3.1.2 Overbank Compliance Group

- The Overbank Compliance Group prepared permits for response actions at expedited Remedial Investigation (RI) sites.
- River bank erosion restoration and stabilization continued.

3.1.3 Overbank Recovery Group

- Teams conducted pre-planning for excavation activities at OB 5.92 RDB and MP 13.40, including construction of access routes.
- Teams conducted design tasks for creek relocation at MP 2.00.
- Overbank surface cleanup sites are included in the OSCAR Branch evaluations. Additional information is provided in Section 3.4.

3.1.4 Overbank Monitoring Group

- The overbank monitoring Group conducted site inspections and recommended site maintenance or site transfer to MDEQ.
- Teams continued to collect water quality readings in the Kalamazoo River near excavation sites.
- Enbridge continued to conduct real time air monitoring activities at active work sites, including, OB 5.92 RDB and Talmadge Creek. No detections were noted during this reporting period.
- Enbridge continued to maintain an odor response team; however, no odor complaints were received during this reporting period.
- Air sampling and monitoring information is provided in Tables 1 and 2.

3.2 Submerged Oil Branch

3.2.1 Submerged Oil Science Group

- The Submerged Oil Science Group continued to support the OSCAR Branch during review of Late Summer 2011 Reassessment (LSR) sites.
- Teams continued to implement the hydrodynamic assessment activities and the generation of the hydrodynamic model to characterize the movement of submerged oil.
- Suspended sediment sampler removal and sample collection was conducted.
- Teams continued to conduct the cohesion/erodibility jet testing at various locations from the Confluence to the Morrow Lake Dam.

3.2.2 Submerged Oil Compliance Group

- Enbridge conducted management of large woody debris resulting from weather events, in accordance with applicable permit requirements.

3.2.3 Submerged Oil Recovery Group

- On October 28, 2011, all submerged oil recovery efforts and poling efforts were suspended for the year due to low water temperatures and sediment temperatures. As of October 28, 2011, submerged oil recovery work was completed and completeness check forms were signed for 191 of 225 sites (84.9%) identified during the Spring 2011 Reassessment and for 4 of 176 sites (2.3%) identified during the LSR. As of October 28, 2011, LSR poling was completed at 71% of focus areas identified during the Spring 2011 Reassessment.
- Temporary decommissioning of boat launches for the winter continued throughout the reporting period.

3.2.4 Submerged Oil Monitoring Group

- No activities were conducted during the reporting period.

3.3 Containment Branch

3.3.1 Containment Science Group

- The Containment Science Group refined the hydrodynamic model concepts and continued developing the Plan for Preventing Migration of Oil Past the Morrow Lake Dam during Winter 2011-2012.
- Development and implementation of subsurface containment strategies for the Kalamazoo River continued.

3.3.2 Containment Compliance Group

- No activities were conducted during the reporting period.

3.3.3 Containment Recovery Group

- Teams continued to enhance surface and subsurface containment, conduct debris removal, and perform sheen sweeps along the Kalamazoo River, the Morrow Lake Delta, and Morrow Lake.
- Deployed control point and O&M containment hard boom information is presented in Table 3.

3.3.4 Containment Monitoring Group

- Teams continued inspections of control points, containment boom locations, and protective boom locations. Teams evaluated boom placement, boom effectiveness, and presence of accumulated visible oil or oil-saturated soils at various locations.
- Teams conducted inspections of O&M sites to recommend sites for maintenance or closeout and continued assessment of OSCAR sites.
- Refer to Section 3.4.1 for air monitoring and sampling information.

3.4 OSCAR Branch

- The OSCAR Branch continued to consolidate and prioritize outstanding overbank ponded sites, O&M sites, sheening bank sites, and tar patty sites. The Branch participated in data review, quality control, and site closure processes to ensure that all pending issues are addressed.
- The OSCAR Branch recommended field evaluations of sites, requested information for site determination, and oversaw the transfer of sites between the various Branches.
- OSCAR sites status information is presented in Table 4.

3.5 Kalamazoo River Branch

3.5.1 *Kalamazoo River Remedial Investigation Group*

- Teams continued implementation and evaluation of the Kalamazoo River RI from MP 2.25 to MP 3.14.
- Teams conducted expedited RIs at OB 8.97 I, OB 14.97 I, OB 10.37 RDB, OB 8.48 LDB, OB 12.56 LDB, and OB 26.23 LDB.
- Prioritization of RI sites continued.

3.5.2 *Kalamazoo River Compliance Group*

- No activities were conducted during this reporting period.

3.5.3 *Kalamazoo River Remedial Action Group*

- No activities were conducted during this reporting period.

3.5.4 *Kalamazoo River Monitoring Group*

- No activities were conducted during this reporting period.

3.6 Talmadge Creek Branch

3.6.1 *Talmadge Creek Remedial Investigation Group*

- The Talmadge Creek RI Group conducted the bulk sediment toxicity study and coordinated with the Talmadge Creek Compliance Group to develop a permit for MP 1.0 to MP 2.25.

3.6.2 *Talmadge Creek Compliance Group*

- The Talmadge Creek Compliance Group continued the development of the permit for response actions at MP 1.0 to MP 2.25.
- Evaluation of RI data continued.

3.6.3 *Talmadge Creek Remedial Action Group*

- Teams continued to install and maintain temporary road mats, operate and maintain the pump-around and GAC dewatering systems, and maintain soil erosion controls.

- Excavation and restoration of disturbed excavation areas continued from MP 0.3 through MP 0.5.
- Teams remobilized infrastructure from MP 0.0 – MP 0.5 to MP 0.5 – MP 1.0.
- Teams conducted cleanup and final restoration of MP 0.0 to MP 0.50.

3.6.4 Talmadge Creek Monitoring Group

- Monitoring of erosion control devices continued.
- Teams conducted water and air quality monitoring for excavation activities along Talmadge Creek.

3.7 Air Operations Branch

- During the reporting periods, five overflights were conducted for situational awareness.
- Photographs were taken during overflights for presentation during various meetings.

3.8 Waste Management Branch

3.8.1 Decontamination Group

- A summary of equipment and boom decontaminated during the operational periods is presented in Table 5.

3.8.2 Transportation and Disposal Group

- Teams continued to haul contaminated soil, water, and debris to staging areas for waste characterization and oil recovery sampling prior to off-site disposal.
- Quantities of oil and debris shipped off-site during the reporting period are presented in Tables 6 through 9.
- The total amount of recovered oil since the inception of the response has been estimated using actual waste stream volumes, analytical data, and physical parameters of oil-containing media. A summary of the estimated volume of recovered oil is presented in Table 10.

3.8.3 Waste Management Characterization Group

- Waste management characterization, manifesting, and coordination of transportation and disposal continued according to approved plans.

4. Planning

4.1 Situation Unit

- Situation Unit personnel observed and documented progress in operational areas, and continued to assess areas of interest including locations of oil sheen and ice formation.

4.1.1 GIS Specialists

- GIS personnel continued to support operations with the generation of site maps.

4.2 Environmental Unit

- EPA personnel reviewed the “Consolidated Work Plan for Activities through 2012,” which Enbridge resubmitted on December 4, 2011.
- EPA continued coordination with USGS regarding the Kalamazoo River geomorphology evaluation and the impact on strategy and tactics for future oil recovery efforts.

4.3 Documentation Unit

- Documentation Unit personnel continued organization and archiving of electronic and paper files.

4.4 Resource Unit

- Personnel continued to produce Incident Action Plans (IAPs), support the planning efforts of operations, and provide information to logistics in order to properly prepare and procure resources.

5. *Command*

5.1 Safety Officers

- Safety personnel continued to conduct work-site safety inspections, with a focus on awareness for hunting season, seasonal weather changes, and excavation activities at Talmadge Creek.
- Minor safety incidents occurred during the reporting period, including a cut and a back injury. All affected personnel were able to return to work.

5.2 Public Information

- No activity was conducted during this reporting period.
- The number of public inquires reported by Enbridge for this period is presented in Table 11.

6. *Landowner Environmental Issues*

- Landowner environmental issues reported by Enbridge for the operational periods are presented in Table 12.

7. *Finance*

- The current National Pollution Funds Center (NPFC) ceiling is \$43.7 Million. Approximately 86.1% of the ceiling has been spent through December 4, 2011. The latest average 7-day burn rate was \$34,896 per day. These cost summaries reflect only EPA-funded expenditures for the incident. A summary of these expenses is presented in Table 13.

8. *Participating Entities*

- The Multi-Agency Coordination (MAC) Group continues meeting twice per month to discuss the progress of the response. Entities participating in the MAC include:
 - U.S. Environmental Protection Agency
 - Michigan Department of Environmental Quality

- City of Battle Creek
 - City of Marshall
 - Calhoun County Public Health Department
 - Calhoun County Emergency Management
 - Kalamazoo County Health and Community Services Department
 - Kalamazoo County Sheriff
 - Enbridge (Responsible Party)
- For a list of cooperating and assisting agencies and the congressional presence, see SITREP #51 (Sections 3.2 and 3.3).

9. Personnel On-Site

- Staffing numbers for the entities and agencies active in the response are presented in Table 14.

10. Source of Additional Information

- For additional information, refer to <http://www.epa.gov/enbridgespill>. For sampling analysis data, see <http://response.enbridge.com/response/>.

11. Clean-up Progress Metrics

Table 1 – Real Time Air Monitoring Counts Performed by Enbridge

| Monitoring Location | Total | December 2011 | | | | | | | November 2011 | | |
|---------------------|-------|---------------|----|----|---|---|---|---|---------------|----|----|
| | | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 30 | 29 | 28 |
| Odor Response | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Work Area | 33 | 11 | 11 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Table 2 – Samples Collected By Enbridge

| Sample Type | Total | December 2011 | | | | | | | November 2011 | | |
|----------------------|-------|---------------|----|----|---|----|----|----|---------------|----|----|
| | | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 30 | 29 | 28 |
| Surface Water | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Private Well | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Groundwater | 16 | 1 | 1 | 1 | 0 | 0 | 0 | 4 | 4 | 5 | 0 |
| Sediment | 95 | 7 | 47 | 7 | 0 | 13 | 9 | 12 | 0 | 0 | 0 |
| Soil | 321 | 47 | 20 | 25 | 0 | 0 | 41 | 45 | 31 | 58 | 54 |
| Air (Odor Complaint) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Table 3 – Deployed Containment Hard Boom Information

| | December 2011 | | | | | | | November 2011 | | |
|----------------------------------------|---------------|-------|-------|-------|-------|-------|-------|---------------|-------|-------|
| | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 30 | 29 | 28 |
| Total Surface Hard Boom (ft) | 3,750 | 3,750 | 3,750 | 4,150 | 4,150 | 4,150 | 4,250 | 4,050 | 4,050 | 4,000 |
| [Control Point Surface Hard Boom (ft)] | [400] | [400] | [400] | [400] | [400] | [400] | [400] | [400] | [400] | [400] |

Table 4 – OSCAR Site Status (as of 12/07/2011)

| | |
|------------------------------------------------------------|------------|
| Overbank Branch | 4 |
| Submerged Oil Branch | 202 |
| Containment Branch | 5 |
| Talmadge Creek Branch | 1 |
| Kalamazoo River Branch | 11 |
| Consistent with EPA Order and up for MDEQ Part 201 Program | 5 |
| Total Sites | 228 |

Table 5 - Equipment Decontamination

| Location/Media | Total | December 2011 | | | | | | | November 2011 | | |
|---------------------|-------|---------------|-----|-----|---|---|----|-----|---------------|------|------|
| | | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 30 | 29 | 28 |
| Frac Tanks | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Vac Trucks-Tankers | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Roll-Off Boxes | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Yellow Iron (light) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Yellow Iron (heavy) | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Jon Boats | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Air Boats | 22 | 0 | 0 | 4 | 0 | 0 | 11 | 2 | 3 | 2 | 0 |
| Vehicles | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 |
| Boom (linear ft) | 3800 | 0 | 25 | 0 | 0 | 0 | 0 | 200 | 550 | 1250 | 1775 |
| Miscellaneous Items | 582 | 69 | 341 | 126 | 0 | 4 | 34 | 8 | 0 | 0 | 0 |

Table 6 - Soil and Debris Shipped Off Site (as of 12/07/2011)

| Waste Stream | Cumulative | Disposal Facility |
|------------------------------------------------------------------------|------------|--------------------------------------------------------------|
| Haz Soil (yd ³) | 19,644 | Envirosafe (Oregon, OH) |
| Non-Haz Soil & Debris (yd ³) (Excluding Ceresco Dredge) | 58,208 | Terra/C&C |
| Non-Haz Soil & Debris (yd ³) (Excluding Ceresco Dredge) | 64,815 | Westside Recycling (Three Rivers, MI) |
| Non-Haz Soil (yd ³) (Ceresco Dredge Only) | 5,562 | EQ/Republic (Marshall, MI) |
| Haz Debris (yd ³) | 12,075 | EQ/Michigan Disposal (Wayne, MI) and Republic (Marshall, MI) |
| Non-Haz Household Debris (ton) | 1,100 | EQ/Republic (Marshall, MI); C&C |
| Non-Haz Impacted Debris (ton) | 6,435 | |

Shaded items are discontinued waste streams.

Table 7 – Oil/Water Collected by Location (as of 12/07/2011)

| Location | Cumulative (gallons) |
|------------------------|----------------------|
| Division A | 5,356,315 |
| Division B | 4,868,279 |
| Division C | 1,891,406 |
| Division D | 121,106 |
| Division E | 52,631 |
| Decontamination | 2,284,617 |
| Site A | 316,784 |
| Other Locations* | 1,566,041 |
| Subtotal | 16,457,179 |
| Sludge** | 474,215 |
| Total Oil/Water | 15,982,964 |

* Wildlife Center Operations, Sediment Trap Cleaning, Hydro-Vacuuming.

** Sludge collected is tracked as a liquid waste inbound; however, after stabilization, the sludge is disposed of as solid waste. Therefore, the volume of sludge is not included within the cumulative oil/water totals. Stabilized sludge is included in the solid waste disposal metrics.

Table 8 - Liquid Shipped Off-Site (as of 12/07/2011)

| Stream | Destination Company | Destination Location | Cumulative Volume (gallons) † |
|-------------------------------|---------------------------------|-------------------------|-------------------------------|
| Non-Haz Water | Battle Creek POTW | Battle Creek, MI | 950,480 |
| Non-Haz Water | Dynecol | Detroit, MI | 913,642 |
| Non-Haz Water | Liquid Industrial Waste | Holland, MI | 793,207 |
| Non-Haz Water | Plummer | Kentwood, MI | 90,000 |
| <i>Hazardous Water</i> | <i>Dynecol</i> | <i>Detroit, MI</i> | <i>3,594,579</i> |
| <i>Oil</i> | <i>Enbridge Facility</i> | <i>Griffith, IN</i> | <i>766,288</i> |
| <i>Other Material</i> | | | <i>1,405,525</i> |
| <i>Treated Non-Haz Water</i> | <i>Liquid Industrial Waste</i> | <i>Holland, MI</i> | <i>370,200</i> |
| <i>Treated Non-Haz Water</i> | <i>Plummer</i> | <i>Kentwood, MI</i> | <i>4,976,140</i> |
| <i>Hazardous Water</i> | <i>Safety Kleen^a</i> | | <i>825</i> |
| <i>Treated Non-Haz Water*</i> | <i>Dynecol</i> | <i>Detroit, MI</i> | <i>150,700</i> |
| <i>Treated Non-Haz Water*</i> | <i>Battle Creek POTW</i> | <i>Battle Creek, MI</i> | <i>1,968,700</i> |
| Total | | | 15,980,286 |

Shaded and italicized items are discontinued waste streams.

† Cumulative quantities may not reconcile with previous reports (due to auditing).

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

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

Table 9 - Oil/Water Remaining On-Site (as of 12/07/2011)

| Item | Cumulative (gallons) |
|------------------------------------------|----------------------|
| Oil/Water Collected | 15,982,964 |
| Oil/Water Shipped Off-Site | 15,980,286 |
| Total Oil/Water Remaining On-Site | 2,678 |

Table 10 – Estimated Recovered Oil (as of 12/05/2011)

| Waste Stream Containing Recovered Oil | Destination Company | Destination Location | Estimated Oil Volume in Waste Stream (gallons) |
|-----------------------------------------------------------------------------------------------------|----------------------------------------|----------------------|------------------------------------------------|
| Soil - (Impacted Soil & Debris) | C&C Landfill | Marshall, MI | 12,235 |
| Soil - (Impacted Soil & Debris) | Envirosafe/ Westside RDF | Oregon, OH | 278,665 |
| Geotube Sediment - (Impacted Sediment) | Envirosafe/ Westside RDF | Oregon, OH | 1,298 |
| Debris - (Roll Off Boxes with Impacted Sorbents, boom, pads, plastic, PPE, vegetation, and biomass) | EQ Michigan | Belleville, MI | 33,621 |
| Frac Tank City - Influent to Carbon Filtration System | C&C Landfill | Marshall, MI | 8,109 |
| Frac Tank City - Water | Dynecol | Detroit, MI | 44,616 |
| | Liquid Industrial Waste Services, Inc. | Kentwood, MI | |
| | Plumbers Env Inc. | Holland, MI | |
| | BC POTW | Battle Creek, MI | |
| Ceresco Pretreatment System | C&C Landfill | Marshall, MI | 90 |
| A-1 Pretreatment System | C&C Landfill | Marshall, MI | 9 |
| Oily Water - RPP | Enbridge Facility | Griffith, IN | 766,288 |
| Total | - | - | 1,144,929 |

Shaded items represent discontinued waste streams

Table 11 – Public Inquiries Received by EPA and Enbridge

| Location/Media | Total | December 2011 | | | | | | | November 2011 | | |
|--------------------------------------|-----------|---------------|----------|----------|----------|----------|----------|----------|---------------|----------|----------|
| | | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 30 | 29 | 28 |
| Marshall Community Center | 10 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 7 |
| Oil Spill Public Information Hotline | 6 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 2 | 1 | 0 |
| Website | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Public Inquiries | 16 | 1 | 0 | 0 | 0 | 0 | 2 | 1 | 2 | 3 | 7 |

Table 12 – Landowner Environmental Issues (as of 12/05/2011)

| Issues this Period | Issues Undergoing Evaluation | Issues Considered Addressed |
|--------------------|------------------------------|-----------------------------|
| 0 | 8 | 1 |

Table 13 - Financial Summary

| Item | Expended (Cumulative) (as of 12/05/2011) |
|--------------------------------------------------------------------|-----------------------------------------------------|
| ERRS Contractors | |
| EQM (EPS50802) T057 | \$ 1,199,522 |
| T060 | \$ 213,636 |
| LATA (EPS50804) T019 | \$ 1,161,082 |
| ER LLC (EPS50905) T040 | \$ 683,330 |
| Total ERRS Contractors | \$ 3,257,571 |
| Other Contractors | |
| Lockheed Martin (EPW09031) – TAGA Support | \$ 185,951 |
| T&T Bisso (EPA:HS800008) | \$ 882,087 |
| Total Other Contractors | \$ 1,068,038 |
| START Contractor – WESTON (EPS50604) T030-Response | \$ 20,549,722 |
| T032-Sampling | \$ 183,567 |
| T037-Doc Support | \$ 1,137,423 |
| Total START Contractor | \$ 21,870,712 |
| Response Contractor Sub-Totals | \$ 26,196,321 |
| EPA Funded Costs: Total EPA Costs | \$ 5,549,280 |
| Pollution Removal Funding Agreements – Total Other Agencies | \$ 1,508,854 |
| Sub-Totals | \$ 33,254,455 |
| Indirect Cost | \$ 4,366,858 |
| Total Est. Oil Spill Cost | \$ 37,621,314 |
| Oil Spill Ceiling Authorized by USCG | \$ 43,700,000 |
| Oil Spill Ceiling Available Balance | \$ 6,078,686 |

Shaded items are discontinued

Table 14 - Personnel On-Site

| Agency/Entity | December 2011 | | | | | | | November 2011 | | |
|----------------------------------|---------------|------------|------------|-----------|------------|------------|------------|---------------|------------|------------|
| | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 30 | 29 | 28 |
| U.S. EPA | 5 | 5 | 4 | 0 | 3 | 4 | 4 | 4 | 5 | 5 |
| START | 23 | 24 | 23 | 1 | 20 | 23 | 23 | 23 | 24 | 21 |
| MDEQ | 9 | 9 | 8 | 0 | 0 | 9 | 9 | 7 | 9 | 9 |
| MDEQ Contractors | 15 | 16 | 15 | 0 | 1 | 14 | 16 | 15 | 15 | 13 |
| Calhoun County Public Health | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Calhoun County (CC) EM | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| City of Battle Creek | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| City of Marshall | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Village of Augusta | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kalamazoo County Public Health | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Kalamazoo Sheriff | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| MDCH | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| USGS | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| Michigan State Police EMD | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Enbridge – Operations Center | 86 | 83 | 71 | 17 | 18 | 80 | 78 | 71 | 71 | 81 |
| Enbridge – Talmadge Creek | 55 | 49 | 48 | 0 | 52 | 56 | 55 | 59 | 56 | 61 |
| Enbridge – Kalamazoo River | 95 | 92 | 87 | 2 | 63 | 86 | 94 | 101 | 110 | 88 |
| Enbridge – Waste Management | 36 | 44 | 44 | 0 | 25 | 43 | 45 | 40 | 42 | 39 |
| Enbridge – Security & Flaggers | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| Enbridge – Communications Center | 2 | 2 | 2 | 0 | 0 | 3 | 3 | 3 | 2 | 3 |
| Total | 334 | 331 | 309 | 27 | 189 | 325 | 338 | 331 | 342 | 327 |

*Enbridge Operations and Field include Enbridge and contractors as reported by Enbridge