

**ExxonMobil Pipeline Company**

**SCAT Area Transition Report  
for B05**

Silvertip Pipeline Incident  
Laurel, Montana

October 27, 2011



## **SCAT Area Transition Report for B05**

Silvertip Pipeline Incident  
Laurel, Montana

Prepared for:  
ExxonMobil Pipeline Company

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Our Ref.:  
B0085883.1103

Date:  
October 27, 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 B05, 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 B05. 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 B05, 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 B05 is 20.7. There were no access issues for this area; however, there was a conditional access agreement for a small portion of the left bank.

### **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 regular inspections of Area B05. One oiled Woodhouse's toad (*Bufo woodhousii*) was captured, cleaned, and released. One oiled deceased fish (unknown species) was observed but could not be collected and a deceased lightly oiled mourning dove (*Zenaida macroura*) was identified and retained. Two Wildlife Priority Cleanup Areas (WPCAs) were identified. The WPCAs were oiled debris piles, or a series of piles. The WPCAs were treated to reduce the potential for wildlife oiling and are no longer considered wildlife hazards. A spotted sandpiper (*Actitis macularia*) nest was identified in Area B05.

**1.3 Summary of Environmental Sampling**

Table 1 (below) summarizes samples collected within Area B05. 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 B05 are provided on Figure 3.

**Table 1 Environmental Sampling Summary**

Agency	Sample Num	Date	Matrix	Location	Latitude	Longitude
MDEQ	B11070821-041	12-Jul-11	Soil Surface	ST-ML-01	45.69883	-108.6262
MDEQ	B11070821-042	12-Jul-11	Soil Surface	ST-ML-01	45.69883	-108.6262
MDEQ	ST-071811-ML1	18-Jul-11	Soil Surface	ST-ML-01	45.69883	-108.6262
MDEQ	ST-071811-ML2	18-Jul-11	Soil Surface	ST-ML-02	45.69862	-108.62758
EPA	SPSD118D01 071411	14-Jul-11	Soil Surface	SPSD118	45.6987567	-108.6275382
EPA	SPSD119D01 071411	14-Jul-11	Soil Surface	SPSD119	45.6987749	-108.6274872

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, there were six exceedances: two for C11-C22 aromatics, two for C9-C18 aliphatics, and two for total extractable hydrocarbons.

**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 B05 are included in Appendix B. Figure 4 provides the maximum oiling zones observed by the SCAT team during the initial surveys of Area B05.

**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. 20](#) and [CTR No. 41](#)).

### **1.6 Oil Removal Activities**

Oil removal activities were conducted within Area B05 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**

SCAT Operations liaisons performed an inspection of the remediated areas of SCAT Area B05 and developed a Pre-Inspection Survey Transmittal (PIST) associated with the right bank within Area B05, which is presented in Appendix C.

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

SCAT Operations liaisons performed an inspection of the remediated areas of SCAT Area B05 and developed a Post-Inspection Survey Transmittal (POST) associated with the right bank within Area B05, which is presented in Appendix D.

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

Figure 5 shows the oiling conditions within Area B05 following completion of oil removal activities. The SCAT team performed final surveys of the right and left banks within SCAT Area B05 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 right and left banks within Area B05, no further treatment is recommended for these segments. SCAT Segment Sign-Off Forms are included as Appendix F.



**SCAT Area Transition  
Report for B05**

Silvertip Pipeline Incident  
Laurel, Montana

**2. Transition Sign-Off Form**

**SCAT Area Transition Report for B05**

**Prepared for:**

**Unified Command**

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Date

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Unified Command – RP



**SCAT Area Transition  
Report for B05**

Silvertip Pipeline Incident  
Laurel, Montana

**SCAT Area Transition Report for B05**

Prepared for:

Unified Command

10/10/2011

Date

S. MARITT

Unified Command – FOSC



**SCAT Area Transition  
Report for B05**

Silvertip Pipeline Incident  
Laurel, Montana

**SCAT Area Transition Report for B05**

**Prepared for:**

**Unified Command**

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Date

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Unified Command – MDEQ

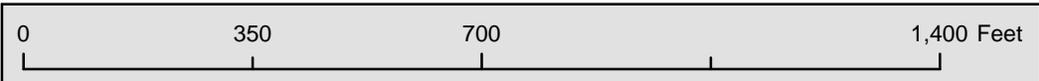
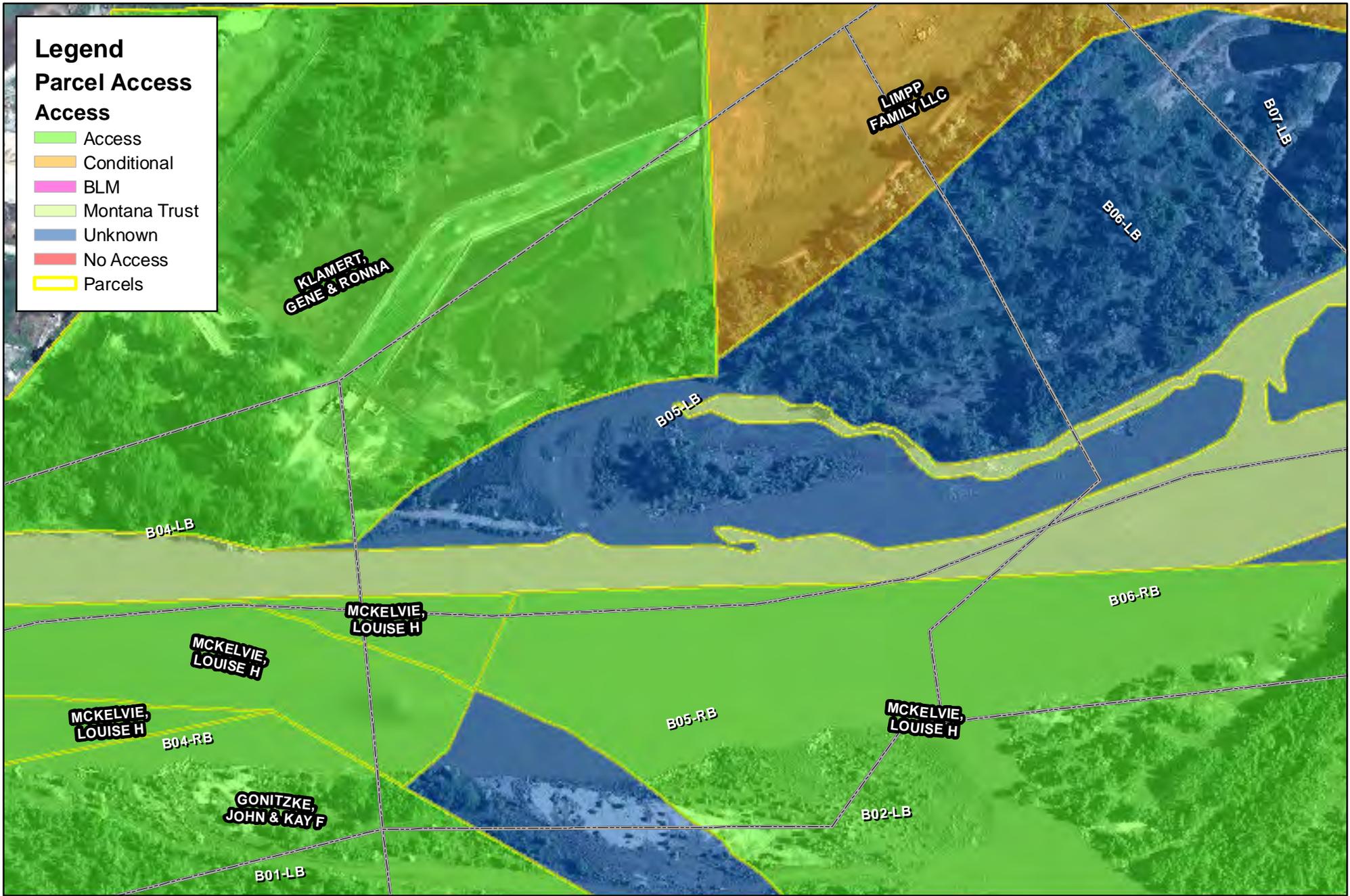
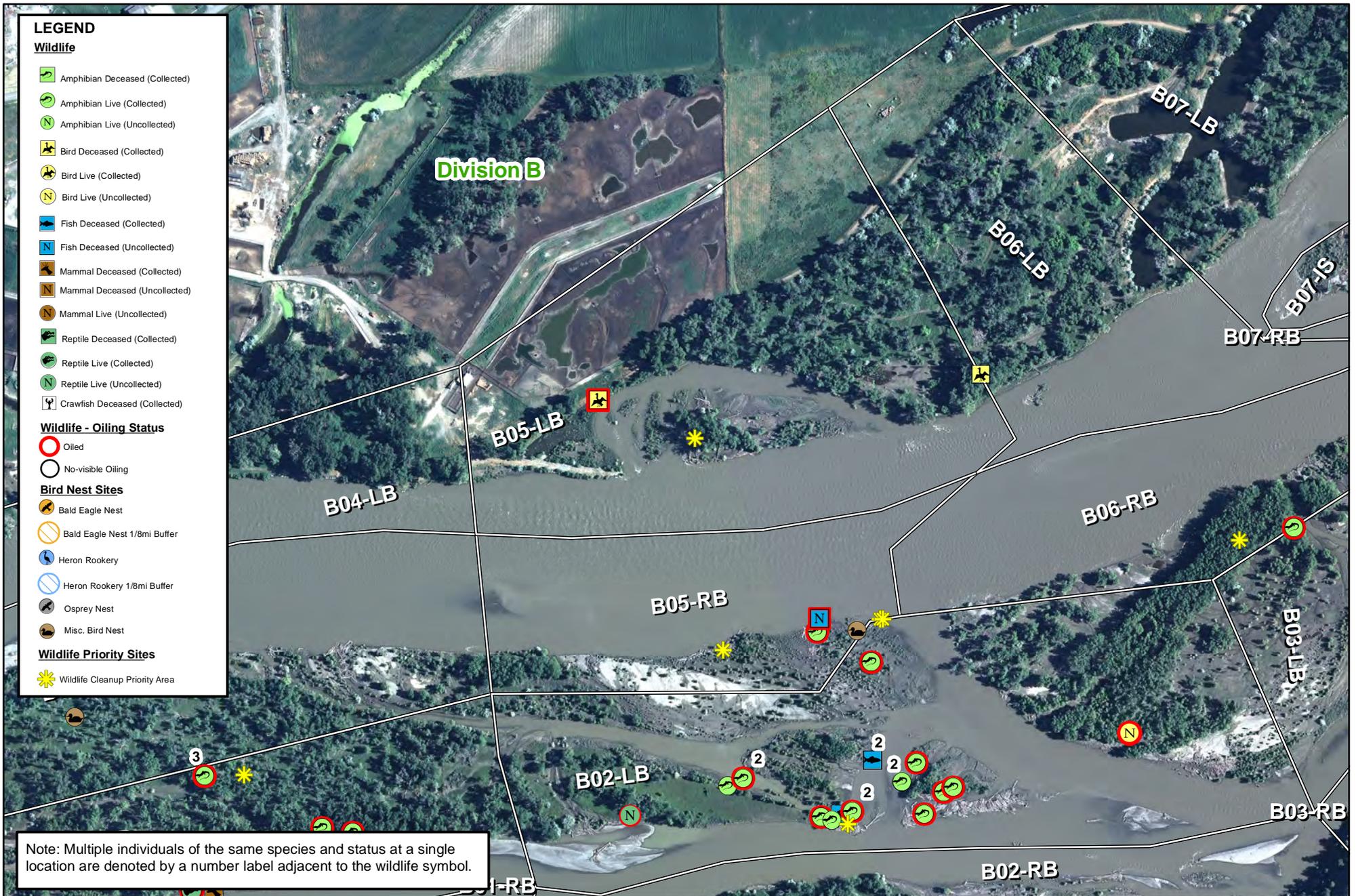


Figure 1

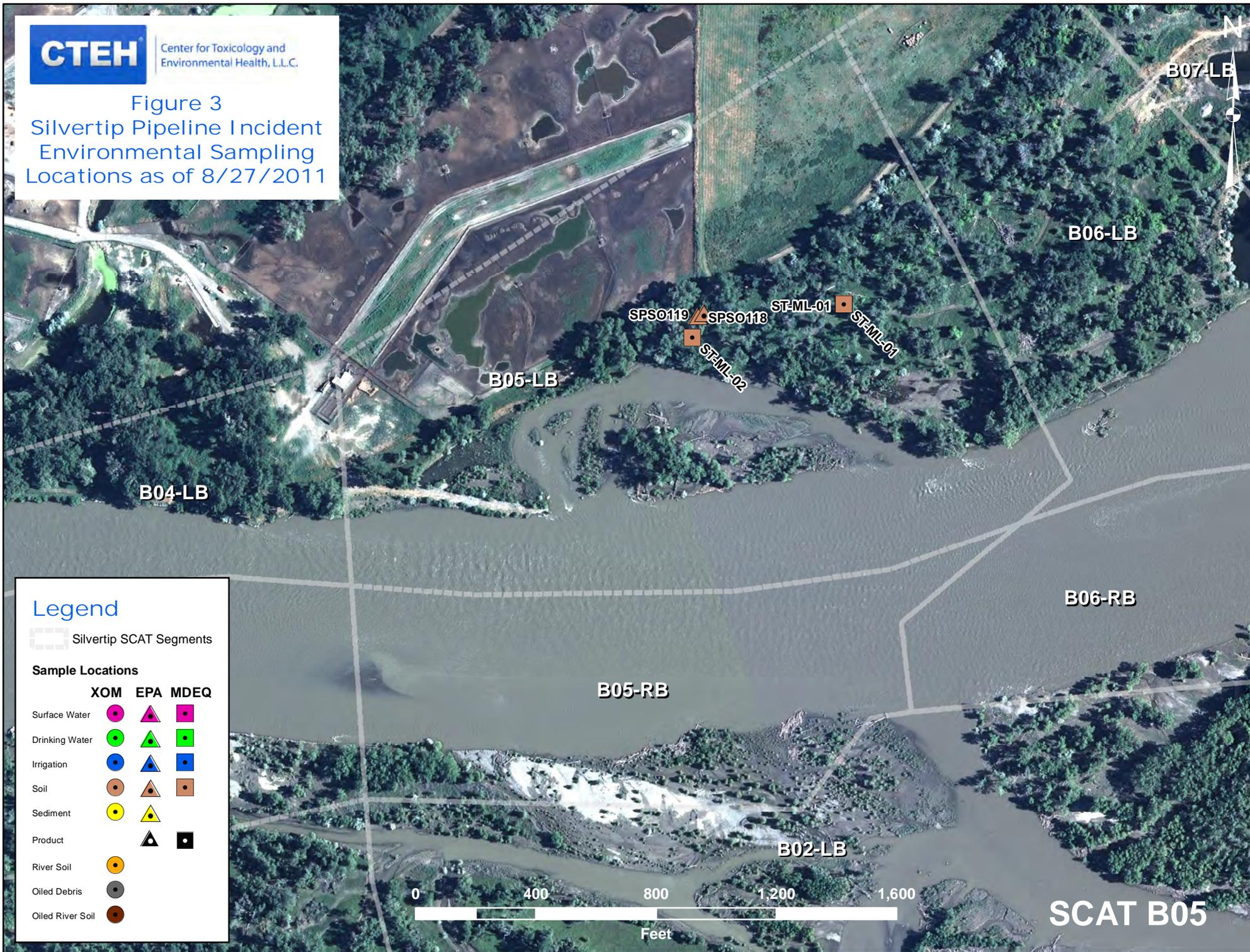


**Figure 2**  
**Wildlife Resources**



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

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

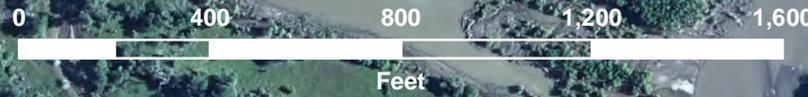


### Legend

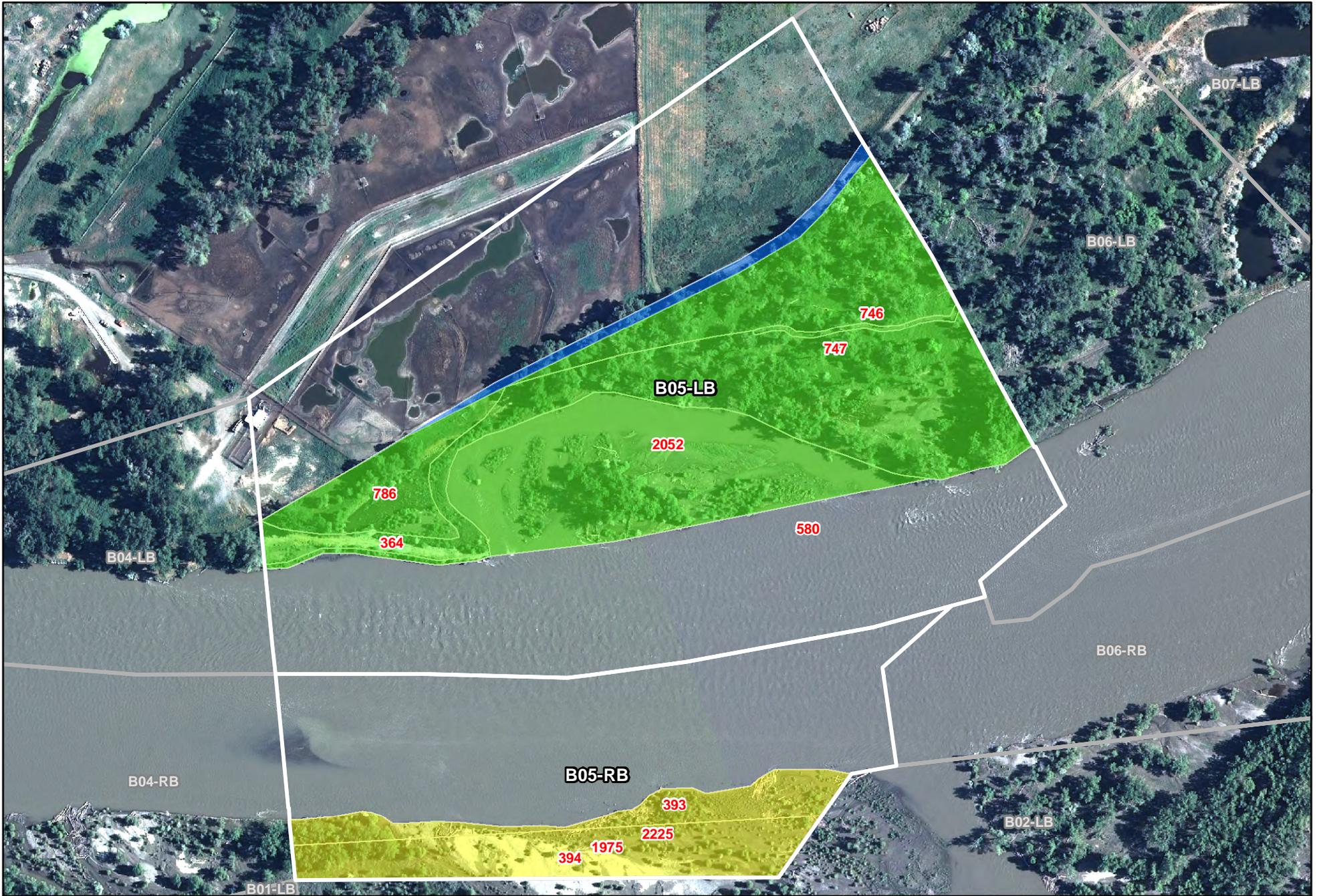
Silvertip SCAT Segments

#### Sample Locations

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

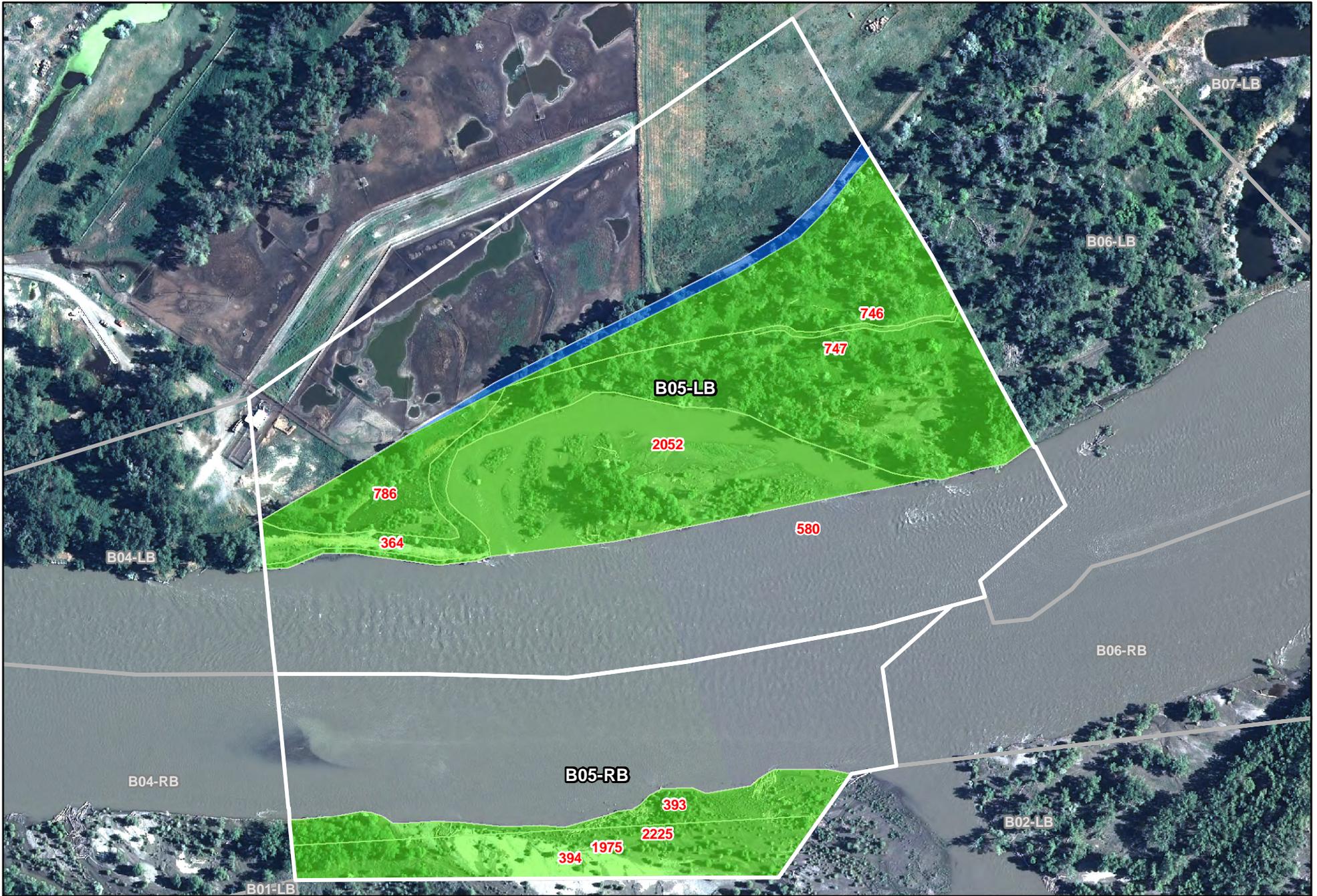


SCAT B05



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

**Figure 4 - Maximum SCAT Observations For SCAT Area: B05**



	<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: B05**



## **Appendix A**

Sample Detection Summary



## Detections in Samples Collected in SCAT Area B05

NA - Not Available

Detected Above Screening Level

Sample Num	Date	Sample Type	Matrix	Analytical Method	Analyte	Detected	Result	Screening Level	Result Qualifier	Units	Above?
ST-071811-ML1		Field	Soil_Surface	8260B	1,2-Dichloroethane-d4	Y	78	NA		%	no
ST-071811-ML1		Field	Soil_Surface	8270C	2,4,6-Tribromophenol	Y	70	NA	D	%	no
ST-071811-ML1		Field	Soil_Surface	MA-EPH-MDEQ-REM	2-Bromonaphthalene	Y	75	NA		%	no
ST-071811-ML1		Field	Soil_Surface	MA-EPH-MDEQ-REM	2-Fluorobiphenyl	Y	79	NA		%	no
ST-071811-ML1		Field	Soil_Surface	8270C	2-Fluorobiphenyl	Y	70	NA	D	%	no
ST-071811-ML1		Field	Soil_Surface	MA-EPH-MDEQ-REM	C11-C22 Aromatics	Y	2840	400		mg/kg	YES
ST-071811-ML1		Field	Soil_Surface	MA-EPH-MDEQ-REM	C19-C36 Aliphatics	Y	2770	20000		mg/kg	no
ST-071811-ML1		Field	Soil_Surface	MA-VPH-MDEQ-REM	C9-C10 Aromatics	Y	4.4	100		mg/kg	no
ST-071811-ML1		Field	Soil_Surface	MA-VPH-MDEQ-REM	C9-C12 Aliphatics	Y	3.5	100		mg/kg	no
ST-071811-ML1		Field	Soil_Surface	MA-EPH-MDEQ-REM	C9-C18 Aliphatics	Y	1430	200		mg/kg	YES
ST-071811-ML1		Field	Soil_Surface	8260B	Dibromofluoromethane	Y	78	NA		%	no
ST-071811-ML1		Field	Soil_Surface	8270C	Nitrobenzene-D5	Y	69	NA	D	%	no
ST-071811-ML1		Field	Soil_Surface	MA-EPH-MDEQ-REM	Octadecane, 1-chloro-	Y	61	NA		%	no
ST-071811-ML1		Field	Soil_Surface	8270C	o-Fluorophenol	Y	71	NA	D	%	no
ST-071811-ML1		Field	Soil_Surface	MA-EPH-MDEQ-REM	o-Terphenyl	Y	104	NA		%	no
ST-071811-ML1		Field	Soil_Surface	8260B	p-Bromofluorobenzene	Y	74	NA		%	no
ST-071811-ML1		Field	Soil_Surface	8270C	Phenol-d5	Y	66	NA	D	%	no
ST-071811-ML1		Field	Soil_Surface	8270C	Terphenyl-d14	Y	74	NA	D	%	no
ST-071811-ML1		Field	Soil_Surface	8260B	Toluene-d8	Y	70	NA		%	no
ST-071811-ML1		Field	Soil_Surface	MA-EPH-MDEQ-REM	Total Extractable Hydrocarbons	Y	8180	200		mg/kg	YES
ST-071811-ML1		Field	Soil_Surface	MA-VPH-MDEQ-REM	Total Purgeable Hydrocarbons	Y	19	200		mg/kg	no
ST-071811-ML2		Field	Soil_Surface	8260B	1,2-Dichloroethane-d4	Y	70	NA	D	%	no
ST-071811-ML2		Field	Soil_Surface	8270C	2,4,6-Tribromophenol	Y	69	NA	D	%	no
ST-071811-ML2		Field	Soil_Surface	MA-EPH-MDEQ-REM	2-Bromonaphthalene	Y	77	NA		%	no
ST-071811-ML2		Field	Soil_Surface	MA-EPH-MDEQ-REM	2-Fluorobiphenyl	Y	86	NA		%	no
ST-071811-ML2		Field	Soil_Surface	8270C	2-Fluorobiphenyl	Y	80	NA	D	%	no
ST-071811-ML2		Field	Soil_Surface	MA-EPH-MDEQ-REM	C11-C22 Aromatics	Y	3430	400		mg/kg	YES
ST-071811-ML2		Field	Soil_Surface	MA-EPH-MDEQ-REM	C19-C36 Aliphatics	Y	3540	20000		mg/kg	no
ST-071811-ML2		Field	Soil_Surface	MA-VPH-MDEQ-REM	C9-C12 Aliphatics	Y	2.9	100	J	mg/kg	no
ST-071811-ML2		Field	Soil_Surface	MA-EPH-MDEQ-REM	C9-C18 Aliphatics	Y	1590	200		mg/kg	YES
ST-071811-ML2		Field	Soil_Surface	8260B	Dibromofluoromethane	Y	72	NA	D	%	no



## Detections in Samples Collected in SCAT Area B05

NA - Not Available

Detected Above Screening Level

Sample Num	Date	Sample Type	Matrix	Analytical Method	Analyte	Detected	Result	Screening Level	Result Qualifier	Units	Above?
ST-071811-ML2		Field	Soil_Surface	8270C	Nitrobenzene-D5	Y	95	NA	D	%	no
ST-071811-ML2		Field	Soil_Surface	MA-EPH-MDEQ-REM	Octadecane, 1-chloro-	Y	55	NA		%	no
ST-071811-ML2		Field	Soil_Surface	8270C	o-Fluorophenol	Y	66	NA	D	%	no
ST-071811-ML2		Field	Soil_Surface	MA-EPH-MDEQ-REM	o-Terphenyl	Y	114	NA		%	no
ST-071811-ML2		Field	Soil_Surface	8260B	p-Bromofluorobenzene	Y	65	NA	D	%	no
ST-071811-ML2		Field	Soil_Surface	8270C	Phenol-d5	Y	79	NA	D	%	no
ST-071811-ML2		Field	Soil_Surface	8270C	Terphenyl-d14	Y	78	NA	D	%	no
ST-071811-ML2		Field	Soil_Surface	8260B	Toluene-d8	Y	62	NA	D	%	no
ST-071811-ML2		Field	Soil_Surface	MA-EPH-MDEQ-REM	Total Extractable Hydrocarbons	Y	9940	200		mg/kg	YES
ST-071811-ML2		Field	Soil_Surface	MA-VPH-MDEQ-REM	Total Purgeable Hydrocarbons	Y	16	200		mg/kg	no



## **Appendix B**

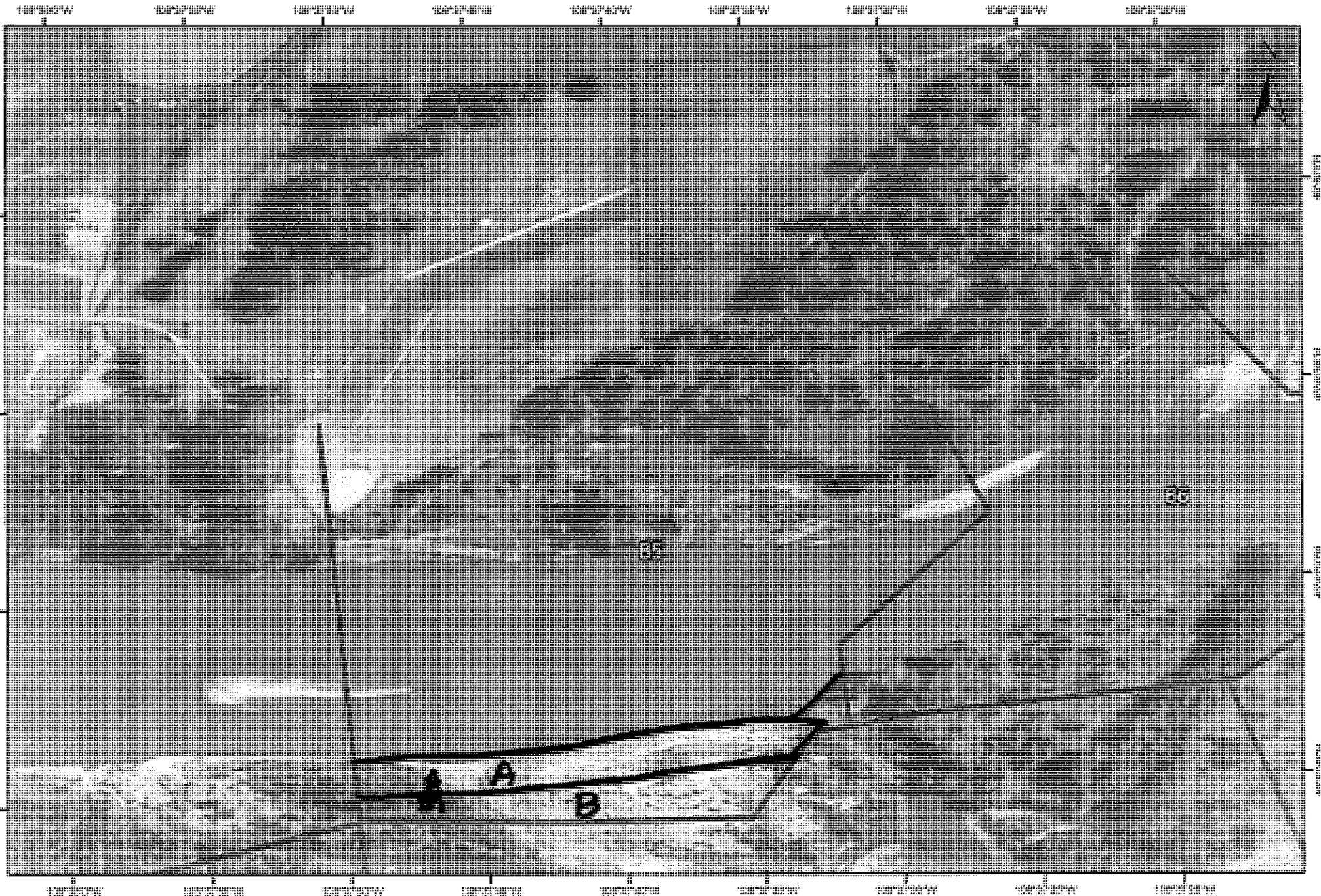
Initial SCAT Survey Forms  
and Sketches

DB/6

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

<b>1 GENERAL INFORMATION</b>				Date (dd/mm/yy) 20-Jul-2011	Time (24h): std / daylight 1000 hrs to 1030 hrs	Water Level low - mean - <u>bankfull</u> - overbank falling - steady - rising																	
Segment/Reach ID: B05 Left Bank / Right Bank / <u>Island</u>				Operations Division: A		Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook / _____																	
<b>2 SURVEY TEAM # 1 &amp; 2 5</b>				Sun / Clouds / Fog / Rain / Snow / <u>Windy</u> / Calm		Air Temp + / - <u>31</u> deg C																	
name		organization		contact phone number																			
Pete Lee <u>PBL</u>		Polaris																					
Chucks Pons <u>Chucks</u>		Cardno ENTRIX																					
Andy Johnson <u>Andy</u>		USCG																					
John Beach <u>John</u>		EPA																					
Jenny Chambers <u>Jenny</u>		MTDEQ																					
Allison Bagley <u>Ally</u>		MTFWP																					
<b>3 SEGMENT</b>				Total Segment/Reach Length _____ m		Segment/Reach Length Surveyed <u>388</u> m																	
Start GPS: LATITUDE _____ deg. _____ min.		LONGITUDE _____ deg. _____ min.		Datum: _____																			
End GPS: LATITUDE _____ deg. _____ min.		LONGITUDE _____ deg. _____ min.																					
<b>4A RIVER BANK TYPE</b>				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 <u>S</u>		Mixed <u>S</u> Pebble/Cobble _____ Boulder _____ Peat/Organic _____		Vegetated Bank: <u>S</u>		Wooded Upland: <u>P</u>																	
Sediment Flat: Clay/Mud _____ Sand _____		Mixed/Coarse _____		Other: _____ If snow and ice use Winter River SOS																			
<b>4B RIVER VALLEY CHARACTER</b>				select as appropriate				complete for primary															
Cliff or Bluff: _____ Est Height _____ m		canyon _____ manmade _____ meander _____		confined or leveed _____		Substrate Type: <u>mixed</u>																	
Sloped: _____ (>5°)(15°)(30°)		straight <u>P</u> braided <u>S</u>		oxbow _____		flood plain valley _____ Forested / <u>Vegetated</u> / Bare																	
<b>4C RIVER CHANNEL CHARACTER</b>				circle or select as appropriate																			
est. width: < 1m 1-10 m 10-100 m <u>&gt;100m 140m</u>		est. water depth: < 1 m 1-3 m <u>3-10 m</u> >10 m _____ m		shoal(s) present <u>Y/N</u> point bar present <u>Y/N</u>																			
seasonal water level: low / mean / bank full / <u>overbank flow</u>		bar-shoal substrate: silt / sand / gravel / cobble / boulder / bedrock / debris						est. change over next 7 days: <u>falling</u> — same — rising															
<b>5 OPERATIONAL FEATURES</b>				Suitable backshore staging <u>Y/N</u>		Access: Direct from backshore <u>Y/N</u> Alongshore from next segment <u>Y/N</u>																	
Debris: <u>Y/N</u> oiled <u>Y/N</u> amount _____ bags or <u>2</u> trucks		access restrictions _____		Oiled trees/shrubs <u>Y/N</u> River Current strong <u>Y/N</u> Other Features: _____																			
<b>6 SURFACE OILING CONDITIONS</b>				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.	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR		AP	NO		
ID	MS	LB	UB	OB	m	m	%																
A				X	385	25	5		X	X	X			X									Grass, trees, debris, soil
B				X	330	25	5			X	X			X								Grass, trees	
<b>7 SUBSURFACE OILING CONDITIONS</b>				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					NO	cm	B, R, S, N	Yes / No			
	MS	LB	UB	OB	cm	cm-cm																	
<b>8 COMMENTS</b> ecological/recreational/cultural/economic constraints - shorezone biota and wildlife observations - cleanup recommendations																							
Oil band heights: Zone A – 50cm; Zone B – 50cm																							
<b>Treatment Recommendations:</b>																							
Zone A: Cut & remove oil coated vegetation smaller than 1" diameter. Remove oil coated debris smaller than 4" diameter. Wipe larger oil coated vegetation and debris. The Technical Advisory Group will need to be consulted for alternative treatment methods for oiled debris.																							
Zones B : Cut & remove oil coated vegetation smaller than 1" diameter. Wipe larger oil coated vegetation and debris.																							
*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 _____ (Beach) _____																							

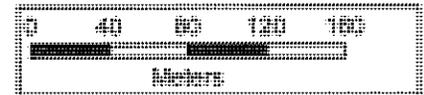
393  
394



**B05 -**  
(LRT)??

DATE:  
TEAM:

COMMENTS:



08/6/15

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy) 19-Jul-2011	Time (24h): std / daylight 1220 hrs to 1221 hrs	<b>Water Level</b> low - mean - <u>bankfull</u> - overbank falling - steady - rising
Segment/Reach ID: B05 <u>Left Bank</u> / Right Bank / Island		Operations Division: B		
Survey by: Foot / ATV / <u>Boat</u> / Helicopter / Overlook / _____		Sun / Clouds / Fog / Rain / Snow / <u>Windy</u> / Calm		Air Temp +/- <u>31</u> deg C

<b>2 SURVEY TEAM # 1</b>	name	organization	contact phone number
Pete Lee	<u>PL</u>	Polaris	
Larry Alheim		MTDEQ	
Andy Johnson	<u>Andy Johnson</u>	USCG	<u>[Signature]</u>

**3 SEGMENT** Total Segment/Reach Length \_\_\_\_\_ m Segment/Reach Length Surveyed 512 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 S \_\_\_\_\_ (type) Riprap \_\_\_\_\_ Wetland: Swamp \_\_\_\_\_ Bog/Fen \_\_\_\_\_ Marsh \_\_\_\_\_

Sediment Bank: Clay/Mud \_\_\_\_\_ Sand \_\_\_\_\_ Mixed S \_\_\_\_\_ 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: mixed

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

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

est. width: <1m 1-10m 10-100m >100m 130m 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 170 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				X	512	1	100			X	X		X									Grass, trees, debris, riprap

**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 band heights: Zone A: 30 cm

**Treatment Recommendations:**

Zone A: Cut & remove oil coated vegetation smaller than 1" diameter. Remove oil coated 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 1318-1326 (Lee)

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy) 19-Jul-2011	Time (24h): std / daylight 1220 1221 1219 hrs to 1220 hrs	Water Level low - mean - <u>bankfull</u> - overbank falling - steady - rising
Segment/Reach ID: B065 <u>Left Bank</u> / Right Bank / Island		Operations Division: B		
Survey by: Foot / ATV / <u>Boat</u> / Helicopter / Overlook /		Sun / Clouds / Fog / Rain / Snow / <u>Windy</u> / Calm		Air Temp +/- <u>31</u> deg C
<b>2 SURVEY TEAM # 1</b>	name	organization	contact phone number	
	Pete Lee	Polaris		
	Larry Alheim	MTDEQ		
	Andy Johnson	USCG		
			512	

**3 SEGMENT** Total Segment/Reach Length \_\_\_\_\_ m Segment/Reach Length Surveyed 200 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 S (type) Riprap \_\_\_\_\_ Wetland: Swamp \_\_\_\_\_ Bog/Fen \_\_\_\_\_ Marsh \_\_\_\_\_

Sediment Bank: Clay/Mud \_\_\_\_\_ Sand \_\_\_\_\_ Mixed S \_\_\_\_\_ 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: mixed

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

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

est. width: <1m 1-10m ~~10-100m~~ >100m 130 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/X Alongshore from next segment Y/N

Debris: Y/N oiled Y/N amount 80 bags or \_\_\_\_\_ trucks access restrictions

Oiled trees/shrubs Y/N 170 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				X	<del>200</del>	1				X	<u>X</u>		X								Grass, trees, debris, riprap
					512																

**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 band heights: Zone A: 30 cm

**Treatment Recommendations:** Remove debris smaller than 4" diameter.

Zone A: Cut & remove oil coated vegetation smaller than 1" 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 (Sorberent Use), # (Unconsolidated Sediments)

1318-1326

Sketch Yes / No Photos Yes / No Frames 1315-1317 (Lee)



B5

A

Imagery Date: 4/30/2004

45°41'51.71" N 103°37'40.59" W elev 3192 ft

©2010 Google

Eye-alt 5097 ft

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>B05</u> (Left Bank / Right Bank / Island)		<u>19/07/11</u>	<u>0933</u> hrs to <u>1002</u> hrs	low - mean - <u>bankfull</u> - overbank
Operations Division:				<u>falling</u> - steady - rising
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 #</b> <u>6</u>	Name	Organization	Signature
	<u>Joe Boyle</u>	<u>Cardno Entrix</u>	<u>See attached</u>
	<u>Christa Murphey</u>	<u>Cardno Entrix</u>	<u>↓</u>
	<u>Bob Roll</u>	<u>MTDEQ</u>	
	<u>James Rogers</u>	<u>USCG</u>	

**3 SEGMENT** Total Segment/Reach Length 500 m Segment/Reach Length Surveyed 140 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 (S) Boulder \_\_\_\_\_ Peat/Organic \_\_\_\_\_ Vegetated Bank (S) Wooded Upland: \_\_\_\_\_

Sediment Flat: Clay/Mud \_\_\_\_\_ Sand \_\_\_\_\_ Mixed/Coarse \_\_\_\_\_ Other: rip rap (P) 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 (S) meander (S) confined or leveed \_\_\_\_\_ Substrate Type: mud

Sloped: (>5°)(15°)(30°) 60° 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 110m 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: roadway access along shoreline

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

364

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>S</u>	<u>P</u>		<u>140</u>	<u>3</u>	<u>&lt;1</u>				<u>P</u>		<u>P</u>									<u>mud</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	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 - 11FT

Note: Dps was observed in area on 07/18/11 grass appears to be recently cut.

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

108°38'0"W 108°37'55"W 108°37'50"W 108°37'45"W 108°37'40"W 108°37'35"W 108°37'30"W 108°37'25"W 108°37'20"W



45°41'45"N

45°42'0"N

45°41'55"N

45°41'55"N

45°41'50"N

45°41'50"N

45°41'45"N

45°41'45"N

~~ZONE A~~

B5

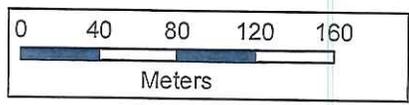
B6

108°38'0"W 108°37'55"W 108°37'50"W 108°37'45"W 108°37'40"W 108°37'35"W 108°37'30"W 108°37'25"W 108°37'20"W

**B05 -**  
©(LR/1)??

DATE: 07/15/11  
TEAM: G Chelsea.

COMMENTS:



VOIDS

DB 16/15

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

Page 1 of 1

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: <u>B5</u> (Left Bank / Right Bank / Island)		<u>9/07/11</u>	<u>0433</u> hrs to <u>1002</u> hrs	low - mean - bankfull - overbank
Operations Division: <u>A</u>		<u>Sun</u> Clouds / Fog / Rain / Snow / Windy / Calm		(falling) steady - rising
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook /				Air Temp +1-30 deg C
<b>2 SURVEY TEAM #</b>	name	organization	contact phone number	
	<u>Joe Boyle</u>	<u>Canada Centre</u>	<u>386-2414 6888</u>	
	<u>Chelsea Murphy</u>	<u>"</u>	<u>775-313-3976</u>	
	<u>Bob Roll</u>	<u>MT DEQ</u>	<u>205-838-2714</u>	
	<u>JAMES ROGERS</u>	<u>USCB PAC STRIKE TEAM</u>	<u>727-244-8822</u>	

<b>3 SEGMENT</b>	Total Segment/Reach Length	<u>500</u> m	Segment/Reach Length Surveyed	<u>200</u> m
Start GPS:	LATITUDE <u>45.69725</u> deg.	<u>108.63907</u> min.	LONGITUDE <u>108.63655</u> deg.	<u>108.63151</u> min.
End GPS:	LATITUDE <u>45.69758</u> deg.	<u>108.63907</u> min.	LONGITUDE <u>108.63207</u> deg.	<u>108.63151</u> 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: S Wooded Upland:

Sediment Flat: Clay/Mud Sand Mixed/Coarse Other: Big Rip (P) If snow and ice use Winter River SOS

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

Cliff or Bluff: Est Height 100 m canyon manmade meander S confined or leveed Substrate Type: mud

Sloped: (>5°)(15°)(30°) (100°) 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 110 m est. water depth: <1m 1-3m 3-10m >10m

shoal(s) present Y point bar present Y 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: roadway access along shoreline

**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	Width	Distrib.	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR	AP		NO
A		<u>S</u>	<u>P</u>		<u>200</u>	<u>3</u>	<u>&lt;1</u>				<u>P</u>		<u>P</u>								<u>mud</u>

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

TRENCH or PIT NO.	OILED ZONE	SUBSURFACE OIL CHARACTER							WATER TABLE	SHEEN COLOUR	CLEAN BELOW	SUBST. TYPE(S)
		SAP	OP	PP	OR	OF	TR	NO				
<u>B04LB</u>	<u>AA</u>											

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

Zone A: no further treatment

Note: ops was observed in area on 07/18/11

grass appears to have been recently cut

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

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

(Pic#) 100-105

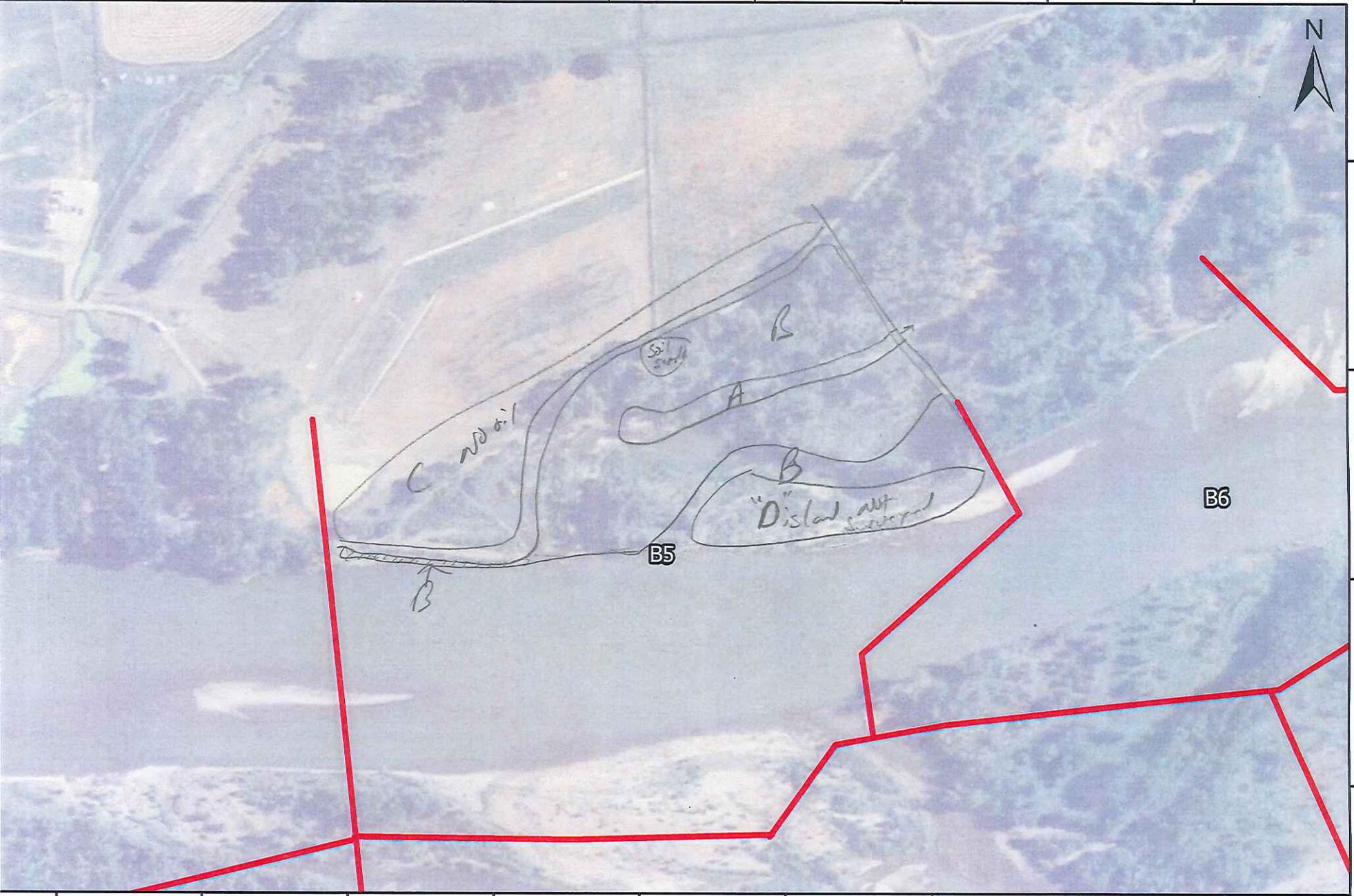




108°38'0"W 108°37'55"W 108°37'50"W 108°37'45"W 108°37'40"W 108°37'35"W 108°37'30"W 108°37'25"W 108°37'20"W



45°42'0"N  
45°41'55"N  
45°41'50"N  
45°41'45"N

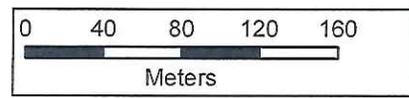


108°38'0"W 108°37'55"W 108°37'50"W 108°37'45"W 108°37'40"W 108°37'35"W 108°37'30"W 108°37'25"W 108°37'20"W

**305 -**  
(L/R/I)??

DATE:  
TEAM:

COMMENTS:





## **Appendix C**

Pre-Inspection Survey Transmittal

# PIST

## Pre Inspection Survey Transmittal

Segment B-05 IS RB

Date of Survey 02 SEPT 2011

~~COPY~~ Original AA 9/2/11

SCAT/Ops Liaison PETE PRITCHARD Signed: [Signature]

SCAT/Ops Liaison \_\_\_\_\_ Signed: \_\_\_\_\_

SCAT/Ops Liaison \_\_\_\_\_ Signed: \_\_\_\_\_

SCAT/Ops Liaison \_\_\_\_\_ Signed: \_\_\_\_\_

Segment meets Approved Treatment Methods Target Endpoints Criteria and is ready for a ReSCAT Assessment (Mark Yes or No)?

**YES** → Segment Referred to SCAT for Sign-Off Assessment

Comments for SCAT:

RING STAINING ON TREES, SHRUBS. NO GROSS/TRANSFER  
OILING OBSERVED. AREA HAS GROSS EFFECTS  
OF OPS ACTIVITIES.

**NO** → Segment Referred to Ops for Further Treatment

Describe the areas requiring further treatment. Based on the CTR(s), comment on oiling conditions, the appropriate ATMs to use, GPS waypoints, additional comments, attach a map, etc.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Zone Dimensions: Length \_\_\_\_\_ Width \_\_\_\_\_ GPS Waypoint: Lat. \_\_\_\_\_ Long. \_\_\_\_\_  
(required) (center of zone)



## **Appendix D**

Post-Inspection Survey Transmittal

# POST

## Post Inspection Survey Transmittal

Segment B-05 Right Bank

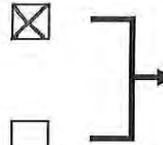
Date of Survey 30/08/11

SCAT Team Member Tom Freeman Signed: [Signature]

SCAT Team Member Griff Miller Signed: [Signature]

SCAT Team Member Josh Harkes Signed: [Signature]

**Segment FAILED ReSCAT**



Referred to Ops  
For Further Treatment

**Segment Conditionally PASSES ReSCAT**

IF the Segment FAILED ReSCAT, another ReSCAT is required after treatment has been completed.  
IF the Segment Conditionally PASSES ReSCAT, a SCAT/Ops Liaison will verify treatment completion.

Describe the zone requiring further treatment. Comment on oiling conditions, relevant portions of the CTR(s), the appropriate ATMs to use, GPS waypoints, additional comments, etc. Attach map.

Zone A: Persistent transferrable oiling occurs on shrubs (river willow & russian olive), debris, grass. Treatment under CTR-20 will be limited to transferrable product only. Non-transferable product will be left undisturbed, i.e. treatment method #7/natural attenuation will apply.

Zone Dimensions: Length 337m Width 45m GPS Waypoint: Lat. 45.695815° Long. -108.628334°  
(required) (center of zone)

Estimated Work Effort: Number of People \_\_\_\_\_ Hours of Work \_\_\_\_\_ <sup>CTR</sup> Access Issues? CTR 20  
(required)

*The undersigned attests that the above treatment has been completed and the identified area meets the Approved Treatment Methods Target Endpoints.*

Sign Name \_\_\_\_\_ Print Name/ Affiliation \_\_\_\_\_ Date \_\_\_\_\_

Sign Name \_\_\_\_\_ Print Name/ Affiliation \_\_\_\_\_ Date \_\_\_\_\_



## **Appendix E**

Final SCAT Survey Forms  
and Sketches

DB/16

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy) 30/08/11	Time (24h): std / daylight 11:00 hrs to 12:30 hrs	Water Level low <u>mean</u> bankfull - overbank falling - steady - rising
Segment/Reach ID: B05 Left Bank/ <u>Right Bank</u> Island				
Operations Division: B				
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook / _____		Sun / Clouds / Fog / Rain / Snow / Windy / Calm	Air Temp +/- _____ deg C	

<b>2 SURVEY TEAM # 1 and 3</b>	Name	Organization	Signature
Josh Hofkes	Cardno	ENTRIX	<i>[Signature]</i>
Tom Freeman	Polaris		<i>[Signature]</i>
Tom Bovington	DEQ		<i>[Signature]</i>
Griff Miller	EPA		<i>[Signature]</i>
Chuck Pons	Cardno	ENTRIX	<i>[Signature]</i>
Terry Tanner	EPA		<i>[Signature]</i>
Mark Peterson	DEQ		<i>[Signature]</i>

**3 SEGMENT** Total Segment/Reach Length 337 m Segment/Reach Length Surveyed 337 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 S Mixed S 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: mixed

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

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

est. width: <1m 1-10m 10-100m >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
1975 A				X	337	45	<1			S	P						X				

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

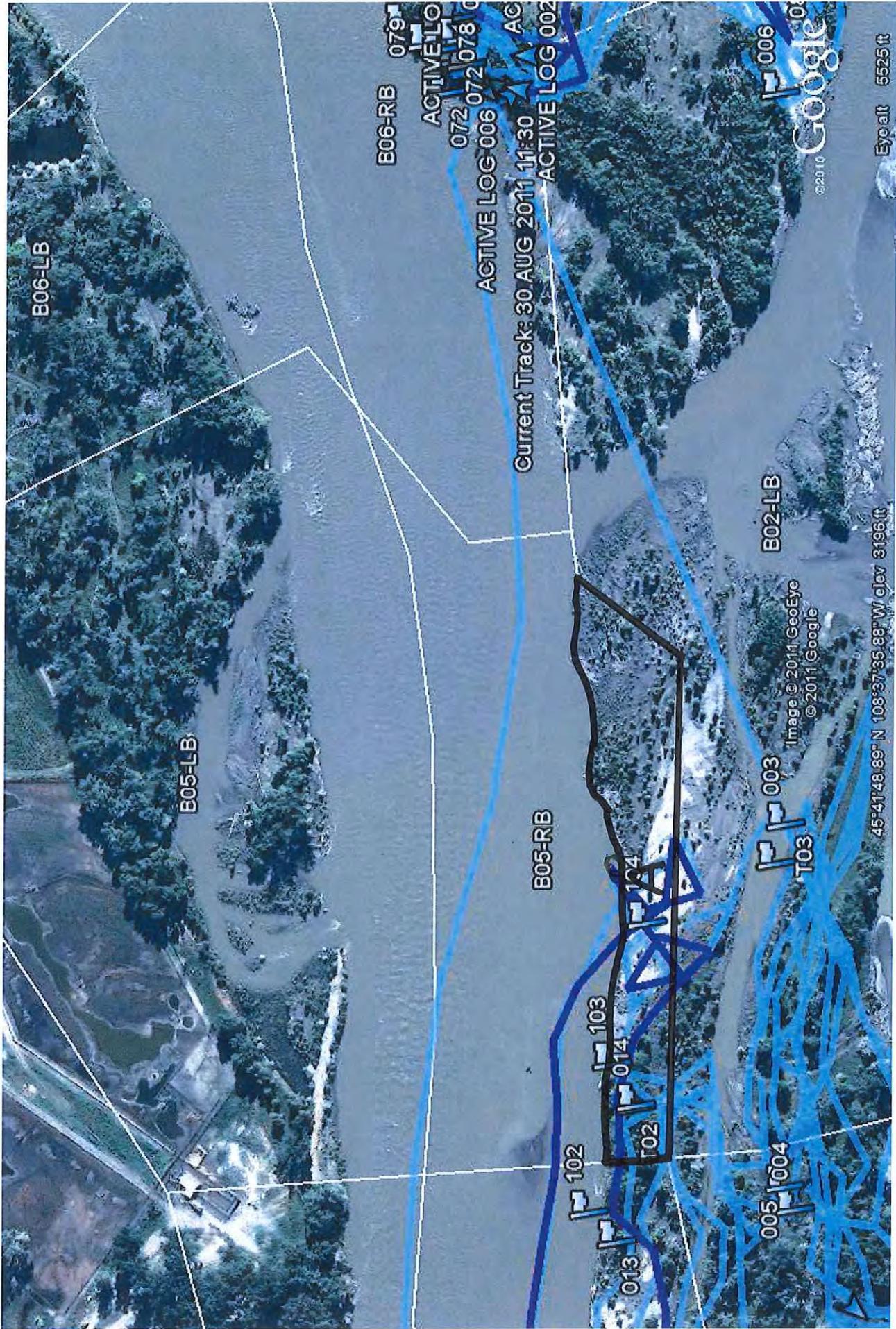
TRENCH or PIT NO.	RIVER BANK ZONE				MAX. PIT DEPTH cm	OILED ZONE cm-cm	SUBSURFACE OIL CHARACTER						WATER TABLE cm	SHEEN COLOUR B, R, S, N	CLEAN BELOW Yes / No	SUBST. TYPE(S)	
	MS	LB	UB	OB			SAP	OP	PP	OR	OF	TR					NO

**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

ZONE A: Oiled river willow & grasses are present, Small oiled debris piles are present. Treatment shall be restricted to transferrable product only. Non-transferrable stain/coat shall be left undisturbed for natural attenuation.

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



TEAM 1 & 3 B05-RB A:

August 30, 2011

DB 16

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: <u>B05</u> Left Bank / <u>(Right Bank)</u> / Island		<u>09/09/11</u>	<u>0812</u> hrs to <u>1430</u> hrs	low <u>(mean)</u> - bankfull - overbank
Operations Division: <u>B</u>				<u>(falling)</u> - steady - rising
Survey by: <u>(Foot)</u> / ATV / Boat / Helicopter / Overlook /		<u>(Sun)</u> Clouds / Fog / Rain / Snow / Windy <u>(Calm)</u>		Air Temp + / - <u>27</u> deg C
<b>2 SURVEY TEAM #</b> <u>6</u>	Name	Organization	Signature	
	<u>Nathan Hammond</u>	<u>Cardno Entrix</u>	<u>Nathan Hammond</u>	
	<u>Betsy Hovda</u>	<u>DEC</u>	<u>Betsy Hovda</u>	

**3 SEGMENT** Total Segment/Reach Length 390 m Segment/Reach Length Surveyed 390 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 \_\_\_\_\_ 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: \_\_\_\_\_

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) 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 (4) 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>P</u>	<u>S</u>	<u>390</u>	<u>55</u>	<u>&lt;1</u>			<u>S</u>	<u>P</u>						<u>X</u>					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	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

Zone A - Hot Shot Crew utilized ATM2, ATM1 in the removal of less than one bag of oiled material. No Further Treatment.

ReSCAT

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

2 am 9/9/2011 2:30 pm 5 pm

**ZONE A  
VERY LIGHT**

**Team 6  
B05-RB  
9/9/11**

B05-RB

B06-RB

Silversheen

001

B02-LB

002

003

ACTIVE LOG

ACTIVE LOG

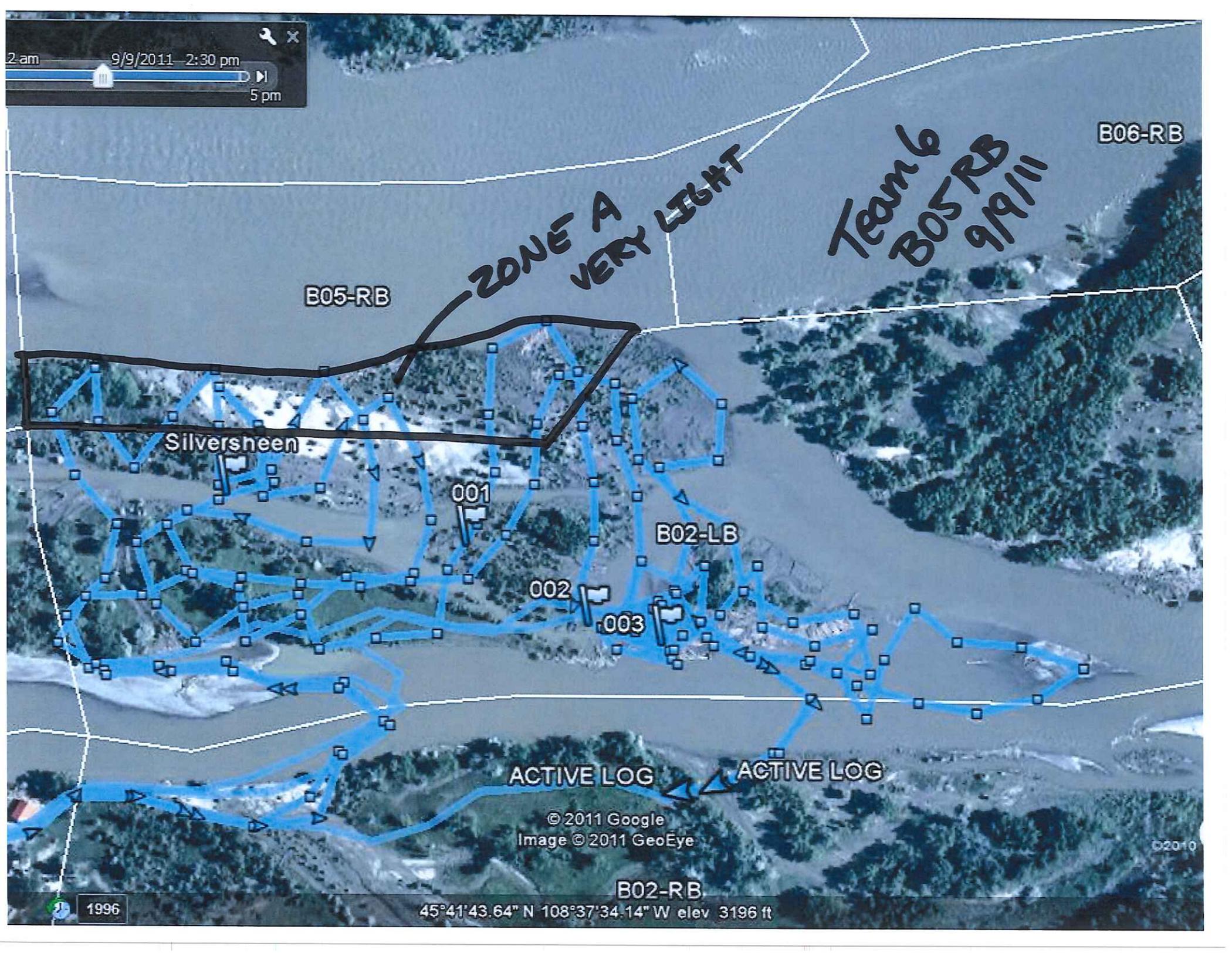
© 2011 Google  
Image © 2011 GeoEye

©2010

B02-RB

1996

45°41'43.64" N 108°37'34.14" W elev 3196 ft



DB

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy) <b>2-9-11</b>	Time (24h): std / daylight <b>945</b> hrs to <b>1100</b> hrs	<b>Water Level</b> low - <u>mean</u> bankfull - overbank <u>falling</u> steady - rising
Segment/Reach ID: <b>B5</b> <u>Left Bank / Right Bank / Island</u>		Operations Division: <b>B</b>		
Survey by: <u>Foot</u> ATV / Boat / Helicopter / Overlook / _____		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- <b>35</b> deg C

2 SURVEY TEAM # <b>3</b>	Name	Organization	Signature
	<b>Charles Pons</b>	<b>Calno ENTRY</b>	<i>[Signature]</i>
	<b>Steve ODP</b>	<b>DEQ</b>	<i>[Signature]</i>
	<b>TERRY TAYLOR</b>	<b>U.S. EPA</b>	<i>[Signature]</i>

**3 SEGMENT** Total Segment/Reach Length **470** m Segment/Reach Length Surveyed **470** 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 S Mixed P Pebble/Cobble S 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: Sand

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 150 est. water depth: <1m 1-3m 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 NA bags or \_\_\_\_\_ trucks access restrictions

Oiled trees/shrubs 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>	470	140	cl				<u>P</u>						<u>P</u>					<u>Sand</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					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 has <1% of stem veg + debris**

**No further Treatment**

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

9/2/2011  
9/2/2011  
2011

B06-LB

ACTIVE LOG 003  
ACTIVE LOG 004

ACTIVE LOG 020

B05-LB N45°41'54.24"

W108°37'43"

W108°37'43"

003

B5

A

B-5L

9-2-11

T-3

B05-RB

Image © 2011 GeoEye

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Geo



## **Appendix F**

Completed SCAT Segment  
Sign-Off Forms

# SCAT SEGMENT OPERATIONS COMPLETION SIGN-OFF SHEET

## SILVERTIP PIPELINE RELEASE

Segment BOSRB Date of Survey 9/9/11

Dates of Initial SCAT Assessments 20 JUL 11  
(to be filled out by SCAT Data Management)

CTR(s) Associated with SCAT Segment 20

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.

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

Betsy Howda Betsy Howda DEQ 9/9/11  
Sign Name \_\_\_\_\_ Print Name/ Affiliation \_\_\_\_\_ Date \_\_\_\_\_  
**State Representative (DEQ/FWP)**

Nathan Hummel Nathan Hummel/Carlin Feltz 9/9/11  
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.

# SCAT SEGMENT OPERATIONS COMPLETION SIGN-OFF SHEET

## SILVERTIP PIPELINE RELEASE

Segment B 5L Date of Survey 9-2-11

Dates of Initial SCAT Assessments 19 JUL 11 (IL)  
(to be filled out by SCAT Data Management)

CTR(s) Associated with SCAT Segment 41

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).*

[Signature] TERRY TANNER / U.S. EPA 9/3/11  
Sign Name Print Name/ Affiliation Date  
**Federal Representative (EPA/USCG)**

[Signature] Steve Opp/DEQ 9/2/11  
Sign Name Print Name/ Affiliation Date  
**State Representative (DEQ/FWP)**

[Signature] Charles Pens/Kardoo ENTRIX 9-2-11  
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.