

US EPA ARCHIVE DOCUMENT

**Enbridge Line 6B MP 608 Pipeline Release  
Marshall, Michigan  
Source Contamination Removal and Verification Summary Report  
Talmadge Creek Section 7  
Stationing 65+00L to 75+00L and 63+50R to 72+50R**

**US EPA ARCHIVE DOCUMENT**

**Enbridge Energy  
September 24, 2010**

# Talmadge Creek Source Contamination Removal and Verification Summary Report

## Section 7 of 10 – Stationing (65+00L to 75+00L) and (63+50R to 72+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 7 of 10 (Stationing left bank of Talmadge Creek: 65+00L to 75+00L and Stationing right bank of Talmadge Creek: 63+50R to 72+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 7 as described in the table below.

| Section Number | Stationing                                                  |
|----------------|-------------------------------------------------------------|
| 7              | Left Bank: 65+00L to 75+00L<br>Right Bank: 63+50R to 72+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

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Talmadge Creek Source Contamination Removal and Verification Summary Table: Section 7

| 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) |
|----------|----------------|-----------------|------------------|--------------------------------------|-------------------------|------------|----------------------------------------|---------------------|--------------------------------------|--------------------------------------|------------------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|-------------------------------------|
| B4       | 7              | 65+00L - 65+50L | L                | A                                    | N                       | N          | N                                      | 0.5                 | 9/20/2010                            | 0953                                 | Y                                                          | 9/20/2010                                           | 0953                                                | Y                                   |
| B4       | 7              | 65+50L - 66+00L | L                | A                                    | N                       | N          | N                                      | 20.8                | 9/20/2010                            | 1024                                 | Y                                                          | 9/20/2010                                           | 1024                                                | Y                                   |
| B4       | 7              | 66+00L - 66+50L | L                | A                                    | N                       | N          | N                                      | 0.7                 | 9/20/2010                            | 1115                                 | Y                                                          | 9/20/2010                                           | 1115                                                | Y                                   |
| B4       | 7              | 66+50L - 67+00L | L                | A                                    | N                       | N          | N                                      | 1.9                 | 9/16/2010                            | 1648                                 | Y                                                          | 9/16/2010                                           | 1648                                                | Y                                   |
| B4       | 7              | 67+00L - 67+50L | L                | A                                    | N                       | N          | N                                      | 4.5                 | 9/20/2010                            | 1440                                 | Y                                                          | 9/20/2010                                           | 1440                                                | Y                                   |
| B4       | 7              | 67+50L - 68+00L | L                | A                                    | N                       | N          | N                                      | 1.1                 | 9/20/2010                            | 1539                                 | Y                                                          | 9/20/2010                                           | 1539                                                | Y                                   |
| B4       | 7              | 68+00L - 68+50L | L                | A                                    | N                       | N          | N                                      | 0.9                 | 9/16/2010                            | 1605                                 | Y                                                          | 9/16/2010                                           | 1605                                                | Y                                   |
| B4       | 7              | 68+50L - 69+00L | L                | A                                    | N                       | N          | N                                      | 1.7                 | 9/16/2010                            | 1556                                 | Y                                                          | 9/16/2010                                           | 1556                                                | Y                                   |
| B4       | 7              | 69+00L - 69+50L | L                | A                                    | N                       | N          | N                                      | 1.3                 | 9/16/2010                            | 1537                                 | Y                                                          | 9/16/2010                                           | 1537                                                | Y                                   |
| B4       | 7              | 69+50L - 70+00L | L                | A                                    | N                       | N          | N                                      | 0.5                 | 9/20/2010                            | 1754                                 | Y                                                          | 9/20/2010                                           | 1754                                                | Y                                   |
| B4       | 7              | 70+00L - 70+50L | L                | A                                    | N                       | N          | N                                      | 0.8                 | 9/16/2010                            | 1513                                 | Y                                                          | 9/16/2010                                           | 1513                                                | Y                                   |
| B4       | 7              | 70+50L - 71+00L | L                | B                                    | NA                      | NA         | NA                                     | NA                  | NA                                   | NA                                   | NA                                                         | 9/21/2010                                           | 1004                                                | Y                                   |
| B4       | 7              | 71+00L - 71+50L | L                | A                                    | N                       | N          | N                                      | 0.4                 | 9/16/2010                            | 1443                                 | Y                                                          | 9/16/2010                                           | 1443                                                | Y                                   |
| B4       | 7              | 71+50L - 72+00L | L                | A                                    | N                       | N          | N                                      | 1.5                 | 9/21/2010                            | 1443                                 | Y                                                          | 9/21/2010                                           | 1443                                                | Y                                   |
| B4       | 7              | 72+00L - 72+50L | L                | A                                    | N                       | Y          | N                                      | 4.7                 | 9/16/2010                            | 1145                                 | Y                                                          | 9/16/2010                                           | 1145                                                | Y                                   |
| B4       | 7              | 72+50L - 73+00L | L                | A                                    | γ*                      | Y          | γ*                                     | 136                 | 9/21/2010                            | 0845                                 | Y                                                          | 9/21/2010                                           | 0845                                                | Y                                   |
| B4       | 7              | 73+00L - 73+50L | L                | A                                    | N                       | N          | NR                                     | 1.8                 | 9/16/2010                            | 1055                                 | Y                                                          | 9/16/2010                                           | 1055                                                | Y                                   |
| B4       | 7              | 73+50L - 74+00L | L                | A                                    | N                       | N          | N                                      | 1.7                 | 9/16/2010                            | 1040                                 | Y                                                          | 9/16/2010                                           | 1040                                                | Y                                   |
| B4       | 7              | 74+00L - 74+50L | L                | A                                    | N                       | N          | N                                      | 0.6                 | 9/16/2010                            | 1030                                 | Y                                                          | 9/16/2010                                           | 1030                                                | Y                                   |
| B4       | 7              | 74+50L - 75+00L | L                | A                                    | N                       | N          | N                                      | 5.5                 | 9/16/2010                            | 0955                                 | Y                                                          | 9/16/2010                                           | 0955                                                | Y                                   |

See endnotes for description of notations



Talmadge Creek Source Contamination Removal and Verification Summary Table: Section 7

| 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) |
|----------|----------------|-----------------|------------------|--------------------------------------|-------------------------|------------|----------------------------------------|---------------------|--------------------------------------|--------------------------------------|------------------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|-------------------------------------|
| B4       | 7              | 63+50R - 64+00R | R                | A                                    | N                       | N          | N                                      | 22.2                | 9/11/2010                            | 1716                                 | Y                                                          | 9/11/2010                                           | 1716                                                | Y                                   |
| B4       | 7              | 64+00R - 64+50R | R                | A                                    | N                       | N          | N                                      | 0.2                 | 9/11/2010                            | 1727                                 | Y                                                          | 9/11/2010                                           | 1727                                                | Y                                   |
| B4       | 7              | 64+50R - 65+00R | R                | A                                    | N                       | N          | N                                      | 0.2                 | 9/11/2010                            | 1743                                 | Y                                                          | 9/11/2010                                           | 1743                                                | Y                                   |
| B4       | 7              | 65+00R - 65+50R | R                | A                                    | N                       | N          | N                                      | 0.0                 | 9/11/2010                            | 1801                                 | Y                                                          | 9/11/2010                                           | 1801                                                | Y                                   |
| B4       | 7              | 65+50R - 66+00R | R                | A                                    | N                       | N          | N                                      | 0.0                 | 9/11/2010                            | 1813                                 | Y                                                          | 9/11/2010                                           | 1806                                                | Y                                   |
| B4       | 7              | 66+00R - 66+50R | R                | A                                    | N                       | N          | N                                      | 0.0                 | 9/12/2010                            | 0920                                 | Y                                                          | 9/12/2010                                           | 0925                                                | Y                                   |
| B4       | 7              | 66+50R - 67+00R | R                | A                                    | N                       | N          | N                                      | 0.0                 | 9/12/2010                            | 0933                                 | Y                                                          | 9/12/2010                                           | 0933                                                | Y                                   |
| B4       | 7              | 67+00R - 67+50R | R                | A                                    | N                       | Y          | N                                      | 48.2                | 9/12/2010                            | 1005                                 | Y                                                          | 9/12/2010                                           | 1009                                                | Y                                   |
| B4       | 7              | 67+50R - 68+00R | R                | A                                    | N                       | N          | N                                      | 1.5                 | 9/12/2010                            | 1020                                 | Y                                                          | 9/12/2010                                           | 1024                                                | Y                                   |
| B4       | 7              | 68+00R - 68+50R | R                | A                                    | N                       | NR         | N                                      | 0.7                 | 9/12/2010                            | 1029                                 | Y                                                          | 9/12/2010                                           | 1029                                                | Y                                   |
| B4       | 7              | 68+50R - 69+00R | R                | A                                    | N                       | N          | N                                      | 1.9                 | 9/17/2010                            | 0900                                 | Y                                                          | 9/17/2010                                           | 0900                                                | Y                                   |
| B4       | 7              | 69+00R - 69+50R | R                | A                                    | N                       | N          | N                                      | 2.5                 | 9/12/2010                            | 1109                                 | Y                                                          | 9/12/2010                                           | 1117                                                | Y                                   |
| B4       | 7              | 69+50R - 70+00R | R                | A                                    | N                       | N          | N                                      | 0.7                 | 9/17/2010                            | 0915                                 | Y                                                          | 9/17/2010                                           | 0915                                                | Y                                   |
| B4       | 7              | 70+00R - 70+50R | R                | A                                    | N                       | N          | N                                      | 1.2                 | 9/12/2010                            | 1140                                 | Y                                                          | 9/12/2010                                           | 1140                                                | Y                                   |
| B4       | 7              | 70+50R - 71+00R | R                | A                                    | N                       | N          | N                                      | 2.5                 | 9/12/2010                            | 1311                                 | Y                                                          | 9/12/2010                                           | 1317                                                | Y                                   |
| B4       | 7              | 71+00R - 71+50R | R                | A                                    | N                       | N          | N                                      | 1.0                 | 9/12/2010                            | 1327                                 | Y                                                          | 9/12/2010                                           | 1332                                                | Y                                   |
| B4       | 7              | 71+50R - 72+00R | R                | A                                    | N                       | N          | N                                      | 4.0                 | 9/12/2010                            | 1352                                 | Y                                                          | 9/12/2010                                           | 1354                                                | Y                                   |
| B4       | 7              | 72+00R - 72+50R | R                | A                                    | N                       | N          | N                                      | 2.3                 | 9/12/2010                            | 1401                                 | Y                                                          | 9/12/2010                                           | 1405                                                | Y                                   |

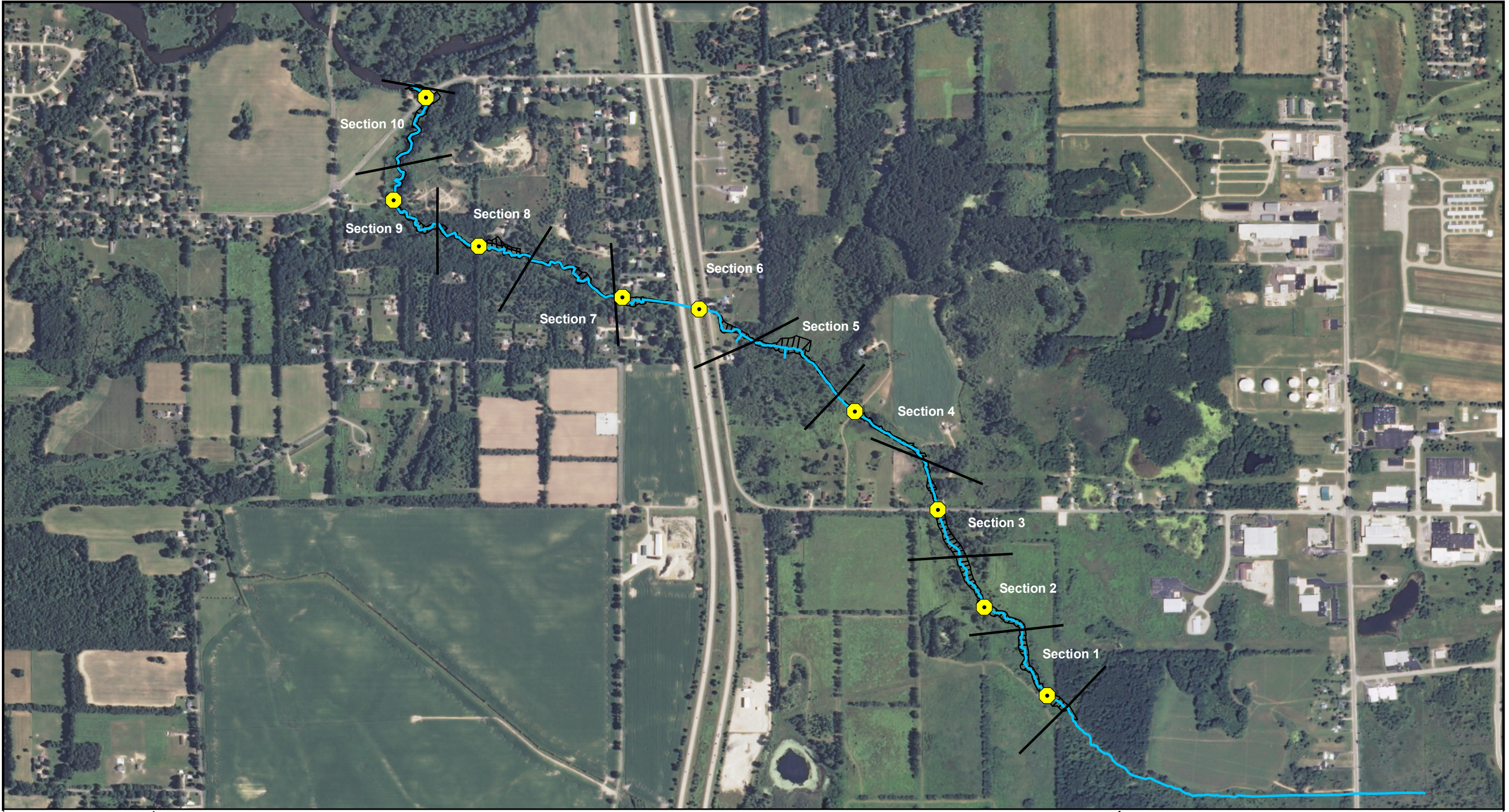
See endnotes for description of notations

## 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

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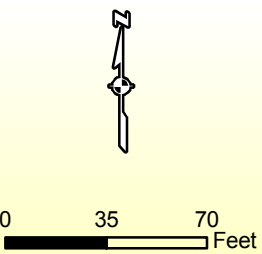
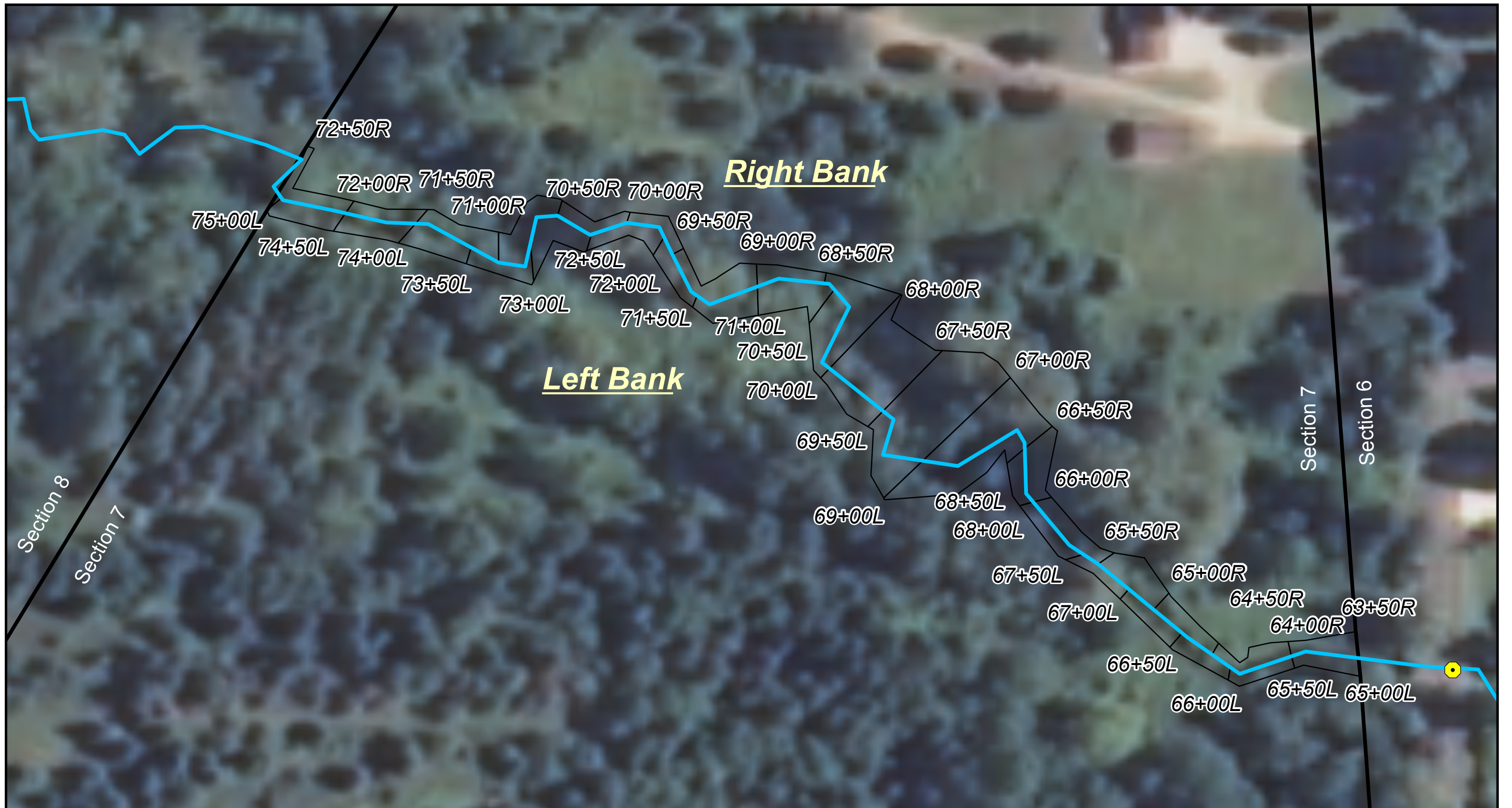
0 500 1,000 Feet





**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

**FIGURE 2**  
**SECTION 7 STATION LOCATIONS**  
**TALMADGE CREEK**  
**LINE 6B MP 608**  
**MARSHALL, MICHIGAN**

SEPTEMBER, 2010

# Field Photographs

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## Field Photographs – Section 7



65+00L – 65+50L: Looking upstream (September 20, 2010)



65+50L – 66+00L: Looking upstream (September 20, 2010)

## Field Photographs – Section 7



66+00L – 66+50L: Looking upstream (September 20, 2010)



66+50L – 67+00L: Looking upstream (September 20, 2010)



## Field Photographs – Section 7



67+00L – 67+50L: Looking downstream (September 20, 2010)



67+50L – 68+00L: Looking downstream (September 20, 2010)

## Field Photographs – Section 7



68+00L – 68+50L: Looking across Talmadge Creek (September 16, 2010)



68+50L – 69+00L: Looking across Talmadge Creek (September 16, 2010)

## Field Photographs – Section 7



69+00L – 69+50L: Looking downstream across Talmadge Creek (September 16, 2010)



69+50L – 70+00L: Looking across Talmadge Creek (September 20, 2010)

## Field Photographs – Section 7



70+00L – 70+50L: Looking across Talmadge Creek (September 16, 2010)



70+50L – 71+00L: Looking downstream (September 16, 2010)

## Field Photographs – Section 7



71+00L – 71+50L: Looking across Talmadge Creek (September 16, 2010)



71+50L – 72+00L: Looking upstream (September 21, 2010)

## Field Photographs – Section 7



72+00L – 72+50L: Looking across Talmadge Creek (September 16, 2010)



72+50L – 73+00L: Looking upstream (September 21, 2010)

**Field Photographs – Section 7**



73+00L – 73+50L: Looking across Talmadge Creek (September 16, 2010)



73+50L – 74+00L: Looking across Talmadge Creek (September 16, 2010)

## Field Photographs – Section 7



74+00L – 74+50L: Looking across Talmadge Creek (September 16, 2010)



74+50L – 75+00L: Looking toward Talmadge Creek (September 16, 2010)



## Field Photographs – Section 7



63+50R – 64+00R: Looking downstream (September 23, 2010)



64+00R – 64+50R: Looking upstream (September 23, 2010)

## Field Photographs – Section 7



64+50R – 65+00R: Looking upstream (September 13, 2010)



65+00R – 65+50R: Looking toward Talmadge Creek (September 13, 2010)

## Field Photographs – Section 7



65+50R - 66+00R: Looking upstream (September 13, 2010)



66+00R – 66+50R Looking downstream (September 13, 2010)

## Field Photographs – Section 7



66+50R – 67+00R: Looking upstream (September 13, 2010)



67+00R – 67+50R: Looking upstream (September 13, 2010)

## Field Photographs – Section 7



67+50R - 68+00R: Looking upstream (September 13, 2010)



68+00R - 68+50R: Looking upstream (September 13, 2010)

## Field Photographs – Section 7



68+50R – 69+00R: Looking upstream (September 13, 2010)



69+00R - 69+50R: Looking upstream (September 13, 2010)

## Field Photographs – Section 7



69+50R - 70+00R: Looking upstream (September 13, 2010)



70+00R – 70+50R: Looking upstream (September 13, 2010)

## Field Photographs – Section 7



70+50R – 71+00R: Looking upstream (September 13, 2010)



71+00R – 71+50R: Looking upstream (September 13, 2010)



## Field Photographs – Section 7



71+50R - 72+00R: Looking upstream (September 13, 2010)



72+00R - 72+50R: Looking upstream (September 13, 2010)

# Field Notes

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Project Name: Marshall Line 6B MP608 Pipeline Release Creek Section  
 Project Number: 22131003  
 Date: 9/16/10  
 Completed By: ERIC SEWARD 6500 to 65150

| Photo ID | Method Used to Indicate Vertical Limit <sup>2</sup> | Photo ID | Free Phase Oil Observed | Odor <sup>2</sup> | Sheen Test Rainbow Sheen Observed | Headspace <sup>2</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 |    |
|----------|-----------------------------------------------------|----------|-------------------------|-------------------|-----------------------------------|----------------------------|------------------|-------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------|-------------------|-----|----|
|          |                                                     |          |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   | A   | B  |
|          |                                                     |          | Y                       | (M)               | (M)                               | 3.9                        |                  | 9/16/10 08:49                                                     |                           | 9/16/10 13:05                                                      |                   |     | AT |

Notes:  
 -- SHEEN TEST SAMPLE COLLECTED AT 17:05.  
 - HEAVY RAINBOW SHEEN, BUT NO PRODUCT OBSERVED. TEST PIT NOT INSTALLED

- (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 Creek Section  
65+00  
 Project Number: 22131003 67+50 to 65+50  
 Date: 9/19/10  
 Completed By: ERIC SCHWARTZ

| Photo ID | Method Used to Indicate Vertical Limit <sup>1</sup> |   |   | Photo ID | Free Phase Oil Observed | Odor <sup>2</sup> |     |     | Shine Test Rainbow Shine 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 |          |                         | U                 | L   | M   |                                   |                            |                  |                                                                   |                           |                                                                    | S                 | EPA |
| ~        |                                                     |   |   |          | Y                       | (N)               | (U) | (L) | (M)                               | (S)                        |                  |                                                                   |                           |                                                                    |                   |     |

Notes: AREA PREVIOUSLY FAILED SHINE TEST ON 9/16/10  
 - STARTED HYDRO-VAC-ING AT 17:00. VACUED OUT AREA OF IMPACTS NEAR SILT FENCE.  
 - COLLECTED SOIL SAMPLE FOR SHINE TEST - HEAVY SHINE.

- (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 MP608 Pipeline Release

Project Number:

22431003

Date: 9/19/10

Creek Section

Completed By: ERIC SCHMIDT

6550 to 6600

| 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 | 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                 | I | M |                                   |                            |                  |                                                                   |                           |                                                                    | S                 | EPA |
| -        |                                                     |   |   | -        | Y                       | N                 |   |   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |     |

Notes: - AREA PREVIOUSLY FAILED SHEEN TEST ON 9/16/10  
 HYDRO-VACUUM IMPACTED SOILS NEAR SILT FENCE  
 - VAC TRUCK FULL AROUND 18:00.  
 - No soil SAMPLE COLLECTED. VISIBLE IMPACTS ALONG STREAM BANK

- (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 Deflection







Project Name: Marshall Line 68 MP608 Pipeline Release Creek Section  
 Date: 9/16/10  
 Project Number: 22131003 66100 to 66150  
 Completed By: ERIC SCHMIDT

| 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 | 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                 | M   | S   |                                   |                            |                  |                                                                   |                           |                                                                    | EPA               | Enbridge |
|          |                                                     |   |   | Y        | (N)                     | (N)               | (M) | (S) | (Y)                               | 2.5                        |                  |                                                                   |                           |                                                                    |                   |          |

Notes:

SHEEN TEST SURFIC CONCENTRATED AT 16:50

HEAVY RAINBOW SHEEN, NO PRODUCT, NO TEST PIT INSTALLED.

- (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









Creek Section

Date: 9/20/10

Project Name: Marshall Line 6B MP608 Pipelining Release

Completed By: Jason Eckman / Eric S. Schmitt

Project Number: 22131003

| Photo ID | Method Used to Indicate Vertical Limit | Photo ID | Free Phase Oil Observed | Odor | Sheen Test Rainbow Sheen Observed | Headspace ppm | Time of Test Pit | 6-hour Follow-up Inspection           |                      | 48-hour Follow-up Inspection          |                      | EPA | Enbridge |
|----------|----------------------------------------|----------|-------------------------|------|-----------------------------------|---------------|------------------|---------------------------------------|----------------------|---------------------------------------|----------------------|-----|----------|
|          |                                        |          |                         |      |                                   |               |                  | Observations and Time (if Applicable) | Time (if Applicable) | Observations and Time (if Applicable) | Time (if Applicable) |     |          |
| 114      | A B C                                  |          | Y                       | N    | Y                                 | N             | 15:37            | Q. N. 9/20/10 17:30                   |                      | Q. N. 9/22/10 17:30                   |                      |     |          |

Notes: Soil sample for Sheen Test analysis collected AT 15:25  
 - NO VISIBLE IMPACTS IN SECTION, SO ONLY EXCAVATION WAS FOR TEST P.T.

- (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 SB MP608 Pipeline Release Creek Section  
 Project Number: 22131003 6850 to 6900L  
 Date: 9/16/10  
 Completed By: Eric Stum

| Photo ID | Method Used to Indicate Vertical Limit <sup>a</sup> | Photo ID | Free Phase Oil Observed | Color | Sheen Test (Rainbow Sheen) Observed | Headspace <sup>b</sup> (ppm) | Time of Test (hr) | 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               | Embidge |
| 1611     | A                                                   |          | Y                       | N     | Y                                   | 1.7                          | 5:56              | 7:01 to 9:13                                                      |                           | 9:30 to 9:13                                                       | (A)               |         |

Notes: SHEEN TEST SAMPLE COLLECTED AT 15:40

RELATIVELY STEEP BANK AT TEST PIT LOCATION REMAINS IN EXCAVATION SINCE ALL STEEL RAILS COMING FROM EASTERN WAREHOUSE & CANNOT BE MOVED BACK INTO PLACE

- (1) Depth of Contamination (A)
- Groundwater (B)
- Confined Layer (C)
- Moisture (M), Light (L), Moderate (M), Strong (S)
- PID readings in ppm above background
- ND = No Detection







Project Name: Marshall Line 6B MP608 Pipeline Release Creek Section  
 Project Number: 22131003 7050 to 7100L  
 Date: 9/16/10  
 Completed By: ERIC SEITZMUR

| 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 | 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  |
|----------|-----------------------------------------------------|----------|-------------------------|-------------------|-----------------------------------|----------------------------|------------------|-------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------|--------------------|
| 1503     | (A) B C                                             |          | Y (N)                   | (N) (M) S         | Y (N)                             | 7.1                        | 14:56            | fail                                                              |                           | 9/23/10 10:40                                                      | (A) <sup>RFA</sup> |

Notes:  
 TIME SHEEN TEST SAMPLE COLLECTED 14:50  
 9/20/10 - Free product @ 0920.  
 pit  
 pit Reexcavated on 9/21/10 @ 1004

- (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



Marshall Line 68 MP608 Pipeline Release

22431003

Creek Section

7/150 to 72700 L

Date: 9/16/10

Completed By: Robert Waseleski

| Photo ID                                                                                                                   | Method Used to Indicate Vertical Unit | Photo ID | Free Phase Oil Observed | Odor | Shen Test (Rainbow Sheen Observed) | Headspace Ppm | Time of Test Pte | 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 | Enbridge |
|----------------------------------------------------------------------------------------------------------------------------|---------------------------------------|----------|-------------------------|------|------------------------------------|---------------|------------------|-------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------|-------------------|----------|
| 11:56                                                                                                                      | A                                     |          | Y                       | N    | Y                                  | 1.5           | 9/22/10 0925     | 0.11                                                              | 9/22/10 0925              |                                                                    |                   |          |
| <p>NOTE: L-shen slight</p> <p>in the 11:15</p> <p>9/20/10 - free product @ 0923</p> <p>Escavated to "A" on 9/21 @ 1443</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 68 MP608 Pipeline Release  
 Project Number: 22131003

Date: 9/11/10  
 Completed By: Roger Beck

| 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 |          |
|----------------------------------------------------------------------------------|----------|-----------------------------------------------------|-------------------------|-------------------|-----------------------------------|----------------------------|------------------|-------------------------------------------------------------------|---------------------------|-------------------|----------|
|                                                                                  |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           | EPA               | Enbridge |
| 6350R to 6350R                                                                   |          | A B C                                               | Y (N)                   | DLMS              | Y (N)                             | 0.0                        | 1709             | <u>None</u>                                                       |                           |                   |          |
| Comments: <u>Narrow bank TP is also OP</u>                                       |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                   |          |
| 6450R to 6450R                                                                   |          | A B C                                               | Y (N)                   | DLMS              | Y (N)                             | 22.2                       | 1716             | <u>None</u>                                                       |                           |                   |          |
| Comments: <u>Narrow bank TP is also OP</u><br><u>This pit does not exist. RV</u> |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                   |          |
| 6450R to 6450R                                                                   |          | A B C                                               | Y (N)                   | DLMS              | Y (N)                             | 0.2                        | 1727             | <u>None</u>                                                       |                           |                   |          |
| Comments: <u>Narrow excavation - TP is also OP</u>                               |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                   |          |

- (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: 9/11/10  
 Completed By: Roger Beck

| 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 |
| 64+50R to 65+00R                                        | TP       | A B C                                               | Y N                     | N L M S           | Y N                               | 0.2                        | 1743             | NA                                                                |                           | MD 9-16-10 MR                                                      | TP                | TP       |
| Comments: <u>Narrow excavation - TP will also be OP</u> |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |
|                                                         |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |
|                                                         |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |
|                                                         |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |
| 65+00R to 65+50R                                        |          | A B C                                               | Y N                     | N L M S           | Y N                               | 0.0                        | 1801             | NA                                                                |                           | MD 9-16-10 MR                                                      | TP                | TP       |
| Comments: <u>Narrow excavation - TP will also be OP</u> |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |
|                                                         |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |
|                                                         |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |
|                                                         |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |
| 65+50R to 66+00R                                        |          | A B C                                               | Y N                     | N L M S           | Y N                               | 0.0                        | 1813             | NA                                                                |                           | MD 9-16-10 MR                                                      | TP                | TP       |
| Comments: <u>Narrow excavation - TP will also be OP</u> |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |
|                                                         |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |
|                                                         |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |
|                                                         |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |

(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

Project Name: Marshall Line 6B MP608 Pipeline Release

Project Number: 22131003

Date: 9/12/10

Completed By: Roger Beck

| 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 |
| 66+50R to 66+50R                                 |          | A B C                                               | Y N                     | N T M S           | Y N                               | 0.0                        | 0920             | NR                                                                | 0925                      | NR                                                                 | 1018<br>9-16-10   | NR       |
| Comments                                         |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |
| 66+50R to 67+50R                                 |          | A B C                                               | Y N                     | N L M S           | Y N                               | 0.0                        | 0933             | NR                                                                |                           |                                                                    | 1017<br>9-16-10   | NR       |
| Comments: Narrow excavation - TP will also be OP |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |
| 67+50R to 67+50R                                 |          | A B C                                               | Y N                     | N L M S           | Y N                               | 48.2                       | 1005             | NR                                                                | 1009                      | NR                                                                 | 9-16-10<br>10-28  | 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: Marshall Line 6B MP608 Pipeline Release

Date: 9/12/10

Completed By: Roger Beck

Project Number: 22131003

| 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 |                   |    |
| 67+SDR to 68+SDR                                                                              | (A) C    | (A) C                                               | Y                       | (N) L M S         | Y (N)                             | 1.5                        | 1020             |                                                                   | 1024                      | 1055                                                               | 9-16-10  | MR                | MR |
| Comments: Note: OP scraped clay                                                               |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |          |                   |    |
| 68+SDR to 69+SDR                                                                              | (A) C    | (A) C                                               | Y                       | (N) L M S         | Y (N)                             | 0.7                        | 1029             | MR                                                                |                           | 1057                                                               | 9-16-10  | MR                | MR |
| Comments: Narrow excavation TP will be OP Note: scraped clay                                  |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |          |                   |    |
| 68+50ft to 69+00ft                                                                            | (A) C    | (A) C                                               | Y                       | (N) L M S         | Y (N)                             | 1.8                        |                  |                                                                   |                           |                                                                    |          |                   |    |
| Comments: Narrow excavation - silt fence next to road - no test pit<br>- Duplicated & cleared |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |          |                   |    |

(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



Project Name: Marshall Line 6B MP608 Pipeline Release

Project Number: 22131003

Date: 9/12/10

Completed By: Roger Beck

| 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 |            |
|---------------------------------------------------------------------------------------------------------------------------|----------|-----------------------------------------------------|-------------------------|-------------------|---|---|-----------------------------------|----------------------------|------------------|-------------------------------------------------------------------|---------------------------|-------------------|------------|
|                                                                                                                           |          |                                                     |                         | N                 | L | M |                                   |                            |                  |                                                                   |                           | S                 | EPA        |
| 69+50R to 69+50R                                                                                                          |          | A                                                   | Y                       | N                 | N | L | M                                 | S                          | 2.5              | 1109                                                              | 1117                      | 10/10             | 9-10-10 MR |
| 69+50R to 70+50R                                                                                                          |          | A                                                   | Y                       | N                 | N | L | M                                 | S                          | 1.7              |                                                                   |                           |                   |            |
| Comments: <u>Narrow excavation - sit fence next to road. No excavation test pit</u><br><u>- Duplicated &amp; cleared!</u> |          |                                                     |                         |                   |   |   |                                   |                            |                  |                                                                   |                           |                   |            |
| 70+50R to 70+50R                                                                                                          |          | A                                                   | Y                       | N                 | N | L | M                                 | S                          | 1.2              | 1140                                                              |                           | 10/10             | 9-10-10 MR |
| Comments: <u>Narrow excavation TP will also be OP</u>                                                                     |          |                                                     |                         |                   |   |   |                                   |                            |                  |                                                                   |                           |                   |            |

- (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  
 Project Number: 22131003

Date: 9/12/10  
 Completed By: Page - Bech

| 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 |   |
|---------------------------------------------------|----------|-----------------------------------------------------|-------------------------|-------------------|-------|-----|-----------------------------------|----------------------------|--------------------|-------------------------------------------------------------------|---------------------------|-------------------|---|
|                                                   |          |                                                     |                         | Y                 | N     | N   |                                   |                            |                    |                                                                   |                           | L                 | M |
| 70+50R to 71+00R                                  |          | (A) B C                                             | Y (N)                   | (N) L M S         | Y (N) | 2.5 | 1311                              |                            | 1047<br>9-16-10 MR | 1317                                                              |                           |                   |   |
| Comments: Note: TP scraped clay                   |          |                                                     |                         |                   |       |     |                                   |                            |                    |                                                                   |                           |                   |   |
| 71+00R to 71+50R                                  |          | (A) B C                                             | Y (N)                   | (N) L M S         | Y (N) | 1.0 | 1327                              |                            | 1050<br>9-16-10 MR | 1332                                                              |                           |                   |   |
| Comments: Note: TP scraped clay / OP scraped clay |          |                                                     |                         |                   |       |     |                                   |                            |                    |                                                                   |                           |                   |   |
| 71+50R (40) to 72+00R                             |          | (A) B C                                             | Y (N)                   | (N) L M S         | Y (N) | 4.0 | 1352                              |                            | 1050<br>9-16-10 MR | 1354                                                              |                           |                   |   |
| Comments:                                         |          |                                                     |                         |                   |       |     |                                   |                            |                    |                                                                   |                           |                   |   |

(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 5B MPE08 Pipeline Release  
 Project Number: 22131003

Date: 9/12/10  
 Completed By: Roger Beck

| 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 |
| 72+00R to 72+50R                                 |          | A B C                                               | Y (N)                   | (N) L M S         | Y (N)                             | 2.3                        | 1401             | MR                                                                | 1405                      | MR 9-10-10                                                         |                   | MR       |
| Comments                                         |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |
| 72+50R to 73+00R                                 |          | A B C                                               | Y (N)                   | (N) L M S         | Y (N)                             | 1.5                        | 1412             | MR                                                                | 1414                      | MR 9-10-10                                                         |                   | MR       |
| Comments                                         |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |
| 73+00R to 73+50R                                 |          | A B C                                               | Y (N)                   | (N) L M S         | Y (N)                             | 1.6                        | 1420             | MR                                                                |                           | MR 9-10-10                                                         |                   | MR       |
| Comments: Narrow excavation - TP will also be OP |          |                                                     |                         |                   |                                   |                            |                  |                                                                   |                           |                                                                    |                   |          |

- (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