

**ExxonMobil Pipeline Company**

**SCAT Area Transition Report  
for C52**

Silvertip Pipeline Incident  
Laurel, Montana

October 22, 2011



## **SCAT Area Transition Report for C52**

Silvertip Pipeline Incident  
Laurel, Montana

Prepared for:  
ExxonMobil Pipeline Company

Prepared by:  
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Our Ref.:  
B0085883.1103

Date:  
October 22, 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.*

<b>1. Executive Summary of Oil Removal Activities</b>	<b>1</b>
1.1 Land Ownership and Access Issues	1
1.2 Cultural, Historic, and Natural Resource Constraints	1
1.3 Summary of Environmental Sampling	1
1.4 Summary of Initial SCAT Surveys	2
1.5 Applicable Compiled Treatment Recommendations	2
1.6 Oil Removal Activities	2
1.7 Pre-Inspection Survey Transmittal	2
1.8 Post-Inspection Survey Transmittal	3
1.9 Summary of Final SCAT Surveys	3
1.10 SCAT Area Conclusions	3

<b>2. Transition Sign-Off Form</b>	<b>4</b>
------------------------------------	----------

**Tables**

Table 1	Environmental Sampling Summary	2
---------	--------------------------------	---

**Figures**

Figure 1	Aerial Map with Parcel Boundaries
Figure 2	Wildlife Resources
Figure 3	Sample Location Map
Figure 4	Maximum SCAT Observations
Figure 5	Final SCAT Observations

**Appendices**

A	Sample Detection Summary
B	Initial SCAT Survey Forms and Sketches
C	Pre-Inspection Survey Transmittal
D	Post-Inspection Survey Transmittal
E	Final SCAT Survey Forms and Sketches
F	Completed SCAT Segment Sign-Off Forms

## **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 C52, 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 C52. 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 C52, 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 C52 is 112.3. There were no access issues for this segment.

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

No historic properties or cultural resources have been identified within this area that would affect oil removal activities.

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 C52 due to the low level of oiling in Division C. No oiled wildlife was observed or recovered. No Wildlife Priority Cleanup Areas were identified. A bald eagle (*Haliaeetus leucocephalus*) nest was identified in Area C52 and a buffer zone was provided to Operations to protect the nest.

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

Table 1 (below) summarizes samples collected within Area C52. 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 C52 are provided on Figure 3.

**Table 1 Environmental Sampling Summary**

Agency	Sample Num	Date	Matrix	Location	Latitude	Longitude
EPA	SPSE122_071511	7/15/2011	Sediment	SPSE122	45.994921	-108.010672
EPA	SPSW04_070411	7/4/2011	Water_Surface	SPSW04	45.997989	-108.009783

Appendix A contains a summary of sample results with detections for this sample set. Detections with a result above the screening level are highlighted; for this set, no detections were reported and therefore no exceedances are shown.

#### 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 C52 are included in Appendix B. Figure 4 provides the maximum oiling zones observed by the SCAT team during the initial surveys of Area C52.

#### 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. 48](#) and [CTR No. 60](#)).

#### 1.6 Oil Removal Activities

Oil removal activities were conducted within Area C52 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 Area C52.

### **1.8 Post-Inspection Survey Transmittal**

A Post-Inspection Survey Transmittal (POST) was not conducted for Area C52.

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

Figure 5 shows the oiling conditions within Area C52 following completion of oil removal activities. The SCAT team performed final surveys of the left bank within SCAT Area C52 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 final SCAT surveys performed on the left bank within Area C52, no further treatment is recommended for this segment. Based on the initial SCAT survey of the right bank, no treatment was recommended for the small portions where oiling was observed. SCAT Segment Sign-Off Forms are included as Appendix F.



**SCAT Area Transition  
Report for C52**

Silvertip Pipeline Incident  
Laurel, Montana

**2. Transition Sign-Off Form**

**SCAT Area Transition Report for C52**

**Prepared for:**

**Unified Command**

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Date

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Unified Command – RP



**SCAT Area Transition  
Report for C52**

Silvertip Pipeline Incident  
Laurel, Montana

**SCAT Area Transition Report for C52**

Prepared for:

Unified Command

10/11/2011  
Date

 S. WICKERT  
Unified Command – FOSC



**SCAT Area Transition  
Report for C52**

Silvertip Pipeline Incident  
Laurel, Montana

**SCAT Area Transition Report for C52**

**Prepared for:**

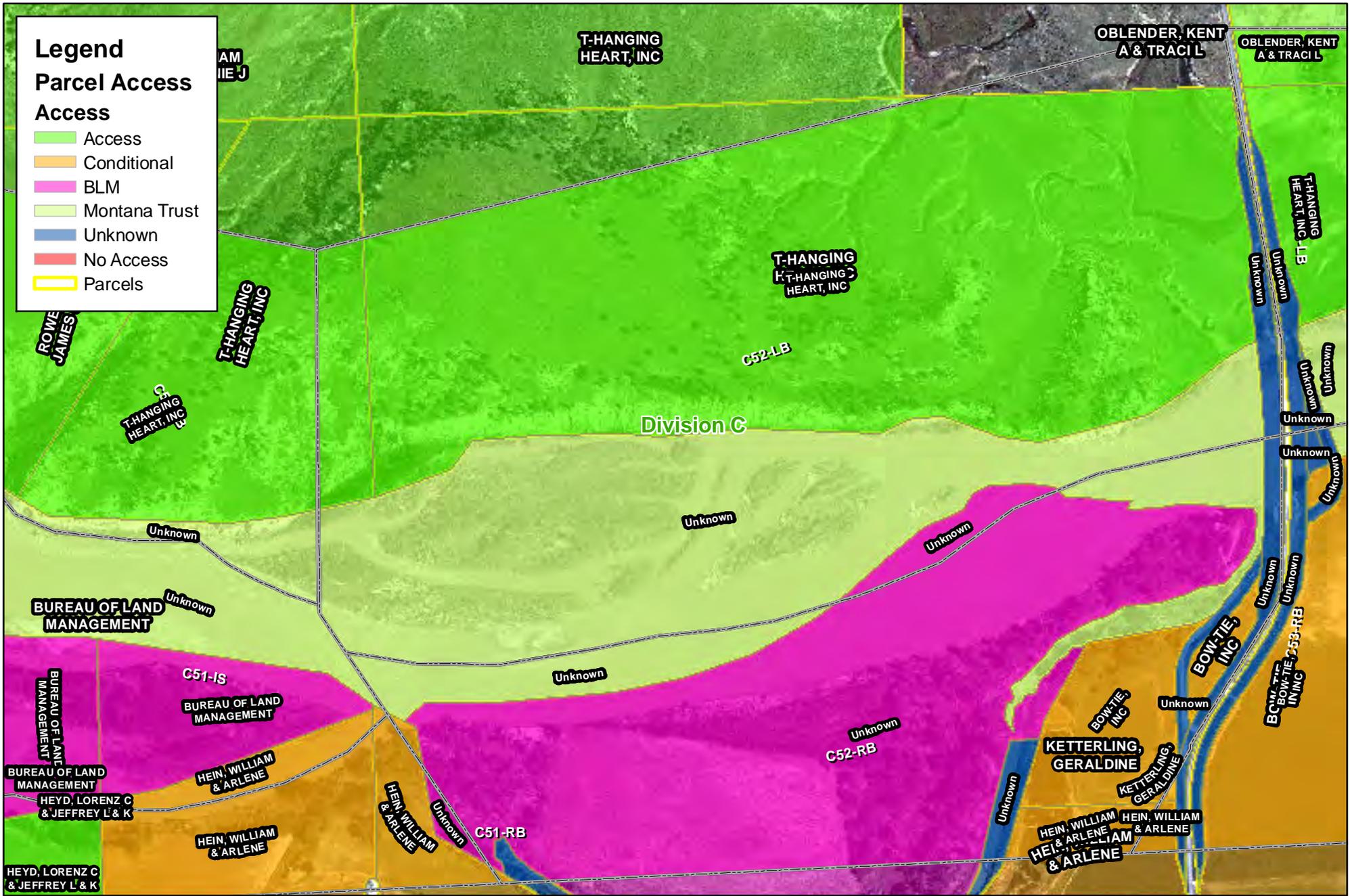
**Unified Command**

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Date

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Unified Command – MDEQ



**Legend**

**Parcel Access**

**Access**

- Access
- Conditional
- BLM
- Montana Trust
- Unknown
- No Access
- Parcels

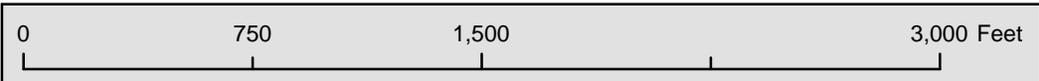


Figure 1

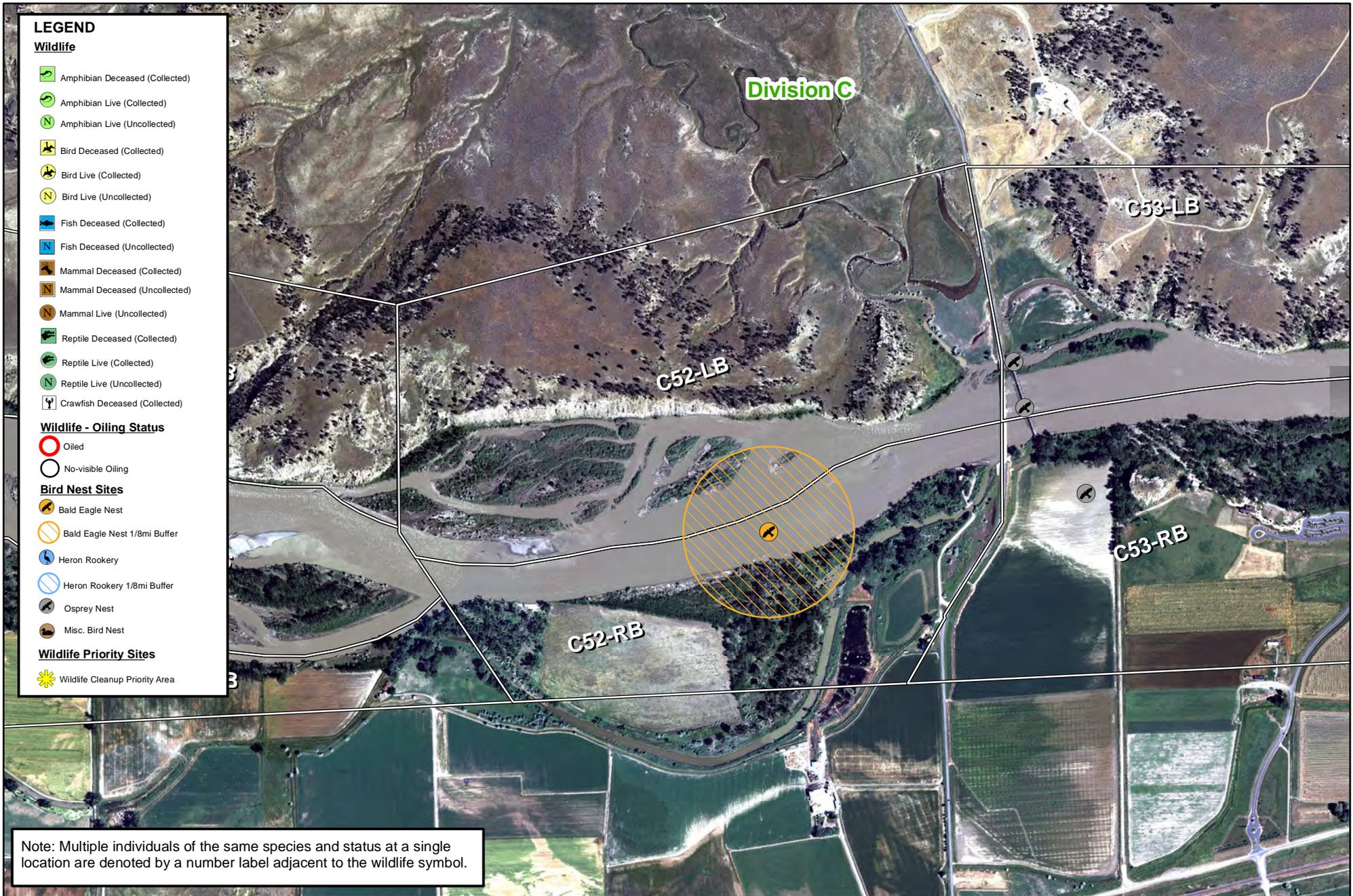
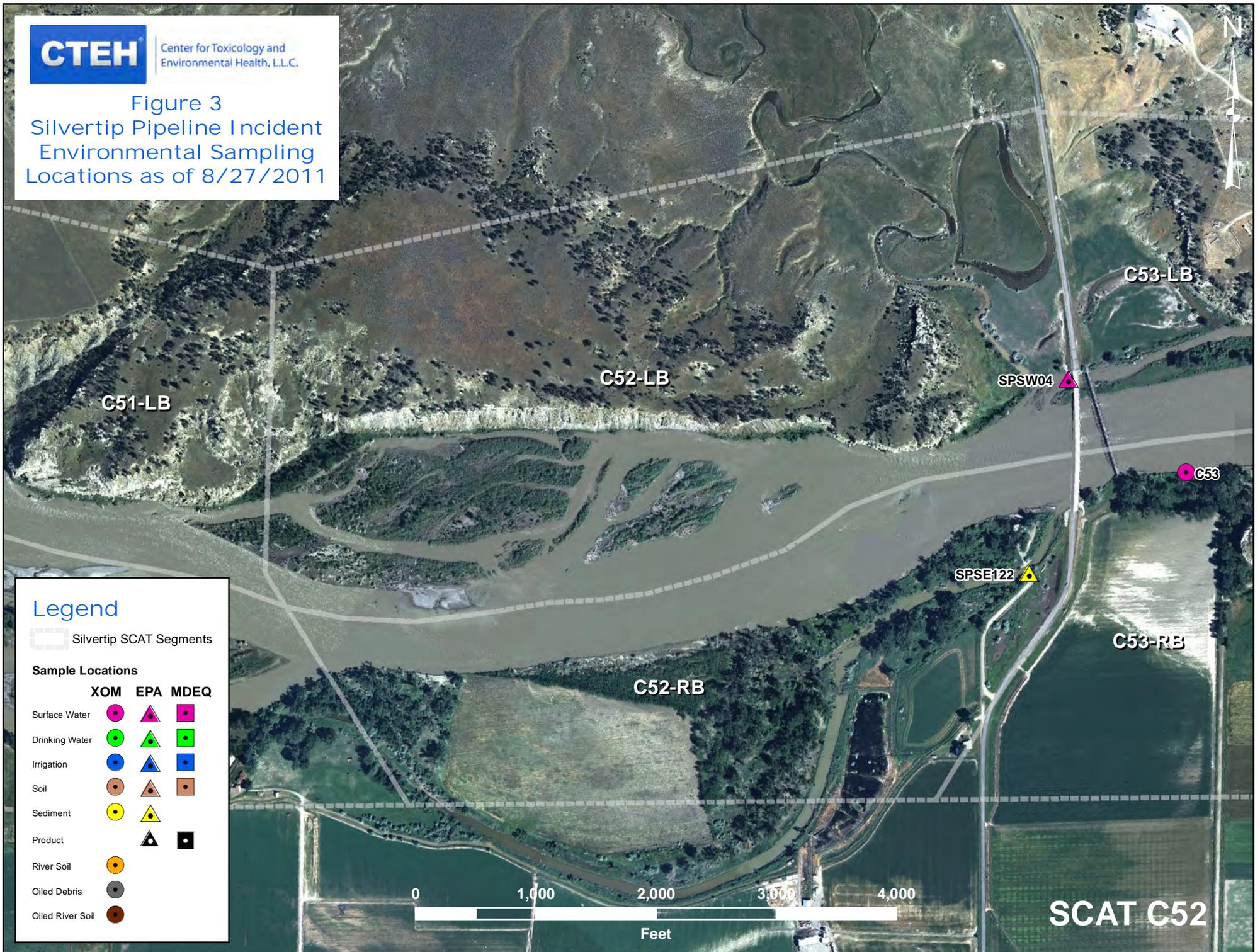


Figure 3  
 Silvertip Pipeline Incident  
 Environmental Sampling  
 Locations as of 8/27/2011



**Legend**

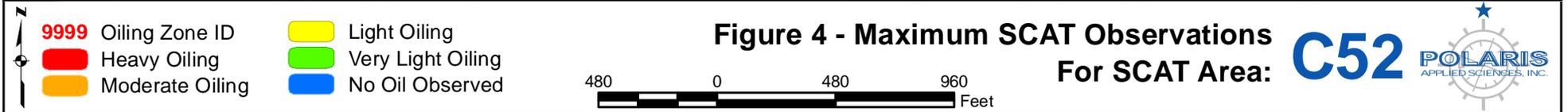
Silvertip SCAT Segments

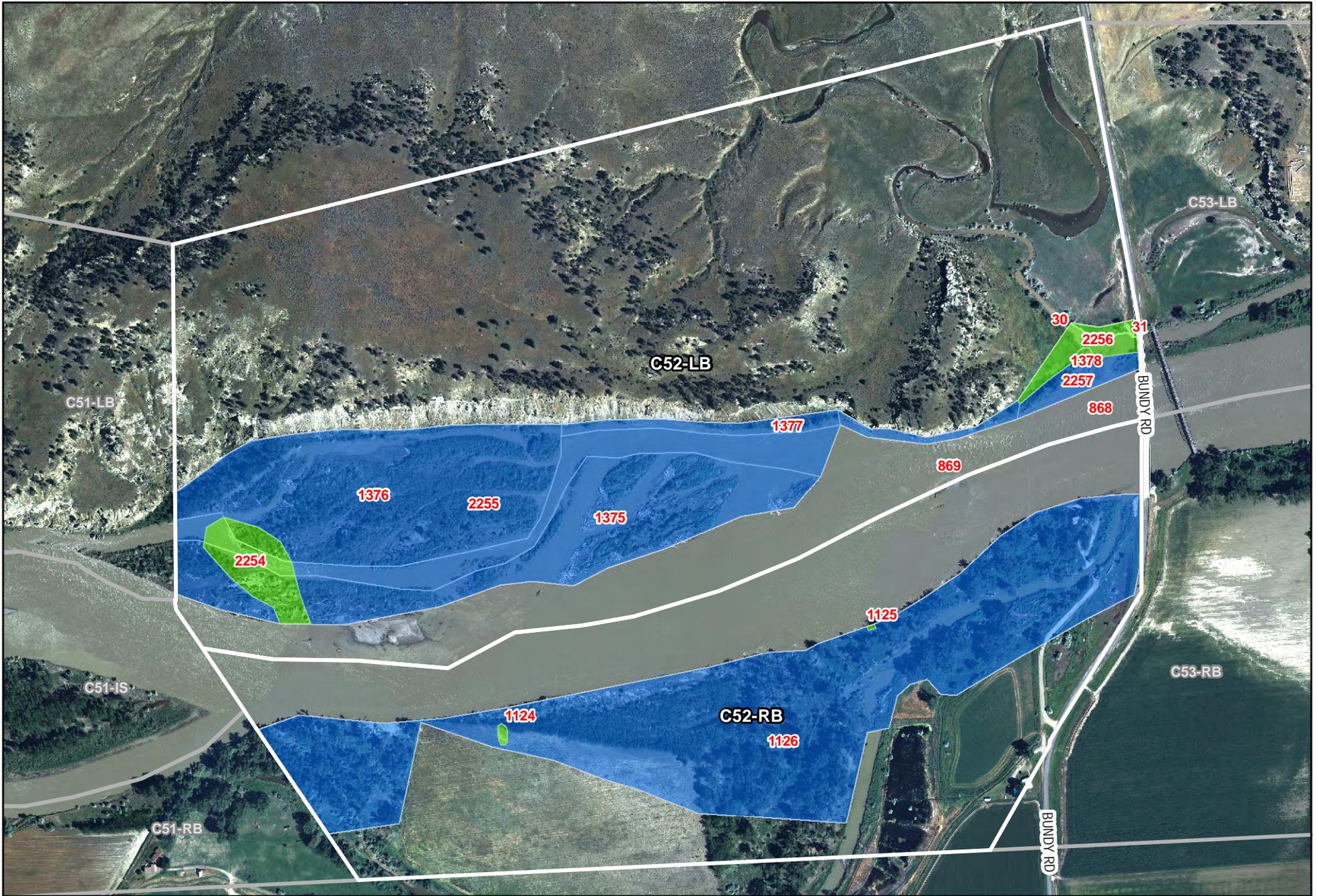
**Sample Locations**

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

0 1,000 2,000 3,000 4,000  
 Feet

**SCAT C52**





- 9999 Oiling Zone ID
- Heavy Oiling
- Moderate Oiling

- Light Oiling
- Very Light Oiling
- No Oil Observed



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





## **Appendix A**

Sample Detection Summary





## **Appendix B**

Initial SCAT Survey Forms  
and Sketches

DB/G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy) 02/Aug/2011	Time (24h): std / daylight 1130 hrs to 1230 hrs	Water Level low - mean - bankfull - overbank falling - steady - rising
Segment/Reach ID: <u>C52</u> Left Bank / <u>Right Bank</u> / Island		Operations Division:		
Survey by: <u>Foot / ATV / Boat / Helicopter / Overlook /</u>		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- <u>3.0</u> deg C

<b>2 SURVEY TEAM #</b> <u>3</u>	Name	Organization	Signature
	John Bauer	Polaris	<i>[Signature]</i>
	Steve Opp	MT DEQ	<i>[Signature]</i>
	Jay Parks	BLM	<i>[Signature]</i>
	Larry Patten <u>PATTEN</u>	<del>BLM</del>	<i>[Signature]</i>
	Josh Hofkes	Cardno Entrix	<i>[Signature]</i>
	Mark Denny	Tribal representative	<i>[Signature]</i>

**3 SEGMENT** Total Segment/Reach Length \_\_\_\_\_ m Segment/Reach Length Surveyed 1310 m

Start GPS: LATITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. LONGITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. Datum: WGS 84

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 s \_\_\_\_\_ Pebble/Cobble \_\_\_\_\_ Boulder \_\_\_\_\_ Peat/Organic \_\_\_\_\_ Vegetated Bank: \_\_\_\_\_ Wooded Upland: P

Sediment Flat: Clay/Mud s  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: gravel

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 20 bags or \_\_\_\_\_ trucks access restrictions BLM Land

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
<u>1124</u> <u>1125</u> <u>1126</u> A				X	30	10	<1		X	<input checked="" type="checkbox"/>	X		<input checked="" type="checkbox"/>				X				veg
B				X	1	1	1		X	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>				X				veg
C				X	1310	200														X	veg

**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				

**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:

Treatment Recommendations: No Treatment for A. GP / LF (BLM) oiled

Zone : A: Cut and remove oiled grass. Remove dead vegetation and oiled small debris

B: no treatment recommended

C: no. no treatment recommended

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 \_\_\_\_\_

2 of 2



August 2, 2011  
TEAM 3 C52<sup>R</sup>  
ZONES A, B, + C

C52 P1

Db/G/gc

**1 GENERAL INFORMATION**

Segment/Reach ID: BT Left Bank / Right Bank / Island

Operations Division: C

Survey by: Foot / ATV / Boat / Helicopter / Overlook / Sun / Clouds / Fog / Rain / Snow / Windy / Calm

**2 SURVEY TEAM #** 2 name Andy Conham organization Polaris contact phone number 206 419 1745

**3 SEGMENT** Total Segment/Reach Length \_\_\_\_\_ m Segment/Reach Length Surveyed 80 m m

Start GPS: LATITUDE 45.993444 deg. \_\_\_\_\_ min. LONGITUDE -108.026777 deg. \_\_\_\_\_ min. Datum: \_\_\_\_\_

End GPS: LATITUDE 45.996253 deg. \_\_\_\_\_ min. LONGITUDE -108.009543 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 S (type) Riprap Wetland: Swamp \_\_\_\_\_ Bog/Fen \_\_\_\_\_ Marsh \_\_\_\_\_

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

Sediment Flat: Clay/Mud \_\_\_\_\_ Sand \_\_\_\_\_ Mixed/Coarse \_\_\_\_\_ Other: \_\_\_\_\_

Vegetated Bank: (P) Wooded Upland: \_\_\_\_\_

If snow and ice use Winter River SOS

**4B RIVER VALLEY CHARACTER** select as appropriate

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

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

Substrate Type: ripped

Forested / Vegetated / Bare

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

est. width: <1m 1-10m (10-100m) >100m \_\_\_\_\_ m

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	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER							SUBST. TYPE(S)		
	MS	LB	UB	OB	Length	Width	Distrib.	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR	AP		NO	
A				X	15	2	25			X	X						X					Veget
B					15	1																Riprap/mud

**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									

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

small area adjacent to Bundy Rd. bridge

Zone A = oiled band 2-10cm, ST/CT 25-30% up to 5 meters wide likely continued up small channel but no access

no treatment recommended

no other team members, mission was to observe WMA and I happened to spot this area on the way back

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident Page \_\_\_\_\_ of \_\_\_\_\_

LxW Dimensions added by CK 9/28/14. Originally not entered. Used maps as guide to LxW. 1 of 4

(for ALL sub-segments record: sub-segment ID, length, length surveyed, and GPS start/end fixes)

Sketch (X) / No Photos (X) / No (Roll # \_\_\_\_\_ Frames \_\_\_\_\_) Video Tape Yes/No (tape # \_\_\_\_\_)

108°1'40"W 108°1'30"W 108°1'20"W 108°1'10"W 108°1'0"W 108°0'50"W 108°0'40"W 108°0'30"W

C5J-LB  
6 JUL 11  
GRAHAM

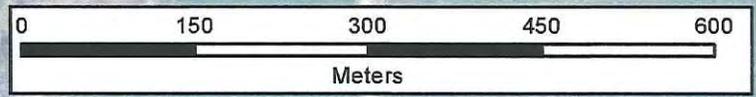


SEE NEXT MAP

~~C51~~  
C52

46°00'N  
45°59'50"N  
45°59'40"N  
45°59'30"N

46°00'N  
45°59'50"N  
45°59'40"N  
45°59'30"N



108°1'40"W 108°1'30"W 108°1'20"W 108°1'10"W 108°1'0"W 108°0'50"W 108°0'40"W 108°0'30"W

108°0'50"W

108°0'40"W

108°0'30"W

C52-LB

6 JUL 11

GRAHAM



likely continues

(B)

NOD

rip rap

ZONE A

1-5m wide

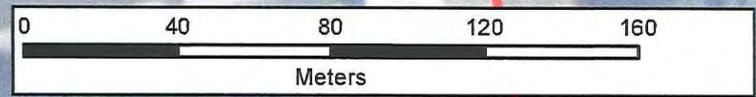
Band on grass/veg.

2-10 cm high

ST/CT

25%-30% dist

RUSHING WATER



108°0'50"W

108°0'40"W

108°0'30"W

45°59'50"N

45°59'50"N



~~C51~~-LB, Zone A  
C52



~~C51~~-LB, Zone A looking up river  
C52



~~C51~~-LB, Zone A  
C52



~~C51~~-LB, Zone A  
C52

DB/G/S

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 12:47 hrs to 12:50 hrs	Water Level low - mean - <u>bankfull</u> - overbank falling - steady - rising
Segment/Reach ID: C-52 Left Bank / Right Bank / Island		Operations Division:		
Survey by: Foot / ATV / Boat / Helicopter / Overlook /		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- 28 deg C
<b>2 SURVEY TEAM # 1</b>	Name	Organization	Signature	
	Pete Lee	Polaris	225.892.6459	
	John Beach	US EPA	415.972.3347	
	Larry Alheim	MT DEQ	406.461.7516	

**3 SEGMENT** Total Segment/Reach Length 1400 m Segment/Reach Length Surveyed 1400 m

Start GPS: LATITUDE 45 deg. 59.816 min. LONGITUDE 108 deg. 570.574 min. Datum: \_\_\_\_\_

End GPS: LATITUDE 45 deg. 59.697 min. LONGITUDE 108 deg. 1.683 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  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 15 m canyon \_\_\_\_\_ manmade \_\_\_\_\_ meander \_\_\_\_\_ confined or leveed \_\_\_\_\_ Substrate Type: \_\_\_\_\_

Sloped: (>5°)(15°)(30°) >60° straight \_\_\_\_\_ 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 3m 3-10m >10m \_\_\_\_\_ m

shoal(s) present  N point bar present  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  N oiled Y /  N amount \_\_\_\_\_ bags or \_\_\_\_\_ trucks access restrictions \_\_\_\_\_

Oiled trees/shrubs Y /  N River Current strong  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	
	869 B			P	S	1200	1															
868 A				P	200	1	60															veg

**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					

**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: \_\_\_\_\_

Treatment recommendations:

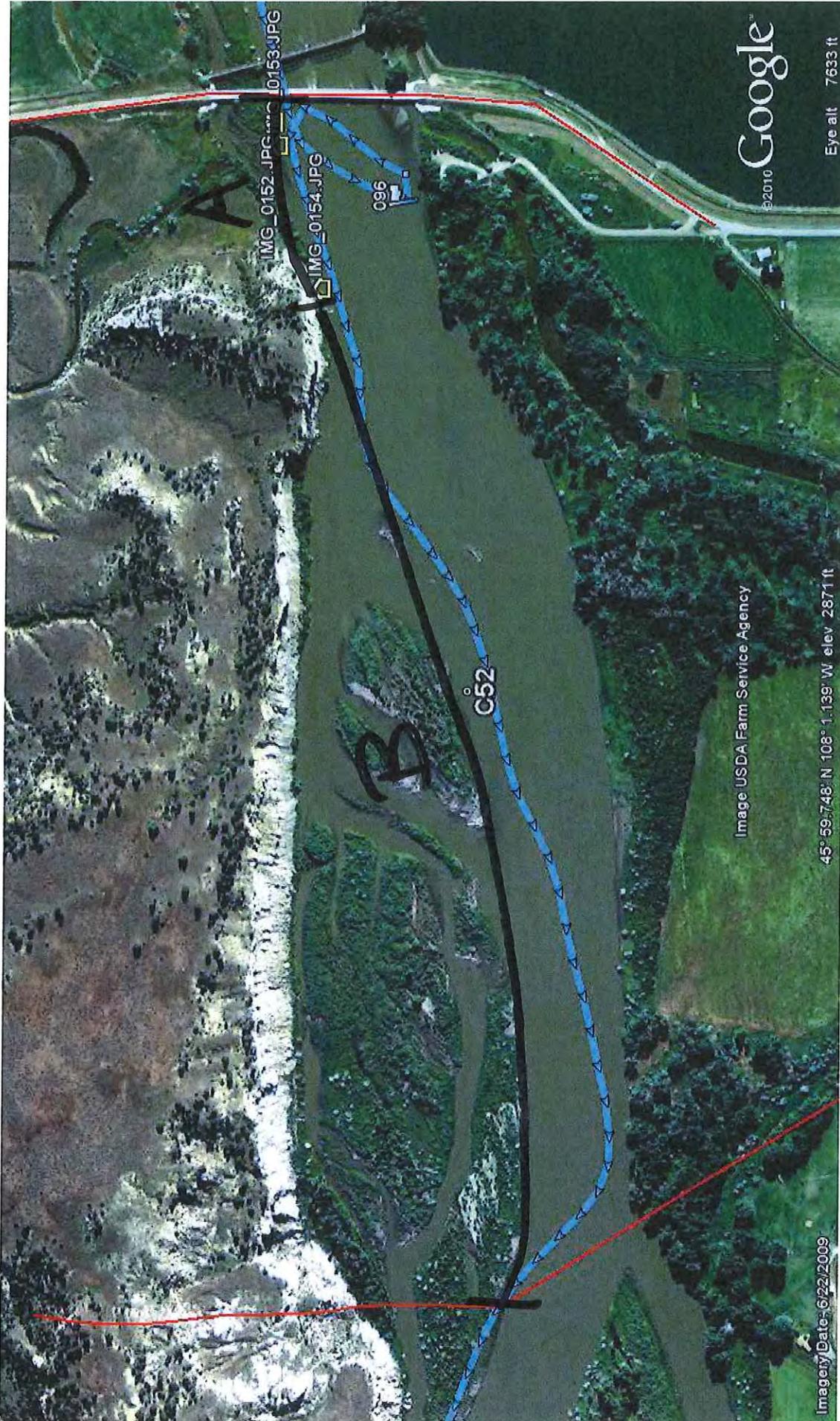
Zone A : No oil observed; no treatment required.

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  No Photos  Frames 0015-0022 Photographer Beach

0015-0016 Beach



A

B

C52

096

IMG\_0152.JPG

IMG\_0154.JPG

IMG\_0153.JPG

Google

Eye alt 7633 ft

Image USA Farm Service Agency

45° 59.748' N 108° 1.139' W elev 2871 ft

Imagery Date: 6/22/2009

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

DB/6

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy) 09/08/11	Time (24h): std / daylight 0945 hrs to 1320 hrs	Water Level low (mean - bankfull) overbank falling - steady - rising
Segment/Reach ID: C52 <u>Left Bank / Right Bank / Island</u>				
Operations Division: C				
Survey by: <u>Foot / ATV / Boat</u> Helicopter / Overlook / _____		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- 2.7 deg C

2 SURVEY TEAM # 1,2	Name	Organization	Signature
Joe Busalacchi	Cardno Entrix	<i>[Signature]</i>	
Larkin Chandler	Cultural Resources	<i>[Signature]</i>	
John Davis	USCG		
Betsy Hovda	DEQ	<i>[Signature]</i>	
Adam Bausch	Cardno Entrix	<i>[Signature]</i>	
Lisa Gerencher	Cardno Entrix	<i>[Signature]</i>	
Jack Smith	USCG	<i>[Signature]</i>	
Earl Radonski	FWP	<i>[Signature]</i>	

**3 SEGMENT** Total Segment/Reach Length 1.418 m Segment/Reach Length Surveyed 2,380 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 X Pebble/Cobble \_\_\_\_\_ Boulder \_\_\_\_\_ Peat/Organic \_\_\_\_\_ Vegetated Bank (P) Wooded Upland: S

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: Mixed

Sloped: (>5°)(15°)(30°) straight \_\_\_\_\_ braided X P oxbow X 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 \_\_\_\_\_ trucks access restrictions - boat access - is lands

Oiled trees/shrubs (Y) N River Current strong (Y) N Other Features: several shallow braided channels

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

1375  
1376  
1377  
1378

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	1000	170	<1			X							X				Mixed Debris
B				X	650	180	<1			X							X				Var.
C				X	590	20	<u>(C)</u>													X	NA
D				X	138	100	<1				X		X								Var/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 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				

**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

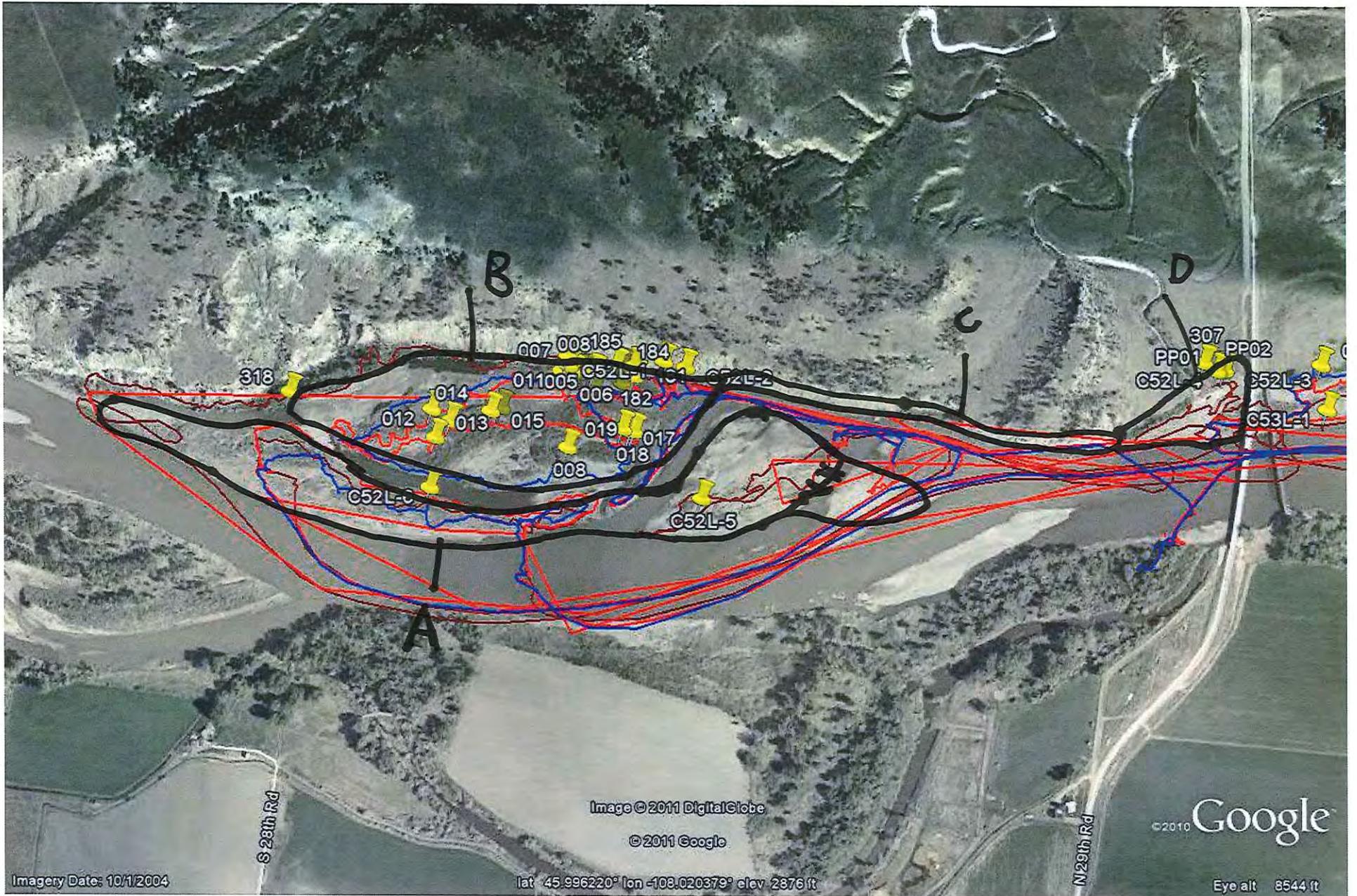
Zone A - NTR - a couple isolated sporadic CT debris

Zone B - Natural attenuation - NTR - sporadic CT on willow @ 3-6 ft < 1% silver sheen back slack water - 25mL 5mW - very light

Zone C - NOO

Zone D - cut grass in over bank area LB adjacent west of Bumpin Bridge  
 'bathtub ring' on grass (FWP Opinion High-Use Public Access Area - Aesthetic Concerns)  
 However staining on grass Not Transferable Does Not Fall Under Current Guidelines

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



C52LB  
Teams 1 + 2  
09/08/11



## **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

DB/G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy) 08/09/2011	Time (24h): std / daylight 1300 hrs to 1500 hrs	<b>Water Level</b> low - mean - <u>bankfull</u> - overbank falling - steady - rising
Segment/Reach ID: C52 <u>Left Bank</u> / Right Bank / Island				
Operations Division: C				
Survey by: <u>Foot</u> / ATV / <u>Boat</u> / Helicopter / Overlook / _____		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp + / - <u>28</u> deg C

<b>2 SURVEY TEAM # NA</b>	Name	Organization	Signature
Juan Patino		US Coast Guard	<i>[Signature]</i>
Shawn Briggs		Montana FWP	<i>[Signature]</i>
Richard Marty		Polaris	<i>[Signature]</i>

**3 SEGMENT** Total Segment/Reach Length \_\_\_\_\_ m Segment/Reach Length Surveyed \_\_\_\_\_ 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 p confined or leveed \_\_\_\_\_ Substrate Type: mud/sand/grvl

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

**4C RIVER CHANNEL CHARACTER** circle 51 or select as appropriate

est. width: <1m 1-10m 10-100m >100m 100m 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	
<u>XB</u>				X	1025	50	0														x	All
<u>A</u>				X	70	106	<1				X							X				plants
<u>C</u>				X	50	10	<1				X							X				plants
<u>D</u>				X	230	40	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				
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

Area has been cleaned by operations. The two oil zones that were present have been reduced to traces of stain.

**B**  
A - No oil observed. No additional treatment is required.

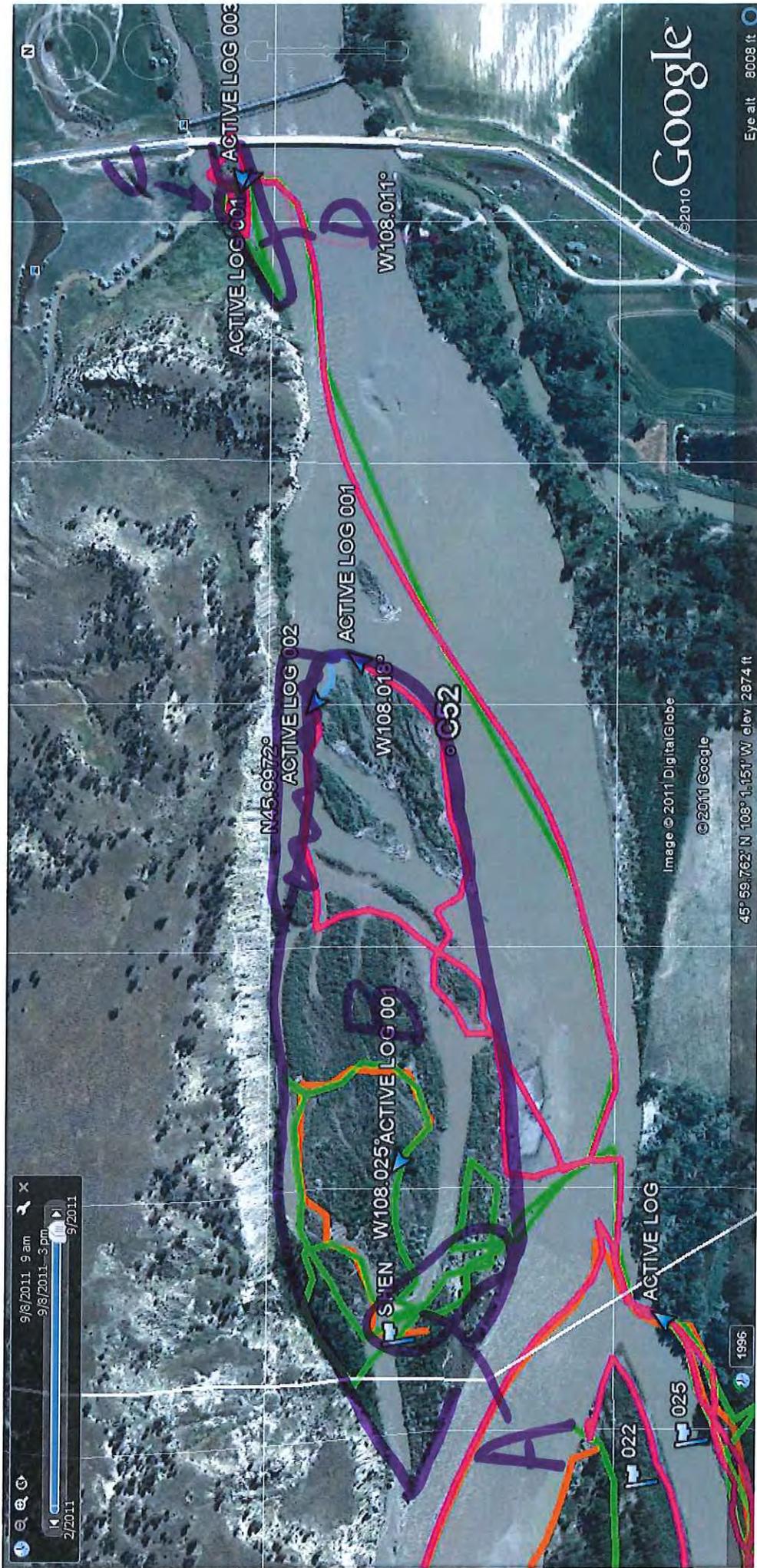
**A** - oiled area, cleaned by hot shot crew. Remaining oil reduced to traces of stain. Natural Attenuation

**C** - oiled area of bath tub ring. Cleaned by hot shot crew. Remaining oil reduced to traces of stain. Natural Attenuation

**D** = NOO

Sketch Yes / No Photos Yes / No Frames None Photographer \_\_\_\_\_

C52LB  
8 Sept. 2011  
Team 2



A - Very Light  
B - NOB  
C - Very Light  
D = NOO



## **Appendix F**

Completed SCAT Segment  
Sign-Off Forms

# SCAT SEGMENT OPERATIONS COMPLETION SIGN-OFF SHEET

## SILVERTIP PIPELINE RELEASE

Segment \_C52L (including island)\_ Date of Survey 8 Sept. 2011

Dates of Initial SCAT Assessments 9 Aug., 26 July, 6 July, 2011  
(to be filled out by SCAT Data Management)

CTR(s) Associated with SCAT Segment \_CTR-60\_

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).*



Juan Patino/US Coast Guard

Sign Name

Print Name/ Affiliation

Date

**Federal Representative (EPA/USCG)**



Shawn Briggs/Montana Fish, Wildlife, and Parks

9-8-2011

Sign Name

Print Name/ Affiliation

Date

**State Representative (DEQ/FWP)**



Richard Marty/Polaris (for Exxon-Mobile)

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.