

US EPA ARCHIVE DOCUMENT

**Enbridge Line 6B MP 608 Pipeline Release  
Marshall, Michigan  
Source Contamination Removal and Verification Summary Report  
Talmadge Creek Section 5  
Stationing 40+00L to 50+00L and 39+00R to 48+50R**

**US EPA ARCHIVE DOCUMENT**

**Enbridge Energy  
September 25, 2010**

# Talmadge Creek Source Contamination Removal and Verification Summary Report

## Section 5 of 10 – Stationing (40+00L to 50+00L) and (39+00R to 48+50R)

### Overview

The Enbridge Source Area Response Plan (SAR) and Sampling and Analysis Plan (SAP), dated 2 August 2010, revised 17 August 2010 was developed to prescribe response activities related to a release of crude oil from Enbridge Energy, Limited Partnership's Line 6B MP 608 pipeline in Marshall, Michigan. A detailed and defined approach to identify and complete source removal was subsequently developed and presented in the 13 September 2010 *Supplement to Source Area Response Plan Approach for Source Contamination Removal, Verification and Backfill, Talmadge Creek, Enbridge Line 6B MP 608*, and the *Notice of Approval of Modification* dated 14 September 2010. This report presents the results of the implementation of that approach for Section 5 of 10 (Stationing left bank of Talmadge Creek: 40+00L to 50+00L and Stationing right bank of Talmadge Creek: 39+00R to 48+50R).

### Supplemental SAR Objectives

The following remedial objectives were identified to develop guidelines and procedures to remove the source area contamination from Talmadge Creek:

- Remove free oil from the banks of Talmadge Creek;
- Stabilize the existing creek bed;
- Identify that adjacent up bank areas are not a source of free oil.

To meet these objectives, the response actions included the completion of the following activities along Talmadge Creek:

- Site clearing and grubbing of trees and vegetation to allow access road construction and implementation of free oil removal activities;
- Construction of temporary access roads into the affected area;
- Construction of flumes along Talmadge Creek to recover free oil;
- Oil and water recovery and subsequent disposal;
- Installation and maintenance of absorbent booms along Talmadge Creek;
- Soil removal, staging, and bulking of crude oil-impacted soil with eventual characterization, transport, and offsite disposal;
- Storm water management and erosion control;

- Interim source area restoration under guidance of Michigan Department of Natural Resources and Environment (MDNRE).

**Section Location**

For efficiency and clarity in implementation and reporting, Divisions A and B of Talmadge Creek were divided into 10 sections as illustrated in Figure 1. Each section was subsequently divided into approximately 20, 50-foot linear clearance areas (stationing) on both the left and right banks of Talmadge Creek as illustrated in Figure 2, (left and right banks oriented facing downstream). This summary report addresses Section 5 as described in the table below.

| Section Number | Stationing                                                  |
|----------------|-------------------------------------------------------------|
| 5              | Left Bank: 40+00L to 50+00L<br>Right Bank: 39+00R to 48+50R |

**Section Excavation Methods and Clearance Metrics**

Three methods for determining the vertical limit of excavation were developed and identified as A, B, or C. These three methods are defined as:

- A – No visible free oil and the clearance area passed the 40 CFR Appendix 1 to Subpart A of Part 435 - Static Sheen Test. A test pit was then constructed and inspected by the United States Environmental Protection Agency (U.S. EPA) representative after 6 hours. If free oil was observed in the 6-hour test pit, additional excavation was completed until clearance was obtained via method A, B, or C. If free oil was not observed, backfilling was completed.
- B – The vertical limit was reached due to groundwater (excavation proceeded vertically at least 6-inches into groundwater). No 6-hour test pit was required for clearance.
- C – The vertical limit was reached due to the silt/clay confining layer. No 6-hour test pit was required for clearance.

In addition, an approximately 2-foot wide 48-hour observation pit/trench was installed along the wall of the excavation boundary and remained open for a minimum of 48 hours to allow the EPA representative to observe potential accumulation of free oil. If oil was observed, an evaluation of the source was conducted and an XTex curtain was installed to separate the impacted area from the clean area. If no oil was observed, or the barrier curtain was installed, backfilling proceeded.

**Soil Sampling and Analysis**

Soil samples were collected from the area of excavation and analyzed pursuant to MDNRE approved work plans for the following analytical parameters:

- Total Petroleum Hydrocarbons (TPH):
  - Gasoline Range Organics (GRO);
  - Diesel Range Organics (DRO);



- Oil Range Organics (ORO);
- Benzene;
- Toluene;
- Ethylbenzene;
- Xylenes;
- Polynuclear Aromatics (PNAs);
- 1,2,4-Trimethylbenzene;
- 1,3,5-Trimethylbenzene;
- Barium;
- Nickel;
- Vanadium;
- Iron.

The analytical results will be evaluated as part of future assessment and remediation activities.

#### **Deviations from SAP**

No deviations from the SAP were noted in this Section.

#### **Conclusion**

All completed work for this section met the U.S. EPA metrics in compliance with the SAR and the Supplement to the SAR. No additional cleanup is required to fulfill the U.S. EPA's requirements pursuant to the Removal Administrative Order issued by U.S. EPA on July 27, 2010 (Docket No. CWA 1321-5-10-001) pursuant to §311(c) of the Clean Water Act.

#### **Supporting Documentation**

The following documentation is included as attachments to this document:

- Location maps indentifying the subject section (Figures 1 and 2);
- Photographs;
- Field notes;
- A table summarizing the following information:

- Identification of final EPA clearance method used to dictate vertical limit (A, B, or C);
- Free oil observed (for Method A);
- Odor (for Method A);
- Sheen test per 40 CFR Appendix 1 to Subpart A of Part 435 (for Method A);
- Photoionization detector (PID) headspace (for Method A);
- Installation date and time of 6-hour test pit;
- EPA representative sign-off and approval of backfilling;
- Installation date and time of 48-hour observation pit/trench;
- 48-hour observation.

# Table

---

Talmadge Creek Source Contamination Removal and Verification Summary Table: Section 5

| Division | Section Number | Station Number  | Creek Bank (L/R) | Final EPA Clearance Method (A, B, C) | Free Oil Observed (Y/N) | Odor (Y/N) | 40 CFR Sheen Test Sheen Observed (Y/N) | PID Headspace (ppm) | Installation Date of 6-hour Test Pit | Installation Time of 6-hour Test Pit | Method A 6-hour Test Pit EPA Representative Sign-off (Y/N) | Installation Date of 48-hour Observation Trench/Pit | Installation Time of 48-hour Observation Trench/Pit | 48-hour Observation Completed (Y/N) |
|----------|----------------|-----------------|------------------|--------------------------------------|-------------------------|------------|----------------------------------------|---------------------|--------------------------------------|--------------------------------------|------------------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|-------------------------------------|
| B2       | 5              | 40+00L - 40+50L | L                | A                                    | N                       | N          | N                                      | 11.3                | 9/13/2010                            | 1435                                 | Y                                                          | 9/13/2010                                           | 1441                                                | Y                                   |
| B2       | 5              | 40+50L - 41+00L | L                | A                                    | N                       | N          | N                                      | 2.5                 | 9/13/2010                            | 1425                                 | Y                                                          | 9/13/2010                                           | 1425                                                | Y                                   |
| B2       | 5              | 41+00L - 41+50L | L                | C                                    | NA                      | NA         | NA                                     | NA                  | NA                                   | NA                                   | NA                                                         | 9/21/2010                                           | 1405                                                | Y                                   |
| B2       | 5              | 41+50L - 42+00L | L                | C                                    | NA                      | NA         | NA                                     | NA                  | NA                                   | NA                                   | NA                                                         | 9/21/2010                                           | 1622                                                | Y                                   |
| B2       | 5              | 42+00L - 42+50L | L                | C                                    | NA                      | NA         | NA                                     | NA                  | NA                                   | NA                                   | NA                                                         | 9/21/2010                                           | 1608                                                | Y                                   |
| B2       | 5              | 42+50L - 43+00L | L                | B                                    | NA                      | NA         | NA                                     | NA                  | NA                                   | NA                                   | NA                                                         | 9/21/2010                                           | 1710                                                | Y                                   |
| B2       | 5              | 43+00L - 43+50L | L                | A                                    | N                       | N          | N                                      | 0.0                 | 9/20/2010                            | 1630                                 | Y                                                          | 9/20/2010                                           | 1630                                                | Y                                   |
| B2       | 5              | 43+50L - 44+00L | L                | C                                    | NA                      | NA         | NA                                     | NA                  | NA                                   | NA                                   | NA                                                         | 9/22/2010                                           | 1500                                                | Y                                   |
| B2       | 5              | 44+00L - 44+50L | L                | B                                    | NA                      | NA         | NA                                     | NA                  | NA                                   | NA                                   | NA                                                         | 9/13/2010                                           | 1035                                                | Y                                   |
| B2       | 5              | 44+50L - 45+00L | L                | B                                    | NA                      | NA         | NA                                     | NA                  | NA                                   | NA                                   | NA                                                         | 9/22/2010                                           | 1814                                                | Y                                   |
| B2.7     | 5              | 45+00L - 45+50L | L                | A                                    | N                       | N          | N                                      | 31.4                | 9/13/2010                            | 0935                                 | Y                                                          | 9/13/2010                                           | 1005                                                | Y                                   |
| B2.7     | 5              | 45+50L - 46+00L | L                | B                                    | NA                      | NA         | NA                                     | NA                  | NA                                   | NA                                   | NA                                                         | 9/21/2010                                           | 0500                                                | Y                                   |
| B2.7     | 5              | 46+00L - 46+50L | L                | B                                    | NA                      | NA         | NA                                     | NA                  | NA                                   | NA                                   | NA                                                         | 9/21/2010                                           | 0435                                                | Y                                   |
| B2.7     | 5              | 46+50L - 47+00L | L                | B                                    | NA                      | NA         | NA                                     | NA                  | NA                                   | NA                                   | NA                                                         | 9/15/2010                                           | 1721                                                | Y                                   |
| B2.7     | 5              | 47+00L - 47+50L | L                | A                                    | N                       | N          | N                                      | 1.1                 | 9/15/2010                            | 1624                                 | Y                                                          | 9/15/2010                                           | 1636                                                | Y                                   |
| B2.7     | 5              | 47+50L - 48+00L | L                | A                                    | N                       | N          | N                                      | 0.6                 | 9/15/2010                            | 1541                                 | Y                                                          | 9/15/2010                                           | 1552                                                | Y                                   |
| B2       | 5              | 48+00L - 48+50L | L                | A                                    | N                       | N          | N                                      | 1.5                 | 9/15/2010                            | 1505                                 | Y                                                          | 9/15/2010                                           | 1512                                                | Y                                   |
| B2       | 5              | 48+50L - 49+00L | L                | B                                    | NA                      | NA         | NA                                     | NA                  | NA                                   | NA                                   | NA                                                         | 9/12/2010                                           | 1810                                                | Y                                   |
| B2       | 5              | 49+00L - 49+50L | L                | B                                    | NA                      | NA         | NA                                     | NA                  | NA                                   | NA                                   | NA                                                         | 9/12/2010                                           | 1759                                                | Y                                   |
| B2       | 5              | 49+50L - 50+00L | L                | A                                    | Y*                      | N          | N                                      | 0.4                 | 9/12/2010                            | 1725                                 | Y                                                          | 9/12/2010                                           | 1725                                                | Y                                   |

See endnotes for description of notations

Talmadge Creek Source Contamination Removal and Verification Summary Table: Section 5

| Division | Section Number | Station Number  | Creek Bank (L/R) | Final EPA Clearance Method (A, B, C) | Free Oil Observed (Y/N) | Odor (Y/N) | 40 CFR Sheen Test Sheen Observed (Y/N) | PID Headspace (ppm) | Installation Date of 6-hour Test Pit | Installation Time of 6-hour Test Pit | Method A 6-hour Test Pit EPA Representative Sign-off (Y/N) | Installation Date of 48-hour Observation Trench/Pit | Installation Time of 48-hour Observation Trench/Pit | 48-hour Observation Completed (Y/N) |
|----------|----------------|-----------------|------------------|--------------------------------------|-------------------------|------------|----------------------------------------|---------------------|--------------------------------------|--------------------------------------|------------------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|-------------------------------------|
| B2       | 5              | 39+00R - 39+50R | R                | A                                    | N                       | N          | N                                      | 0.6                 | 9/11/2010                            | 1640                                 | Y                                                          | 9/11/2010                                           | 1640                                                | Y                                   |
| B2       | 5              | 39+50R - 40+00R | R                | A                                    | N                       | N          | N                                      | 0.3                 | 9/11/2010                            | 1630                                 | Y                                                          | 9/11/2010                                           | 1630                                                | Y                                   |
| B2       | 5              | 40+00R - 40+50R | R                | A                                    | N                       | N          | N                                      | 0.5                 | 9/11/2010                            | 1610                                 | Y                                                          | 9/11/2010                                           | 1610                                                | Y                                   |
| B2       | 5              | 40+50R - 41+00R | R                | A                                    | N                       | N          | N                                      | 0.4                 | 9/11/2010                            | 1555                                 | Y                                                          | 9/11/2010                                           | 1555                                                | Y                                   |
| B2       | 5              | 41+00R - 41+50R | R                | A                                    | N                       | N          | N                                      | 0.3                 | 9/11/2010                            | 1546                                 | Y                                                          | 9/11/2010                                           | 1546                                                | Y                                   |
| B2       | 5              | 41+50R - 42+00R | R                | A                                    | N                       | N          | N                                      | 0.1                 | 9/11/2010                            | 1459                                 | Y                                                          | 9/11/2010                                           | 1459                                                | Y                                   |
| B2       | 5              | 42+00R - 42+50R | R                | A                                    | N                       | N          | N                                      | 1.0                 | 9/11/2010                            | 1445                                 | Y                                                          | 9/11/2010                                           | 1445                                                | Y                                   |
| B2       | 5              | 42+50R - 43+00R | R                | A                                    | N                       | N          | N                                      | 0.8                 | 9/11/2010                            | 1420                                 | Y                                                          | 9/11/2010                                           | 1420                                                | Y                                   |
| B2       | 5              | 43+00R - 43+50R | R                | A                                    | N                       | N          | N                                      | 0.2                 | 9/11/2010                            | 1300                                 | Y                                                          | 9/11/2010                                           | 1300                                                | Y                                   |
| B2       | 5              | 43+50R - 44+00R | R                | A                                    | N                       | N          | N                                      | 1.3                 | 9/17/2010                            | 1800                                 | Y                                                          | 9/17/2010                                           | 1800                                                | Y                                   |
| B2       | 5              | 44+00R - 44+50R | R                | C                                    | NA                      | NA         | NA                                     | NA                  | NA                                   | NA                                   | NA                                                         | 9/11/2010                                           | 0930                                                | Y                                   |
| B2.7     | 5              | 44+50R - 45+00R | R                | A                                    | N                       | N          | N                                      | 1.7                 | 9/11/2010                            | 1500                                 | Y                                                          | 9/11/2010                                           | 1510                                                | Y                                   |
| B2.7     | 5              | 45+00R - 45+50R | R                | A                                    | N                       | N          | N                                      | 0.9                 | 9/11/2010                            | 1415                                 | Y                                                          | 9/11/2010                                           | 1420                                                | Y                                   |
| B2.7     | 5              | 45+50R - 46+00R | R                | A                                    | N                       | N          | N                                      | 0.8                 | 9/11/2010                            | 1410                                 | Y                                                          | 9/11/2010                                           | 1410                                                | Y                                   |
| B2.7     | 5              | 46+00R - 46+50R | R                | A                                    | N                       | N          | N                                      | 0.6                 | 9/11/2010                            | 1110                                 | Y                                                          | 9/11/2010                                           | 1115                                                | Y                                   |
| B2.7     | 5              | 46+50R - 47+00R | R                | A                                    | N                       | N          | N                                      | 0.8                 | 9/11/2010                            | 1030                                 | Y                                                          | 9/11/2010                                           | 1045                                                | Y                                   |
| B2.7     | 5              | 47+00R - 47+50R | R                | A                                    | N                       | N          | N                                      | 1.4                 | 9/11/2010                            | 0945                                 | Y                                                          | 9/11/2010                                           | 0945                                                | Y                                   |
| B2       | 5              | 47+50R - 48+00R | R                | A                                    | N                       | N          | N                                      | 1.5                 | 9/19/2010                            | 0930                                 | Y                                                          | 9/19/2010                                           | 0940                                                | Y                                   |
| B2       | 5              | 48+00R - 48+50R | R                | A                                    | N                       | N          | N                                      | 1.0                 | 9/11/2010                            | 1555                                 | Y                                                          | 9/11/2010                                           | 1601                                                | Y                                   |

See endnotes for description of notations

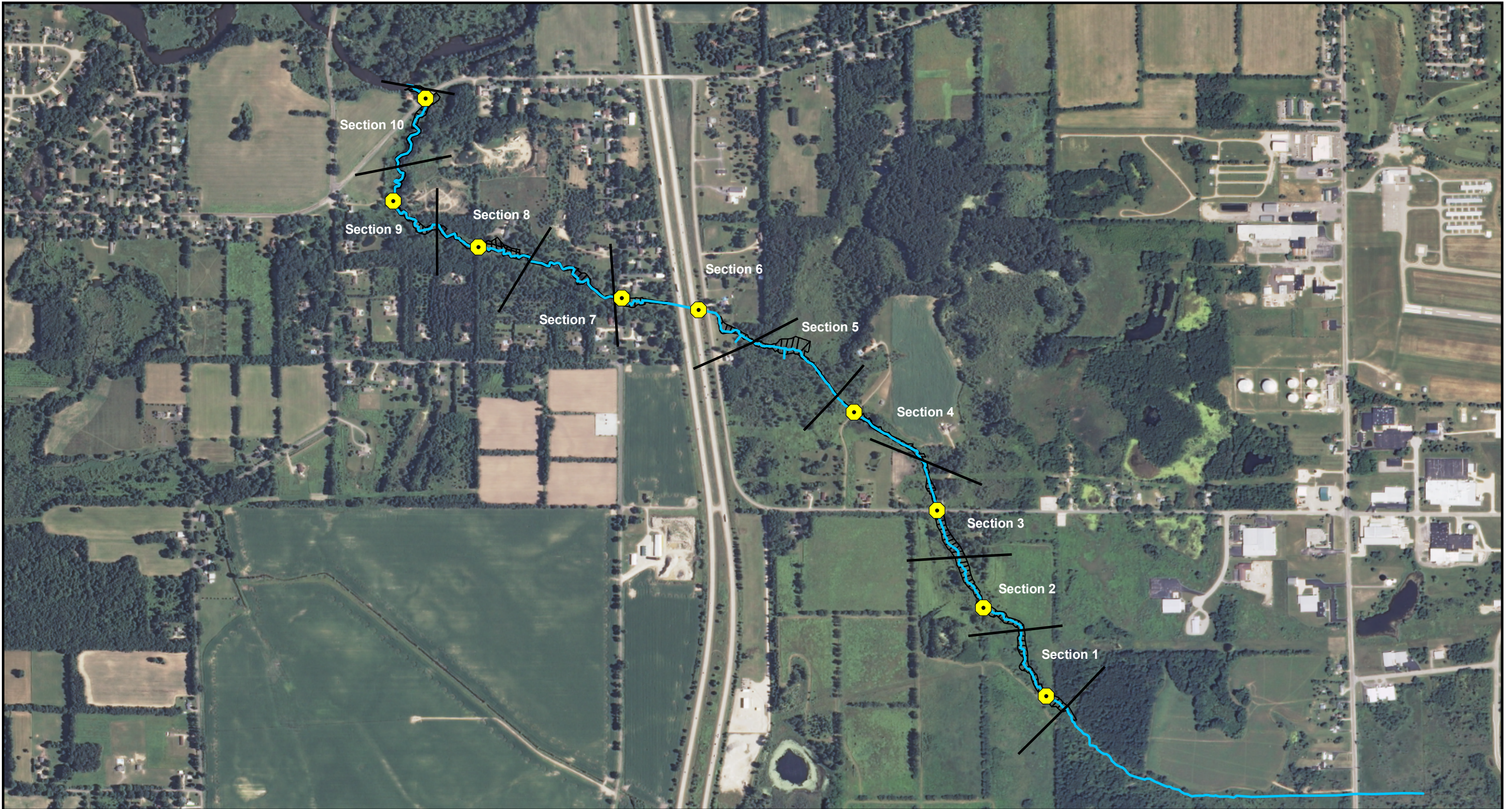
## Endnotes for Talmadge Creek Source Contamination Removal and Verification Summary Table

- NR – Information not recorded on field log, however, U.S. EPA representative sign-off obtained.
- NA – Metric not applicable to final site conditions after achieving 'B' or 'C' Method limits. Site conditions prior to achieving final excavation limits were recorded on field notes.
- ND – Not Detected
- PID – Photoionization detector
- ppm – Parts per million
- \* – Field logs do not reflect the final observations; however, EPA approval was obtained in accordance with EPA Method A Metrics.

# Figures




---





0 500 1,000 Feet

**Legend**

-  Culverts
-  Section Lines
-  Talmadge Creek





**FIGURE 1**  
**OVERALL SECTION LOCATION MAP**  
**LINE 6B MP 608**  
**MARSHALL, MICHIGAN**

SEPTEMBER, 2010





**Legend**

-  Culverts
-  Talmadge Creek
-  Section Lines
-  Environmental Clearance Areas

01+00L

SEPTEMBER, 2010

**FIGURE 2**  
**SECTION 5 STATION LOCATIONS**  
**TALMADGE CREEK**  
**LINE 6B MP 608**  
**MARSHALL, MICHIGAN**

# Field Photographs

---



## Field Photographs – Section 5



40+00L – 40+50L: Looking toward Talmadge Creek (September 13, 2010)



40+50L – 41+00L: Looking toward Talmadge Creek (September 13, 2010)



## Field Photographs – Section 5



41+00L – 41+50L: Looking toward Talmadge Creek (September 13, 2010)



41+50L – 42+00L: Looking downstream (September 13, 2010)



## Field Photographs – Section 5



42+00L – 42+50L: Looking toward Talmadge Creek (September 13, 2010)



42+50L – 43+00L: Looking toward Talmadge Creek (September 13, 2010)



## Field Photographs – Section 5



43+00L – 43+50L: Looking downstream (September 23, 2010)



43+50L – 44+00L: Looking toward Talmadge Creek (September 13, 2010)



## Field Photographs – Section 5



44+00L – 44+50L: Looking toward Talmadge Creek (September 13, 2010)



44+50L – 45+00L: Looking upstream (September 13, 2010)



## Field Photographs – Section 5



45+00L – 45+50L: Looking toward Talmadge Creek at 6-hour test pit (September 13, 2010)



45+50L – 46+00L: Looking toward Talmadge Creek (September 13, 2010)



## Field Photographs – Section 5



46+00L – 46+50L: Looking toward Talmadge Creek (September 13, 2010)



46+50L – 47+00L: Looking toward Talmadge Creek at 6-hour test and 48-hour observation pits (September 15, 2010)



## Field Photographs – Section 5



47+00L – 47+50L: Looking toward Talmadge Creek at 6-hour test and 48-hour observation pits (September 15, 2010)



47+50L – 48+00L: Looking toward Talmadge Creek at 6-hour test and 48-hour observation pits (September 15, 2010)



## Field Photographs – Section 5



48+00L – 48+50L: Looking downstream (September 15, 2010)



48+50L – 49+00L: Looking upstream (September 23, 2010)



## Field Photographs – Section 5



49+00L – 49+50L: Looking upstream (September 23, 2010)



49+50L – 50+00L: Looking upstream (September 12, 2010)



## Field Photographs – Section 5



39+00R – 39+50R: Looking at 6-hour test pit (September 11, 2010)



39+50R – 40+00R: Looking downstream (September 11, 2010)



## Field Photographs – Section 5



40+00R – 40+50R: Looking downstream (September 11, 2010)



40+50R – 41+00R: Looking toward Talmadge Creek (September 24, 2010)



## Field Photographs – Section 5



41+00R – 41+50R: Looking downstream (September 11, 2010)



41+50R – 42+00R: Looking at 6-hour test pit (September 11, 2010)



## Field Photographs – Section 5



42+00R – 42+50R: Looking upstream (September 11, 2010)



42+50R - 43+00R: Looking toward Talmadge Creek at 6-hour test pit (September 11, 2010)



## Field Photographs – Section 5



43+00R – 43+50R: Looking toward Talmadge Creek at 6-hour test pit (September 11, 2010)



43+50R – 44+00R: Looking toward Talmadge Creek (September 11, 2010)



## Field Photographs – Section 5



44+00R – 44+50R: Looking upstream (September 12, 2010)



44+50R - 45+00R: Looking toward Talmadge Creek (September 12, 2010)



## Field Photographs – Section 5



45+00R - 45+50R: Looking toward Talmadge Creek (September 12, 2010)



45+50R – 46+00R: Looking toward Talmadge Creek (September 12, 2010)



## Field Photographs – Section 5



46+00R - 46+50R: Looking away from Talmadge Creek (September 12, 2010)



46+50R - 47+00R: Looking toward Talmadge Creek (September 24, 2010)



## Field Photographs – Section 5



47+00R – 47+50R: Looking toward mat road at 6-hour test pit (September 11, 2010)



47+50R - 48+00R: Looking away from Talmadge Creek (September 14, 2010)



## Field Photographs – Section 5



48+00R – 48+50R: Looking toward Talmadge Creek at 6-hour test pit (September 11, 2010)

# Field Notes

---

Project Name: Marshall Line 68 MP608 Pipeline Release  
 Project Number: 22131003

Date: 09/13/2010  
 Completed By: RYAN FRANK

| Creek Section                 | Photo ID | Method Used to Indicate Vertical Limit <sup>1</sup> | Free Phase Oil Observed | Odor <sup>2</sup> | Sheen Test Rainbow Sheen Observed | Headspace <sup>3</sup> ppm | Time of Test Pit | 6-hour Follow-up Inspection Observations and Time (If Applicable) | Time of Trench Excavation | 48-hour Follow-up Inspection Observations and Time (If Applicable) | Backfill Approval |          |
|-------------------------------|----------|-----------------------------------------------------|-------------------------|-------------------|-----------------------------------|----------------------------|------------------|-------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------|-------------------|----------|
|                               |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    | EPA               | Enbridge |
| 401801 to 401802              | 1537     | B C                                                 | Y                       | N L M S           | Y (N)                             | 1.3                        | 1435             | 9-14-10 4:30 PM                                                   | 1441                      | 9-15-10 14:31                                                      | MR                | TUP      |
| <p>Comments: <u>Filed</u></p> |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |
| 401801 to 391501              | 1538     | B C                                                 | Y                       | N L M S           | Y (N)                             | 0.80                       | 1531             | 9-14-10 4:25 PM                                                   |                           |                                                                    | MR                | TUP      |
| <p>Comments: <u>Filed</u></p> |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |
| 391501 to 391502              | 1606     | A B C                                               | Y                       | N L M S           | Y (N)                             | 1.2                        | 1547             | 9-14-10 4:25 PM                                                   |                           |                                                                    | MR                | TUP      |
| <p>Comments: <u>Filed</u></p> |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |

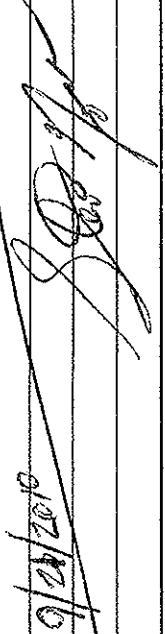
- (1) Depth of Contamination (A)  
Groundwater (B)  
Confining Layer (C)
- (2) None (N), Light (L), Moderate (M), Strong (S)
- (3) PID readouts in ppm above background  
ND - No Detection



Date: 9/21/2010  
 Completed By: S Gross  
 Creek Section 509  
 41+00 to 43+80 L  
 9/21/2010

Project Name: Marshall Line 6B MP608 Pipeline Release  
 Project Number: 22131003

| Photo ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Method Used to Indicate Vertical Limit | Free Phase Oil Observed |   |   | Color | Shien Test (Rainbow Sheen) Observed | Headspace ppm | Time of Test Pit | 6-hour Follow-up Inspection Observations and Time (if Applicable) | Time of Trench Excavation | 48-hour Follow-up Inspection Observations and Time (if Applicable) | Excavation Approval |          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|-------------------------|---|---|-------|-------------------------------------|---------------|------------------|-------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------|---------------------|----------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                        | A                       | B | C |       |                                     |               |                  |                                                                   |                           |                                                                    | EPA                 | Enbridge |
| 37+50 - 38+00 L @ 8:25 am                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                        |                         |   |   |       |                                     |               |                  |                                                                   |                           |                                                                    |                     |          |
| 43+00 EXCAVATE EXISTING SOIL TO 41-50 @ 8:45                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                        |                         |   |   |       |                                     |               |                  |                                                                   |                           |                                                                    |                     |          |
| <p>NOTES: 9:45 C 42+75 WATER FROM CHL BREWED - BOIL BEAM C 42+45 / 10:10<br/>         10:20 BEGAN EXCAVATE 42+50 TO 42+00 VERT. C TO 42+50 - 5' SECTION - 43+00 L @ 11:00<br/>         11:10 MIKE BROUGHT VAC TRK, VAC SPRING SECTION 43+00 - 43+50 ALSO COCONUT LOGGED SITE FENCE, DELAYED EXCAVATION<br/>         1:05 BEGAN EXCAVATE 42+50 TO 42+00 VERT. - C WATER BAND FROM OPPOSITE MTD, INSTALL BEAM C SECTO 41+50 C 1:40<br/>         1:45 BEGAN EXCAVATE 41+50 TO 41+00 VERT. - C COMPLETE EXCAVATION 2:40<br/>         2:45 MIKE C / YOUNG ENV. BEGAN FABRIC INSTALLS 41+50 TO 41+00 / SECTION FACED 48 HL TEST<br/>         3:45 BEGAN INSTALL CLAY TRENCH @ 42+50 TIME C 4:08 FOR 48 HL TEST<br/>         4:15 BEGAN INSTALL CLAY TRENCH @ 42+00 - 41+50 BEGAN 48 HL TEST @ 4:22<br/>         4:45 BEGAN INSTALL CLAY TRENCH @ 43+00 - 42+50 BEGAN 48 HL TEST @ 5:10<br/>         * NO FREE OIL OBSERVED, NO OIL, NO SHEEN OBSERVED @ ANY THESE EXCAVATIONS TODAY</p> |                                        |                         |   |   |       |                                     |               |                  |                                                                   |                           |                                                                    |                     |          |

9/21/2010  


- (1) Depth of Contamination (A)  
 Groundwater (B)  
 Confining Layer (C)
- (2) None (N), Light (L), Moderate (M), Strong (S)
- (3) PID readouts in ppm above background  
 ND = No Detection



4/15/02 → 4/22/02

Project Name: Marshall Line 6B, MP608 Pipeline Release  
Project Number: 22131003

Date: 9-22-10  
Completed By: TUP

Creek Section  
41st St to 42nd St

| Photo ID                                                                                                                             | Method Used to Indicate Vertical Limit <sup>1</sup> | Photo ID | Free Phase Oil Observed | Odor <sup>2</sup> |   |   |   | Sheen Test Rainbow Sheen Observed | Headspace <sup>3</sup> ppm | Time of Test Pit | 5-hour Follow-up Inspection Observations and Time (if Applicable) | Time of Trench Excavation | 48-hour Follow-up Inspection Observations and Time (if Applicable) | Regulatory Approval |   |
|--------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|----------|-------------------------|-------------------|---|---|---|-----------------------------------|----------------------------|------------------|-------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------|---------------------|---|
|                                                                                                                                      |                                                     |          |                         | Y                 | N | N | L |                                   |                            |                  |                                                                   |                           |                                                                    | M                   | S |
|                                                                                                                                      | A, B, C                                             |          |                         |                   |   |   |   |                                   |                            |                  |                                                                   |                           |                                                                    |                     |   |
| <p>Notes:</p> <p>TP failed frequently. Excavated entire 50' length to silt/clay</p> <p>Supplemental Sheet</p> <p>Add to Original</p> |                                                     |          |                         |                   |   |   |   |                                   |                            |                  |                                                                   |                           |                                                                    |                     |   |

(1) Depth of Contamination (A) Groundwater (B) Confined Layer (C)  
 (2) None (N), Light (L), Moderate (M), Strong (S)  
 (3) PID readings in ppm above background  
 ND = No Detection

Project Name: Marshall Line 6B MP608 Pipeline Release  
 Project Number: 22131003

Date: 09/13/2010  
 Completed By: RANDY FRANK

| Creek Section                                                             | Photo ID | Method Used to Indicate Vertical Limit <sup>1</sup> | Free Phase Oil Observed | Odor <sup>2</sup> | Sheen Test Rainbow Sheen Observed | Headspace <sup>3</sup> ppm | Time of Test Pit | 6-hour Follow-up Inspection Observations and Time (If Applicable) | Time of Trench Excavation | 48-hour Follow-up Inspection Observations and Time (If Applicable) | Backfill Approval |          |
|---------------------------------------------------------------------------|----------|-----------------------------------------------------|-------------------------|-------------------|-----------------------------------|----------------------------|------------------|-------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------|-------------------|----------|
|                                                                           |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    | EPA               | Enbridge |
| 41+50L                                                                    | 1421     | A B C                                               | Y (N)                   | N L M S           | Y (N)                             | 1.5                        | TR               | 13AB ONE PIT                                                      | 09/13/10                  | 4:23pm - 4:35pm                                                    | SS                | SS       |
| Comments: 9/17/10 - No stake with marking. R.V. 9/17/10 - Marked at 1720. |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |
| 41+50L                                                                    | 1421     | A B C                                               | Y (N)                   | N L M S           | Y (N)                             | 2.4                        | 1405 ONE PIT     | 1405 ONE PIT                                                      | 4:37pm                    | 4:40pm                                                             |                   |          |
| Comments: 9/17/10 - No stake with marking. R.V. Marked at 1720.           |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |
| 41+50L                                                                    | 1421     | A B C                                               | Y (N)                   | N L M S           | Y (N)                             | 2.5                        | 1425 ONE PIT     | 1425 ONE PIT                                                      | 4:35pm                    | 4:40pm                                                             |                   |          |
| Comments: Due to free product                                             |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |

(1) Depth of Contamination (A):  
 Groundwater (B)  
 Containing Layer (C)  
 None (N), Light (L), Moderate (M), Strong (S)  
 PID readings in ppm above background  
 ND = No Detection



42+50L → 42+50L  
 42+50L to 42+50L

Creek Section  
 42+50L to 42+50L

NOT: 1 sheet  
 original  
 sheet

Date: \_\_\_\_\_  
 Completed By: \_\_\_\_\_

Project Name: \_\_\_\_\_  
 Project Number: \_\_\_\_\_

| Photo ID | Method Used to Indicate Vertical Limit <sup>a</sup> | Photo ID | Free Phase Oil Observed | Odor <sup>b</sup> |   |   | Sheen Test Rainbow Sheen Observed | Headspace <sup>c</sup> ppm | Time of Test Pit | 6-hour Follow-up Inspection Observations and Time (if Applicable) | Time of Trench Excavation | 48-hour Follow-up Inspection Observations and Time (if Applicable) | Backfill Approval |   |
|----------|-----------------------------------------------------|----------|-------------------------|-------------------|---|---|-----------------------------------|----------------------------|------------------|-------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------|-------------------|---|
|          |                                                     |          |                         | Y                 | N | N |                                   |                            |                  |                                                                   |                           |                                                                    | L                 | M |
|          | A   B   C                                           |          |                         |                   |   |   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |   |

9/21/10

STARTED EXCAVATING failed TP 42+50L → 42+50L  
 Dig to silt/clay layer entire soil length

Done @ 1:00pm

Supplemental Sheet. Add to

original

Not original.  
 Attach to original.

- (1) Depth of Contamination (A)
- Groundwater (B)
- Confining Layer (C)
- (2) None (N), Light (L), Moderate (M), Strong (S)
- (3) PID readings in ppm above background
- ND = No Detection

NOT ORIGINAL

Project Name: Marshall Line 6B MP608 Pipeline Release  
Project Number: 22131003

Date: 9/21/10  
Completed By:

Creek Section  
42450L to 43700L

| Photo ID | Method Used to Indicate Vertical Limit <sup>1</sup> | Photo ID | Free Phase Oil Observed | Odor <sup>2</sup> | Skein Test<br>Rainbow Sheen Observed | Headspace <sup>3</sup><br>ppm | Time of Test Pit | 6-hour Follow-up Inspection<br>Observations and Time (if Applicable) | Time of Tranch Excavation | 48-hour Follow-up Inspection<br>Observations and Time (if Applicable) |          | Backfill Approval |  |
|----------|-----------------------------------------------------|----------|-------------------------|-------------------|--------------------------------------|-------------------------------|------------------|----------------------------------------------------------------------|---------------------------|-----------------------------------------------------------------------|----------|-------------------|--|
|          |                                                     |          |                         |                   |                                      |                               |                  |                                                                      |                           | EPA                                                                   | Enbridge |                   |  |
|          | 42450L                                              |          | Y                       | N                 | N                                    |                               |                  |                                                                      | 5:10pm                    | Digging to clay/silt layer ~3' 4" below ground                        |          |                   |  |

Failed 6hr (product) earlier

Digging to B. START AT 0900 09/21/10

Creek came pouring in through hole in bank. plugged with excavated material.

SUPPLY MATERIAL TO ORIGINAL

42450L → 43700L

ADD TO ORIGINAL SHEET

(1) Depth of Contamination (A) Groundwater (B) Confining Layer (C) None (N), Light (L), Moderate (M), Strong (S)  
 (2) PID readouts in ppm above background  
 (3) ND = No Detection

Project Name: Marshall Line 68 MP608 Pipeline Release  
 Project Number: 22131003  
 Date: 09/13/2010  
 Completed by: RYAN FRANK

| Creek Section                                                                                                                               | Photo ID | Method Used to Indicate Vertical Unit <sup>1</sup> |   |   | Free Phase Oil Observed | Odor <sup>2</sup> | Sheen Test Rainbow Sheen Observed |   |   | Headspace <sup>3</sup> ppm | Time of Test Pit | 6-hour Follow-up Inspection Observations and Time (if Applicable) | Time of Trench Excavation | 48-hour Follow-up Inspection Observations and Time (if Applicable) | Backfill Approval |   |   |
|---------------------------------------------------------------------------------------------------------------------------------------------|----------|----------------------------------------------------|---|---|-------------------------|-------------------|-----------------------------------|---|---|----------------------------|------------------|-------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------|-------------------|---|---|
|                                                                                                                                             |          | A                                                  | B | C |                         |                   | Y                                 | N | N |                            |                  |                                                                   |                           |                                                                    | L                 | M | S |
| 4350L to 4370L                                                                                                                              |          |                                                    |   |   |                         |                   |                                   |   |   |                            |                  |                                                                   |                           |                                                                    |                   |   |   |
| Comments: MAT ROAD CROSSOVER AREA - SILT FENCE AT EDGE OF MAT ROAD - NO SAMPLE OR PIT                                                       |          |                                                    |   |   |                         |                   |                                   |   |   |                            |                  |                                                                   |                           |                                                                    |                   |   |   |
| 4370L to 4380L                                                                                                                              | A B C    |                                                    |   |   |                         |                   |                                   |   |   |                            |                  |                                                                   |                           |                                                                    |                   |   |   |
| Failed breached 9/14                                                                                                                        |          |                                                    |   |   |                         |                   |                                   |   |   |                            |                  |                                                                   |                           |                                                                    |                   |   |   |
| 4380L to 4390L                                                                                                                              | A B C    |                                                    |   |   |                         |                   |                                   |   |   |                            |                  |                                                                   |                           |                                                                    |                   |   |   |
| Fixed on 9/24/10 1630                                                                                                                       |          |                                                    |   |   |                         |                   |                                   |   |   |                            |                  |                                                                   |                           |                                                                    |                   |   |   |
| 4390L to 4400L                                                                                                                              | A B C    |                                                    |   |   |                         |                   |                                   |   |   |                            |                  |                                                                   |                           |                                                                    |                   |   |   |
| 5:00 PM 9-25-10<br>4:21 PM 9-25-10<br>Failed breached 9/25/10 SS                                                                            |          |                                                    |   |   |                         |                   |                                   |   |   |                            |                  |                                                                   |                           |                                                                    |                   |   |   |
| Comments: VERY SMALL PORTION OF SHEEN, REMOVE SMALL PORTION OF CONTAMINATED AREA.<br>DID SHEEN TEST AGAIN. NO SHEEN OBSERVED. ONE TEST PIT. |          |                                                    |   |   |                         |                   |                                   |   |   |                            |                  |                                                                   |                           |                                                                    |                   |   |   |
| 4400L to 4410L                                                                                                                              | A B C    |                                                    |   |   |                         |                   |                                   |   |   |                            |                  |                                                                   |                           |                                                                    |                   |   |   |
| 9-14-10 1330 ONE PIT<br>9-14-10 1620 4:42 PM<br>4:08 PM 9-25-10<br>Failed product<br>Failed product<br>9-14-10<br>9-26-10, 4:08 PM          |          |                                                    |   |   |                         |                   |                                   |   |   |                            |                  |                                                                   |                           |                                                                    |                   |   |   |
| Comments: Failed product                                                                                                                    |          |                                                    |   |   |                         |                   |                                   |   |   |                            |                  |                                                                   |                           |                                                                    |                   |   |   |

(1) Depth of Contamination (A)  
 Groundwater (B)  
 Confining Layer (C)  
 (2) None (N), Light (L), Moderate (M), Strong (S)  
 (3) PID readouts in ppm above background  
 ND = No Detection

Project Name: Upper, Blk River 6m Supplemental S' sets  
 Date: \_\_\_\_\_  
 Completed By: \_\_\_\_\_

Project Number: 22131003  
 Date: \_\_\_\_\_  
 Completed By: \_\_\_\_\_

| Creek Section                                                         | Photo ID | Method Used to Indicate Vertical Limit <sup>1</sup> | Free Phase Oil Observed |   |   | Odor <sup>2</sup> |   |   | Sheen Test Rainbow Sheen Observed | Headspace <sup>3</sup> ppm | Time of Test Pit | 6-hour Follow-up Inspection Observations and Time (If Applicable) | Time of Trench Excavation | 48-hour Follow-up Inspection Observations and Time (If Applicable) | Backfill Approval |     |
|-----------------------------------------------------------------------|----------|-----------------------------------------------------|-------------------------|---|---|-------------------|---|---|-----------------------------------|----------------------------|------------------|-------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------|-------------------|-----|
|                                                                       |          |                                                     | A                       | B | C | Y                 | N | N |                                   |                            |                  |                                                                   |                           |                                                                    | L                 | M   |
| 45750L                                                                | 45750L   | A B C                                               | Y                       | N |   | N                 | L | M | S                                 |                            | 3:45 PM 9/21/10  |                                                                   |                           | Metlock                                                            | 6 hr.             | TUF |
| Comments: <u>See 48 hr approval/cleared</u><br><u>Backfilled 9/21</u> |          |                                                     |                         |   |   |                   |   |   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |     |
| 45750L                                                                | 46050L   | A B C                                               | Y                       | N |   | N                 | L | M | S                                 |                            |                  |                                                                   |                           |                                                                    |                   |     |
| Comments: <u>Fail</u><br><u>See product</u><br><u>3:45 PM 9/21/10</u> |          |                                                     |                         |   |   |                   |   |   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |     |
| 46100L                                                                | 46150L   | A B C                                               | Y                       | N |   | N                 | L | M | S                                 |                            | 8:33 PM 9/21/10  |                                                                   |                           |                                                                    |                   |     |
| Comments: <u>Fail product</u><br><u>3:45 PM 9/21/10</u>               |          |                                                     |                         |   |   |                   |   |   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |     |
| Duplicate - See original for part 48-hr                               |          |                                                     |                         |   |   |                   |   |   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |     |
| Duplicate - See original for part 48-hr                               |          |                                                     |                         |   |   |                   |   |   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |     |

- (1) Depth of Contamination (A)  
 Groundwater (B)  
 Confining Layer (C)
- (2) None (N), Light (L), Moderate (M), Strong (S)
- (3) PID readings in ppm above background  
 ND = No Detection





# Ristard - Supplemental Sheet

Project Name: Marshall Line 55 MP608 Pipeline Release  
 Project Number: 22131003

Date: 9/21/10  
 Completed By: CGO  
 Creek Section: 45+50 to 46+00L

| Photo ID | Method Used to Indicate Vertical Limit | Photo ID | Free Phase Oil Observed | O <sub>2</sub> |   |   |   |   | Sight Test Rainbow Sheen Observed | Headspace ppm | Time of Test Pit | 6-hour Follow-up Inspection Observations and Time (if Applicable) | Time of Trench Excavation | 48-hour Follow-up Inspection Observations and Time (if Applicable) |     | Bedfill Approval |
|----------|----------------------------------------|----------|-------------------------|----------------|---|---|---|---|-----------------------------------|---------------|------------------|-------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------|-----|------------------|
|          |                                        |          |                         | Y              | N | N | L | M |                                   |               |                  |                                                                   |                           | S                                                                  | EPA |                  |
| 100-16A  | A B C                                  |          | Y                       |                |   |   |   |   |                                   |               |                  | 1415                                                              |                           |                                                                    |     |                  |

Notes:  
~~Fix~~ Trench - start  
 Extended Bents to mat  
 Excavated dirty soil  
 Water evident  
 Observed by Paul-Weston (EPA)

- (1) Depth of Contamination (A)  
 Groundwater (B)  
 Confining Layer (C)
- (2) None (N), Light (L), Moderate (M), Strong (S)
- (3) PID readouts in ppm above background  
 ND - No Detection







Project Name: Marshall Line 58 MP608 Pipeline Release  
 Project Number: 22131003  
 Date: 09/15/2010  
 Completed By: RYAN FRANK

| Creek Section                                                                                                                                                                                                                                                                                                                                                                   | Photo ID | Method Used to Indicate Vertical Limit <sup>1</sup> | Free Phase Oil Observed | Odor <sup>2</sup> | Sreen Test Rainbow Sreen Observed | Headspace <sup>3</sup> ppm | Time of Test Pit | 6-hour Follow-up Inspection Observations and Time (if Applicable) | Time of Trench Excavation | 48-hour Follow-up Inspection Observations and Time (if Applicable) | Backfill Approval |          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----------------------------------------------------|-------------------------|-------------------|-----------------------------------|----------------------------|------------------|-------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------|-------------------|----------|
|                                                                                                                                                                                                                                                                                                                                                                                 |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    | EPA               | Enbridge |
| 4700L to 4100L                                                                                                                                                                                                                                                                                                                                                                  | 174      | A B C                                               | Y                       | N   L   M   S     | Y                                 | 1.5                        | 1715             |                                                                   | 1721                      |                                                                    | 55                |          |
| Comments: <u>TP / pit in pit on 9/16/10</u>                                                                                                                                                                                                                                                                                                                                     |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |
| <p>4700L to 4100L</p> <p>A B C Y N   N   L   M   S Y N   1.9</p> <p>SAMPLE WAS FINE NO PRODUCT OR PAINTBOW SREEN OBSERVED W TEST. VISABLE PRODUCT FOUND. ODOR SCRAPED 12" OFF SURFACE.</p> <p>Dipstick <del>is</del> AREA IS NOT PREPPED <del>is</del> <u>Area to be excavated</u><br/> <u>best estimate</u> <u>MHS</u><br/> <u>9/22/10</u><br/> <u>9/23/10</u> <u>1430</u></p> |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |
| Comments: _____                                                                                                                                                                                                                                                                                                                                                                 |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |

(1) Depth of Contamination (A)  
 Groundwater (B)  
 Confining Layer (C)  
 (2) None (N), Light (L), Moderate (M), Strong (S)  
 (3) PID readouts in ppm above background  
 ND = No Detection





Project Name: Marshall Line 68 MP608 Pipeline Release

Project Number: 22131003

Date: 09/13/2010

Completed By: RYAN FRANK

| Creek Section                                                                                                          | Photo ID | Method Used to Indicate Vertical Limit <sup>1</sup> | Free Phase Oil Observed | Odor <sup>2</sup> | Sheen Test Rainbow Sheen Observed | Headspace <sup>3</sup> ppm | Time of Test Pit | 6-hour Follow-up Inspection Observations and Time (if Applicable) | Time of Trench Excavation | 48-hour Follow-up Inspection Observations and Time (if Applicable) | Backfill Approval |          |
|------------------------------------------------------------------------------------------------------------------------|----------|-----------------------------------------------------|-------------------------|-------------------|-----------------------------------|----------------------------|------------------|-------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------|-------------------|----------|
|                                                                                                                        |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    | EPA               | Enbridge |
| 45+50L to 44+50L                                                                                                       | 1078     | B C                                                 | Y (N)                   | (M) L M S         | Y (N)                             | 0.0                        | TP 1015          | 9-17-10 1704                                                      | OP                        | Di. Metlock                                                        | DN                |          |
| <p>Comments: Fail 9-14-10 12:13 pm</p>                                                                                 |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |
| 44+50L to 44+00L                                                                                                       | A17      | B C                                                 | Y (N)                   | (M) L M S         | Y (N)                             | 6.0                        | 1035 ONE PIT     | 9-17-10 1703                                                      | OP                        | Di. Metlock                                                        | DN                |          |
| <p>Comments: Failed 9/15/10 6hr - Free products<br/>Should not have been signed, something needs to happen to pit.</p> |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |
| FILLED 9/17                                                                                                            |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |
| 44+00L to 43+50L                                                                                                       | A17A     | B C                                                 | Y (N)                   | (M) L M S         | Y (N)                             | 0.13                       | 1054 ONE PIT     | 9-17-10 1700                                                      | OP                        | Di. Metlock                                                        | DN                |          |
| <p>Comments: Fail 9-14-10 12:02 pm<br/>See<br/>Gaspenvent should have original into</p>                                |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |

(1) Depth of Contamination (A)  
Groundwater (B)  
Confining Layer (C)  
(2) None (N), Light (L), Moderate (M), Strong (S)  
(3) PID readings in ppm above background  
ND = No Detection

Project Name: Marshall Line 6B MIP608 Pipeline Release Date: 09/13/2010  
 Project Number: 22131003 Completed by: RYAN FRANK

| Creek Section      | Photo ID | Method Used to Indicate Vertical Limit <sup>2</sup> | Free Phase Oil Observed | Odor <sup>2</sup> | Sheen Test Rainbow Sheen Observed | Headspace <sup>3</sup> ppm | Time of Test Pit | 6-hour Follow-up Inspection Observations and Time (If Applicable) | Time of Trench Excavation | 48-hour Follow-up Inspection Observations and Time (If Applicable) | Backfill Approval |          |
|--------------------|----------|-----------------------------------------------------|-------------------------|-------------------|-----------------------------------|----------------------------|------------------|-------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------|-------------------|----------|
|                    |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    | EPA               | Enbridge |
| 46150L 46100L 0859 | 0859     | A B C                                               | Y (N)                   | (N) L M S         | Y (N)                             | 0.5                        | TP 0842          | 0853                                                              | OP                        | 9:23-10:13:24                                                      | SS                | SS       |

Comments: Failed on 9/13 6 hr. Free product

|                   |  |       |       |           |       |     |              |  |  |               |    |    |
|-------------------|--|-------|-------|-----------|-------|-----|--------------|--|--|---------------|----|----|
| 4100L 45150L 092L |  | D B C | Y (N) | (N) L M S | Y (N) | 3.7 | 0906 ONE PIT |  |  | 9:23-10:14:20 | SS | SS |
|-------------------|--|-------|-------|-----------|-------|-----|--------------|--|--|---------------|----|----|

Comments: Failed on 9/13 6 hr Free product

FILLED 9/17

|               |  |       |       |           |       |      |      |      |  |              |  |    |
|---------------|--|-------|-------|-----------|-------|------|------|------|--|--------------|--|----|
| 45150L 45100L |  | D B C | Y (N) | (N) L M S | Y (N) | 31.4 | 0935 | 1005 |  | 9-15-10 1505 |  | MP |
|---------------|--|-------|-------|-----------|-------|------|------|------|--|--------------|--|----|

Comments: stick labeled as 9/13 09:21 152.7

- (1) Depth of Contamination (A)  
Groundwater (B)  
Confining Layer (C)
- (2) None (N), Light (L), Moderate (M), Strong (S)
- (3) PID readouts in ppm above background  
ND = No Detection



Project Name: Marshall Line 6B MP608 Pipeline Release

Date: 09/15/2010

Project Number: 22131003

Completed By: Ryan Frank

| Creek Section     | Photo ID | Method Used to Indicate Vertical Limit <sup>1</sup> | Free Phase Oil Observed | Odor <sup>2</sup> | Sheen Test Rainbow Sheen Observed | Headspace <sup>3</sup> ppm | Time of Test Pit | 6-hour Follow-up Inspection Observations and Time (If Applicable) | Time of Trench Excavation | 48-hour Follow-up Inspection Observations and Time (If Applicable) | Backfill Approval |          |
|-------------------|----------|-----------------------------------------------------|-------------------------|-------------------|-----------------------------------|----------------------------|------------------|-------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------|-------------------|----------|
|                   |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    | EPA               | Enbridge |
| 48+50L to 48+100L | 1515     | A                                                   | Y                       | N                 | Y                                 | 1.5                        | TP 1505          | John                                                              | 1512                      | 9-20-10 11:12                                                      |                   | 55       |
| Comments          |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |
| 48+00L to 47+50L  | 1609     | B                                                   | Y                       | N                 | Y                                 | 0.0                        | 1541             | John                                                              | 1552                      | 9-29-10 11:10                                                      |                   | 55       |
| Comments          |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |
| 47+50L to 47+00L  | 1704     | B                                                   | Y                       | N                 | Y                                 | 1.1                        | 1624             | John                                                              | 1636                      | 9-20-10 11:08                                                      |                   | 55       |
| Comments          |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |

- (1) Depth of Contamination (A) Groundwater (B) Confining Layer (C)
- (2) None (N), Light (L), Moderate (M), Strong (S)
- (3) PID readings in ppm above background ND = No Detection

Project Name: Marshall Line 68 MPP608 Pipeline Release

Date: 09/12/2010

Project Number: 2213.1003

Completed By: RYAN FRANK

| Creek Section                                                                                                                                                                                                                                             | Photo ID | Method Used to Indicate Vertical Limit <sup>1</sup> |   |   | Free Phase Oil Observed | Odor <sup>2</sup> | Sheen Test Rainbow Sheen Observed | Headspace <sup>3</sup> ppm | Time of Test Pit | 6-hour Follow-up Inspection Observations and Time (If Applicable) | Time of Trench Excavation | 48-hour Follow-up Inspection Observations and Time (If Applicable) |          | Backfill Approval |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----------------------------------------------------|---|---|-------------------------|-------------------|-----------------------------------|----------------------------|------------------|-------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------|----------|-------------------|--|
|                                                                                                                                                                                                                                                           |          | A                                                   | B | C |                         |                   |                                   |                            |                  |                                                                   |                           | EPA                                                                | Enbridge |                   |  |
| 4945L to 4946L                                                                                                                                                                                                                                            |          |                                                     |   |   | N                       | N                 | N                                 | 22.8                       | 1759 hrs         | 4'31" breach pit                                                  |                           |                                                                    |          |                   |  |
| <p>Comments: Oil was observed on the surface near 49425L in area that appeared to have been previously scraped. Free oil in Sheen tests. Test pit was placed. This area will need to be addressed to remove contamination. Breach pit 4'31" pm (Fuel)</p> |          |                                                     |   |   |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |          |                   |  |
| 4940L to 4945L                                                                                                                                                                                                                                            |          | A                                                   | B | C | Y                       | N                 | N                                 | 110.0                      | 1810 hrs         | 1810 hrs pit                                                      |                           |                                                                    |          |                   |  |
| <p>Comments: Sheen sample taken near 48475L. No sheen. Test pit was dug to ground water. In ten minutes free oil came in with water. Pit breached - REPAIRED 9/13 - 9/15 VISITS, PIT BREACHED - REPAIRED 9/13 ON 9/13</p>                                 |          |                                                     |   |   |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |          |                   |  |
| <p>Comments:</p>                                                                                                                                                                                                                                          |          |                                                     |   |   |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |          |                   |  |

- (1) Depth of Contamination (A)  
Groundwater (B)  
Confining Layer (C)
- (2) None (N), Light (L), Moderate (M), Strong (S)
- (3) PID readings in ppm above background  
ND = No Detection



Project Name: Marshall Line SB MP608 Pipeline Release Date: 09/12/2010  
 Project Number: 22131003 Completed By: Ryan Frank

| Creek Section                                                                                                                                                                                                                                                                                              | Photo ID | Method Used to Indicate Vertical Limit <sup>1</sup> | Free Phase Oil Observed | Odor <sup>2</sup> | Sheen Test     |                        | Headspaces <sup>3</sup> ppm | Time of Test Pit | 6-hour Follow-up Observations and Time (if Applicable) | Time of Trench Excavation | 48-hour Follow-up Inspection Observations and Time (if Applicable) | Backfill Approval |          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----------------------------------------------------|-------------------------|-------------------|----------------|------------------------|-----------------------------|------------------|--------------------------------------------------------|---------------------------|--------------------------------------------------------------------|-------------------|----------|
|                                                                                                                                                                                                                                                                                                            |          |                                                     |                         |                   | Sheen Observed | Rainbow Sheen Observed |                             |                  |                                                        |                           |                                                                    | EPA               | Enbridge |
| 51+00L to 50+50L 1706                                                                                                                                                                                                                                                                                      | B C      | B C                                                 | N                       | ND                | L M S          | Y                      | N                           | 1700 one pit     | None                                                   | OP                        | None                                                               | S                 |          |
| Comments: See comments from 51+50L - 51+00L. 0.0 Same situation.<br>TP - Fix - Draining into creek 9/13/10 Minnesota excavating to fix                                                                                                                                                                     |          |                                                     |                         |                   |                |                        |                             |                  |                                                        |                           |                                                                    |                   |          |
| 50+50L to 50+00L 1711                                                                                                                                                                                                                                                                                      | A B C    | A B C                                               | Y                       | ND                | L M S          | Y                      | N                           | 1707 one pit     | None                                                   |                           | None                                                               | S                 |          |
| Comments: Free oil in low area near spring at 50+50L. See comments from 51+50L - 51+00L same situation.<br>TP Fix - draining into creek 9/13/10. Minnesota excavating to fix                                                                                                                               |          |                                                     |                         |                   |                |                        |                             |                  |                                                        |                           |                                                                    |                   |          |
| 50+40L to 49+50L 1745                                                                                                                                                                                                                                                                                      | A B C    | A B C                                               | Y                       | ND                | L M S          | Y                      | N                           | 1725 one pit     | None                                                   |                           | None                                                               | S                 |          |
| Comments: Light sheen - No rainbow - No observed oil in sections. When the test pit was completed oil was observed on the surface of the water within a minute. Dirt was placed around test pit to keep the spring from flowing into the pit.<br>Draining into creek - 9-13-10 Minnesota excavating to fix |          |                                                     |                         |                   |                |                        |                             |                  |                                                        |                           |                                                                    |                   |          |

(1) Depth of Contamination (A)  
 Groundwater (B)  
 Confining Layer (C)  
 (2) None (N), Light (L), Moderate (M), Strong (S)  
 (3) PID readouts in ppm above background  
 ND = No Detection

132.7 next to creek  
 Supplemental Sta. 132  
 No. 101 project

Project Name: Marshall Line 6B MP608 Pipeline Release  
 Project Number: 22131003

Date: 9-13-10  
 Completed By:

| Creek Section                                                | Photo ID | Method Used to Indicate Vertical Limit <sup>1</sup> |   |   | Free Phase Oil Observed | Odor <sup>2</sup> |   |   | Sheen Test Rainbow Sheen Observed | Headspace <sup>3</sup> ppm | Time of Test Pit | 6-hour Follow-up Inspection Observations and Time (If Applicable) | Time of Trench Excavation | Backfill Approval |     |          |
|--------------------------------------------------------------|----------|-----------------------------------------------------|---|---|-------------------------|-------------------|---|---|-----------------------------------|----------------------------|------------------|-------------------------------------------------------------------|---------------------------|-------------------|-----|----------|
|                                                              |          | A                                                   | B | C |                         | N                 | L | M |                                   |                            |                  |                                                                   |                           | S                 | EPA | Enbridge |
| 48750 to 49750                                               |          |                                                     |   |   | Y                       | N                 | N | L | M                                 | S                          |                  |                                                                   |                           |                   |     |          |
| Draining into Creek - fix<br>Minnerota excavating to fix pit |          |                                                     |   |   |                         |                   |   |   |                                   |                            |                  |                                                                   |                           |                   |     |          |
| 49750 to 50750                                               |          |                                                     |   |   | Y                       | N                 | N | L | M                                 | S                          |                  |                                                                   |                           |                   |     |          |
| Draining into Creek Fix<br>Minnerota excavating to fix pit   |          |                                                     |   |   |                         |                   |   |   |                                   |                            |                  |                                                                   |                           |                   |     |          |
| 50750 to 51750                                               |          |                                                     |   |   | Y                       | N                 | N | L | M                                 | S                          |                  |                                                                   |                           |                   |     |          |
| Draining into Creek Fix<br>Minnerota excavating to fix pit   |          |                                                     |   |   |                         |                   |   |   |                                   |                            |                  |                                                                   |                           |                   |     |          |

- (1) Depth of Contamination (A) Groundwater (B) Confining Layer (C)
- (2) None (N), Light (L), Moderate (M), Strong (S)
- (3) PID readouts in ppm above background MD = No Detection



Project Name: Marshall Line 6B MP608 Pipeline Release

Project Number: 22131003

Date: 9/11/10

Completed By: Norman Szeziak

| Creek Section                                                                 | Photo ID      | Method Used to Indicate Vertical Limit <sup>(1)</sup> | Free Phase Oil Observed | Odor <sup>2</sup> | Sheen Test Rainbow Sheen Observed | Headspace <sup>3</sup> ppm | Time of Test Pit | 6-hour Follow-up Inspection Observations and Time (If Applicable) | Time of Trench Excavation | 48-hour Follow-up Inspection Observations and Time (If Applicable) | Backfill Approval |          |
|-------------------------------------------------------------------------------|---------------|-------------------------------------------------------|-------------------------|-------------------|-----------------------------------|----------------------------|------------------|-------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------|-------------------|----------|
|                                                                               |               |                                                       |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    | EPA               | Enbridge |
| 4000 to 3950                                                                  | 9/11/10 16300 | B C                                                   | Y (N)                   | (N) (L) (M) (S)   | Y (N)                             | 0.3                        | 1630             | all ok                                                            | 1630                      | all ok                                                             | MR                | TUR      |
| <p>Comments: 48 hr = murky / Cleaned by Mike EPA 9/12/10</p>                  |               |                                                       |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |
| 3950 to 3900                                                                  | 9/11/10 16400 | B C                                                   | Y (N)                   | (N) (L) (M) (S)   | Y (N)                             | 0.3                        | 1640             | all ok                                                            | 1640                      | all ok                                                             | MR                | TUR      |
| <p>Comments: waited for truck 1050-1770 hrs / cleaned by Mike EPA 9/12/10</p> |               |                                                       |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |
| 3900 to 3850                                                                  | 9/11/10 17300 | B C                                                   | Y (N)                   | (N) (L) (M) (S)   | Y (N)                             | 0.7                        | 1730             | all ok                                                            |                           | all ok                                                             | MR                | TUR      |
| <p>Comments: 11:06 AM 9-12-10 w/ EPA, western / 48 hr = murky 9/12/10</p>     |               |                                                       |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |

(1) Depth of Contamination (A) Groundwater (B) Confining Layer (C)

(2) None (N), Light (L), Moderate (M), Strong (S)

(3) PID readings in ppm above background

ND = No Detection

Project Name: Marshall Line 5B MIP608 Pipeline Release

Project Number: 22131003

Date: 9/11/10

Completed By: Norman Steinhilber

| Creek Section                                            | Photo ID | Method Used to Indicate Vertical Limit <sup>1</sup> | Free Phase Oil Observed | Odor <sup>2</sup> |   |   | Sheen Test Rainbow Sheen Observed | Headspace <sup>3</sup> ppm | Time of Test Pit | 6-hour Follow-up Inspection Observations and Time (if Applicable) | Time of Trench Excavation | 48-hour Follow-up Inspection Observations and Time (if Applicable) | Backfill Approval |          |
|----------------------------------------------------------|----------|-----------------------------------------------------|-------------------------|-------------------|---|---|-----------------------------------|----------------------------|------------------|-------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------|-------------------|----------|
|                                                          |          |                                                     |                         | N                 | L | M |                                   |                            |                  |                                                                   |                           |                                                                    | EPA               | Embridge |
| 4100                                                     | 3410     | B C                                                 | Y (N)                   | N                 | L | M | S                                 | 0.3                        | 1546             | 1546                                                              | 9-N-10 7:53am             | OK                                                                 | TVP               |          |
| Comments: 48 hr of surveying cleaned by Mike SFA 9/12/10 |          |                                                     |                         |                   |   |   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |
| 4200                                                     | 3550     | A B C                                               | Y (N)                   | N                 | L | M | S                                 | 0.4                        | 1555             | 1555                                                              | 9-N-10 11:00am            | OK                                                                 | TVP               |          |
| Comments: 48 hr surveying cleaned by Mike SFA 9/12/10    |          |                                                     |                         |                   |   |   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |
| 4300                                                     | 3630     | B C                                                 | Y (N)                   | N                 | L | M | S                                 | 0.5                        | 1610             | 1610                                                              | 9-N-10 11:00am            | OK                                                                 | TVP               |          |
| Comments: Filled cleaned by Mike SFA 9/12/10             |          |                                                     |                         |                   |   |   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |

- (1) Depth of Contamination (A) Groundwater (B) Conflicting Layer (C)
- (2) None (N), Light (L), Moderate (M), Strong (S)
- (3) PID readings in ppm above background  
ND = No Detection



Project Name: Marshall Line 68 MP608 Pipeline Release  
 Project Number: 22131003

Date: 9/11/10  
 Completed By: Maura Steinhilber

| Creek Section                                           | Photo ID | Method Used to Indicate Vertical Limit* | Free Phase Oil Observed | Odor <sup>2</sup> | Sheen Test Rainbow Sheen Observed | Headspace <sup>3</sup> ppm | Time of Test Pit | 6-hour Follow-up Inspection Observations and Time (If Applicable) | Time of Trench Excavation | 48-hour Follow-up Inspection Observations and Time (If Applicable) | Backfill Approval |
|---------------------------------------------------------|----------|-----------------------------------------|-------------------------|-------------------|-----------------------------------|----------------------------|------------------|-------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------|-------------------|
| 4300                                                    | 4250     | B C                                     | Y                       | N L M S           | Y N                               | 0.8                        | 1420             | 9/12/10 Mottok                                                    | AS                        | 9/12/10 3:37 pm                                                    | EPA               |
| Comments: Filled 9/11/10<br>cleared by Mike EPA 9/12/10 |          |                                         |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |
| 4250                                                    | 4200     | A B C                                   | Y                       | N L M S           | Y N                               | 1.0                        | 1445             | 9/12/10 Mottok                                                    | MS                        | Mottok MR                                                          |                   |
| Comments: Filled 9/11/10<br>cleared by Mike EPA 9/12/10 |          |                                         |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |
| 4200                                                    | 4150     | A B C                                   | Y                       | N L M S           | Y N                               | 0.1                        | 1459             | 9/12/10 Mottok                                                    | MS                        | 9-14-10 11:55am                                                    |                   |
| Comments: 1507<br>cleared by Mike EPA 9/12/10           |          |                                         |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |

- (1) Depth of Contamination (A)  
 Groundwater (B)  
 Confining Layer (C)
- (2) None (N), Light (L), Moderate (M), Strong (S)
- (3) PID readouts in ppm above background  
 ND = No Detection

cleared by EPA (Mike) on 9/12/10  
 need initials, per Stavros he can  
 initials need his initials: TUF

Project Name: Marshall Line 5B MP608 Pipeline Release  
 Project Number: 22131003

Date: 9/11/10  
 Completed By: Marvin Storg

| Creek Section                                                                                                                                                                                                                                                                                                                                                                                                                         | Photo ID | Method Used to Indicate Vertical Limit | Free Phase Oil Observed | Odor <sup>2</sup> | Sheen Test Rainbow Sheen Observed | Headspace <sup>3</sup> ppm | Time of Test Pit | 6-hour Follow-up Inspection Observations and Time (if Applicable) | Time of Trench Excavation | 48-hour Follow-up Inspection Observations and Time (if Applicable) | Backfill Approval |          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------------------------------------|-------------------------|-------------------|-----------------------------------|----------------------------|------------------|-------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------|-------------------|----------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                       |          |                                        |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    | EPA               | Enbridge |
| B 2.7                                                                                                                                                                                                                                                                                                                                                                                                                                 |          |                                        |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |
| 4400 to 4450                                                                                                                                                                                                                                                                                                                                                                                                                          | 07/11    | A B C                                  | Y N                     | N L M S           | Y N                               | 0.8                        | 0930             | 11:45 0930                                                        | 11:50                     | 2:30                                                               |                   |          |
| <p>Comments: Arrived on location @ 0845. Enbridge ordered the area to be back filled per Enbridge. 0845 - 915 waiting for confirmation of backfilling will occur prior to sampling/screening. Steve Neuberger approved soil screening prior to backfilling. Sampling area @ B 2.7 top soil removed from weeds area. Clay w/ 3" of X<sub>2</sub>O<sub>11</sub> remains. 3-4" remained (soil) to expose clay - sample location P.T.</p> |          |                                        |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |
| 4400 to 4450                                                                                                                                                                                                                                                                                                                                                                                                                          | 11/6     | A B C                                  | Y N                     | N L M S           | Y N                               | 0.8                        | ---              |                                                                   |                           |                                                                    |                   |          |
| <p>Comments: Sampling conducted due to free product in sheentest. Photo 11/11. 12" remained product still visible. Asked by Weston to remove road mats. Met to discuss possibility of stream contamination &amp; backfilling/cleaning in area.</p>                                                                                                                                                                                    |          |                                        |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |
| 4350 to 4300                                                                                                                                                                                                                                                                                                                                                                                                                          | 14/4     | A B C                                  | Y N                     | N L M S           | Y N                               | 0.7                        | 1300             | 1300                                                              | 1300                      | 3:39 pm                                                            |                   |          |
| <p>Comments: Waited for Weston soil screeners to come back from lunch 1230 - 1300.</p>                                                                                                                                                                                                                                                                                                                                                |          |                                        |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |

(1) Depth of Contamination (A)  
 Groundwater (B)  
 Confining Layer (C)  
 None (N), Light (L), Moderate (M), Strong (S)  
 PID readings in ppm above background  
 ND = No Detection



Project Name: Marshall Line 65 MP608 Pipeline Release

Date: 09/17/2010

Completed By: Ryan Frank

Project Number: 22131003

| Creek Section                                                                                                                                                                                                                                                                                                                                                                                                                              | Photo ID | Method Used to Indicate Vertical Limit <sup>1</sup> | Fire Phase Oil Observed | Oder <sup>2</sup> | Sheen Test Rainbow Sheen Observed | Headspace <sup>3</sup> ppm | Time of Test Pit    | 6-hour Follow-up Inspection Observations and Time (if Applicable) | Time of Trench Excavation | 48-hour Follow-up Inspection Observations and Time (if Applicable) | Backfill Approval |          |    |   |   |   |   |   |   |   |   |   |   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----------------------------------------------------|-------------------------|-------------------|-----------------------------------|----------------------------|---------------------|-------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------|-------------------|----------|----|---|---|---|---|---|---|---|---|---|---|
|                                                                                                                                                                                                                                                                                                                                                                                                                                            |          |                                                     |                         |                   |                                   |                            |                     |                                                                   |                           |                                                                    | EPA               | Enbridge |    |   |   |   |   |   |   |   |   |   |   |
| A400R to A550R (B3)                                                                                                                                                                                                                                                                                                                                                                                                                        |          | A B C                                               | Y                       | N L M S           | Y (N)                             | 1.3                        | 1800 OUE PER TRENCH |                                                                   |                           | 09/18/2010                                                         |                   | (N)      |    |   |   |   |   |   |   |   |   |   |   |
| Comments: <u>VERTICAL LIMIT A, BACKFILLED, TRENCH, LINED w/ CLAY &amp; SILT FENCE. LINED EDGE OF MAIN ROAD w/ XTEX.</u><br><u>AREA IS PREPARED</u>                                                                                                                                                                                                                                                                                         |          |                                                     |                         |                   |                                   |                            |                     |                                                                   |                           |                                                                    |                   |          |    |   |   |   |   |   |   |   |   |   |   |
| Comments: <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%;">to</td> <td style="width:10%;">A</td> <td style="width:10%;">B</td> <td style="width:10%;">C</td> <td style="width:10%;">Y</td> <td style="width:10%;">N</td> <td style="width:10%;">L</td> <td style="width:10%;">M</td> <td style="width:10%;">S</td> <td style="width:10%;">Y</td> <td style="width:10%;">N</td> </tr> </table> |          |                                                     |                         |                   |                                   |                            |                     |                                                                   |                           |                                                                    |                   |          | to | A | B | C | Y | N | L | M | S | Y | N |
| to                                                                                                                                                                                                                                                                                                                                                                                                                                         | A        | B                                                   | C                       | Y                 | N                                 | L                          | M                   | S                                                                 | Y                         | N                                                                  |                   |          |    |   |   |   |   |   |   |   |   |   |   |
| Comments: <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%;">to</td> <td style="width:10%;">A</td> <td style="width:10%;">B</td> <td style="width:10%;">C</td> <td style="width:10%;">Y</td> <td style="width:10%;">N</td> <td style="width:10%;">L</td> <td style="width:10%;">M</td> <td style="width:10%;">S</td> <td style="width:10%;">Y</td> <td style="width:10%;">N</td> </tr> </table> |          |                                                     |                         |                   |                                   |                            |                     |                                                                   |                           |                                                                    |                   |          | to | A | B | C | Y | N | L | M | S | Y | N |
| to                                                                                                                                                                                                                                                                                                                                                                                                                                         | A        | B                                                   | C                       | Y                 | N                                 | L                          | M                   | S                                                                 | Y                         | N                                                                  |                   |          |    |   |   |   |   |   |   |   |   |   |   |

(1) Depth of Contamination (A)  
 Groundwater (B)  
 Confining Layer (C)  
 None (N), Light (L), Moderate (M), Strong (S)  
 PID readings in ppm above background  
 ND = No Detection

6-in clearance. the  
manhole  
section only

50 foot  
river

Project Name: Marshall Line 65 M/PE08 Pipeline Release  
Project Number: 22131003

Date: 9-13-10  
Completed By: TUP

| Creek Section            | Photo ID | Method Used to Indicate Vertical Limit <sup>1</sup> | Free Phase Oil Observed |   |   | Odor <sup>2</sup> |   |   | Sheen Test Rainbow Sheen Observed | Headspace <sup>3</sup> ppm | Time of Test Pit | 6-hour Follow-up Inspection Observations and Time (If Applicable) | Time of Trench Excavation | 48-hour Follow-up Inspection Observations and Time (If Applicable) | Backfill Approval |     |
|--------------------------|----------|-----------------------------------------------------|-------------------------|---|---|-------------------|---|---|-----------------------------------|----------------------------|------------------|-------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------|-------------------|-----|
|                          |          |                                                     | A                       | B | C | N                 | L | M |                                   |                            |                  |                                                                   |                           |                                                                    | S                 | EPA |
| 44150                    | ✓        | LMA                                                 | Y                       | N |   | N                 | L | M | S                                 |                            | 9-13-10          |                                                                   |                           | 9-13-10 1600                                                       | 6 in              | TUP |
| Comments: (TUP)          |          |                                                     |                         |   |   |                   |   |   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |     |
| Fail of 9-14-10 12:06 pm |          |                                                     |                         |   |   |                   |   |   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |     |
| 45150                    | ✓        | LMA                                                 | Y                       | N |   | N                 | L | M | S                                 |                            | 9-17-10          |                                                                   |                           | 9-17-10                                                            | 6 in              | TUP |
| Comments: (TUP)          |          |                                                     |                         |   |   |                   |   |   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |     |
| 45150                    | ✓        | LMA                                                 | Y                       | N |   | N                 | L | M | S                                 |                            | 9-17-10          |                                                                   |                           | 9-17-10 1800                                                       | 6 in              | TUP |
| Comments: (TUP)          |          |                                                     |                         |   |   |                   |   |   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |     |

Supplemental  
Sheet  
for  
09/19/10

(1) Depth of Contamination: (A) Groundwater (B) Confining Layer (C) None (N), Light (L), Moderate (M), Strong (S)  
(2) PID readings in ppm above background  
(3) ND = No Detection





Project Name: Marshall Line 65 MP608 Pipeline Release  
 Project Number: 22191003

Date: 02/11/2010  
 Completed By: RYAN FRANK  
 Done in field

| Creek Section                                 | Photo ID | Method Used to Indicate Vertical UTM <sup>+</sup> | Free Phase Oil Observed | Odor <sup>2</sup> | Sheen Test Rainbow Sheen Observed | Headspace <sup>3</sup> ppm | Time of Test pit | 6-hour Follow-up Inspection Observations and Time (If Applicable) | Time of Trench Excavation | 48-hour Follow-up Inspection Observations and Time (If Applicable) | Backfill Approval |          |
|-----------------------------------------------|----------|---------------------------------------------------|-------------------------|-------------------|-----------------------------------|----------------------------|------------------|-------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------|-------------------|----------|
|                                               |          |                                                   |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    | EPA               | Enbridge |
| 45TOR to 45TOR 253                            |          | B C                                               | Y                       | ND                | Y                                 | 0.8                        | TP 1410          | Mudstone                                                          | OP 1410                   | 9/17/10 2:00pm                                                     |                   | TUP      |
| Comments: <i>Light sheen seen, some murky</i> |          |                                                   |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |
| 45TOR to 45TOR 251                            |          | B C                                               | Y                       | ND                | Y                                 | 0.9                        | TP 1415          | 48m - murky                                                       |                           | 9/17/10 2:00pm                                                     |                   | TUP      |
| Comments: <i>48m - murky</i>                  |          |                                                   |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |
| 45TOR to 45TOR 252                            |          | B C                                               | Y                       | ND                | Y                                 | 1.07                       | TP 1500          | 48m - murky                                                       |                           | 9/17/10 2:00pm                                                     |                   | TUP      |
| Comments: <i>48m - murky</i>                  |          |                                                   |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |

- (1) Depth of Contamination (A)  
Groundwater (B)
- (2) Confining Layer (C)
- (3) None (N), Light (L), Moderate (M), Strong (S)  
PID readouts in ppm above background  
ND = No Detection



Project Name: Marshall Line SB MP608 Pipeline Release

Date: 09/11/2010

Project Number: 22LS1003

Completed By: RYAN FRANK

| Creek Section    | Photo ID | Method Used to Indicate Vertical Limit <sup>1</sup> | Free Phase Oil Observed | Odor <sup>2</sup> | Sheen Test Rainbow Sheen Observed | Headspace <sup>3</sup> ppm | Time of Test Pit              | 6-hour Follow-up Inspection Observations and Time (If Applicable) | Time of Trench Excavation | 48-hour Follow-up Inspection Observations and Time (If Applicable) | Backfill Approval |          |
|------------------|----------|-----------------------------------------------------|-------------------------|-------------------|-----------------------------------|----------------------------|-------------------------------|-------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------|-------------------|----------|
|                  |          |                                                     |                         |                   |                                   |                            |                               |                                                                   |                           |                                                                    | EPA               | Enbridge |
| 47+00R to 47+50R | 1002     | A B C                                               | Y                       | ⊙ L M S           | Y ⊙                               | 1.4                        | TP<br>0945 <sup>ONE</sup> PIT | <i>[Signature]</i><br>8/12/10 1045 ODE                            | OP<br>8/12/10 1045 PAT    | <i>[Signature]</i><br>8/12/10 2:35 pm                              |                   | TUF      |
| Comments         |          |                                                     |                         |                   |                                   |                            |                               |                                                                   |                           |                                                                    |                   |          |
| 46+50R to 47+00R | 1049     | B C                                                 | Y                       | ⊙ L M S           | Y ⊙                               | 0.8                        | 1030                          | <i>[Signature]</i><br>8/12/10                                     | 1045                      | <i>[Signature]</i><br>8/12/10 2:32 pm                              |                   | TUF      |
| Comments         |          |                                                     |                         |                   |                                   |                            |                               |                                                                   |                           |                                                                    |                   |          |
| 46+00R to 46+50R | 1130     | A B C                                               | Y                       | ⊙ L M S           | Y ⊙                               | 0.6                        | 1110                          | <i>[Signature]</i><br>8/12/10 1115                                | 1115                      | <i>[Signature]</i><br>8/12/10 2:38 pm                              |                   | TUF      |
| Comments         |          |                                                     |                         |                   |                                   |                            |                               |                                                                   |                           |                                                                    |                   |          |

(1) Depth of Contamination (A)  
Groundwater (B)  
Confining Layer (C)  
None (N), Light (L), Moderate (M), Strong (S)  
PID readouts in ppm above background  
ND = No Detection

62.7



Project Name: Marshall Line 68 MP608 Pipeline Release

Date: 09/11/2010

Completed By: RYAN FRANK

Project Number: 22131003

| Creek Section<br>8K47150 9/17                                                                                | Photo ID | Method Used to Indicate Vertical Limit <sup>1</sup> | Free Phase Oil Observed | Odor <sup>2</sup> | Sheen Test<br>Rainbow Sheen Observed | Headspace <sup>3</sup> ppm | Time of Test Pit | 6-hour Follow-up Inspection Observations and Time (if Applicable) | Time of Trench Excavation | 48-hour Follow-up Inspection Observations and Time (if Applicable) | Backfill Approval |          |     |
|--------------------------------------------------------------------------------------------------------------|----------|-----------------------------------------------------|-------------------------|-------------------|--------------------------------------|----------------------------|------------------|-------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------|-------------------|----------|-----|
|                                                                                                              |          |                                                     |                         |                   |                                      |                            |                  |                                                                   |                           |                                                                    | EPA               | Enbridge |     |
| 18100R to 18150R                                                                                             | 17960    | B C                                                 | Y (N)                   | (N) LIMS          | Y (N)                                | 1.0                        | TP 1555          | 2-13-10                                                           | SP                        | 1601                                                               |                   | W        | TUR |
| <p>Comments: UNABLE TO TEST PIT - PIT HAD CONT. CAVE IN.</p> <p>breach</p>                                   |          |                                                     |                         |                   |                                      |                            |                  |                                                                   |                           |                                                                    |                   |          |     |
| 18100R to 18150R                                                                                             | 17970    | B C                                                 | Y (N)                   | (N) LIMS          | Y (N)                                | 0.9                        | NONE             | 9-21-10                                                           |                           |                                                                    |                   |          | SS  |
| <p>Comments: 44500 44+50<br/>43-27<br/>9-20-10 @ 1430 - Observed pit with no breaching. Need to revisit.</p> |          |                                                     |                         |                   |                                      |                            |                  |                                                                   |                           |                                                                    |                   |          |     |

- (1) Depth of Contamination (A)  
Groundwater (B)  
Confining Layer (C)
- (2) None (N), Light (L), Moderate (M), Strong (S)
- (3) PID readings in ppm above background  
ND = No Detection

44500 → 44750 OK



Project Name: Marshall Line 68 MP608 Pipeline Release  
 Project Number: 22131003

Date: 09/12/2010  
 Completed By: RYAN FRANK

| Creek Section                                   | Photo ID | Method Used to Indicate Vertical Limit <sup>1</sup> | Free Phase Oil Observed | Odor <sup>2</sup> |   |   | Sheen Test Rainbow Sheen Observed | Headspace <sup>3</sup> ppm | Time of Test Pit | 6-hour Follow-up Inspection Observations and Time (If Applicable) | Time of Trench Excavation | 48-hour Follow-up Inspection Observations and Time (If Applicable) | Backfill Approval |     |
|-------------------------------------------------|----------|-----------------------------------------------------|-------------------------|-------------------|---|---|-----------------------------------|----------------------------|------------------|-------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------|-------------------|-----|
|                                                 |          |                                                     |                         | N                 | L | M |                                   |                            |                  |                                                                   |                           |                                                                    | S                 | EPA |
| 41400 BM 10450 BM                               | 1010     | B C                                                 | Y                       | N                 | L | M | S                                 | 0.4                        | 1005 SHIE PIT    | NR                                                                | OP                        | 9-17-10 1100                                                       | NR                | NR  |
| Comments: FILED - APPROVED BY EPA AFTER FILLING |          |                                                     |                         |                   |   |   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |     |
| 41400 BM 10450 BM                               | 1027     | B C                                                 | Y                       | N                 | L | M | S                                 | 0.0                        | 1015 SHIE PIT    | NR                                                                |                           | 9-17-10 1100                                                       | NR                | NR  |
| Comments:                                       |          |                                                     |                         |                   |   |   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |     |
| 41400 BM 10450 BM                               | 1036     | B C                                                 | Y                       | N                 | L | M | S                                 | 0.0                        | 1030 SHIE PIT    | NR                                                                |                           | 9-17-10 1100                                                       | NR                | NR  |
| Comments:                                       |          |                                                     |                         |                   |   |   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |     |

- (1) Depth of Contamination (A)  
Groundwater (B)  
Confining Layer (C)
- (2) None (N), Light (L), Moderate (M), Strong (S)
- (3) PID readouts in ppm above background  
ND = No Detection

Project Name: D-61 River in farm field  
 Date: 9-13-10  
 Project Number: 22131003  
 Completed By: MR TJF

| Creek Section  | Photo ID | Method Used to Indicate Vertical Limit |   |   | Free Phase Oil Observed | Odor |   |   | Sheen Test Rainbow Sheen Observed | Headspace <sup>3</sup> ppm | Time of Test Pit | 6-hour Follow-up Inspection Observations and Time (If Applicable) | Time of Trench Excavation | 48-hour Follow-up Inspection Observations and Time (If Applicable) | Backfill Approval |     |        |
|----------------|----------|----------------------------------------|---|---|-------------------------|------|---|---|-----------------------------------|----------------------------|------------------|-------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------|-------------------|-----|--------|
|                |          | A                                      | B | C |                         | Y    | N | N |                                   |                            |                  |                                                                   |                           |                                                                    | L                 | M   | S      |
| 45150 to 46200 | RM PM    |                                        |   |   | Y                       | N    |   |   |                                   |                            | 9/13             |                                                                   |                           |                                                                    |                   | 6hr | MR TJF |
| Comments       |          |                                        |   |   |                         |      |   |   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |     |        |
| RM PM          |          |                                        |   |   | Y                       | N    |   |   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |     |        |
| 46200 to 46500 | RM PM    |                                        |   |   | Y                       | N    |   |   |                                   |                            | 9/17             |                                                                   |                           |                                                                    |                   | 6hr | MR TJF |
| Comments       |          |                                        |   |   |                         |      |   |   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |     |        |
| 46500 to 47200 | RM PM    |                                        |   |   | Y                       | N    |   |   |                                   |                            | 9/16             |                                                                   |                           |                                                                    |                   |     | MR TJF |
| Comments       |          |                                        |   |   |                         |      |   |   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |     |        |
|                |          |                                        |   |   | Y                       | N    |   |   |                                   |                            | 9/17             |                                                                   |                           |                                                                    |                   |     | MR TJF |
| Comments       |          |                                        |   |   |                         |      |   |   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |     |        |

- (1) Depth of Contamination (A) Groundwater (B) Confining Layer (C) None (N), Light (L), Moderate (M), Strong (S) PID readings in ppm above background ND = No Detection
- (2)
- (3)

Get original picture 9/12