

**ExxonMobil Pipeline Company**

**SCAT Area Transition Report  
for C34**

Silvertip Pipeline Incident  
Laurel, Montana

October 23, 2011



## **SCAT Area Transition Report for C34**

Silvertip Pipeline Incident  
Laurel, Montana

Prepared for:  
ExxonMobil Pipeline Company

Prepared by:  
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Our Ref.:  
B0085883.1103

Date:  
October 23, 2011

*The observations described in this Report were made exclusively under the conditions at the time and subject to the limitations stated therein. It is understood by Client that ARCADIS has relied on the accuracy of documents, oral information, and other material and information provided by sources documented in this report, including but not limited to information provided by Client and Client's other contractors. ARCADIS has not independently verified any such information. The conclusions presented in the Report are based solely upon the observations and representations made by others.*

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## **1. Executive Summary of Oil Removal Activities**

This Shoreline Cleanup Assessment Technique (SCAT) Area Transition Report provides a summary of the SCAT surveys conducted to determine the extent of oiling along the riverbanks and floodplain within SCAT Area C34, as well as the oil remediation activities completed in this area based on the SCAT Team recommendations. This report also summarizes the environmental samples collected in SCAT Area C34. This report is intended to be read and used in conjunction with the Summary of Assessment and Oil Removal Activities report.

### **1.1 Land Ownership and Access Issues**

Figure 1 provides an aerial map of SCAT Area C34, along with the (a) SCAT Area boundary, (b) parcel boundaries and respective property owners, and (c) access constraints identified during the oil cleanup process. The acreage surveyed in Area C34 is 38.2. There were no access issues for this area.

### **1.2 Cultural, Historic, and Natural Resource Constraints**

Due to the low levels of oiling in Area C34, historic properties or cultural resources were not observed or recorded.

Figure 2 summarizes the natural resources identified in this segment. International Bird Rescue and Resource Advisors from U.S. Fish and Wildlife Service conducted limited inspections of Area C34 due to the low level of oiling in Division C. No oiled wildlife was observed or recovered. No Wildlife Priority Cleanup Areas were identified. No active migratory bird nests were identified in Area C34.

### **1.3 Summary of Environmental Sampling**

Table 1 (below) summarizes samples collected within Area C34. The analytical results for the samples collected can be accessed through a publicly accessible database on the United States Environmental Protection Agency's (USEPA's) website. The approximate locations of samples collected within Area C34 are provided on Figure 3. However, to date, no samples have been collected in this area.

**Table 1 Environmental Sampling Summary**

Agency	Sample Num	Date	Matrix	Location	Latitude	Longitude
	No Samples Collected*					

**1.4 Summary of Initial SCAT Surveys**

The SCAT teams used systematic evaluation criteria and treatment method tables approved by the National Oceanic and Atmospheric Administration to provide a standard approach for data collection and conducting field surveys. The forms and sketches from the initial SCAT surveys performed along the river bank (water edge) and floodplain within Area C34 are included in Appendix B. Figure 4 provides the maximum oiling zones observed by the SCAT team during the initial surveys of Area C34.

**1.5 Applicable Compiled Treatment Recommendations**

The SCAT team developed compiled treatment recommendations (CTRs) providing approved treatment methods (ATMs) for each oiling zone identified during the initial SCAT surveys ([CTR No. 59](#) and [CTR No. 62](#)).

**1.6 Oil Removal Activities**

Oil removal activities were conducted within Area C34 in accordance with the ATMs identified in the CTRs. [Appendix I](#) of the Summary of Assessment and Oil Removal Activities report presents this data including: date range/days worked, average number of people working per day, equipment used, and various types of bags removed: oily debris, personal protective equipment (PPE), plastic, trash, super sacks, wood chips, and contaminated wood.

**1.7 Pre-Inspection Survey Transmittal**

A Pre-Inspection Survey Transmittal (PIST) was not conducted for this area.

**1.8 Post-Inspection Survey Transmittal**

A Post-Inspection Survey Transmittal (POST) was not conducted for this area.

### **1.9 Summary of Final SCAT Surveys**

Figure 5 shows the oiling conditions within Area C34 following completion of oil removal activities. The SCAT team performed a final survey of the right bank within SCAT Area C34 to confirm the agreed-upon cleanup endpoints identified in the applicable CTRs had been achieved. The final SCAT survey documentation is presented in Appendix E.

### **1.10 SCAT Area Conclusions**

Based on the initial SCAT surveys performed on the left bank, no oil was observed. Based on the final SCAT survey performed on the right bank, no further treatment is recommended for this segment. SCAT Segment Sign-Off Forms are included as Appendix F.

**2. Transition Sign-Off Form**

**SCAT Area Transition Report for C34**

**Prepared for:**

**Unified Command**

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Date

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Unified Command – RP



**SCAT Area Transition  
Report for C34**

Silvertip Pipeline Incident  
Laurel, Montana

**SCAT Area Transition Report for C34**

**Prepared for:**

**Unified Command**

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Date

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Unified Command – FOSC



**SCAT Area Transition  
Report for C34**

Silvertip Pipeline Incident  
Laurel, Montana

**SCAT Area Transition Report for C34**

**Prepared for:**

**Unified Command**

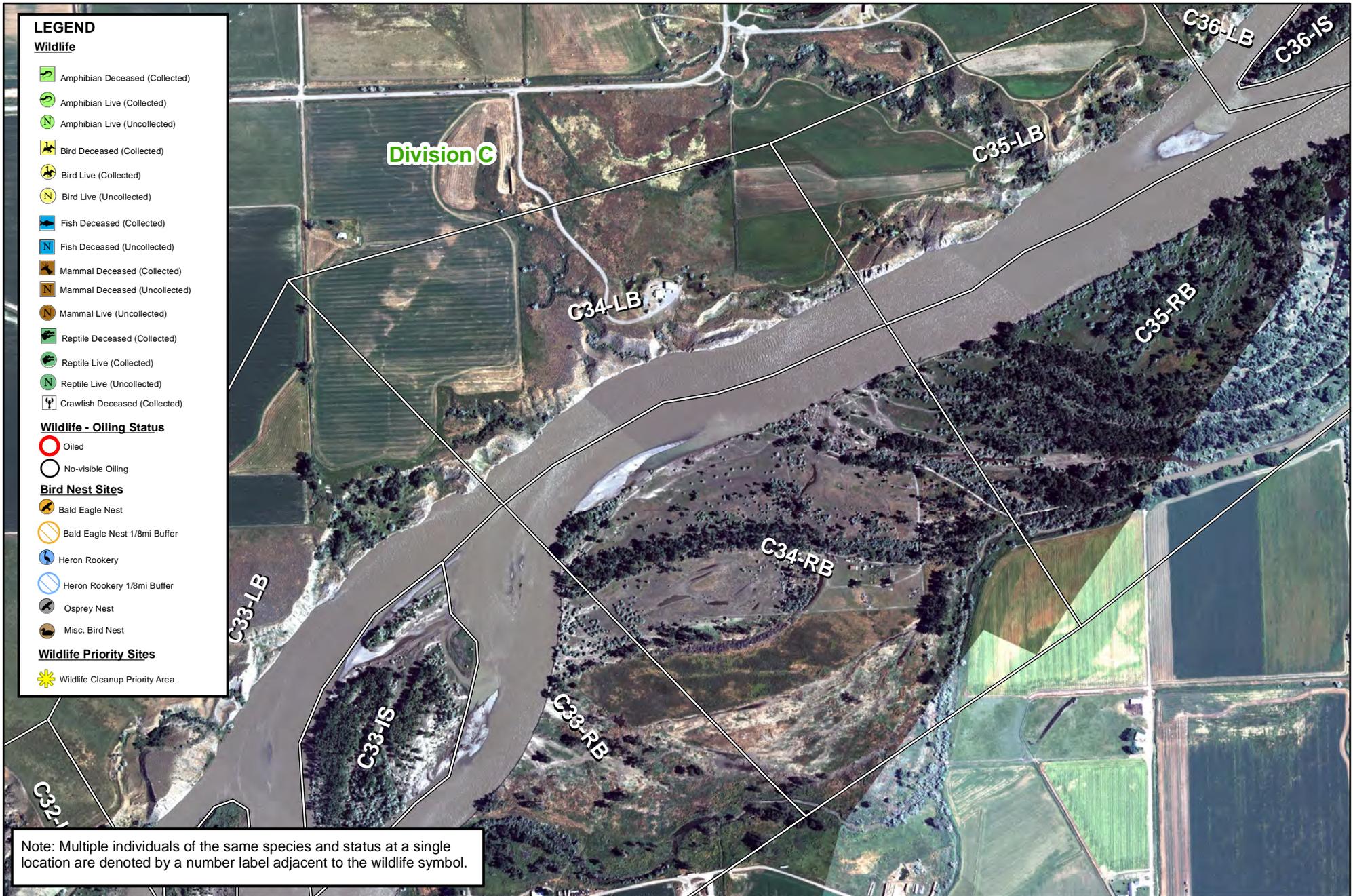
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Date

---

Unified Command – MDEQ



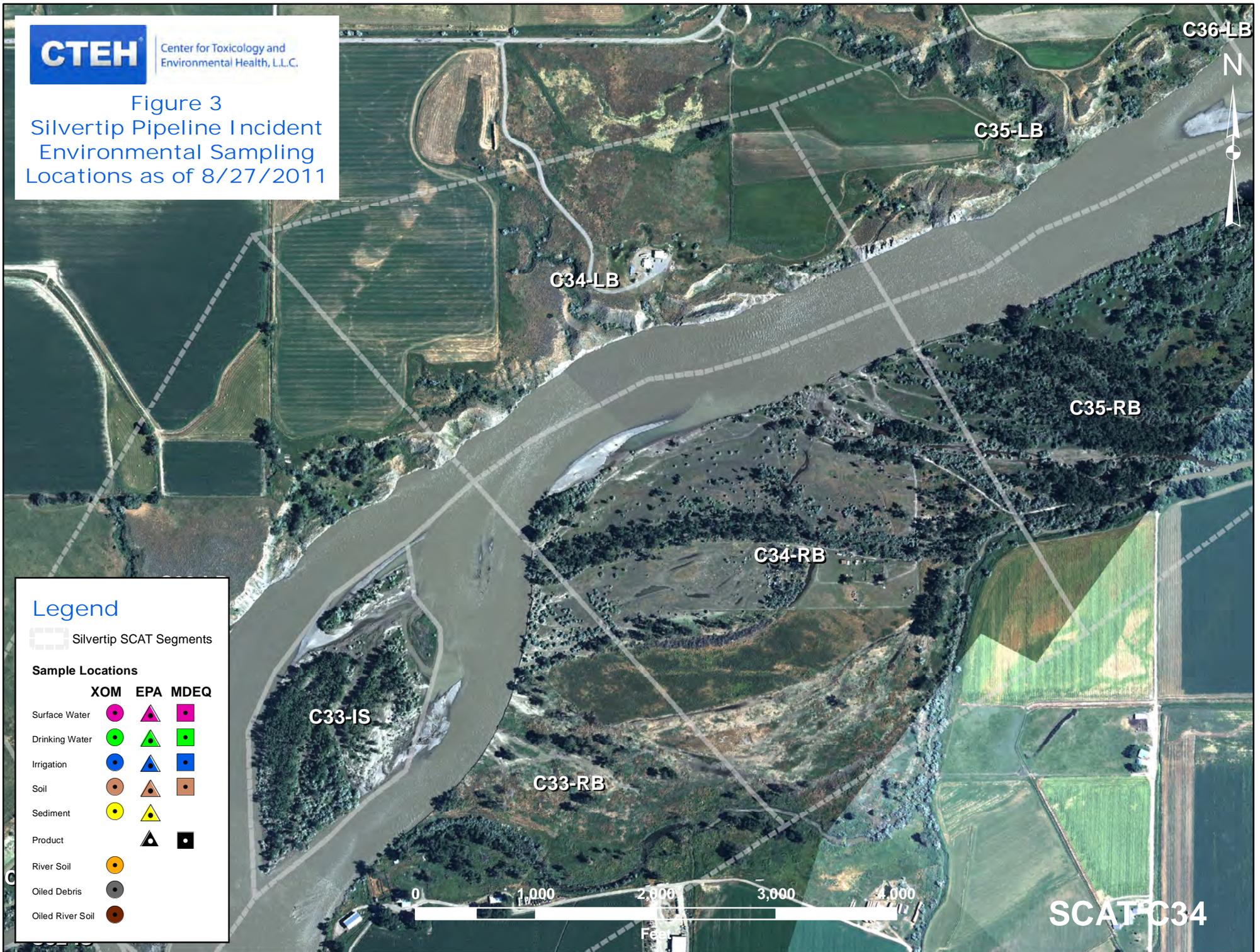


**Figure 2**  
**Wildlife Resources**



Center for Toxicology and Environmental Health, L.L.C.

Figure 3  
Silvertip Pipeline Incident  
Environmental Sampling  
Locations as of 8/27/2011



### Legend

Silvertip SCAT Segments

#### Sample Locations

	XOM	EPA	MDEQ
Surface Water			
Drinking Water			
Irrigation			
Soil			
Sediment			
Product			
River Soil			
Oiled Debris			
Oiled River Soil			

SCAT C34

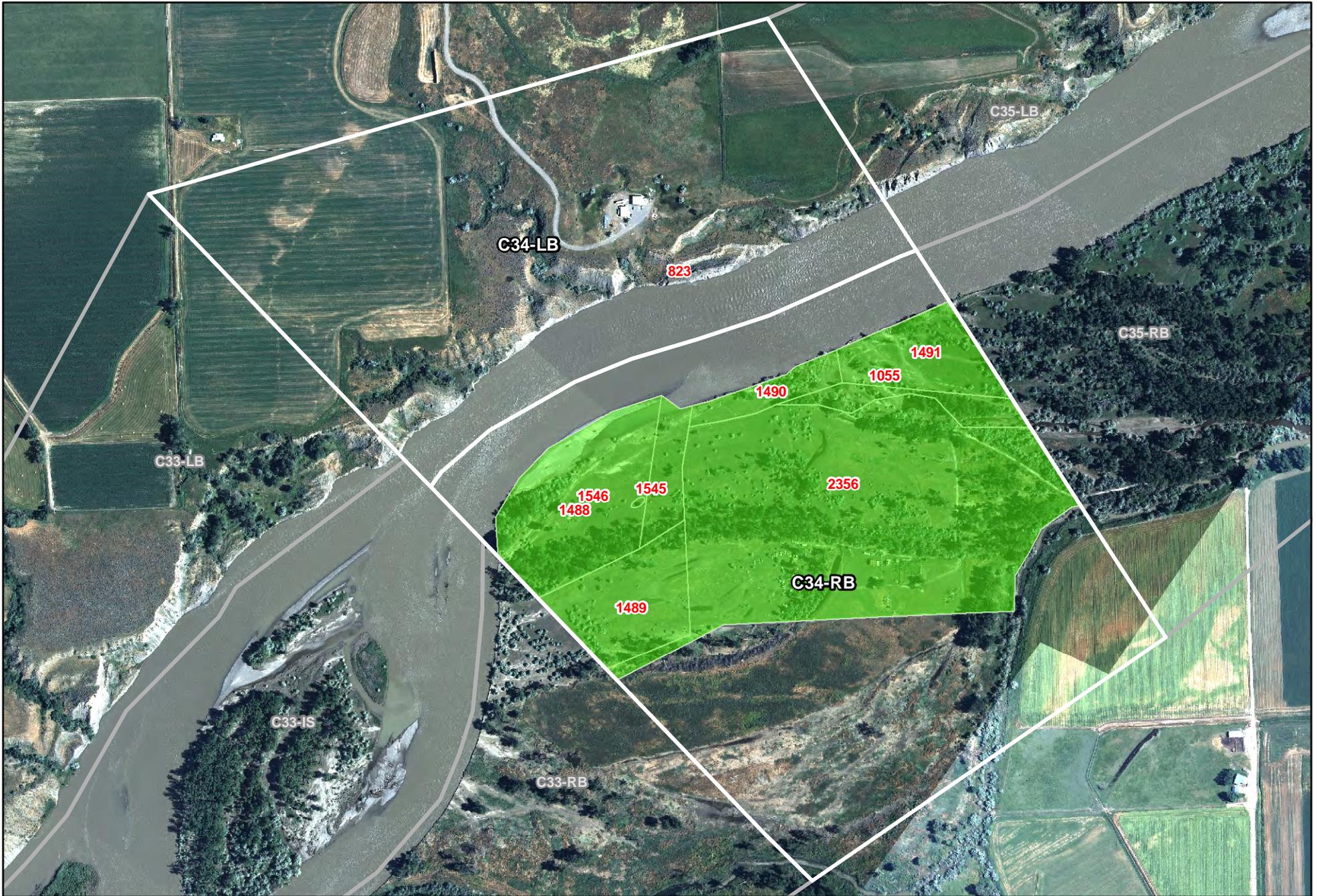


**Figure 4 - Maximum SCAT Observations  
For SCAT Area:**



- 9999 Oiling Zone ID
- Heavy Oiling
- Moderate Oiling
- Light Oiling
- Very Light Oiling
- No Oil Observed

480 0 480 960 Feet



	<b>9999</b> Oiling Zone ID	Light Oiling
	Heavy Oiling	Very Light Oiling
	Moderate Oiling	No Oil Observed

**Figure 5 - Final SCAT Observations**  
**For SCAT Area: C34**



## **Appendix A**

Sample Detection Summary



Sample Results For  
SCAT Area C34

Printed 10/7/2011

NA - Not Available

Detected Above Screening Level

Sample Num	Date	Sample Type	Matrix	Analytical Method	Analyte	Detected	Result	Screening Level	Result Qualifier	Units	Above?
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No Samples Collected



## **Appendix B**

Initial SCAT Survey Forms and  
Sketches

DB/12/15

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy) 26/07/11	Time (24h): std / daylight 1232 hrs to 1234 hrs	Water Level low - mean - <u>bankfull</u> - overbank falling - steady - rising
Segment/Reach ID: <u>C 34</u> <u>Left Bank</u> / Right Bank / Island		Operations Division:		
Survey by: <u>Foot / ATV / Boat / Helicopter / Overlook /</u>		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		
Air Temp +/- <u>28</u> deg C				

2 SURVEY TEAM # 1	Name	Organization	Signature
Pete Lee	<u>PBL</u>	Polaris	225.892.6459
John Beach	<u>JB</u>	US EPA	415.972.3347
Larry Alheim		MT DEQ	406.461.7516

**3 SEGMENT** Total Segment/Reach Length \_\_\_\_\_ m Segment/Reach Length Surveyed 819 m

Start GPS: LATITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. LONGITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. Datum: \_\_\_\_\_

End GPS: LATITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. LONGITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min.

**4A RIVER BANK TYPE** SELECT only one primary (P) shoreline type and any number of secondary (S) types. CIRCLE those OILED

Bedrock: Cliff/Ramp P Shelf \_\_\_\_\_ Manmade: Solid \_\_\_\_\_ Permeable \_\_\_\_\_ (type) \_\_\_\_\_ Wetland: Swamp \_\_\_\_\_ Bog/Fen \_\_\_\_\_ Marsh \_\_\_\_\_

Sediment Bank: Clay/Mud \_\_\_\_\_ Sand \_\_\_\_\_ Mixed \_\_\_\_\_ Pebble/Cobble \_\_\_\_\_ Boulder \_\_\_\_\_ Peat/Organic \_\_\_\_\_ Vegetated Bank: \_\_\_\_\_ Wooded Upland: \_\_\_\_\_

Sediment Flat: Clay/Mud \_\_\_\_\_ Sand \_\_\_\_\_ Mixed/Coarse \_\_\_\_\_ Other: \_\_\_\_\_ If snow and ice use Winter River SOS

**4B RIVER VALLEY CHARACTER** select as appropriate complete for primary

Cliff or Bluff: X Est Height 20 m canyon X manmade \_\_\_\_\_ meander \_\_\_\_\_ confined or leveed \_\_\_\_\_ Substrate Type: \_\_\_\_\_

Sloped: (>5°)(15°)(30°) straight X braided \_\_\_\_\_ oxbow \_\_\_\_\_ flood plain valley \_\_\_\_\_ Forested / Vegetated (Bare)

**4C RIVER CHANNEL CHARACTER** circle or select as appropriate

est. width: <1m 1-10m 10-100m >100m 160m est. water depth: <1m 1-3m 3-10m >10m \_\_\_\_\_ m

shoal(s) present Y (N) point bar present Y / N bar-shoal substrate: silt / sand / gravel / cobble / boulder / bedrock / debris

seasonal water level: low / mean / bank full / overbank flow est. change over next 7 days: falling - same - rising

**5 OPERATIONAL FEATURES** Suitable backshore staging Y (N) Access: Direct from backshore Y (N) Alongshore from next segment Y (N)

Debris: Y (N) oiled Y / N amount \_\_\_\_\_ bags or \_\_\_\_\_ trucks access restrictions

Oiled trees/shrubs Y / N River Current strong Y / N Other Features: \_\_\_\_\_

**6 SURFACE OILING CONDITIONS** begin with "A" in the lowest tidal zone - circle the zone/s that correspond to primary shoreline type

OIL ZONE ID	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER							SUBST. TYPE(S)		
	MS	LB	UB	OB	Length m	Width m	Distrib. %	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR	AP		NO	
A		<u>X</u>			<u>819</u>	<u>1</u>															<u>X</u>	<u>Cliff</u>

**7 SUBSURFACE OILING CONDITIONS** use letter for ZONE location plus Number of pit or trench - e.g., "A1"

TRENCH or PIT NO.	RIVER BANK ZONE				MAX. PIT DEPTH cm	OILED ZONE cm-cm	SUBSURFACE OIL CHARACTER						WATER TABLE cm	SHEEN COLOUR B, R, S, N	CLEAN BELOW Yes / No	SUBST. TYPE(S)
	MS	LB	UB	OB			SAP	OP	PP	OR	OF	TR				

**8 COMMENTS** ecological/recreational/cultural/economic constraints - shorezone biota and wildlife observations - cleanup recommendations

Overbank Survey Required Y / (N) Overbank Survey Completed Y / N Shoreline Survey Completed (Y) / N

Oil height: NO

**Treatment recommendations:**

Zone A : No oil observed; no treatment required.

Zone \_\_\_\_\_ : Cut & remove oil coated vegetation smaller than 1" diameter. Remove debris smaller than 4" diameter. Wipe larger oil coated vegetation.

\*Refer to current approved treatment methods #1 (Cutting of Vegetation), #2 (Dead Vegetation and Small Debris), #3 (Large Woody Debris), #6 (Sorbent Use), # (Unconsolidated Sediments)

Sketch (Yes) / No Photos (Yes) / No Frames \_\_\_\_\_ Photographer \_\_\_\_\_

A = 411 + 215 + 193



Google  
©2010

Eye alt 6077 ft

Image USA Farm Service Agency

45° 58.030' N 108° 15.553' W elev 2960 ft

Imagery Date: 6/22/2009

DB/G/S

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy) 28/07/11	Time (24h): std / daylight 0905 hrs to 1955 hrs	<b>Water Level</b> low - mean - bankfull - overbank falling - steady - rising
Segment/Reach ID: <u>C34</u> Left Bank / Right Bank / Island				
Operations Division:				
Survey by: Foot / ATV / Boat / Helicopter / Overlook /		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- 2 7 deg C

<b>2 SURVEY TEAM #</b> <u>3</u>	Name	Organization	Signature
	John Bauer	Polaris	<i>[Signature]</i>
	Micheal Dirks	Entrix	<i>[Signature]</i>
	Patrick Kriske	USCG	<i>[Signature]</i>
	Aaron Anderson	Mt. DEQ	<i>[Signature]</i>
	Jerimiah Wood	Mt. FWP	<i>[Signature]</i>

**3 SEGMENT** Total Segment/Reach Length 770 m Segment/Reach Length Surveyed 460 m

Start GPS: LATITUDE 45 deg. 57.968 min. LONGITUDE 108 deg. 15.48 min. Datum: NCS 84 End

GPS: LATITUDE 45 deg. 58.055 min. LONGITUDE 108 deg. 15.155 min.

**4A RIVER BANK TYPE** SELECT only one primary (P) shoreline type and any number of secondary (S) types. CIRCLE those OILED

Bedrock: Cliff/Ramp \_\_\_ Shelf \_\_\_ Manmade: Solid \_\_\_ Permeable \_\_\_ (type) \_\_\_ Wetland: Swamp \_\_\_ Bog/Fen \_\_\_ Marsh \_\_\_

Sediment Bank: Clay/Mud \_\_\_ Sand \_\_\_ Mixed X Pebble/Cobble \_\_\_ Boulder \_\_\_ Peat/Organic \_\_\_ Vegetated Bank: (S) Wooded Upland: (P)

Sediment Flat: Clay/Mud \_\_\_ Sand \_\_\_ Mixed/Coarse X Other: \_\_\_ If snow and ice use Winter River SOS

**4B RIVER VALLEY CHARACTER** select as appropriate complete for primary

Cliff or Bluff: \_\_\_ Est Height \_\_\_ m canyon \_\_\_ manmade \_\_\_ meander \_\_\_ confined or leveed \_\_\_ Substrate Type: MUD/SILT

Sloped: (>5°)(15°)(30°) straight X braided X oxbow \_\_\_ flood plain valley \_\_\_ Forested (S) Vegetated (S) Bare

**4C RIVER CHANNEL CHARACTER** circle or select as appropriate

est. width: <1m 1-10m 10-100m >100m 160m est. water depth: <1m 1-3m 3-10m >10m \_\_\_ m

shoal(s) present Y(N) point bar present Y(N) bar-shoal substrate: silt / sand / gravel / cobble / boulder / bedrock / debris

seasonal water level: low / mean / bank full / overbank flow est. change over next 7 days: falling - same - rising

**5 OPERATIONAL FEATURES** Suitable backshore staging Y(N) Access: Direct from backshore Y(N) Alongshore from next segment Y(N)

Debris Y(N) oiled Y(N) amount 30 bags or \_\_\_ trucks access restrictions

Oiled trees/shrubs Y(N) River Current strong Y(N) Other Features: \_\_\_

**6 SURFACE OILING CONDITIONS** begin with "A" in the lowest tidal zone - circle the zone/s that correspond to primary shoreline type

OIL ZONE	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER							SUBST. TYPE(S)		
	MS	LB	UB	OB	Length m	Width m	Distrib. %	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR	AP		NO	
																						ID
1055 A					450	80	21		X	X	X		X				X					Veg Debris

**7 SUBSURFACE OILING CONDITIONS** use letter for ZONE location plus Number of pit or trench - e.g., "A1"

TRENCH or PIT NO.	RIVER BANK ZONE				MAX. PIT DEPTH cm	OILED ZONE cm-cm	SUBSURFACE OIL CHARACTER								WATER TABLE cm	SHEEN COLOUR B, R, S, N	CLEAN BELOW Yes / No	SUBST. TYPE(S)
	MS	LB	UB	OB			SAP	OP	PP	OR	OF	TR	NO					
														ID				

**8 COMMENTS** ecological/recreational/cultural/economic constraints - shorezone biota and wildlife observations - cleanup recommendations

Overbank Survey Required Y(N) Overbank Survey Completed Y(N) Shoreline Survey Completed Y(N)

Oil band heights: 0 - 30 cm

**Treatment Recommendations:**  
Zone: A; Cut and remove oiled grass. Remove oiled debris concentrated in dry stream channels with debris piles.

Refer to current approved treatment methods#1 (Cutting of vegetation, #2 (Dead Vegetation and Small Debris), #3 (Large Woody Debris),

Sketch Yes / No Photos Yes / No Frames \_\_\_\_\_ Photographer \_\_\_\_\_

C 34 R July 28, 2011 JEAN I



DB/G/15

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy) 08/12/2011	Time (24h): std / daylight 0910 hrs to 1120 hrs	<b>Water Level</b> low - mean - bankfull - overbank falling - steady - rising
Segment/Reach ID: C34 Left Bank / <u>Right Bank</u> / Island				
Operations Division:				
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook / _____		<u>Sun</u> / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- 3.3 deg C

<b>2 SURVEY TEAM # 6</b>	<b>Name</b>	<b>Organization</b>	<b>Signature</b>
	Chris Arredondo	CardnoENTRIX	
	Jay Watson	FWP	
	Cindy Santiago	EPA	
	Larkin Chandler	THPO Crow Tribe	

**3 SEGMENT** Total Segment/Reach Length 758 m Segment/Reach Length Surveyed 758 m

Start GPS: LATITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. LONGITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. Datum: \_\_\_\_\_

End GPS: LATITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. LONGITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min.

**4A RIVER BANK TYPE** SELECT only one primary (P) shoreline type and any number of secondary (S) types. CIRCLE those OILED

Bedrock: Cliff/Ramp \_\_\_\_\_ Shelf \_\_\_\_\_ **Manmade:** Solid \_\_\_\_\_ Permeable \_\_\_\_\_ (type) \_\_\_\_\_ **Wetland:** Swamp \_\_\_\_\_ Bog/Fen \_\_\_\_\_ Marsh \_\_\_\_\_

Sediment Bank: Clay/Mud \_\_\_\_\_ Sand P \_\_\_\_\_ Mixed \_\_\_\_\_ Pebble/Cobble \_\_\_\_\_ Boulder \_\_\_\_\_ Peat/Organic \_\_\_\_\_ **Vegetated Bank:** (S) **Wooded Upland:** S

Sediment Flat: Clay/Mud \_\_\_\_\_ Sand \_\_\_\_\_ Mixed/Coarse \_\_\_\_\_ **Other:** \_\_\_\_\_ If snow and ice use Winter River SOS

**4B RIVER VALLEY CHARACTER** select as appropriate complete for primary

Cliff or Bluff: \_\_\_\_\_ Est Height \_\_\_\_\_ m canyon \_\_\_\_\_ manmade \_\_\_\_\_ meander \_\_\_\_\_ confined or leveed \_\_\_\_\_ Substrate Type: Clay/Mud

Sloped: \_\_\_\_\_ (>5°)(15°)(30°) straight X braided \_\_\_\_\_ oxbow \_\_\_\_\_ flood plain valley \_\_\_\_\_ Forested / Vegetated / Bare

**4C RIVER CHANNEL CHARACTER** circle or select as appropriate

est. width: <1m 1-10m 10-100m >100m 160m est. water depth: <1m 1-3m 3-10m >10m \_\_\_\_\_ m

shoal(s) present Y / N point bar present Y / N bar-shoal substrate: silt / sand / gravel / cobble / boulder / bedrock / debris

seasonal water level: low / mean / bank full / overbank flow est. change over next 7 days: falling — same — rising

**5 OPERATIONAL FEATURES** Suitable backshore staging Y / N Access: Direct from backshore Y / N Alongshore from next segment Y / N

Debris: Y / N oiled Y / N amount <1 bags or 0 trucks access restrictions \_\_\_\_\_

Oiled trees/shrubs Y / N River Current strong Y / N Other Features: \_\_\_\_\_

**6 SURFACE OILING CONDITIONS** begin with "A" in the lowest tidal zone - circle the zone/s that correspond to primary shoreline type

OIL ZONE	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER							SUBST. TYPE(S)			
					Length	Width	Distrib.																
	ID	MS	LB	UB	OB	m	m	%	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR		AP	NO	
A				X	310	170																X	
B				X	186	316	<1			X	(X)							X	(X)				Debris, grass, shrubs
C				X	184	40																X	
D				X	184	160	<1			X	(X)							X	(X)				Debris, grass

**7 SUBSURFACE OILING CONDITIONS** use letter for ZONE location plus Number of pit or trench — e.g., "A1"

TRENCH or PIT NO.	RIVER BANK ZONE				MAX. PIT DEPTH	OILED ZONE	SUBSURFACE OIL CHARACTER						WATER TABLE	SHEEN COLOUR	CLEAN BELOW	SUBST. TYPE(S)
							SAP	OP	PP	OR	OF	TR				
					cm	cm-cm							cm	B, R, S, N	Yes / No	

**8 COMMENTS** ecological/recreational/cultural/economic constraints - shorezone biota and wildlife observations - cleanup recommendations

Overbank Survey Required Y / N Overbank Survey Completed Y / N Shoreline Survey Completed Y / N

Zone A: No treatment required.  
 Zone B: Natural attenuation recommended.  
 Zone C: No treatment recommended. required  
 Zone D: Natural attenuation recommended.

Note:

Sketch Yes / No Photos Yes / No Frames \_\_\_\_\_ Photographer Chris Arredondo/Jay Watson

1488  
1489  
1490  
1491



C34/Right Bank/Team 6  
8/13/2011

SILVERTIP PIPELINE INCIDENT  
Yellowstone River  
Map 44

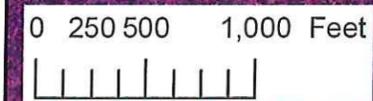
Date: Thursday, August 11, 2011

\*Data Current through 08/09/2011



108°16.5'W 108°16.25'W 108°16'W 108°15.75'W 108°15.5'W 108°15.25'W 108°15'W 108°14.75'W

45°56.5'N 45°56.25'N 45°58'N 45°57.75'N 45°57.5'N 45°56.5'N 45°58'N 45°57.75'N 45°57.5'N



DB/615

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident PARTIAL SURVEY

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy) 14/08/2011	Time (24h): std / daylight 1330 hrs to 1410 hrs	<b>Water Level</b> low - <u>mean</u> - bankfull - overbank falling - steady - rising
Segment/Reach ID: C34 Left Bank / <u>Right Bank</u> / Island		Operations Division: C		
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook / _____		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp + / - <u>30</u> deg C

<b>2 SURVEY TEAM # 3</b>	Name	Organization	Signature
Richard Marty/Merlo Gauvreau		Polaris	<i>Richard Marty</i>
Rachelle Thompson		USEPA	<i>Rachelle Thompson</i>
Ben Super		State of Montana <b>DNRC</b>	<i>Ben Super</i>

**3 SEGMENT** Total Segment/Reach Length 760 \_\_\_\_\_ m Segment/Reach Length Surveyed 300 \_\_\_\_\_ m

Start GPS: LATITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. LONGITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. Datum: \_\_\_\_\_  
 End GPS: LATITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. LONGITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min.

**4A RIVER BANK TYPE** SELECT only one primary (P) shoreline type and any number of secondary (S) types. CIRCLE those OILED

Bedrock: Cliff/Ramp \_\_\_\_\_ Shelf \_\_\_\_\_ Manmade: Solid \_\_\_\_\_ Permeable \_\_\_\_\_ (type) \_\_\_\_\_ Wetland: Swamp \_\_\_\_\_ Bog/Fen \_\_\_\_\_ Marsh \_\_\_\_\_  
 Sediment Bank: Clay/Mud S \_\_\_\_\_ Sand \_\_\_\_\_ Mixed \_\_\_\_\_ Pebble/Cobble \_\_\_\_\_ Boulder \_\_\_\_\_ Peat/Organic \_\_\_\_\_ Vegetated Bank P \_\_\_\_\_ Wooded Upland: S \_\_\_\_\_  
 Sediment Flat: Clay/Mud \_\_\_\_\_ Sand \_\_\_\_\_ Mixed/Coarse \_\_\_\_\_ Other: \_\_\_\_\_ If snow and ice use Winter River SOS

**4B RIVER VALLEY CHARACTER** select as appropriate complete for primary

Cliff or Bluff: Est Height \_\_\_\_\_ m canyon \_\_\_\_\_ manmade \_\_\_\_\_ meander \_\_\_\_\_ confined or leveed \_\_\_\_\_ Substrate Type: Silt/mud \_\_\_\_\_  
 Sloped: (>5°)(15°)(30°) straight \_\_\_\_\_ braided X \_\_\_\_\_ oxbow \_\_\_\_\_ flood plain valley \_\_\_\_\_ Forested / Vegetated / Bare

**4C RIVER CHANNEL CHARACTER** circle or select as appropriate

est. width: <1m 1-10m 10-100m >100m 100 m est. water depth: <1m 1-3 m 3-10m >10m \_\_\_\_\_ m  
 shoal(s) present Y / N point bar present Y / N bar-shoal substrate: silt / sand / gravel / cobble / boulder / bedrock / debris  
 seasonal water level: low / mean / bank full / overbank flow est. change over next 7 days: falling — same — rising

**5 OPERATIONAL FEATURES** Suitable backshore staging Y / N Access: Direct from backshore Y / N Alongshore from next segment Y / N

Debris: Y / N oiled Y / N amount \_\_\_\_\_ bags or \_\_\_\_\_ trucks access restrictions: Must have landowner permission  
 Oiled trees/shrubs Y / N River Current strong Y / N Other Features: \_\_\_\_\_

**6 SURFACE OILING CONDITIONS** begin with "A" in the lowest tidal zone - circle the zone/s that correspond to primary shoreline type

1545  
1546

OIL ZONE ID	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER								SUBST. TYPE(S)	
	MS	LB	UB	OB	Length m	Width m	Distrib. %	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR	AP	NO		
A				X	25	10	<1			S	P						X					Low Vegetation
B			S	P	300	120	0														x	All

**7 SUBSURFACE OILING CONDITIONS** use letter for ZONE location plus Number of pit or trench — e.g., "A1"

TRENCH or PIT NO.	RIVER BANK ZONE				MAX. PIT DEPTH cm	OILED ZONE cm-cm	SUBSURFACE OIL CHARACTER						WATER TABLE cm	SHEEN COLOUR B, R, S, N	CLEAN BELOW Yes / No	SUBST. TYPE(S)	
	MS	LB	UB	OB			SAP	OP	PP	OR	OF	TR					NO
None																	

**8 COMMENTS** ecological/recreational/cultural/economic constraints - shorezone biota and wildlife observations - cleanup recommendations

Overbank Survey Required Y / N Overbank Survey Completed Y / N Shoreline Survey Completed Y / N

This is a partial survey to complement an earlier survey of the segment.  
 Oiling in Zone A is trace oiling on vegetation. The oiling is a tarry stain which is mostly non-transferable. Natural Attenuation or No Further Treatment is appropriate for the oiling in this zone.

Sketch Yes / No Photos Yes / No Frames \_\_\_\_\_ Photographer \_\_\_\_\_

Segment C34 RB  
SCAT Team 3  
14 August 2011  
Partial Survey



Zone A 25m x 10m St & CE on veg / stems Trace 12-14cm up.  
Zone B NOD. 300m x 170m wide



## **Appendix C**

Pre-Inspection Survey Transmittal

**A Pre-Inspection Survey was  
not conducted for this area**



## **Appendix D**

Post-Inspection Survey Transmittal

**A Post-Inspection Survey  
was not conducted for this area**



## **Appendix E**

Final SCAT Survey Forms and  
Sketches

PB/G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

Page \_\_\_\_\_ of \_\_\_\_\_

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: <u>C34</u> Left Bank / (Right Bank) / Island				low - mean - bankfull - overbank
Operations Division:		<u>21/09/11</u>	<u>1000</u> hrs to <u>1230</u> hrs	falling - steady - rising
Survey by: <u>(Foot) / ATV / (Boat) / Helicopter / Overlook /</u>		<u>(Sun)</u> Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- <u>22</u> deg C

<b>2 SURVEY TEAM # <u>102</u></b>	Name	Organization	Signature
	<u>Todd Farrar</u>	<u>Polaris</u>	<u>[Signature]</u>
	<u>Merle Gaurreau</u>	<u>Polaris</u>	<u>[Signature]</u>
	<u>Mark Ewanic</u>	<u>DEQ</u>	<u>[Signature]</u>
	<u>Mark Peterson</u>	<u>DEQ</u>	<u>[Signature]</u>

**3 SEGMENT** Total Segment/Reach Length 790 m Segment/Reach Length Surveyed 790 m

Start GPS: LATITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. LONGITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. Datum: \_\_\_\_\_

End GPS: LATITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. LONGITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min.

**4A RIVER BANK TYPE** SELECT only one primary (P) shoreline type and any number of secondary (S) types. CIRCLE those OILED

Bedrock: Cliff/Ramp \_\_\_\_\_ Shelf \_\_\_\_\_ Manmade: Solid \_\_\_\_\_ Permeable \_\_\_\_\_ (type) \_\_\_\_\_ Wetland: Swamp \_\_\_\_\_ Bog/Fen \_\_\_\_\_ Marsh \_\_\_\_\_

Sediment Bank: Clay/Mud \_\_\_\_\_ Sand \_\_\_\_\_ Mixed \_\_\_\_\_ Pebble/Cobble S Boulder \_\_\_\_\_ Peat/Organic \_\_\_\_\_ Vegetated Bank: P Wooded Upland: \_\_\_\_\_

Sediment Flat: Clay/Mud \_\_\_\_\_ Sand \_\_\_\_\_ Mixed/Coarse \_\_\_\_\_ Other: \_\_\_\_\_ If snow and ice use Winter River SOS

**4B RIVER VALLEY CHARACTER** select as appropriate complete for primary

Cliff or Bluff: Est Height \_\_\_\_\_ m canyon \_\_\_\_\_ manmade \_\_\_\_\_ meander \_\_\_\_\_ confined or leveed \_\_\_\_\_ Substrate Type: Silt

Sloped: (>5°)(15°)(30°) straight \_\_\_\_\_ braided P oxbow \_\_\_\_\_ flood plain valley \_\_\_\_\_ Forested / Vegetated / Bare

**4C RIVER CHANNEL CHARACTER** circle or select as appropriate

est. width: <1m 1-10m 10-100m <100m 160m est. water depth: <1m 1-3m 3-10m >10m \_\_\_\_\_ m

shoal(s) present Y/N point bar present Y/N bar-shoal substrate: silt / sand / gravel / cobble / boulder / bedrock / debris

seasonal water level: low / mean / bank full / overbank flow est. change over next 7 days: falling - same - rising

**5 OPERATIONAL FEATURES** Suitable backshore staging Y/N Access: Direct from backshore Y/N Alongshore from next segment Y/N

Debris Y/N oiled Y/N amount 3 bags or \_\_\_\_\_ trucks access restrictions

Oiled trees/shrubs Y/N River Current strong Y/N Other Features:

**6 SURFACE OILING CONDITIONS** begin with "A" in the lowest tidal zone - circle the zone/s that correspond to primary shoreline type

2320

OIL ZONE ID	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER						SUBST. TYPE(S)		
	MS	LB	UB	OB	Length m	Width m	Distrib. %	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR		AP	NO
A				X	790	345	<1			S	P						P				Debris

**7 SUBSURFACE OILING CONDITIONS** use letter for ZONE location plus Number of pit or trench - e.g., "A1"

TRENCH or PIT NO.	RIVER BANK ZONE				MAX. PIT DEPTH cm	OILED ZONE cm-cm	SUBSURFACE OIL CHARACTER					WATER TABLE cm	SHEEN COLOUR B, R, S, N	CLEAN BELOW Yes / No	SUBST. TYPE(S)	
	MS	LB	UB	OB			SAP	OP	PP	OR	OF					TR

**8 COMMENTS** ecological/recreational/cultural/economic constraints - shorezone biota and wildlife observations - cleanup recommendations

Overbank Survey Required Y (N) Overbank Survey Completed (Y)/N Shoreline Survey Completed (Y)/N

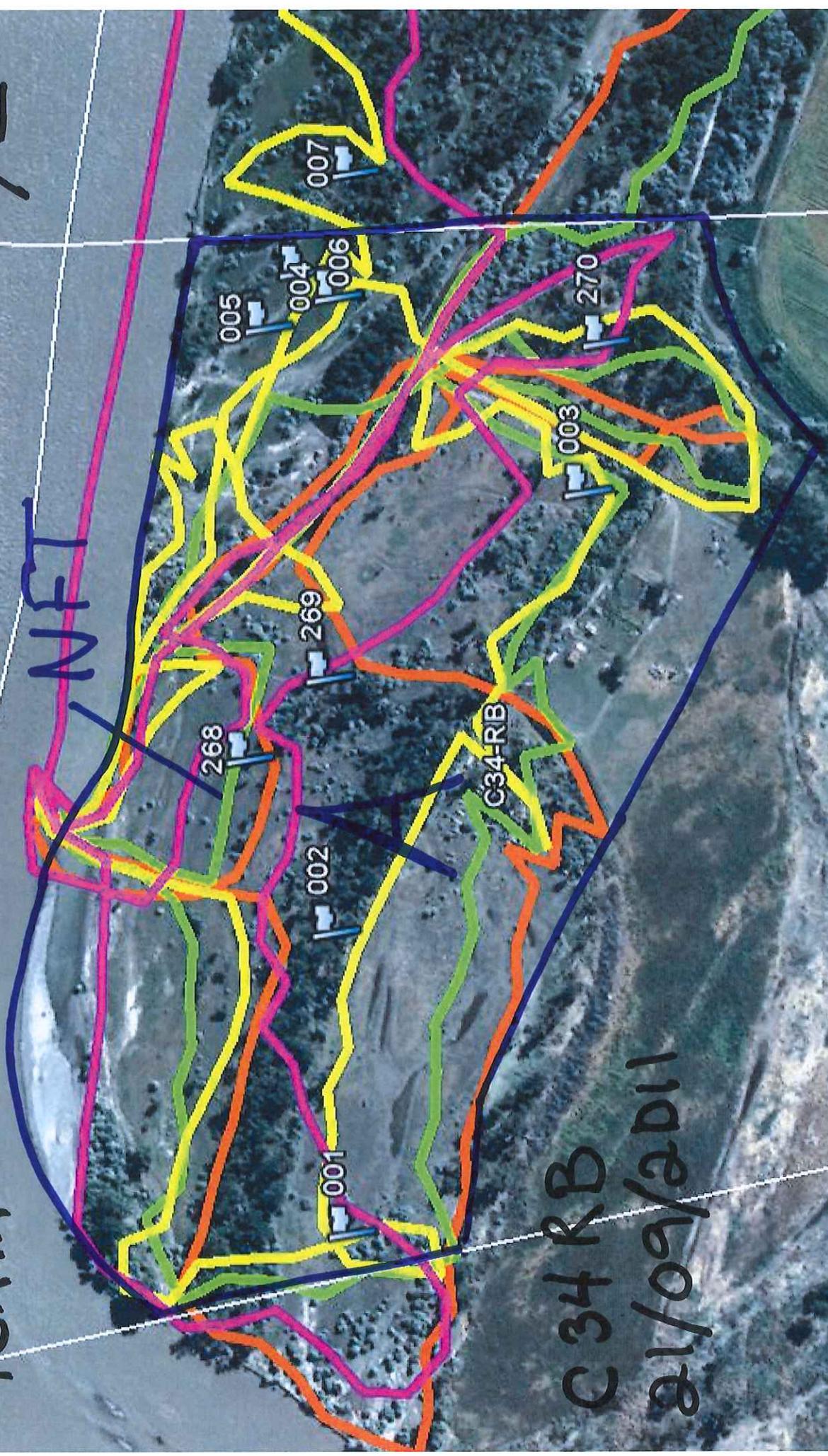
Zone A - Sporadic oiling mainly on Debris piles with some on shrubs. We had two hot shot crews that removed or treated oiled material. There is no further treatment required (NFT)

Sketch Yes / No Photos Yes / No Frames \_\_\_\_\_ Photographer \_\_\_\_\_

TEAM #142

21/09/2011 16:52

2/2



C34RB  
21/09/2011

© 2011 Google

45°57'53.73"N 108°15'19.93"E elev. 905 m

1996

© 2010

Altitude



## **Appendix F**

Completed SCAT Segment Sign-Off  
Forms

# SCAT SEGMENT OPERATIONS COMPLETION SIGN-OFF SHEET

## SILVERTIP PIPELINE RELEASE

Segment C34 RB

Date of Survey Sept. 21, 2011

Dates of Initial SCAT Assessments

20 Jul 2011 (to be filled out by SCAT Data Management) 

CTR(s) Associated with SCAT Segment

59

Segment has been treated by Operations or an Operations Hotshot Team

YES  NO

Segment Assessment Complete<sup>1</sup>

Partial Segment Assessment

*The undersigned are in agreement that the above segment or partial segment meets the Approved Treatment Methods Target Endpoints.*

This Segment is Conditionally Approved   
(See attached Post Inspection Survey Transmittal (POST))

*The undersigned are in agreement that the above segment meets the Approved Treatment Methods Target Endpoints conditional upon completion of the treatment identified in the attached Post Inspection Survey Transmittal (POST).*

No Federal Rep Present

Sign Name \_\_\_\_\_ Print Name/ Affiliation \_\_\_\_\_ Date \_\_\_\_\_  
Federal Representative (EPA/USCG)

Mark Peterson Mark Peterson / DEQ 9/21/11  
Sign Name \_\_\_\_\_ Print Name/ Affiliation \_\_\_\_\_ Date \_\_\_\_\_  
State Representative (DEQ/FWP)

Todd Farrar Todd Farrar / Polaris 9/21/11  
Sign Name \_\_\_\_\_ Print Name/ Affiliation \_\_\_\_\_ Date \_\_\_\_\_  
RP Representative (SCAT RP Representative)

Once all applicable SCAT Segments (i.e. LB, RB, and IS) within a particular SCAT Area (i.e. A21) have been successfully signed-off during a formal SCAT Assessment, the SCAT Area will achieve the Response Endpoints and an Area Transition Report will be completed and submitted to EPA and DEQ.

<sup>1</sup> A Segment Sign-Off Assessment is considered complete when all accessible lands that have not already been signed-off by a claims liaison have been surveyed. If any previous SCAT Assessments were conducted, all lands that were originally recommended for treatment must be re-surveyed in the Sign-Off Assessment. If the conducted survey does not meet these conditions it is considered a Partial Assessment. Multiple Partial Assessments that meet the conditions of a Complete Assessment may together constitute a Complete Sign-Off Assessment.