

US EPA ARCHIVE DOCUMENT

**Enbridge Line 6B MP 608 Pipeline Release  
Marshall, Michigan  
Source Contamination Removal and Verification Summary Report  
Talmadge Creek Section 4  
Stationing 30+00L to 40+00L and 29+00R to 39+00R**

**US EPA ARCHIVE DOCUMENT**

**Enbridge Energy  
September 24, 2010**

# Talmadge Creek Source Contamination Removal and Verification Summary Report

## Section 4 of 10 – Stationing (30+00L to 40+00L) and (29+00R to 39+00R)

### 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 4 of 10 (Stationing left bank of Talmadge Creek: 30+00L to 40+00L and Stationing right bank of Talmadge Creek: 29+00R to 39+00R).

### 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 4 as described in the table below.

Section Number	Stationing
4	Left Bank: 30+00L to 40+00L Right Bank: 29+00R to 39+00R

**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.

A deviation from the above noted methods was also established. This deviation is noted as “Special Condition EPA Approval” in this report, and was established because no EPA methods were applicable for certain clearance areas due to site specific conditions. EPA approval was obtained for each clearance area where a special condition was encountered.

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 4

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	4	30+00L - 30+50L	L	A	N	N	N	1.3	9/15/2010	0927	Y	9/15/2010	0927	Y
B2	4	30+50L - 31+00L	L	C	NA	NA	NA	NA	NA	NA	NA	9/20/2010	1340	Y
B2	4	31+00L - 31+50L	L	A	N	N	N	2.3	9/14/2010	1750	Y	9/14/2010	750	Y
B2	4	31+50L - 32+00L	L	A	N	N	N	2.8	9/14/2010	1732	Y	9/14/2010	1732	Y
B2	4	32+00L - 32+50L	L	A	N	N	N	3.0	9/14/2010	1700	Y	9/14/2010	1700	Y
B2	4	32+50L - 33+00L	L	C	NA	NA	NA	NA	NA	NA	NA	9/19/2010	1710	Y
B2	4	33+00L - 33+50L	L	A	N	N	N	0.0	9/20/2010	1110	Y	9/20/2010	1110	Y
B2	4	33+50L - 34+00L	L	C	NA	NA	NA	NA	NA	NA	NA	9/20/2010	1132	Y
B2	4	34+00L - 34+50L	L	Special Condition EPA Approval								9/20/2010	1145	Y
B2	4	34+50L - 35+00L	L	A	N	N	N	2.7	9/14/2010	1618	Y	9/14/2010	1618	Y
B2	4	35+00L - 35+50L	L	A	N	N	N	2.3	9/14/2010	1315	Y	9/14/2010	1315	Y
B2	4	35+50L - 36+00L	L	B	NA	NA	NA	NA	NA	NA	NA	9/19/2010	1730	Y
B2	4	36+00L - 36+50L	L	A	N	N	N	1.2	9/13/2010	1731	Y	9/13/2010	1740	Y
B2	4	36+50L - 37+00L	L	A	N	N	N	0.2	9/20/2010	1448	Y	9/20/2010	1448	Y
B2	4	37+00L - 37+50L	L	A	N	N	N	0.0	9/13/2010	1701	Y	9/13/2010	1701	Y
B2	4	37+50L - 38+00L	L	A	N	N	N	0.5	9/20/2010	1530	Y	9/20/2010	1530	Y
B2	4	38+00L - 38+50L	L	A	N	N	N	1.5	9/13/2010	1618	Y	9/13/2010	1625	Y
B2	4	38+50L - 39+00L	L	A	N	N	N	1.6	9/13/2010	1605	Y	9/13/2010	1605	Y
B2	4	39+00L - 39+50L	L	A	N	N	N	1.2	9/13/2010	1547	Y	9/13/2010	1547	Y
B2	4	39+50L - 40+00L	L	A	N	N	N	0.8	9/13/2010	1531	Y	9/13/2010	1531	Y

See endnotes for description of notations



Talmadge Creek Source Contamination Removal and Verification Summary Table: Section 4

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	4	29+00R - 29+50R	R	A	N	N	N	0.0	9/12/2010	1010	Y	9/12/2010	1010	Y
B2	4	29+50R - 30+00R	R	B	NA	NA	NA	NA	NA	NA	NA	9/19/2010	1555	Y
B2	4	30+00R - 30+50R	R	A	N	N	N	4.1	9/14/2010	1437	Y	9/14/2010	1445	Y
B2	4	30+50R - 31+00R	R	A	γ*	N	N	70.3	9/14/2010	1545	Y	9/14/2010	1550	Y
B2	4	31+00R - 31+50R	R	A	N	N	N	2.8	9/13/2010	1405	Y	9/13/2010	1410	Y
B2	4	31+50R - 32+00R	R	A	N	N	N	2.4	9/13/2010	1425	Y	9/13/2010	1430	Y
B2	4	32+00R - 32+50R	R	A	N	N	N	5.9	9/13/2010	1455	Y	9/13/2010	1500	Y
B2	4	32+50R - 33+00R	R	A	γ*	Y	N	228.0	9/13/2010	1704	Y	9/13/2010	1706	Y
B2	4	33+00R - 33+50R	R	A	N	N	N	6.8	9/15/2010	1050	Y	9/15/2010	1102	Y
B2	4	33+50R - 34+00R	R	A	N	N	N	1.0	9/13/2010	1822	Y	9/13/2010	1822	Y
B2	4	34+00R - 34+50R	R	A	N	N	N	0.8	9/13/2010	1845	Y	9/13/2010	1845	Y
B2	4	34+50R - 35+00R	R	A	N	N	N	0.7	9/18/2010	1615	Y	9/18/2010	1620	Y
B2	4	35+00R - 35+50R	R	A	N	N	N	0.0	9/14/2010	1000	Y	9/14/2010	1000	Y
B2	4	35+50R - 36+00R	R	A	N	N	N	0.9	9/14/2010	0945	Y	9/14/2010	0945	Y
B2	4	36+00R - 36+50R	R	A	N	N	N	0.0	9/13/2010	1820	Y	9/13/2010	1820	Y
B2	4	36+50R - 37+00R	R	A	N	N	N	0.4	9/14/2010	0925	Y	9/14/2010	0925	Y
B2	4	37+00R - 37+50R	R	B	NA	NA	NA	NA	NA	NA	NA	9/20/2010	1715	Y
B2	4	37+50R - 38+00R	R	A	N	N	N	0.4	9/11/2010	1755	Y	9/11/2010	1800	Y
B2	4	38+00R - 38+50R	R	A	N	N	N	1.1	9/11/2010	1740	Y	9/11/2010	1743	Y
B2	4	38+50R - 39+00R	R	A	N	N	N	0.7	9/11/2010	1730	Y	9/11/2010	1730	Y

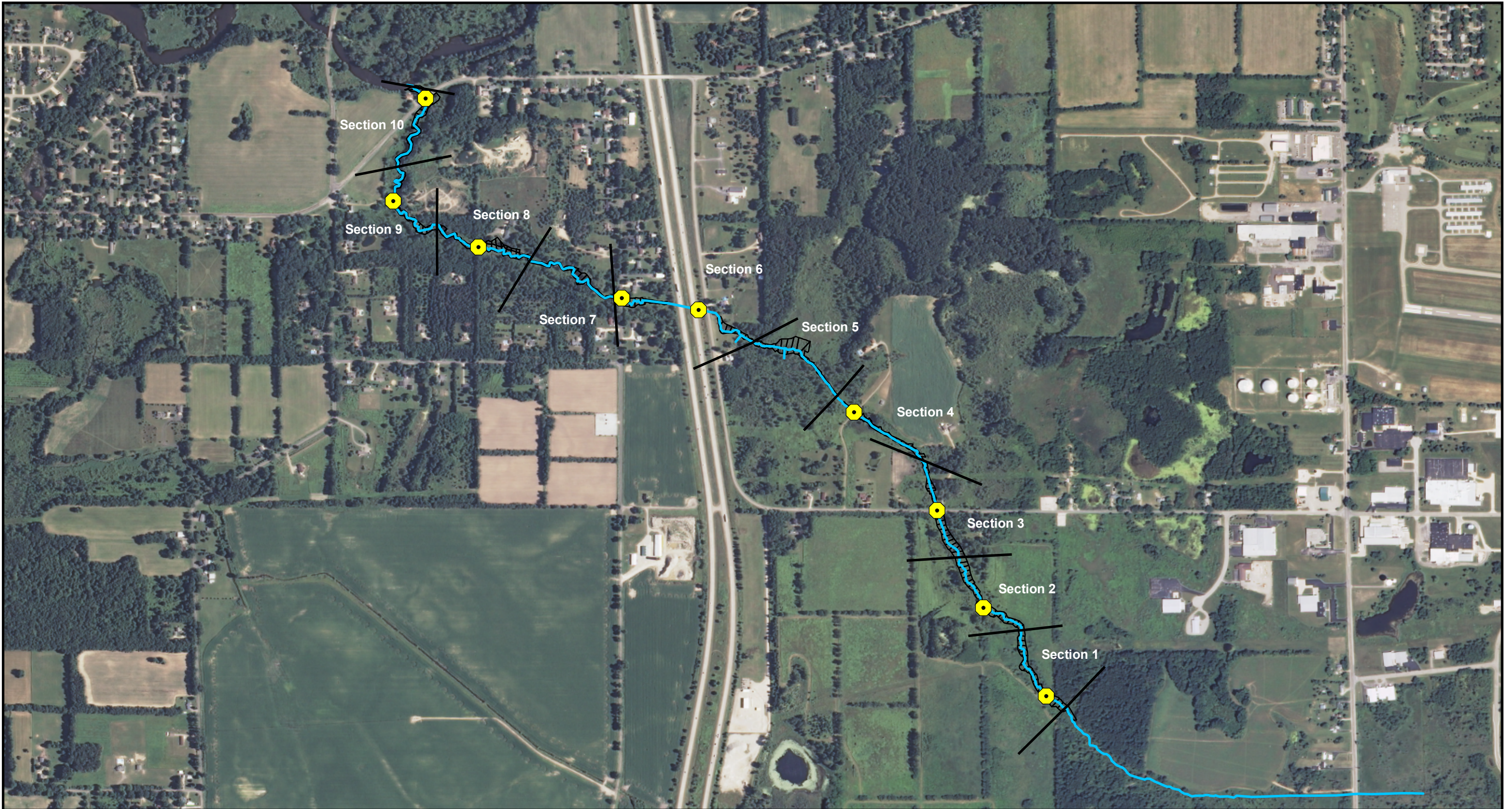
See endnotes for description of notations

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.
- Special Condition  
EPA Approval – No EPA method was established for this clearance area due to site specific conditions that did not allow for completion using the EPA Approved Methods A, B, or C. EPA approval was obtained for each clearance area where a special condition was encountered.




# 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



0 50 100 Feet

**Legend**

- Culverts
- Talmadge Creek
- Section Lines

01+00L Environmental Clearance Areas

**FIGURE 2**  
**SECTION 4 STATION LOCATIONS**  
**TALMADGE CREEK**  
**LINE 6B MP 608**  
**MARSHALL, MICHIGAN**

SEPTEMBER, 2010

# Field Photographs

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## Field Photographs – Section 4



30+00L – 30+50L: Looking away from Talmadge Creek (September 14, 2010)



30+50L – 31+00L: Looking upstream at 6-hour test pit (September 14, 2010)

## Field Photographs – Section 4



31+00L – 31+50L: Looking toward Talmadge Creek (September 14, 2010)



31+50L – 32+00L: Looking toward Talmadge Creek (September 14, 2010)



## Field Photographs – Section 4



32+00L – 32+50L: Looking upstream (September 14, 2010)



32+50L – 33+00L: Looking upstream (September 15, 2010)

## Field Photographs – Section 4



33+00L – 33+50L: Looking toward Talmadge Creek (September 19, 2010)



33+50L – 34+00L: Looking upstream (September 13, 2010)

## Field Photographs – Section 4



34+00L – 34+50L: Looking upstream (September 23, 2010)



34+50L – 35+00L: Looking toward Talmadge Creek (September 14, 2010)

## Field Photographs – Section 4



35+00L – 35+50L: Looking toward Talmadge Creek (September 23, 2010)



35+50L – 36+00L: Looking upstream (September 14, 2010)

## Field Photographs – Section 4



36+00L – 36+50L: Looking downstream (September 15, 2010)



36+50L – 37+00L: Looking toward Talmadge Creek at 6-hour test pit (September 20, 2010)

## Field Photographs – Section 4



37+00L – 37+50L: Looking toward Talmadge Creek (September 15, 2010)



37+50L – 38+00L: Looking toward Talmadge Creek at 6-hour test pit (September 20, 2010)

## Field Photographs – Section 4



38+00L – 38+50L: Looking downstream (September 23, 2010)



38+50L – 39+00L: Looking toward Talmadge Creek (September 13, 2010)

## Field Photographs – Section 4



39+00L – 39+50L: Looking downstream (September 15, 2010)



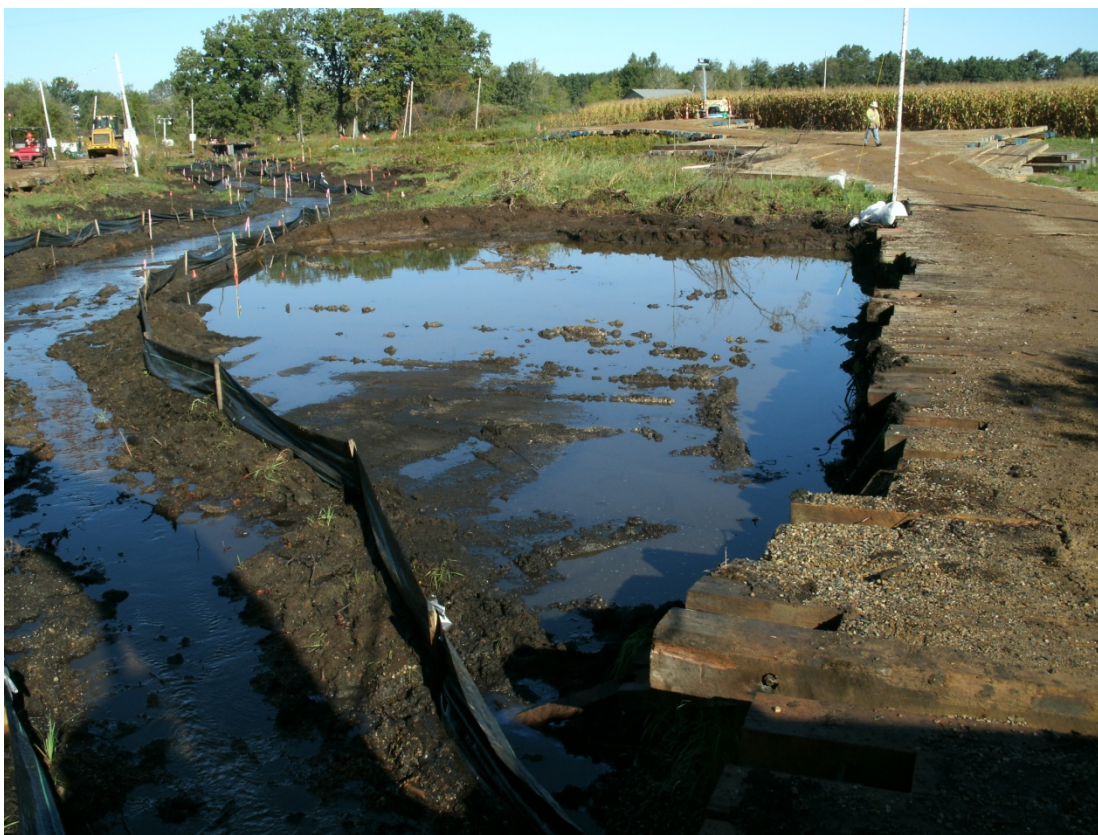
39+50L – 40+00L: Looking toward Talmadge Creek (September 13, 2010)



## Field Photographs – Section 4



29+00R – 29+50R: Looking toward Talmadge Creek at 6-hour test pit (September 12, 2010)



29+50R – 30+00R: Looking downstream (September 12, 2010)

## Field Photographs – Section 4



30+00R – 30+50R: Looking at 6-hour test pit (September 14, 2010)



30+50R – 31+00R: Looking toward Talmadge Creek (September 14, 2010)

## Field Photographs – Section 4



31+00R – 31+50R: Looking at 6-hour test pit (September 13, 2010)



31+50R – 32+00R: Looking toward Talmadge Creek (September 13, 2010)

## Field Photographs – Section 4



32+00R – 32+50R: Looking toward Talmadge Creek (September 13, 2010)



32+50R – 33+00R: Looking upstream (September 13, 2010)

## Field Photographs – Section 4



33+00R – 33+50R: Looking toward Talmadge Creek (September 14, 2010)



33+50R – 34+00R: Looking toward Talmadge Creek (September 13, 2010)

## Field Photographs – Section 4



34+00R – 34+50R: Looking downstream (September 13, 2010)



34+50R – 35+00R: Looking downstream (September 23, 2010)

## Field Photographs – Section 4



35+00R – 35+50R: Looking toward Talmadge Creek at 6-hour test pit (September 17, 2010)

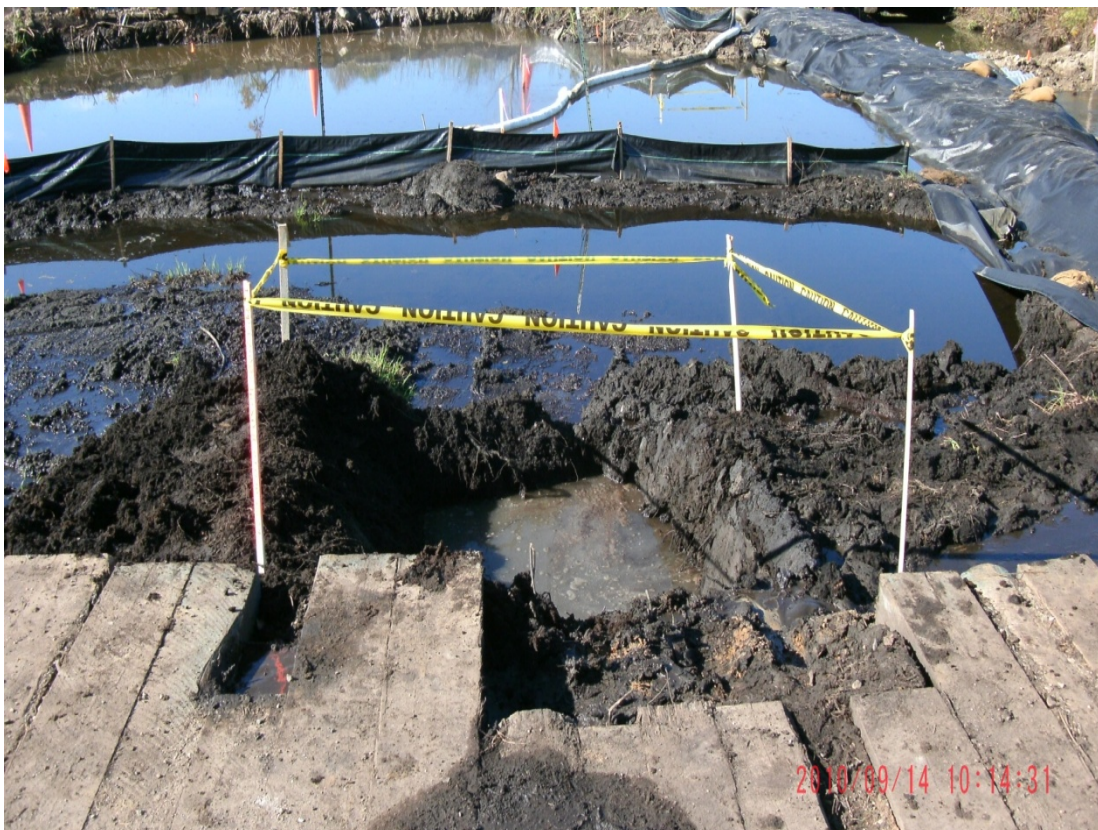


35+50R – 36+00R: Looking toward Talmadge Creek (September 14, 2010)

## Field Photographs – Section 4



36+00R – 36+50R: Looking toward Talmadge Creek at 6-hour test pit (September 15, 2010)



36+50R – 37+00R: Looking toward Talmadge Creek (September 17, 2010)



## Field Photographs – Section 4



37+00R – 37+50R: Looking at 6-hour test pit (September 16, 2010)



37+50R – 38+00R: Looking from Talmadge Creek toward mat road (September 11, 2010)

## Field Photographs – Section 4



38+00R – 38+50R: Looking at 6-hour test pit (September 11, 2010)



38+50R – 39+00R: Looking toward Talmadge Creek at 6-hour test pit (September 11, 2010)

# Field Notes

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

Date: 09/15/2010  
 Completed By: Ryan Frank

Crank 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	
				L	M							S	EPA
BACKFILLED 9/17	30+501 0975	B C	Y	ND	ND	Y	1.6	TP 0921	ONE PRODDILE	OP	9-17 14:30	SS	
BACKFILLED 9/17	30+501 0978	B C	Y	ND	ND	Y	1.3	0927	ONE PRODDILE		9-17 14:40	SS	
BACKFILLED 9/17	33+501 0979	B C	Y	ND	ND	Y	6.8	1050	ONE PRODDILE		9-17-10 1713		NR

- (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 SB MP508 Pipeline Release

Date: 9/14/10

Project Number: 22131003

Completed By: Marcia Steciak

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
JL 3200 10 3150	0710	B C	Y	0 L M S	Y	2.8	1732	9/17/10	9/17/10	9/17/10	SS	SS
Comments: M <sup>5</sup> 9/17 @ 1448 Breached during 6hr Inspection. Pit removed 9/19/10 4:10pm TUR												
JL 3500 10 3100	0730	B C	Y	0 L M S	Y	2.3	1750	9/17/10	9/17/10	9/17/10	SS	SS
Comments: M <sup>5</sup> Breached on 9/15												
0. V 13100 10 3050	24	000	Y	0 L M S	Y	3.6	1805	9/18/10	9/18/10	9/18/10	SS	SS
Comments: M <sup>5</sup> Ghr. Failed 9/17 due to free product. Excavating to 'B', 9/20/10 TUR												

- (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: 22131003

Date: 9/13/10  
 Completed By: Marcin Steciuk

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
3750 <sup>10</sup> 3200	48	A B C	Y	N	N	L	M	S	Y	N		9-12-10 9:10 pm	9-21-10 9:10 pm		SS	SS
<p>Comments: Power lines &amp; gas lines present. Gas pipe representative on site. Bankside Eastern Pipeline - Jude Anicut. Stepped @ 11:00 due to reactivation of water. New placing socks in the stream across our work section. Scraped till area Billed</p>																
3800 <sup>10</sup> 3350		A B C	Y	N	N	L	M	S	Y	N		9:10 9:10 am	9-19-10 9:10 am		SS	SS
<p>Comments: Abandoned due to gas pipe line in the way &amp; no areas to dig. From creek to road mat.</p>																
3850 <sup>10</sup> 3400		A B C	Y	N	N	L	M	S	Y	N		9:10 11:30 am	9-22-10 11:30 am		SS	SS
<p>Comments: Area appears to be backfilled to ± 12". Product observed in the soil &amp; water. Area scraped to ground water. Area scraped till all covered of water.</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

bridge +  
S17 488 677-2

Date: 9/14/10  
Completed By: Martin Steciak

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

Crest Section Photo ID	Method Used to Indicate Vertical Limit	Free Phase Oil Observed	Odor	Sheen Test		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)		Backfill Approval	
				Rainbow Sheen Observed	Sheen Observed					EPA	Enbridge		
3300 <sup>10</sup> 3350 1-4	A B C	Y N	N L M S	Y	N	—		passed MLK 9/15 passed Sheen test.					SS
<p>Comments: Area swept by hose. Finished @ 10:10. Waiting for other area near pipeline to be hand shovelled prior to installing test &amp; observation pits. Passed MLK 9/15.</p>													
3550 <sup>10</sup> 3500	A B C	Y N	N L M S	Y	N	2.3	13:15						SS
<p>Comments: Large rocks encountered when digging an observation/sample pit.</p>													
3600 <sup>10</sup> 3550 5-6	A B C	Y N	N L M S	Y	N	—			9/19/10 5:30pm				SS
<p>Comments: 1/2 of area is occupied by a bridge → 3600-3625. Trench breached on 9/19/10 → 5:30pm</p>													
<p>9/17/10 - No stake marking location of fire, &amp; also breached.</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

BZ

Supplemental sheet

Date: 9-20-70

Completed By: Tom Flaminio

Creek Section \_\_\_\_\_ to \_\_\_\_\_

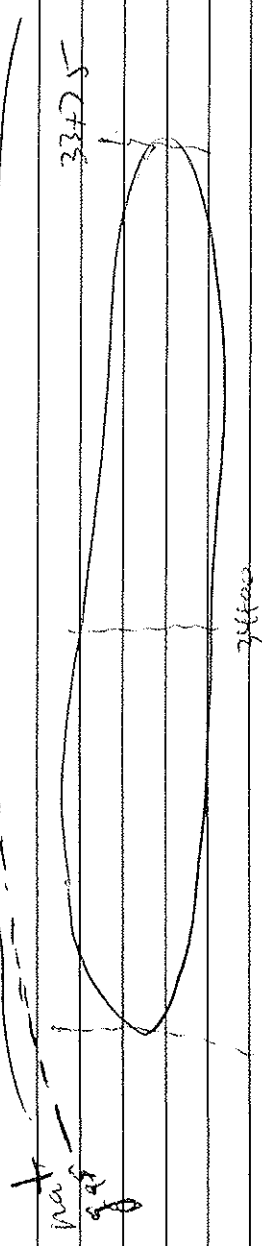
Project Name: Marshall Line 6B MP608 Pipeline Release

Project Number: 22131003

Photo ID	Method Used to Indicate Vertical Limit <sup>1</sup>	Photo ID	Free Phase Oil Observed	Odor <sup>2</sup>	Sheen Test			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	
					Y	N	N						I	M
	A B C													

33+50L → 34pool  
Trench 8:15 AM  
11:32 AM X  
Western Rep  
Paul Kyburat

34pool → 34+50L  
Trench 7:00 AM  
11:45 AM



Previously dug out

Add to original sheet

(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: 22131093

Date: 9/20/10

Creek Section 33+00 to 33+50L

Completed By: Tom Flaminio

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 Observations and Time (if Applicable)	Time of Trench Excavation	Backfill Approval	
										EPA	Enbridge
100-026	AD	100-026	Y	N	Y	0.0	1110	Head dug Trench by utility line (gas)	1110		

Notes:

33+00 to 33+50L

Head dug Trench by utility line (gas)

One pit.

- (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

Amplex

Project Name: Marshall Line 6B MP608 Pipeline Release  
 Project Number: 22131003  
 Date: 9/14/10  
 Completed By: Maria Stead

Crest 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	
										EPA	Enbridge		
3050 <sup>10</sup> 3100 3140	3140	B C	Y	N	Y	70.3	1:45 1:55	Adrian			9-17 11:02	55	
Comments: 2nd scrape from area of product. aka original													
3rd area above scraped area													
50% filled 9/17													
3500 <sup>10</sup> 3450	3450	A B C	Y	N	Y	2.7	16:18	9:15:10 11:30			9:17:10 10:30		
Comments: Only one pit due to size of area													
3250 3200	3200	B C	Y	N	Y	3.0	17:00	Adrian			9-17 14:50	55	
Comments: 50% FILLED 9/17													

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

Project Name: Marshall Line 68, MF608 Pipeline Release Date: 9-20-10  
 Project Number: 22131003 Completed By: Tom Flaminis

Creek Section	Photo ID	Method used to indicate Vertical Limit <sup>1</sup>			Free Phase Oil Observed	Odor <sup>2</sup>	Sheen Test 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
362 10 27700							0.2	2:48 pm 9-21-10 1448	Hand dug			9:25-10 11:20		55
<p>Comments: TPTOP Hand dug 1 pit</p>														
705-45							0.5	1530 9-21-10 1430						
<p>Comments: Downstream side of road crossing. Depth into clay 1 pit          Failed 48-hr on 9/23/10 1423 due to filter product.</p>														
4320 10 4320							0.0	1630 8:30						
<p>Comments: Duplicate - see original GWC inspection Sept 14 114          Cleared 48-hr 1 pit</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

Date: 9/13/2010

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
37H50L 10/37H0L EXPIRED 9/17	1705	B C	Y (N)	(N) L M S	Y (N)	0.0	TP 1701	ONE PIT 9/13/10	OP	9-15-10 1645		
Comments: FLOW AREA. PIT AT SIDE OF BURM.												
37H50L 10/37H0L		B C	Y (N)	(N) L M S	Y (N)							
Comments: ISLAND OFF MAT ROAD TO CREEK EDGE. NO PIT. ISLAND IS SMALL. SHEEN TEST ONLY. 1715												
37H50L 10/37H0L	1809	B C	Y (N)	(N) L M S	Y (N)	1.2	1731	9-15-10 11:55	1740	9/20/10 1555		
Comments: (Signature) TYP												

- (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 65 MP608 Pipeline Release

Date: 09/13/2010

Completed By: Ryan Frank

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		
37400	381504-1607	B C	Y N	N L M S	Y N	1.6	1605 8:15	9-14-10 4:23 PM	4:12 PM				
Comments: uS/E checked on 9/15 @ 1415. Pit contains product.													
Filed.													
381504	381004-1626	B C	Y N	N L M S	Y N	1.5	1618		1625				
Comments: uS/E checked on 9/15 @ 1415. Pit contains product.													
Filed per Corey Simon													
381004	371504	A B C	Y N	N L M S	Y N								
Comments: PRIVATE ROAD AT 37175. SHEEN SAMPLE TAKEN FROM DOWNSTREAM BANK. EDGE. 1645													
Duplicate - see original for 6-hr inspection, 9/21/10 1102													

- (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 66 MP508 Pipeline Release Date: 09/13/2010  
 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
A0150L	1537	B C	Y	N	Y	1.3	1435	9-14-10 4:30-12	1441	9-15-10 14:31	MR	JVP
Comments: <u>Free to duct</u> <u>Filed</u>												
A0150L	1538	B C	Y	N	Y	0.80	1531	9-14-10			MR	JVP
Comments: <u>Filed</u> <u>4:25 pm</u>												
B9150L	1606	A B C	Y	N	Y	1.2	1547	9-14-10			MR	JVP
Comments: <u>Filed</u> <u>4:25 pm</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*

Project Name: Marshall Line 6B MF608 Pipeline Release

Date: 9/14/10

Project Number: 22131003

Completed By: Marcin Steciak

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
✓ R-7300 <sup>10</sup> 2750 <sup>10</sup> 2750 <sup>10</sup> 7-8	7-8	A B C	Y (N)	(N) L M S	Y (N)	Y (N)	2.3	1333	9/17	9/17	9/17	SS		
Comments														
Bodily 9/17/10														
✓ R-2750 <sup>10</sup> 2800 <sup>10</sup> 2800 <sup>10</sup> 9-10	9-10	A B C	Y (N)	(N) L M S	Y (N)	Y (N)	7.9	1333	9/17	9/17	9/17	SS		
Comments														
Bodily 9/17/10														
✓ R-2000 <sup>10</sup> 2050 <sup>10</sup> 2050 <sup>10</sup> 11-12	11-12	A B C	Y (N)	(N) L M S	Y (N)	Y (N)	4.1	1437 1443	9/17	9/17	9/17	SS		
Comments														
Bodily 9/17/10														

- (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

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

Date: 9/13/06  
 Completed By: Marcia 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						S	EPA	Enbridge	
3200 <sup>10</sup>	3250 <sup>57</sup>	A B C	Y (N)	N	L	M	S	5.9	1455 1500	9-14-06 (11)		9-15-06 17:00		MR	TRF
<p>Comments: SHEEN observed on standing water in area. However it tested negative for odors were sensed no free product or rainbows observed. water recommended sampling area even though sample failed sheen test.</p>															
3250 <sup>10</sup>	3300 <sup>58</sup>	A B C	N	N	L	M	S	2.03	1704 1706			9-17-06		SS	
<p>Comments: (rainbow) observed during sheen test at new stream bank. Notes: 2nd and 3rd stream. Higher elevation + heavy vegetation.</p>															
3350 <sup>10</sup>	3400 <sup>59</sup>	A B C	Y (N)	N	L	M	S	6.0	1822			9-15-06 17:01		SS	
<p>Comments: 2nd A   N   N   Spill sample taken from a 8' x 10' area. # 66. where piping spots of a rainbow where observed.</p>															

(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

2nd Sheen Test  
 what kind of piping spots of a rainbow where observed.



Project Name: Marshall Line 68 MP608 Pipeline Release

Project Number: 22131003

Date: 9/13/10

Completed By: Martin Steid

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
3100 <sup>10</sup> 3450					Y	N						9:20-10:11:45am	9:27-10:13:26			55
<p>Comments: Area abandoned due to gas pipe line &amp; no room to sample. Needs decision. Area cleaned &amp; spiked off by USEPA &amp; backfilled on 9/10/9 see sheet.</p> <p>New portion of</p>																
FILLED 9/19/10 CTS					Y	N						9:43	9:43			
3100 <sup>10</sup> 3150 50-510 <sup>10</sup> C					Y	N						9:14-7:00 (1:14)	9:14-19:10			
<p>Comments: 34750 trench on 9/2</p> <p>1410</p> <p>1405</p>																
FILLED 9/19/10 CTS					Y	N						9:17	9:17			
3150 <sup>10</sup> 3200 153-540 <sup>10</sup> B C					Y	N						1425	1430			
<p>Comments: Scraped area near creek. No product or rainbow observed.</p>																

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

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

(3) PID readout in ppm above background

ND = No Detection

Project Name: Marshall Line SB MP/SOB Pipeline Release

Date: 9/13/10

Project Number: 22131003

Completed By: Martin Steele

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
FILED 9/10 CBS								9-15-10 1700		9-19-10		
3400 to 3450	70	B C	Y	N	Y	0.8	BUS					
	71											
Comments												
to												
A B C Y N N L M S Y N												
Comments												
to												
A B C Y N N L M S Y N												
Comments												

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

Project Name: Marshall Line 6B MP608 Pipeline Release  
 Date: 09/18/2010

Project Number: 22131093  
 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	Backfill Approval	
				A	B	C	L	M						S	EPA
3450R to 35100R		A B C	Y N	N	L	M	S	Y	0.7	5:15	09/18/2010	6:20			SS
Comments															
<del>3450R to 35100R</del>															
Comments															
<del>3450R to 35100R</del>															
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 6B MP608 Pipeline Release

Date: 09/13/2010

Completed By: Ryan Frank

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
36450R to 36400R	187	B C	Y	N L M S	Y (N)	0.0	1820	2150				
Comments												
to												
Comments												
to												
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 66 MP608 Pipeline Release

Date: 09/14/2010

Completed By: RYAN FRANK

Project Number: 22133.0003

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
37+602 <sup>10</sup> 36+50R	1014	A B C	Y (N)	N L M S	Y (N)	0.4	0925 ONE PIT	John			SS
<p>Comments: LIGHT SHEEN OBSERVED. NO RAINBOW. SEGREGATED SMALL AREA. TEST PIT INSTALLED. SCATTER TO 37+00R IS A PRIVATE ROAD. SHEEN AREA CONTIGUOUS FROM UNDER MAF. 9/15 Failed - breached</p>											
36+00R <sup>10</sup> 35+50R	1015	A B C	Y (N)	N L M S	Y (N)	0.9	0945 ONE PIT	John	6 hr		SS
<p>Comments: 9-15-10 1630</p>											
35+50R <sup>10</sup> 35+00R	1016	A B C	Y (N)	N L M S	Y (N)	0.0	1000 ONE PIT	John			SS
<p>Comments: 9-15-10 1630</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

B2

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

Date: 9/20/10  
 Completed By: Tom Flaminio

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 Applicable	Time of Trench Excavation	48-hour Follow-up Inspection Observations and Time Applicable	Backfill Approval	
											EPA	Enbridge
37+00 R		A B C	Y (N)	N L M S	Y (N)	0.0	5:10 pm	Failed 9/22/10 10:45	5:15 pm	9-23-10	55	
<p>Comments: TP test</p> <p>Fail 6-hour inspection due to free product 09/22/10 1045</p> <p>2 pits @ 1045</p> <p>OP person on 9-23-10</p>												
<p>Failed again on 9/22/10 1338 (didn't wait 6-hr. they failed 1. early EPA)</p>												
<p>37+00 R → 37+50 R</p>												
<p>Comments: Executed to 13' on 09/22/10</p> <p>See Attached sheets</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

Project Name: Marshall Line 68 MP608 Pipeline Release

Date: 9/12/10

Project Number: 27131003

Completed By: Marcia Stepiak

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
3750 <sup>10</sup> 3700	—	A B C	Y (N)	N L M S	Y (N)	0.0	—					
Comments: 3750-3050 Gas Pipelines - Area abandoned until pipeline representative is on site.												
2950 <sup>10</sup> 2900	0008 0009 0010	A B C	Y N	N L M S	Y N	—	0945		3:30 PM	9/12/10 9/12/10 10:40	SS	
Comments: No sheen test no test pit. Area full of water, scraping of edges occurred. Sheen observed in water near math road.												
Backfilled 9/17												
2950 <sup>10</sup> 2900	0010 0011 0014	A B C	Y (N)	N L M S	Y (N)	0.0	1010					
Comments: 9/17 - been backfill & observation from pit. Needed.												

(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

1650  
1650

Date: 9/22/2010  
 Completed By: SA (Steve Goss) 37400 to 37450 R

Photo ID	Method Used to Indicate Vertical Limits	Photo ID	Free Phase Oil Observed	Color	Sheen Test Rainbow Sheen Observed	Headspace* ppm	Time of Test Pit	6-hour Follow-up Inspection Observations and Time (if Applicable)	Time of Trench Excavation	Backfill Approval	
										EPA	Enbridge
N/A	A, B, C		Y	(M) LMS Y	(N)			Failed 9/21/10 10:44am 5 (original sheet)			

NOTES:  
 5:45 OBSERVED VAC TRUCK DRAW WATER FROM TP PREPARING FOR EXCAVATION PARALLEL TO DRIVEWAY TO ~37+25  
 6:15 BEGAN EXCAVATION EXCAVATOR LEFT @ 6:50  
 7:00 SECOND HOE ARRIVED BEGAN AGAIN @ 7:10 W/ 1<sup>ST</sup> TRUCK COMPLETED @ 7:30  
 JF NEW CREW INSTALLED FABRIC @ 7:35

Test Pit installed 9-20-10, 5:10pm  
 Failed 9/21/10, 10:44am  
 Revacuumed for reassessment on 9/22/10  
 Failed again.  
 Dug to "B" (THIS SHEET)  
 Excavation pit 9/20/10, 5:15pm (original sheet)  
 left in place  
 48-in passed 9/23/10, 10:15am (original sheet)

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



Project Name: Marshall Line 6B MP608 Pipeline Release

Date: 9/11/10

Project Number: 22131003

Completed By: Marvin Stedat

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
<u>3550 to 3600</u>	<u>1750</u>	<u>A</u>	<u>Y</u>	<u>N L M S</u>	<u>Y</u>	<u>1.1</u>	<u>9/11/10</u>	<u>9/11/10</u>		<u>MP</u>	<u>TUR</u>
<p>Comments: <u>Skimp area, standing water everywhere. Sheen observed near water.</u>  <u>cleared by Mike EPA 9/11/10</u></p>											
<u>3700 to 3750</u>	<u>1800</u>	<u>B</u>	<u>Y</u>	<u>N L M S</u>	<u>Y</u>	<u>0.4</u>	<u>9/11/10</u>	<u>9/11/10</u>		<u>MP</u>	<u>TUR</u>
<p>Comments: <u>Stopped work @ 1:00 pm for weather. Weather cleared by 3:00 pm and work resumed.</u>  <u>AW cleared. Weather = Erick Benson</u>  <u>cleared by Mike EPA 9/11/10</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

Project Name: Marshall Line GB MP605 Pipeline Release Date: 9/11/10  
 Project Number: 22131003 Completed By: Warren Sze ciak

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
0005 to 3950	9/11/10 1630	B C	Y (N)	N L M S	Y (N)	0.3	1630	all ok		MR	TR
Comments: 48 hr = murky / Cleared by Mike EPA 9/12/10											
3950 to 5900	9/11/10 1640	B C	Y (N)	N L M S	Y (N)	0.3	1640	all ok		MR	TR
Comments: waited for truck 1050-1700 MS 9/11 / 48 hr = murky / cleared by Mike EPA 9/12/10											
5900 to 7300	9/11/10 1730	B C	Y (N)	N L M S	Y (N)	0.7	1730			MR	TR
Comments: 11:06 AM 9-12-10 w/ EPA, western sheen ok 48 hr = murky 9/12/10											

(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