

**ExxonMobil Pipeline Company**

**SCAT Area Transition Report for  
B32**

Silvertip Pipeline Incident  
Laurel, Montana

October 26, 2011



## **SCAT Area Transition Report for B32**

Silvertip Pipeline Incident  
Laurel, Montana

Prepared for:  
ExxonMobil Pipeline Company

Prepared by:  
ARCADIS G&M of North Carolina, Inc.  
11000 Regency Parkway  
West Tower, Suite 205  
Cary, North Carolina 27518-8518  
Tel 919.469.1952  
Fax 919.469.5676

Our Ref.:  
B0085883.1103

Date:  
October 26, 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>
<b>Tables</b>	
Table 1 Environmental Sampling Summary	2
<b>Figures</b>	
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	
<b>Appendices</b>	
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 B32, 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 B32. 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 B32, 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 B32 is 35.5. There were access issues for the right bank of B32. The left bank and island portions of B32 have some unknown ownership.

### **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 B32. No oiled wildlife was observed or recovered. One deceased beaver (*Castor Canadensis*) with no visible oiling was identified and retained. No Wildlife Priority Cleanup Areas were identified. No active migratory bird nests were identified in Area B32.

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

Table 1 (below) summarizes samples collected within Area B32. 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 B32 are provided on Figure 3.

**Table 1 Environmental Sampling Summary**

Agency	Sample Num	Date	Matrix	Location	Latitude	Longitude
MDEQ	ST-072111-TC1	21-Jul-11	Soil_Surface	ST-TC-01	45.74307	-108.51051
MDEQ	ST-072111-TC2	21-Jul-11	Soil_Surface	ST-TC-02	45.74309	-108.51071
EPA	SPSE116_071411	14-Jul-11	Sediment	SPSE116	45.743375	-108.509934

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 eight exceedances including two for C11-C22 aromatics, two for C9-C18 aliphatics, and four 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 B32 are included in Appendix B. Figure 4 provides the maximum oiling zones observed by the SCAT team during the initial surveys of Area B32.

#### 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. 27](#) and [CTR No. 42](#)).

#### 1.6 Oil Removal Activities

Oil removal activities were conducted within Area B32 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, 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 B32 following completion of oil removal activities. The SCAT team performed final surveys of the right bank, left bank, and island areas within SCAT Area B32 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 within Area B32, very light oiling was observed on the right bank. Based on the final SCAT surveys performed on the left and right banks and island areas within Area B32, no further treatment is recommended for these segments. SCAT Segment Sign-Off Forms are included as Appendix F.



**SCAT Area Transition  
Report for B32**

Silvertip Pipeline Incident  
Laurel, Montana

**2. Transition Sign-Off Form**

**SCAT Area Transition Report for B32**

**Prepared for:**

**Unified Command**

---

Date

---

Unified Command – RP



**SCAT Area Transition  
Report for B32**

Silvertip Pipeline Incident  
Laurel, Montana

**SCAT Area Transition Report for B32**

**Prepared for:**

**Unified Command**

---

Date

---

Unified Command – FOSC



**SCAT Area Transition  
Report for B32**

Silvertip Pipeline Incident  
Laurel, Montana

**SCAT Area Transition Report for B32**

**Prepared for:**

**Unified Command**

---

Date

---

Unified Command – MDEQ

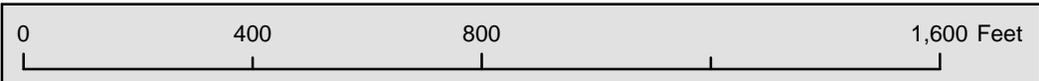
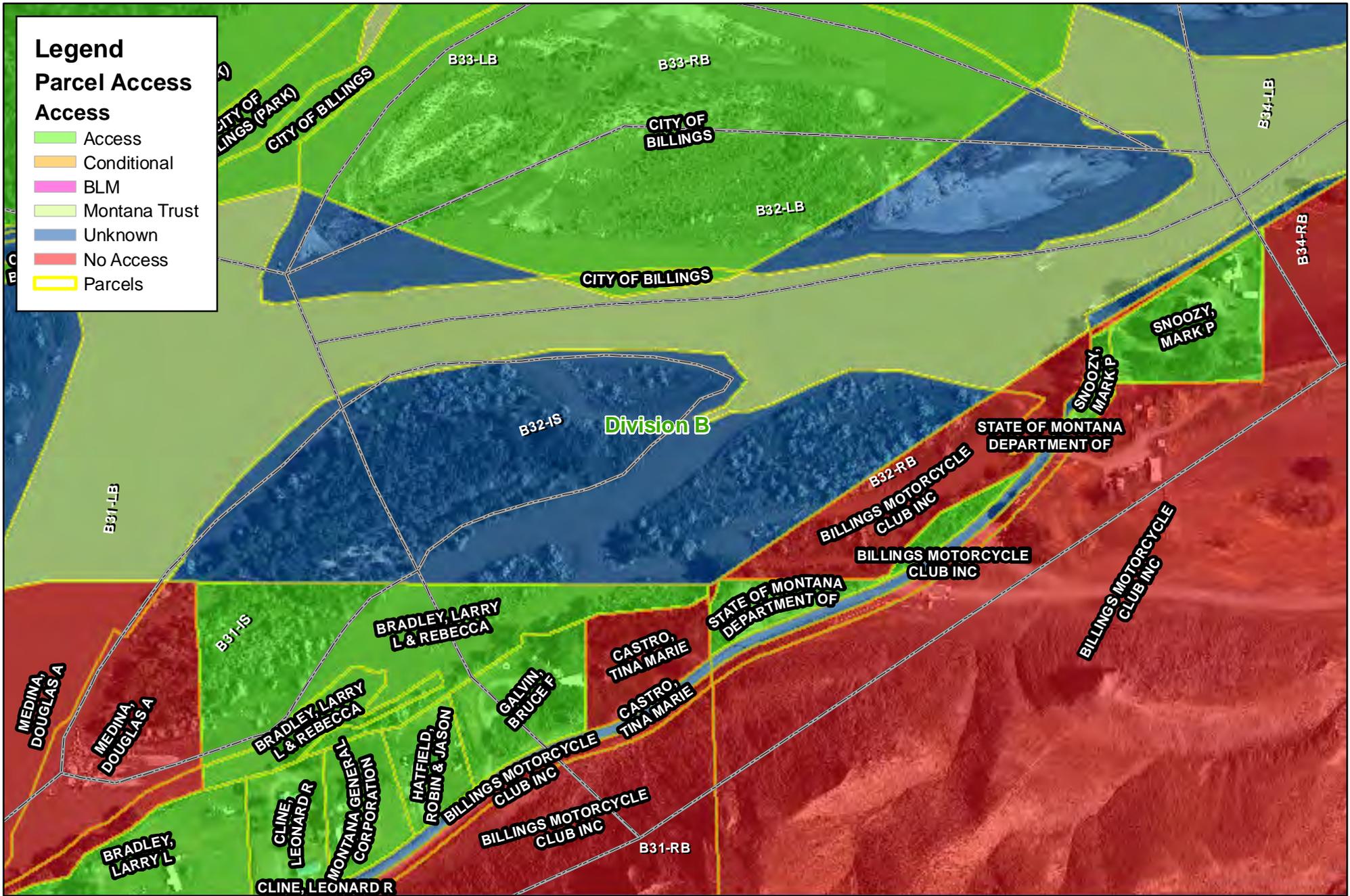
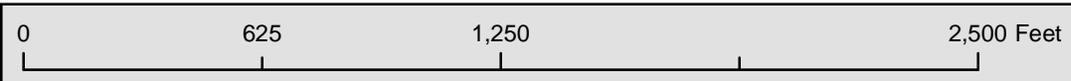
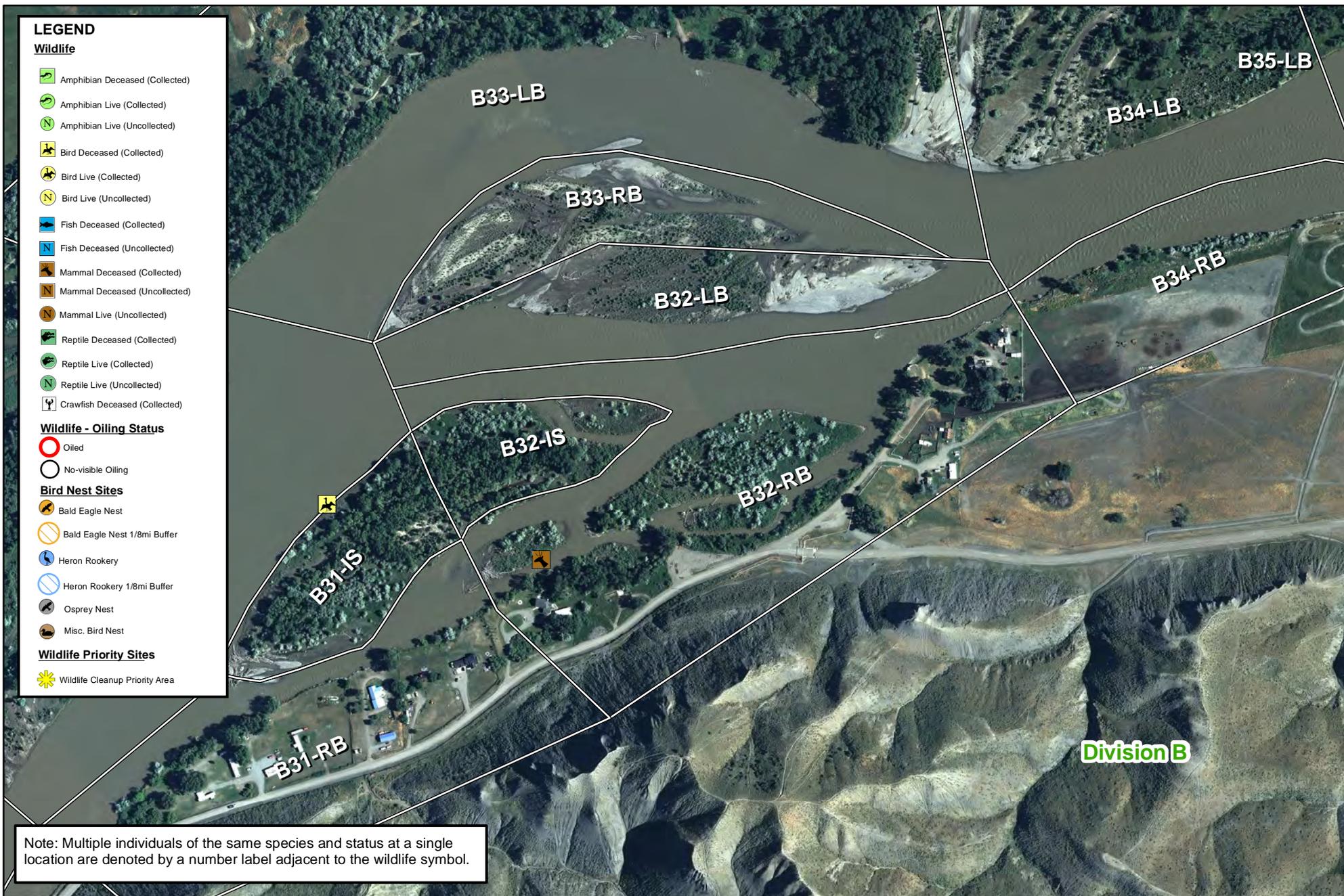
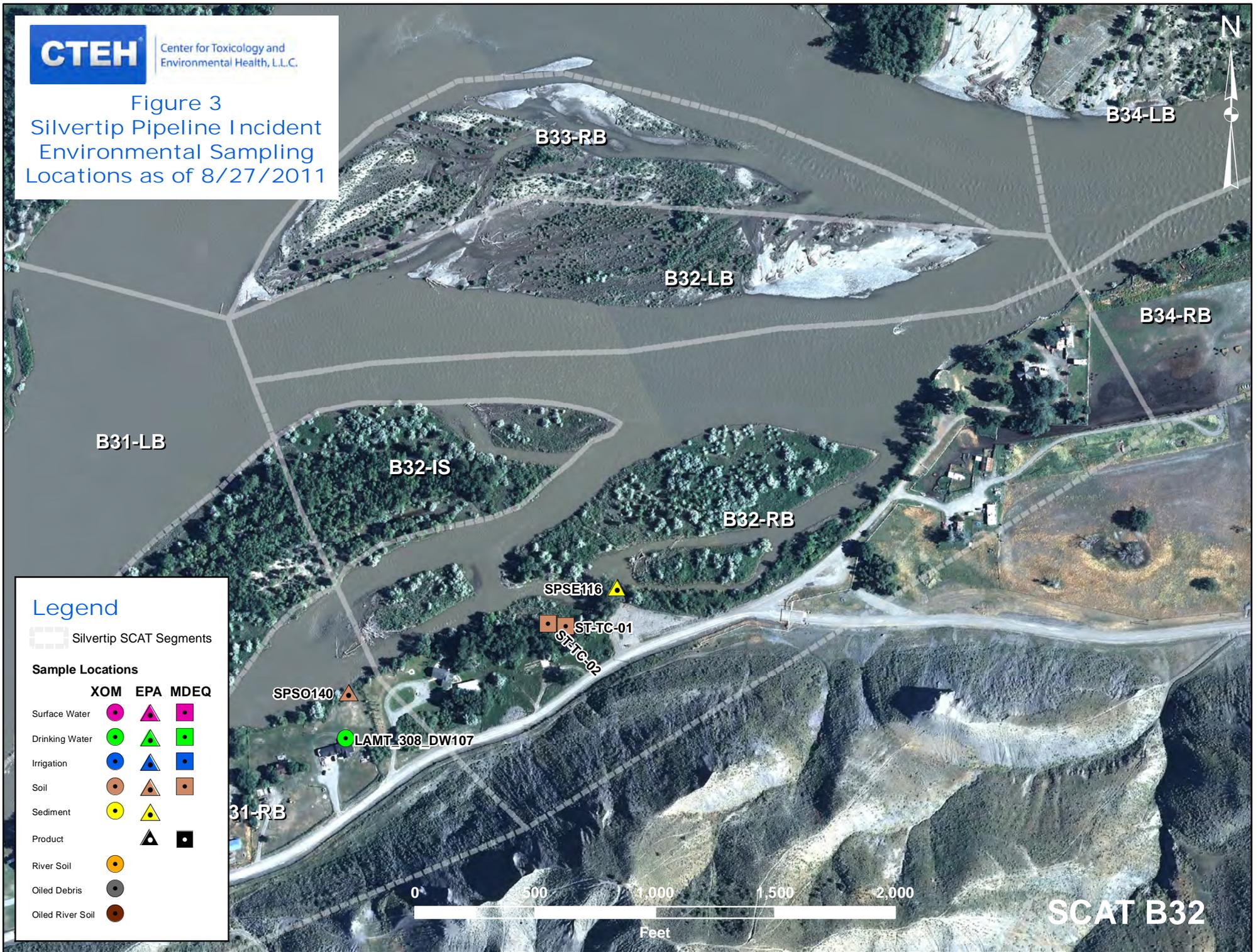


Figure 1



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

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



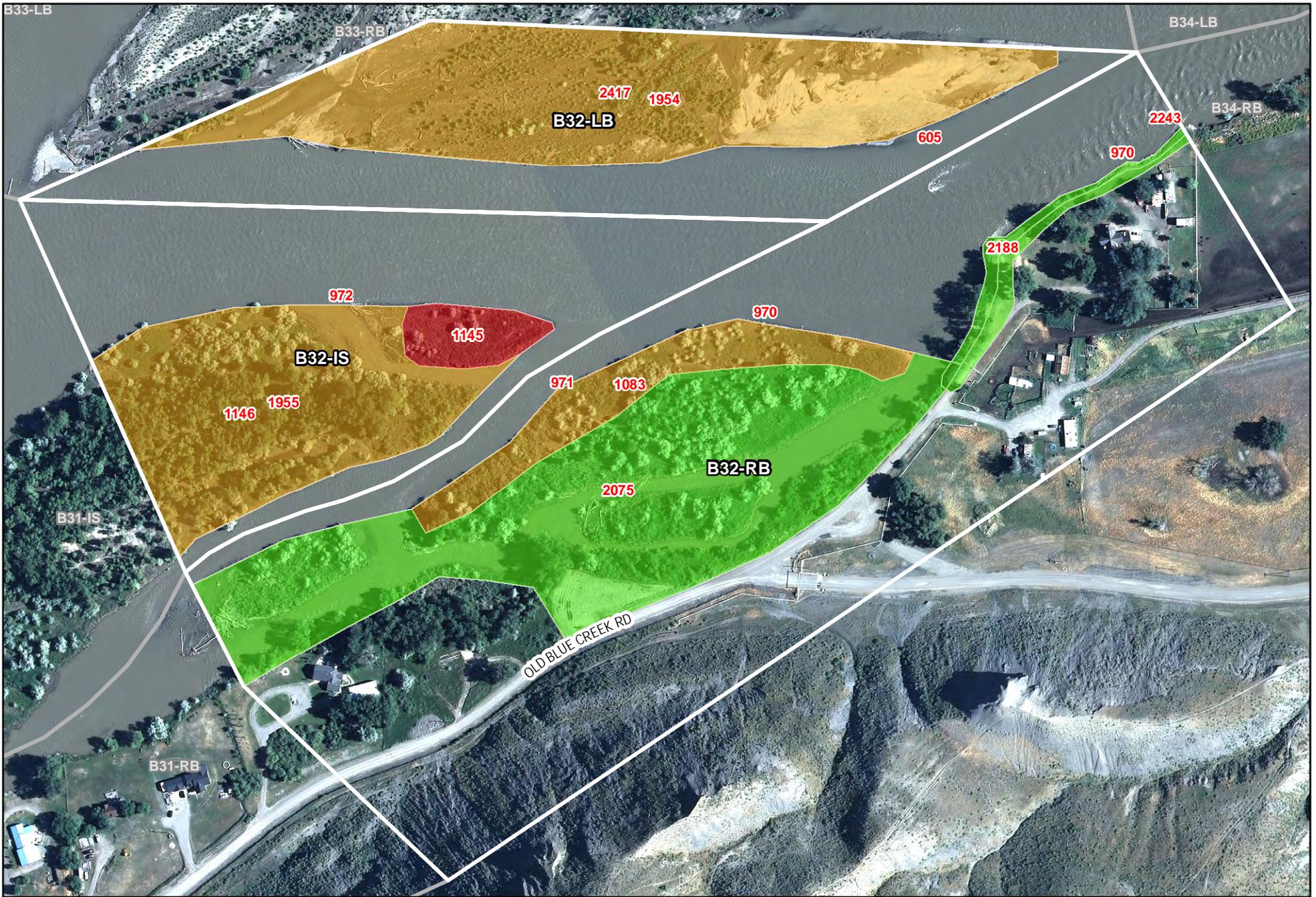
**Legend**

Silvertip SCAT Segments

**Sample Locations**

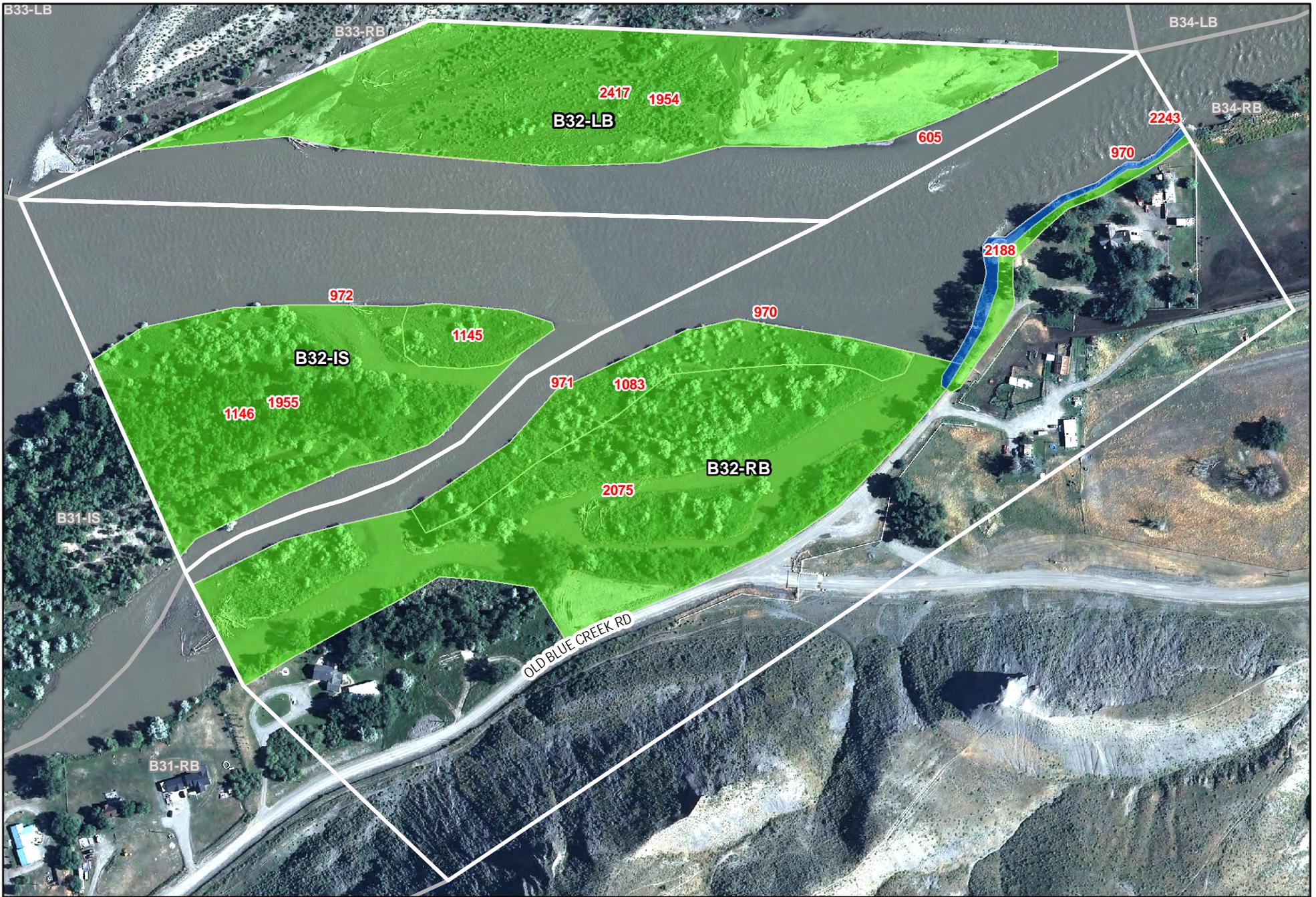
	XOM	EPA	MDEQ
Surface Water			
Drinking Water			
Irrigation			
Soil			
Sediment			
Product			
River Soil			
Oiled Debris			
Oiled River Soil			

SCAT B32



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





	<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: B32**

220      0      220      440  
 Feet



## **Appendix A**

Sample Detection Summary



## Detections in Samples Collected in SCAT Area B32

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-072111-TC1		Field	Soil_Surface	8260B	1,2-Dichloroethane-d4	Y	72	NA		%	no
ST-072111-TC1		Field	Soil_Surface	8270C	2,4,6-Tribromophenol	Y	69	NA	D	%	no
ST-072111-TC1		Field	Soil_Surface	MA-EPH-MDEQ-REM	2-Bromonaphthalene	Y	82	NA		%	no
ST-072111-TC1		Field	Soil_Surface	8270C	2-Fluorobiphenyl	Y	77	NA	D	%	no
ST-072111-TC1		Field	Soil_Surface	MA-EPH-MDEQ-REM	2-Fluorobiphenyl	Y	80	NA		%	no
ST-072111-TC1		Field	Soil_Surface	MA-EPH-MDEQ-REM	C11-C22 Aromatics	Y	2950	400		mg/kg	YES
ST-072111-TC1		Field	Soil_Surface	MA-EPH-MDEQ-REM	C19-C36 Aliphatics	Y	3090	20000		mg/kg	no
ST-072111-TC1		Field	Soil_Surface	MA-VPH-MDEQ-REM	C9-C10 Aromatics	Y	15	100		mg/kg	no
ST-072111-TC1		Field	Soil_Surface	MA-VPH-MDEQ-REM	C9-C12 Aliphatics	Y	39	100		mg/kg	no
ST-072111-TC1		Field	Soil_Surface	MA-EPH-MDEQ-REM	C9-C18 Aliphatics	Y	1750	200		mg/kg	YES
ST-072111-TC1		Field	Soil_Surface	8260B	Dibromofluoromethane	Y	83	NA		%	no
ST-072111-TC1		Field	Soil_Surface	MA-VPH-MDEQ-REM	Naphthalene	Y	0.53	4		mg/kg	no
ST-072111-TC1		Field	Soil_Surface	8270C	Nitrobenzene-D5	Y	62	NA	D	%	no
ST-072111-TC1		Field	Soil_Surface	MA-EPH-MDEQ-REM	Octadecane, 1-chloro-	Y	80	NA		%	no
ST-072111-TC1		Field	Soil_Surface	8270C	o-Fluorophenol	Y	68	NA	D	%	no
ST-072111-TC1		Field	Soil_Surface	8015M-MDEQ-REM	o-Terphenyl	Y	199	NA		%	no
ST-072111-TC1		Field	Soil_Surface	MA-EPH-MDEQ-REM	o-Terphenyl	Y	142	NA		%	no
ST-072111-TC1		Field	Soil_Surface	8260B	p-Bromofluorobenzene	Y	82	NA		%	no
ST-072111-TC1		Field	Soil_Surface	8270C	Phenanthrene	Y	0.85	NA	DJ	mg/kg	no
ST-072111-TC1		Field	Soil_Surface	8270C	Phenol-d5	Y	71	NA	D	%	no
ST-072111-TC1		Field	Soil_Surface	8270C	Terphenyl-d14	Y	83	NA	D	%	no
ST-072111-TC1		Field	Soil_Surface	8260B	Toluene-d8	Y	80	NA		%	no
ST-072111-TC1		Field	Soil_Surface	MA-EPH-MDEQ-REM	Total Extractable Hydrocarbons	Y	8990	200		mg/kg	YES
ST-072111-TC1		Field	Soil_Surface	8015M-MDEQ-REM	Total Extractable Hydrocarbons	Y	10000	200		mg/kg	YES
ST-072111-TC1		Field	Soil_Surface	MA-VPH-MDEQ-REM	Total Purgeable Hydrocarbons	Y	119	200		mg/kg	no
ST-072111-TC2		Field	Soil_Surface	8260B	1,2-Dichloroethane-d4	Y	73	NA		%	no
ST-072111-TC2		Field	Soil_Surface	8270C	2,4,6-Tribromophenol	Y	86	NA	D	%	no
ST-072111-TC2		Field	Soil_Surface	MA-EPH-MDEQ-REM	2-Bromonaphthalene	Y	83	NA		%	no
ST-072111-TC2		Field	Soil_Surface	8270C	2-Fluorobiphenyl	Y	85	NA	D	%	no
ST-072111-TC2		Field	Soil_Surface	MA-EPH-MDEQ-REM	2-Fluorobiphenyl	Y	82	NA		%	no
ST-072111-TC2		Field	Soil_Surface	MA-EPH-MDEQ-REM	C11-C22 Aromatics	Y	1950	400		mg/kg	YES



## Detections in Samples Collected in SCAT Area B32

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-072111-TC2		Field	Soil_Surface	MA-EPH-MDEQ-REM	C19-C36 Aliphatics	Y	2130	20000		mg/kg	no
ST-072111-TC2		Field	Soil_Surface	MA-VPH-MDEQ-REM	C9-C10 Aromatics	Y	2.5	100	J	mg/kg	no
ST-072111-TC2		Field	Soil_Surface	MA-VPH-MDEQ-REM	C9-C12 Aliphatics	Y	4.5	100		mg/kg	no
ST-072111-TC2		Field	Soil_Surface	MA-EPH-MDEQ-REM	C9-C18 Aliphatics	Y	978	200		mg/kg	YES
ST-072111-TC2		Field	Soil_Surface	8260B	Dibromofluoromethane	Y	85	NA		%	no
ST-072111-TC2		Field	Soil_Surface	8270C	Nitrobenzene-D5	Y	70	NA	D	%	no
ST-072111-TC2		Field	Soil_Surface	MA-EPH-MDEQ-REM	Octadecane, 1-chloro-	Y	65	NA		%	no
ST-072111-TC2		Field	Soil_Surface	8270C	o-Fluorophenol	Y	77	NA	D	%	no
ST-072111-TC2		Field	Soil_Surface	MA-EPH-MDEQ-REM	o-Terphenyl	Y	119	NA		%	no
ST-072111-TC2		Field	Soil_Surface	8015M-MDEQ-REM	o-Terphenyl	Y	158	NA		%	no
ST-072111-TC2		Field	Soil_Surface	8260B	p-Bromofluorobenzene	Y	92	NA		%	no
ST-072111-TC2		Field	Soil_Surface	8270C	Phenanthrene	Y	0.41	NA	DJ	mg/kg	no
ST-072111-TC2		Field	Soil_Surface	8270C	Phenol-d5	Y	75	NA	D	%	no
ST-072111-TC2		Field	Soil_Surface	8270C	Terphenyl-d14	Y	78	NA	D	%	no
ST-072111-TC2		Field	Soil_Surface	8260B	Toluene-d8	Y	88	NA		%	no
ST-072111-TC2		Field	Soil_Surface	MA-EPH-MDEQ-REM	Total Extractable Hydrocarbons	Y	5890	200		mg/kg	YES
ST-072111-TC2		Field	Soil_Surface	8015M-MDEQ-REM	Total Extractable Hydrocarbons	Y	7020	200		mg/kg	YES
ST-072111-TC2		Field	Soil_Surface	MA-VPH-MDEQ-REM	Total Purgeable Hydrocarbons	Y	37	200		mg/kg	no



## **Appendix B**

Initial SCAT Survey Forms and  
Sketches

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>B32</u>	Left Bank / <u>Right Bank</u> / Island	<u>19 / 07 / 11</u>	<u>1013</u> hrs to <u>1015</u> hrs	low - mean / <u>bankfull</u> / overbank
Operations Division: <u>B</u>				<u>falling</u> / steady - rising
Survey by: <u>Foot / ATV / Boat / Helicopter / Overlook /</u>			<u>(Sun)</u> / Clouds / Fog / Rain / Snow / Windy / Calm	Air Temp +/- <u>35</u> deg C

<b>2 SURVEY TEAM # <u>5</u></b>	name	organization	contact phone number
	<u>Bob Nailon</u>	<u>Cardno ENTRIX</u>	<u>713 817 2469</u>
	<u>John Beach</u>	<u>EPA</u>	<u>707 364 0491</u>
	<u>Ken Frazer</u>	<u>FWP</u>	<u>406 247 2961</u>

**3 SEGMENT** Total Segment/Reach Length 310707 m Segment/Reach Length Surveyed 707 m

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

End GPS: LATITUDE N deg. \_\_\_\_\_ min. LONGITUDE W 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 PS Sand \_\_\_\_\_ Mixed \_\_\_\_\_ Pebble/Cobble \_\_\_\_\_ 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 40 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 150 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	
<u>A</u>				<u>X</u>	<u>448</u>	<u>1</u>	<u>5</u>			<u>X</u>	<u>(P)</u>		<u>X</u>									<u>veg bank</u>
<u>B</u>				<u>X</u>	<u>259</u>	<u>1</u>															<u>X</u>	<u>"</u>

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

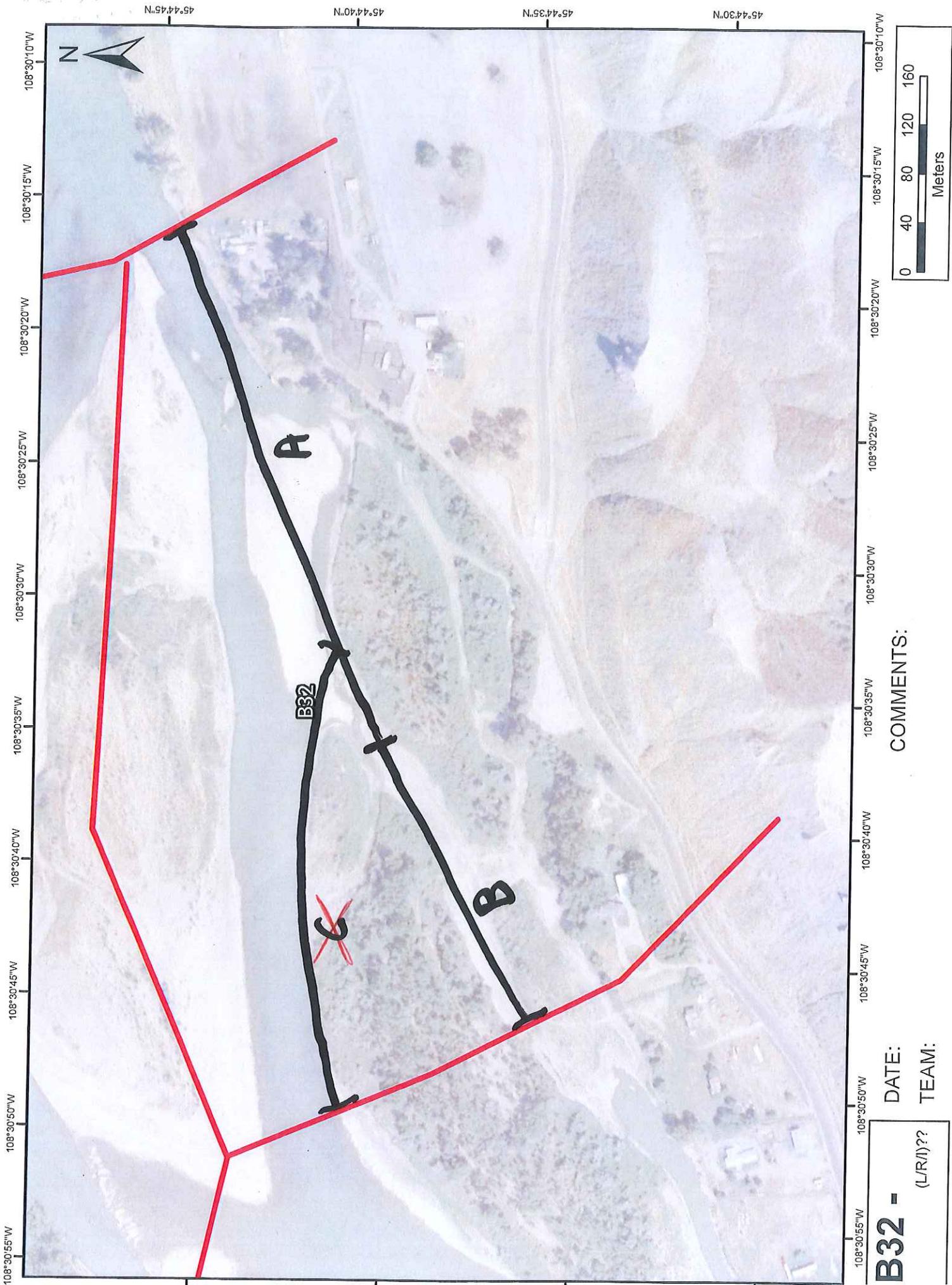
TRENCH or PIT NO.	RIVER BANK ZONE				MAX. PIT DEPTH cm	OILED ZONE cm-cm	SUBSURFACE OIL CHARACTER					WATER TABLE cm	SHEEN COLOUR B, R, S, N	CLEAN BELOW Yes / No	SUBST. TYPE(S)	
	MS	LB	UB	OB			SAP	OP	PP	OR	OF					TR

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

OSR = Y                      OSC = unk                      SSC = unk Y

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

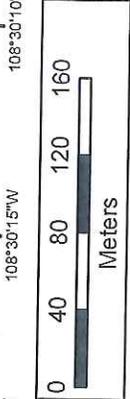
Sketch Yes/No Photos Yes/No (Roll # 512) Frames 5132 Video Tape Yes/No (tape #)



108°30'55"W  
108°30'50"W  
108°30'45"W  
108°30'40"W  
108°30'35"W  
108°30'30"W  
108°30'25"W  
108°30'20"W  
108°30'15"W  
108°30'10"W

45°44'30"N  
45°44'35"N  
45°44'40"N  
45°44'45"N

108°30'55"W  
108°30'50"W  
108°30'45"W  
108°30'40"W  
108°30'35"W  
108°30'30"W  
108°30'25"W  
108°30'20"W  
108°30'15"W  
108°30'10"W



COMMENTS:

DATE:  
TEAM:

**B32 -**  
(L/R/I)??

DB

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

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

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy) 28/07/11	Time (24h): std / daylight 0918 hrs to 1124 hrs	Water Level low - mean - <u>bankfull</u> - overbank <u>(falling)</u> - steady - rising
Segment/Reach ID: <u>B32</u> Left Bank / <u>Right Bank</u> / Island		Operations Division:		
Survey by: (Foot) / ATV / Boat / Helicopter / Overlook / _____		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp + / - <u>25</u> deg C

<b>2 SURVEY TEAM #</b> <u>8</u>	Name	Organization	Signature
	Steve Kennedy	Cardno Enrix	See attached
	Courtney Tyree		
	Gary Riley	US EPA	

**3 SEGMENT** Total Segment/Reach Length \_\_\_\_\_ m Segment/Reach Length Surveyed 1135 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 N/A Manmade: Solid \_\_\_\_\_ Permeable \_\_\_\_\_ (type) \_\_\_\_\_ Wetland: Swamp \_\_\_\_\_ Bog/Fen \_\_\_\_\_ Marsh \_\_\_\_\_

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

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

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

Cliff or Bluff: Est Height 2 m canyon \_\_\_\_\_ manmade \_\_\_\_\_ meander \_\_\_\_\_ confined or leveed \_\_\_\_\_

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

Substrate Type: Grasses

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 None

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>255</u>	<u>46</u>	<u>5%</u>		<u>P</u>	<u>S</u>			<u>P</u>								

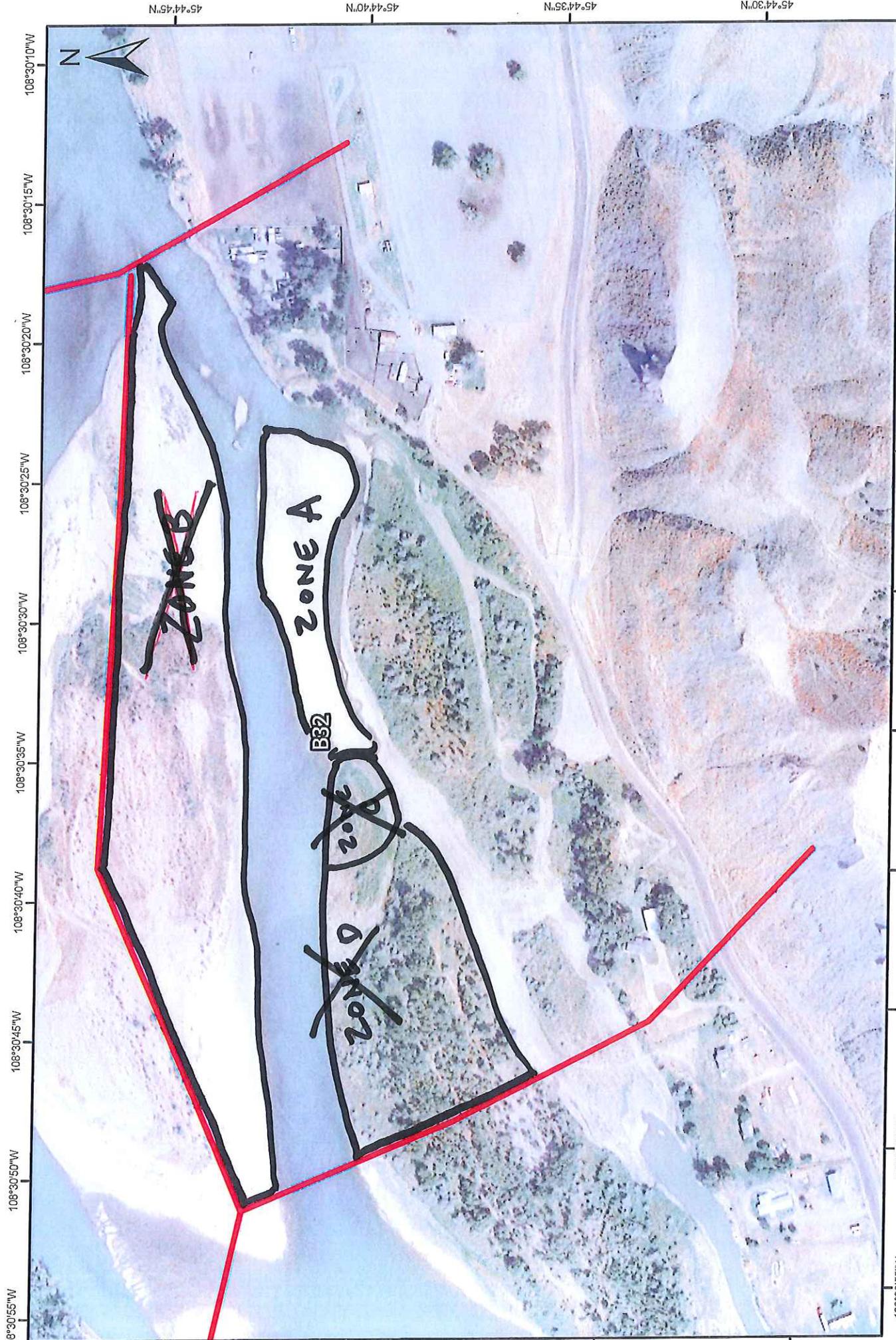
**7 SUBSURFACE OILING CONDITIONS** use letter for ZONE location plus Number of pit or trench - e.g., "A1"

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				

**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

A - V. sporadic with primary stain near shore + beginning. Cut remove - to become coat as you move inland mainly impact to grasses w/ trace of sm debris piles.



**B32 - R**  
(L/R/I)??

DATE: 28/07/11  
TEAM: 2

COMMENTS:  
~~Zones A, B, C, D~~  
**Zone A**

Scale: 0 40 80 120 160 Meters

Coordinates: 108°30'55"W, 108°30'50"W, 108°30'45"W, 108°30'40"W, 108°30'35"W, 108°30'30"W, 108°30'25"W, 108°30'20"W, 108°30'15"W, 108°30'10"W

Coordinates: 45°44'30"N, 45°44'35"N, 45°44'40"N, 45°44'45"N

DB/G

REVISION 1  
 since  
 plans  
 03/08/2011

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>B32</u>	Left Bank / Right Bank / <u>Island</u>	<u>28/07/11</u>	<u>0918</u> hrs to <u>1124</u> hrs	low - mean - bankfull - overbank
Operations Division: <u>B SCAT TEAM 2</u>				falling - steady - rising
Survey by: <u>Foot / ATV / Boat / Helicopter / Overlook /</u>		<u>Sun</u> / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- <u>25</u> deg C

<b>2 SURVEY TEAM # <u>2</u></b>	Name	Organization	Signature
	<u>STEVE KENNEDY</u>	<u>Cardno ENTRYX</u>	<u>[Signature]</u>
	<u>COURTNEY TUREE</u>		<u>[Signature]</u>
	<u>GARY RILEY</u>	<u>U.S EPA</u>	<u>[Signature]</u>

**3 SEGMENT** Total Segment/Reach Length          m Segment/Reach Length Surveyed 1135 m

Start GPS: LATITUDE 45° deg. 44.612' min. LONGITUDE 108° deg. 30.535 min. Datum: WGS 84

End GPS: LATITUDE 45° deg. 44.748' min. LONGITUDE 108° deg. 30.537 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 N/A Manmade: Solid          Permeable          (type)          Wetland: Swamp          Bog/Fen          Marsh         

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

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

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

Cliff or Bluff: Est Height 2 m canyon          manmade          meander          confined or leveed          Substrate Type: GRASSES

Sloped: 15 (>5°)(15°)(30°) straight S 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          bags or          trucks access restrictions none

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
<del>A</del>			<del>P</del>	<del>S</del>	<del>600</del>	<del>100</del>	<del>5%</del>	<del>P</del>	<del>S</del>	<del>        </del>											
<del>A</del>			<del>P</del>	<del>S</del>	<del>600</del>	<del>100</del>	<del>5%</del>	<del>P</del>	<del>S</del>	<del>        </del>											
<del>B</del>			<del>P</del>	<del>S</del>	<del>692</del>	<del>106</del>	<del>5%</del>	<del>P</del>	<del>S</del>	<del>        </del>											
<del>B</del>			<del>P</del>	<del>S</del>	<del>77</del>	<del>47</del>	<del>75%</del>	<del>P</del>	<del>S</del>	<del>        </del>											
<del>C</del>			<del>P</del>	<del>S</del>	<del>208</del>	<del>128</del>	<del>5%</del>	<del>P</del>	<del>S</del>	<del>        </del>											

**7 SUBSURFACE OILING** Zone 1083 moved to RB

TRENCH or PIT NO. RIVER BANK ZONE

NO.	RIVER BANK ZONE			SUBSURFACE OIL CHARACTER						WATER TABLE	SHEEN COLOUR	CLEAN BELOW	SUBST. TYPE(S)
	MS	LB	UB	OP	PP	OR	OF	TR	NO				

**8 COMMENTS** ecolog Zone 1084 moved to LB

Overbank

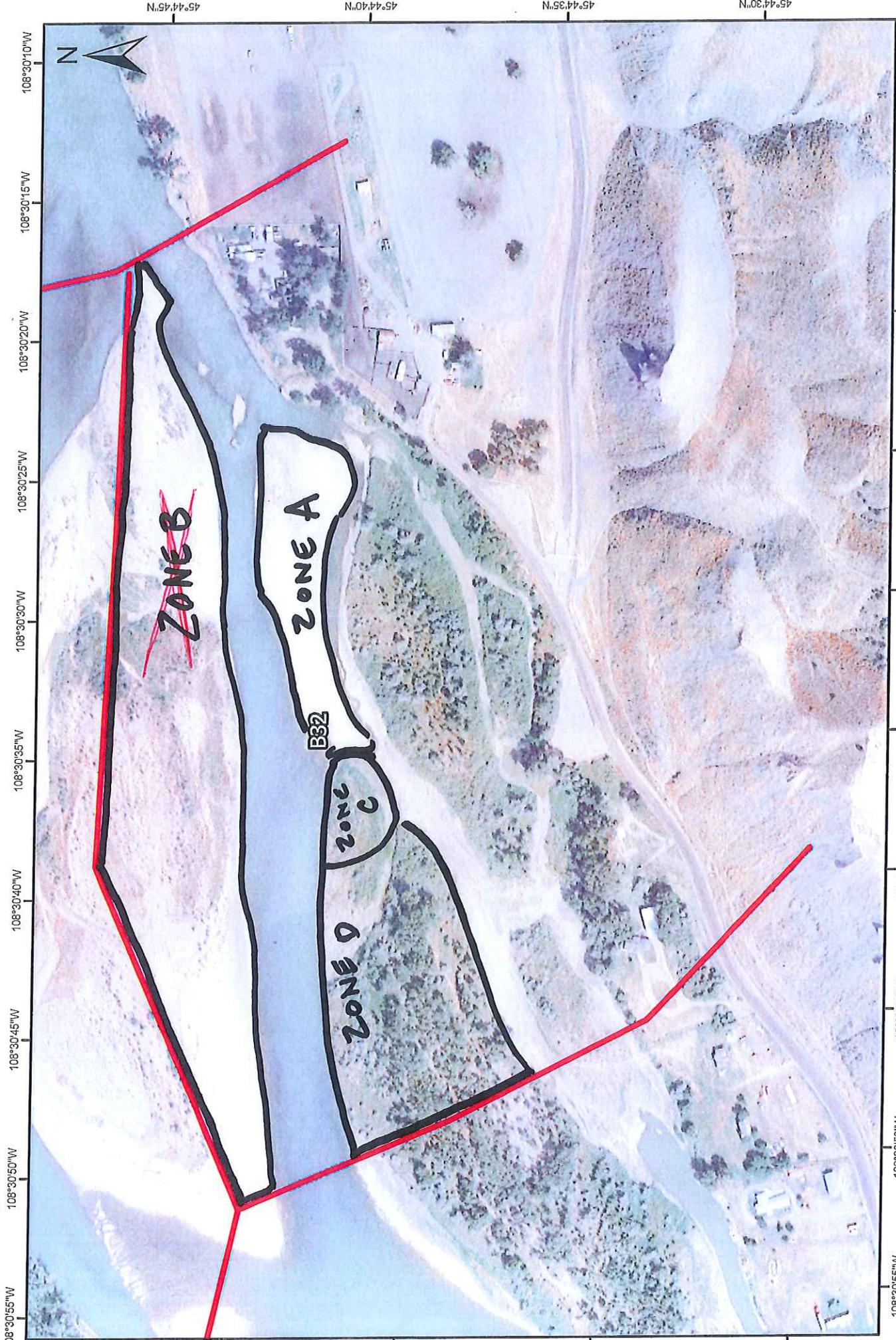
ints - shorezone biota and wildlife observations - cleanup recommendations

Survey Completed Y / N Shoreline Survey Completed Y / N

SEG. 32 ZONE A, B & C, v. sporadic w/ primary stain near shore & beginning cut remove - to become coat as you move inland, mainly impact to grasses w/ trace of sm debris piles.

ZONE C: 75% coverage to both grass & debris. cut & remove "C" zones.

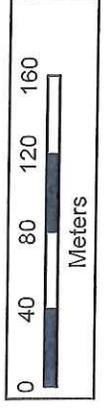
Sketch Yes / No Photos Yes / No Frames          Photographer



**B32 - I**  
(L/R/I)??

DATE: 08/07/11  
TEAM: 2

COMMENTS:  
Zones A, B, C, & D



108°30'55"W 108°30'50"W 108°30'45"W 108°30'40"W 108°30'35"W 108°30'30"W 108°30'25"W 108°30'20"W 108°30'15"W 108°30'10"W

45°44'35"N 45°44'30"N 45°44'25"N 45°44'20"N 45°44'15"N 45°44'10"N 45°44'05"N 45°44'00"N

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

**1 GENERAL INFORMATION**

Segment/Reach ID: Seg 32 Left Bank / Right Bank (Island) Date (dd/mm/yy) 28/07/11 Time (24h): std / daylight 0918 hrs to 1124 hrs Water Level low - mean - bankfull - overbank  
 Operations Division: Scat Team 2 falling steady - rising  
 Survey by: (Foot) ATV / Boat / Helicopter / Overlook / (Sun) Clouds / Fog / Rain / Snow / Windy / Calm Air Temp +/- 25 deg C  
 contact phone number 281 723-1259

**2 SURVEY TEAM #** 2 name SAK organization Cardno Centrix

Steve Kennedy Cardno Centrix Steve Kennedy  
Courtney Tyree MT FWP  
Gary Riley US EPA

**3 SEGMENT** Total Segment/Reach Length 670 m Segment/Reach Length Surveyed 670 m

Start GPS: LATITUDE 45° 44.612 deg. min. LONGITUDE 108° 30.835 deg. min. Datum: WGS 84  
 End GPS: LATITUDE 45° 44.740 deg. min. LONGITUDE 108° 30.837 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 N/A Manmade: Solid Permeable (type) Wetland: Swamp Bog/Fen Marsh  
 Sediment Bank: Clay/Mud S Sand Mixed Pebble/Cobble P Boulder Peat/Organic Vegetated Bank: P Wooded Upland:  
 Sediment Flat: Clay/Mud S Sand Mixed/Coarse P Other: complete for primary

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

Cliff or Bluff: Est Height 2 m canyon manmade meander confined or leveed Substrate Type: gravel  
 Sloped: S (>5°)(15°)(30°) straight S 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) 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 none  
 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 zones 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			P	S	600	30	5%		P	S			P								
B			P	S	70	30	75%		P	S			P								

**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 DEPT cm	ACE OIL CATER				WATER TABLE cm	SHEEN COLOUR B, R, S, N	CLEAN BELOW Yes/No	SUBST. TYPE(S)
	MS	LB	UB	OB		OR	OF	TR	NO				

*VOID*  
*Original DS split between LB + IS*

**8 COMMENTS** ecological/recreational/

Seg 32 Zone A, v. sporadic w/ primary stain near shore & beginning cut remove -> to become coat as you move inland, mainly impact CT to grasses w/ trace of sm debris piles.  
 Zone B, 75% coverage to both grass & debris, cut & remove "B" zones

(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 # \_\_\_\_\_)



**B32 -** (L/R/I)??

DATE: \_\_\_\_\_

TEAM: \_\_\_\_\_

COMMENTS:

0 40 80 120 160  
Meters

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 1013 hrs to 1015 hrs	Water Level low - mean - <u>bankfull</u> - overbank falling - steady - rising
Segment/Reach ID: B <u>32</u> (Left Bank) Right Bank / Island				Air Temp +/- <u>31</u> deg C
Operations Division: B				
Survey by: Foot / ATV / <u>Boat</u> / Helicopter / Overlook / _____		Sun / Clouds / Fog / Rain / Snow / <u>Windy</u> / Calm		

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

**3 SEGMENT** Total Segment/Reach Length \_\_\_\_\_ m Segment/Reach Length Surveyed 115 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 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 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 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				X	<u>115</u>	1															X	Grass, trees, 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

**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

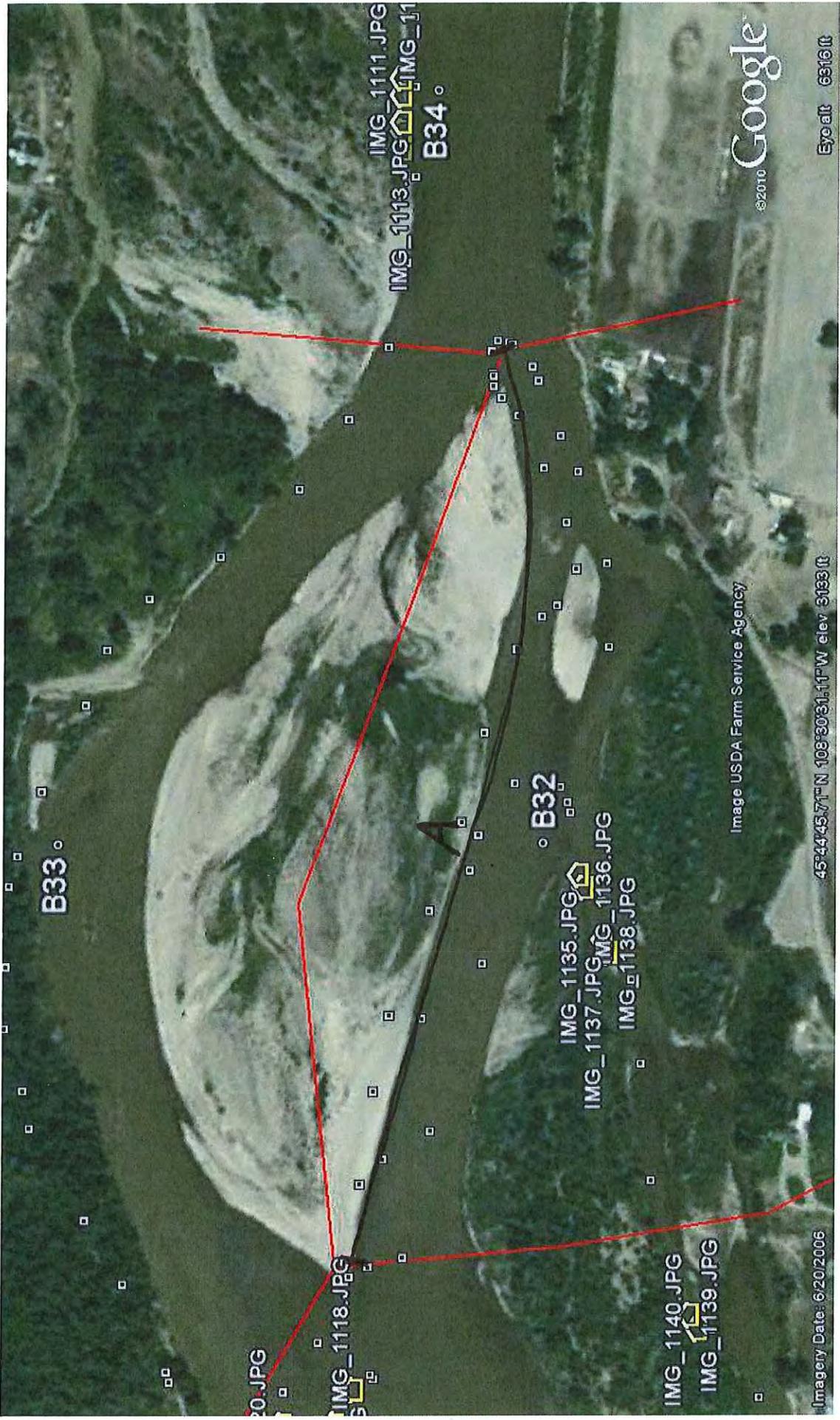
Oil band heights: NO

**Treatment Recommendations:**  
 Zone A: No oil observed; no treatment required.  
 Zone \_\_\_\_\_: 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 None

A = 148 + 567



B32 left bank

DB/G

REVISION 1

WILKE  
DRAWS  
03/08/2011

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

Page 1 of 1

**1 GENERAL INFORMATION**

Segment/Reach ID: B32  Left Bank /  Right Bank /  Island

Operations Division: B SCAT TEAM 2

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

Date (dd/mm/yy) 28/07/11 Time (24h): std / daylight 0918 hrs to 1124 hrs

Water Level: low - mean - bankfull - overbank falling - steady - rising

Air Temp +/- 25 deg C

**2 SURVEY TEAM # 2**

Name	Organization	Signature
STEVE KENNEDY	Cardno ENTRIX	<i>[Signature]</i>
COURTNEY TYREE		<i>[Signature]</i>
GARY RILEY	US EPA	<i>[Signature]</i>

**3 SEGMENT** Total Segment/Reach Length \_\_\_\_\_ m Segment/Reach Length Surveyed 1135 m

Start GPS: LATITUDE 45° deg. 44.612' min. LONGITUDE 108° deg. 30.535 min. Datum: WGS 84

End GPS: LATITUDE 45° deg. 44.748' min. LONGITUDE 108° deg. 30.537 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 N/A Manmade: Solid \_\_\_\_\_ Permeable \_\_\_\_\_ (type) \_\_\_\_\_ Wetland: Swamp \_\_\_\_\_ Bog/Fen \_\_\_\_\_ Marsh \_\_\_\_\_

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

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

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

Cliff or Bluff: Est Height 2 m canyon \_\_\_\_\_ manmade \_\_\_\_\_ meander \_\_\_\_\_ confined or leveed \_\_\_\_\_

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

Substrate Type: GRASSES

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 /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: Y/ oiled Y/ amount \_\_\_\_\_ bags or \_\_\_\_\_ trucks access restrictions none

Oiled trees/shrubs Y/ 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	
<del>A</del>			<del>P</del>	<del>S</del>	<del>600</del>	<del>190</del>	<del>5%</del>	<del>P</del>	<del>S</del>	<del>S</del>	<del>S</del>	<del>S</del>	<del>P</del>								<del>6100</del>	<del>B3/02/2011</del>
<del>A</del>			<del>P</del>	<del>S</del>	<del>692</del>	<del>400</del>	<del>5%</del>	<del>P</del>	<del>S</del>	<del>S</del>	<del>S</del>	<del>S</del>	<del>P</del>									
<del>C</del>			<del>P</del>	<del>S</del>	<del>77</del>	<del>47</del>	<del>75%</del>	<del>P</del>	<del>S</del>	<del>S</del>	<del>S</del>	<del>S</del>	<del>P</del>									
<del>D</del>			<del>P</del>	<del>S</del>	<del>208</del>	<del>120</del>	<del>5%</del>	<del>P</del>	<del>S</del>	<del>S</del>	<del>S</del>	<del>S</del>	<del>P</del>									

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

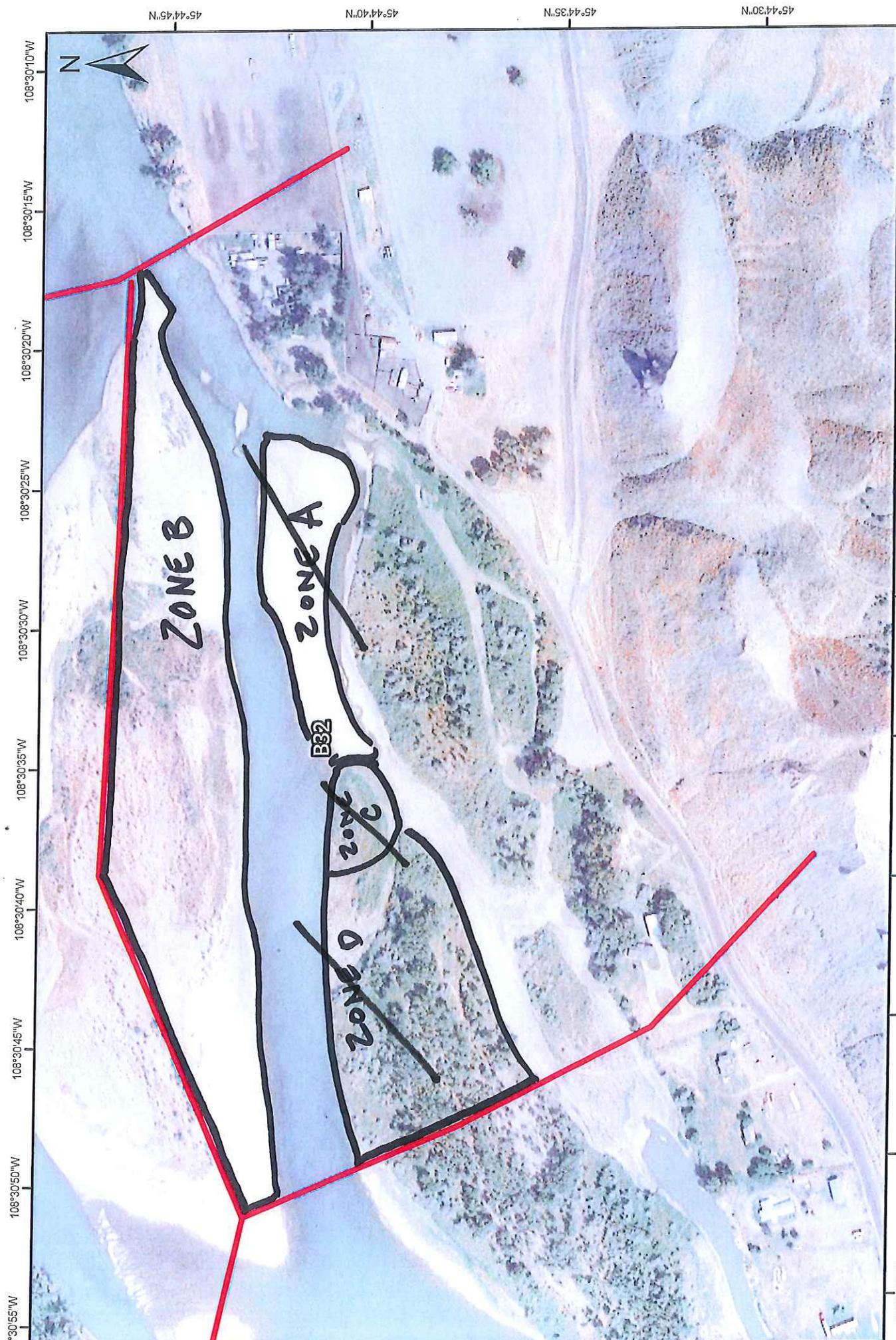
TRENCH or PIT NO.	RIVER BANK ZONE				MAX. PIT DEPTH cm	OILED ZONE cm-cm	SUBSURFACE OIL CHARACTER						WATER TABLE cm	SHEEN COLOUR B, R, S, N	CLEAN BELOW Yes/No	SUBST. TYPE(S)
	MS	LB	UB	OB			SAP	OP	PP	OR	OF	TR				

**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 \_\_\_\_\_

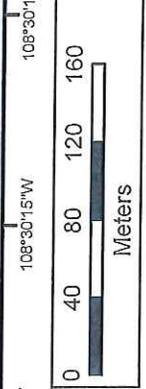
SEG. 32 ZONE ~~B~~ ~~D~~, V. SPORADIC W/ PRIMARY STAIN NEAR SHORE & BEGINNING CUT REMOVE - TO BECOME COAT AS YOU MOVE INLAND, MAINLY IMPACT TO GRASSES W/ TRACE OF SM DEBRIS PILES.

~~ZONE C: 15% COVERAGE TO BOTH GRASS & DEBRIS. CUT & REMOVE "C" ZONES.~~



108°30'55"W 108°30'50"W 108°30'45"W 108°30'40"W 108°30'35"W 108°30'30"W 108°30'25"W 108°30'20"W 108°30'15"W 108°30'10"W

45°44'30"N 45°44'40"N 45°44'35"N 45°44'45"N



108°30'55"W 108°30'50"W 108°30'45"W 108°30'40"W 108°30'35"W 108°30'30"W 108°30'25"W 108°30'20"W 108°30'15"W 108°30'10"W

DATE: 08/07/11  
 TEAM: 2  
 COMMENTS:  
 Zones A, B, C, & D

**B32 - I**  
 (L/R/I)?

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

**1 GENERAL INFORMATION**

Segment/Reach ID: Seg 32 Left Bank / Right Bank Island

Operations Division: Scat Team 2

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

Date (dd/mm/yy) 28/07/11 Time (24h): std / daylight 0918 hrs to 1124 hrs

Water Level: low - mean - bankfull - overbank

(falling) steady - rising

Air Temp +/- 25 deg C

contact phone number 281 1723-1259

**2 SURVEY TEAM #** 2 name SAK organization Cardno Centre

Steve Kennedy Cardno Centre

Courtney Tyree MT FWP

Gary Riley US EPA

**3 SEGMENT** Total Segment/Reach Length 670 m Segment/Reach Length Surveyed 670 m

Start GPS: LATITUDE 45° 44.412 deg. min. LONGITUDE 108° 30.835 deg. min. Datum: WGS 84

End GPS: LATITUDE 45° 44.748 deg. min. LONGITUDE 108° 30.837 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 N/A Shelf N/A Manmade: Solid Permeable (type) Wetland: Swamp Bog/Fen Marsh

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

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

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

Cliff or Bluff: Est Height 2 m canyon manmade meander confined or leveed

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

Substrate Type: Grass

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 bankfull / 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 none

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			P	S	600	30	5%		P	S			P								
B			P	S	70	30	75%		P	S			P								

**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

Seg 32 Zone A, v. 21 cut remove -> to l CT

Zone B, 75°

**VOID**

**Original DS split to be LB + IS**

stair near shore of beginning move in land, mainly impact debris piles.

both grass & debris cut & remove "B" zones

(for ALL sub-segments record: sub-segment ID, length, width, height, depth, etc.)

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

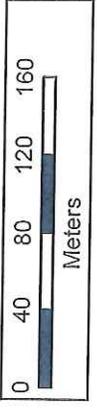


108°30'55"W 108°30'50"W 108°30'45"W 108°30'40"W 108°30'35"W 108°30'30"W 108°30'25"W 108°30'20"W 108°30'15"W 108°30'10"W

45°44'45"N 45°44'40"N 45°44'35"N 45°44'30"N

**B32** - (L/R/I)??  
DATE:  
TEAM:

COMMENTS:



DB/G/S

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy) 19 / 07 / 11	Time (24h): std / daylight 1015 hrs to 1017 hrs	Water Level low - mean <u>bankfull</u> - overbank falling steady - rising
Segment/Reach ID: <u>B32 LB, RB</u>				
Operations Division: B				
Survey by: Foot / ATV / Boat / Helicopter / Overlook /		(Sun) Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp + / - <u>35</u> deg C

<b>2 SURVEY TEAM # 5</b>	name	organization	contact phone number
	Bob Nailon	Cardno ENTRIX	713 817 2469
	John Beach	EPA	707 364 0491
	Ken Frazer	FWP	406 247 2961

**3 SEGMENT** Total Segment/Reach Length 310 707 m Segment/Reach Length Surveyed 310 m

Start GPS: LATITUDE N deg. min. LONGITUDE W deg. min. Datum: WGS 84

End GPS: LATITUDE N deg. min. LONGITUDE W 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 Boulder Peal/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:

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

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

972

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	
C-A				X	310		5				P		X									dry bank

**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

OSR = y                      OSC = unk                      SSC = unk

No Island  
B32 LB, RB ; B33 LB, RB

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

Sketch Yes/No Photos Yes/No (Roll # 5133 Frames 5139) Video Tape Yes/No (Tape #)

DB/G/S

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy) 19 / 07 / 11	Time (24h): std / daylight 1014 hrs to 1017 hrs	Water Level low - mean <u>bankfull</u> overbank falling steady - rising
Segment/Reach ID: <u>B32 LB, RB</u> <del>(Right Bank) Island</del>		Operations Division: B		
Survey by: <u>Foot / ATV / Boat</u> Helicopter / Overlook /		<u>(Sun)</u> Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- <u>35</u> deg C

2 SURVEY TEAM # 5	name	organization	contact phone number
	Bob Nailon	Cardno ENTRIX	713 817 2469
	John Beach	EPA	707 364 0491
	Ken Frazer	FWP	406 247 2961

**3 SEGMENT** Total Segment/Reach Length 310 707 m Segment/Reach Length Surveyed 310 m

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

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

Sloped: (>5°)(15°)(30°) 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 \_\_\_\_\_ 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

972

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>C-A</u>				X	<u>310</u>		<u>5</u>				<u>P</u>		<u>X</u>									<u>(dry bank)</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

OSR = 4

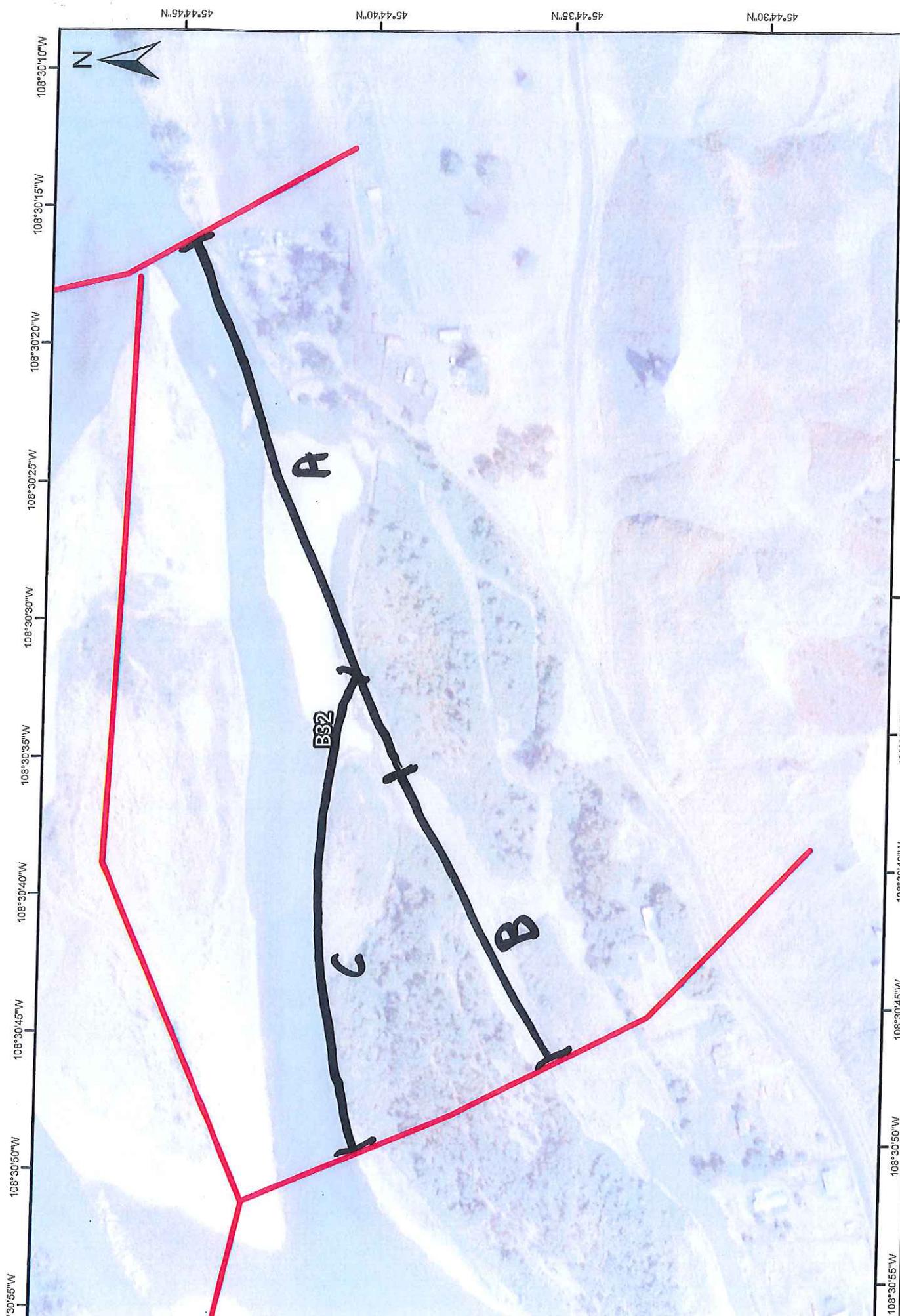
OSC = unk

SSC = unk

No Island  
B32 LB, RB ; B33 LB, RB

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

Sketch Yes/No Photos Yes/No (Roll # 5133 Frames 5134) Video Tape Yes/No (tape #)



108°30'55"W 108°30'50"W 108°30'45"W 108°30'40"W 108°30'35"W 108°30'30"W 108°30'25"W 108°30'20"W 108°30'15"W 108°30'10"W

45°44'30"N 45°44'35"N 45°44'40"N 45°44'45"N

**332 -**  
(L/R/I)??

DATE:  
TEAM:

COMMENTS:

0 40 80 120 160  
Meters

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

<b>1 GENERAL INFORMATION</b>	Date (dd/mm/yy) <u>28/07/11</u>	Time (24h): std / daylight <u>0918</u> hrs to <u>1124</u> hrs	Water Level low - mean - <u>(bankfull)</u> overbank <u>(falling)</u> - steady - rising
Segment/Reach ID: <u>B32</u> Left Bank / Right Bank / <u>(island)</u>	Operations Division:	Survey by: <u>(Foot)</u> / ATV / Boat / Helicopter / Overlook / _____	Air Temp +/- <u>25</u> deg C
Suny Clouds / Fog / Rain / Snow / Windy / Calm			

2 SURVEY TEAM # <u>8</u>	Name	Organization	Signature
	<u>Steve Kennedy</u>	<u>Cardno Enrix</u>	<u>See attached</u>
	<u>Courtney Tyree</u>		
	<u>Gary Riley</u>	<u>US EPA</u>	

**3 SEGMENT** Total Segment/Reach Length \_\_\_\_\_ m Segment/Reach Length Surveyed 1135 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 N/A Manmade: Solid \_\_\_\_\_ Permeable \_\_\_\_\_ (type) \_\_\_\_\_ Wetland: Swamp \_\_\_\_\_ Bog/Fen \_\_\_\_\_ Marsh \_\_\_\_\_

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

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

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

Cliff or Bluff: \_\_\_\_\_ Est Height 2 m canyon \_\_\_\_\_ manmade \_\_\_\_\_ meander \_\_\_\_\_ confined or leveed \_\_\_\_\_ Substrate Type: GRASSES

Sloped: (>5°)(15°)(30°) straight S 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 \_\_\_\_\_ bags or \_\_\_\_\_ trucks access restrictions None

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

1145  
1146

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>77</u>	<u>47</u>	<u>75</u>		<u>P</u>	<u>S</u>			<u>P</u>								
B			<u>P</u>	<u>S</u>	<u>208</u>	<u>128</u>	<u>5</u>		<u>P</u>	<u>S</u>			<u>P</u>								

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

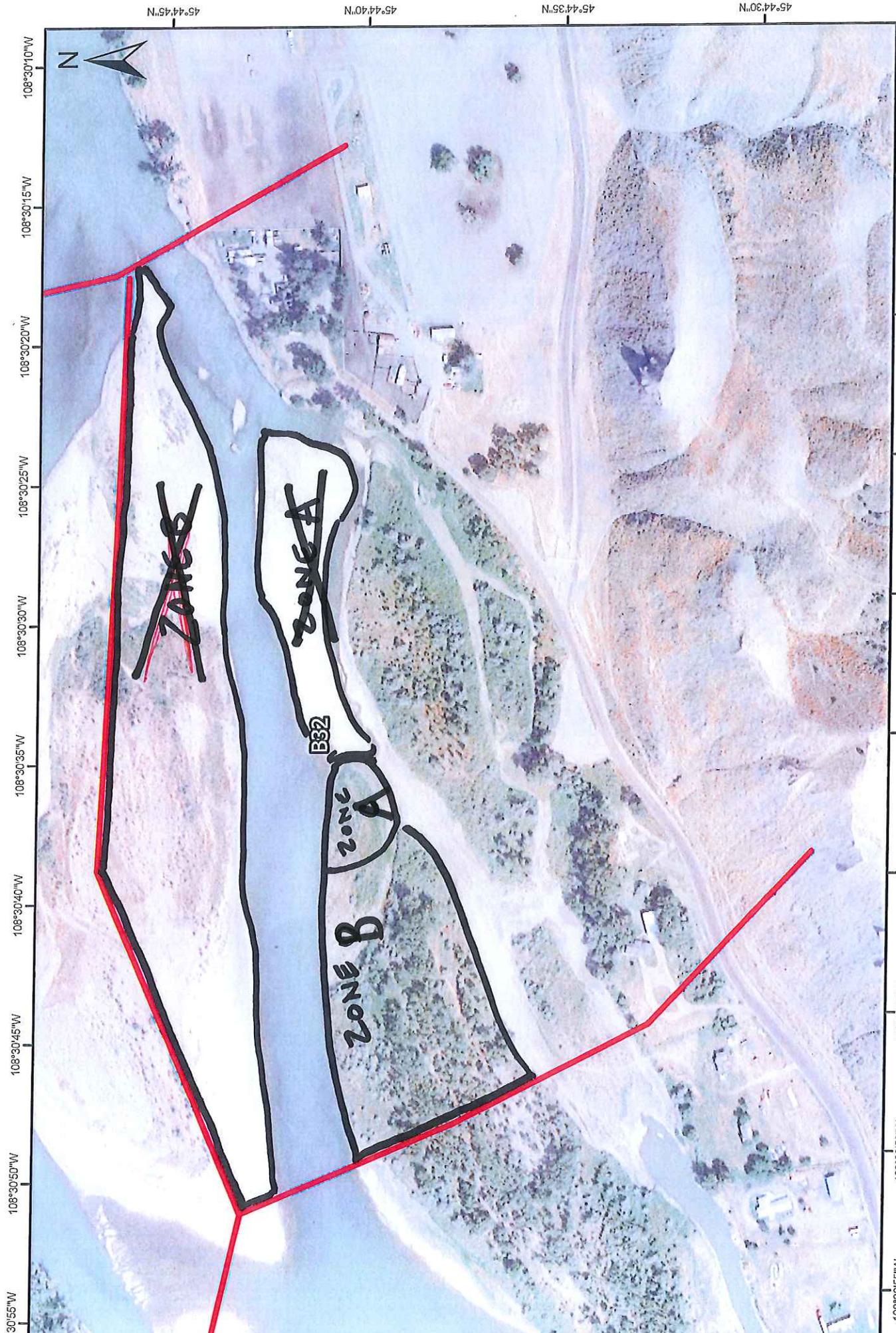
TRENCH or PIT NO.	RIVER BANK ZONE				MAX. PIT DEPTH cm	OILED ZONE cm-cm	SUBSURFACE OIL CHARACTER						WATER TABLE cm	SHEEN COLOUR B, R, S, N	CLEAN BELOW Yes / No	SUBST. TYPE(S)	
	MS	LB	UB	OB			SAP	OP	PP	OR	OF	TR					NO

**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 B - v. sporadic w/ primary stain near shore + beginning cut remove - to become coat as you move inland. mainly impact to grasses w/ trace of sm debris piles.

Zone A - 75% coverage to both grass + debris. cut and remove "C" zones.



108°30'55"W 108°30'50"W 108°30'45"W 108°30'40"W 108°30'35"W 108°30'30"W 108°30'25"W 108°30'20"W 108°30'15"W 108°30'10"W

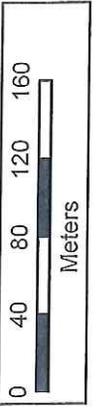
45°44'55"N 45°44'50"N 45°44'45"N 45°44'40"N 45°44'35"N 45°44'30"N

108°30'55"W 108°30'50"W 108°30'45"W 108°30'40"W 108°30'35"W 108°30'30"W 108°30'25"W 108°30'20"W 108°30'15"W 108°30'10"W

**B32 - I**  
(L/R/I)??

DATE: 08/07/11  
TEAM: 2

COMMENTS:  
Zones A, B, & C



DB/G

REVISION 1  
WILLIE PERVIS  
03/08/2011

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

Page 1 of 1

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy) <u>28/07/11</u>	Time (24h): std / daylight <u>0918</u> hrs to <u>1124</u> hrs	Water Level low - mean - bankfull - overbank falling - steady - rising
Segment/Reach ID: <u>B32</u> Left Bank / Right Bank / Island				
Operations Division: <u>B SCAT TEAM 2</u>				
Survey by: <u>Foot / ATV / Boat / Helicopter / Overlook /</u>		<u>(Sun) / Clouds / Fog / Rain / Snow / Windy / Calm</u>		Air Temp +1 - <u>25</u> deg C

<b>2 SURVEY TEAM # <u>2</u></b>	Name	Organization	Signature
	<u>STEVE KENNEDY</u>	<u>Cardno ENTRYX</u>	<u>[Signature]</u>
	<u>COURTNEY TYREE</u>		<u>[Signature]</u>
	<u>GARY RILEY</u>	<u>US EPA</u>	<u>[Signature]</u>

**3 SEGMENT** Total Segment/Reach Length \_\_\_\_\_ m Segment/Reach Length Surveyed 1135 m

Start GPS: LATITUDE 45° deg. 44.612' min. LONGITUDE 108° deg. 30.535 min. Datum: WGS 84

End GPS: LATITUDE 45° deg. 44.748' min. LONGITUDE 108° deg. 30.537 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 N/A Manmade: Solid \_\_\_\_\_ Permeable \_\_\_\_\_ (type) \_\_\_\_\_ Wetland: Swamp \_\_\_\_\_ Bog/Fen \_\_\_\_\_ Marsh \_\_\_\_\_

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

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

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

Cliff or Bluff: \_\_\_\_\_ Est Height 2 m canyon \_\_\_\_\_ manmade \_\_\_\_\_ meander \_\_\_\_\_ confined or leveed \_\_\_\_\_ Substrate Type: GRASSES

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

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

est. width: <1m 1-10 m 10-100 m >100m 160m est. water depth: <1 m 1-3 m 3-10 m >10 m \_\_\_\_\_ 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 none

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	
<del>A</del>			<del>P</del>	<del>S</del>	<del>600</del>	<del>120</del>	<del>5%</del>	<del>P</del>	<del>S</del>				<del>P</del>								<del>4.00</del>	<del>0.8/0.2/2.0</del>
<del>A</del>			<del>P</del>	<del>S</del>	<del>442</del>	<del>70</del>	<del>5%</del>	<del>P</del>	<del>S</del>				<del>P</del>									
<del>B</del>			<del>P</del>	<del>S</del>	<del>692</del>	<del>106</del>	<del>5%</del>	<del>P</del>	<del>S</del>				<del>P</del>									
<del>B</del>			<del>P</del>	<del>S</del>	<del>77</del>	<del>47</del>	<del>75%</del>	<del>P</del>	<del>S</del>				<del>P</del>									
<del>C</del>			<del>P</del>	<del>S</del>	<del>208</del>	<del>128</del>	<del>5%</del>	<del>P</del>	<del>S</del>				<del>P</del>									

**7 SUBSURFACE OILING** R ZONE location plus Number of pit or trench - e.g., "A1"

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

**8 COMMENTS** ecolog Overbank

**Zone 1083 moved to RB**

**Zone 1084 moved to LB**

SEG. 32 ZONE A, B, & C, v. sporadic w/ primary stain near shore & beginning cut remove - to become coat as you move inland, mainly impact to grasses w/ trace of sm debris piles.

ZONE C: 75% coverage to both grass & debris. cut & remove "C" zones.

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



**B32 - I**  
(L/R/I)??

DATE: 28/07/11

TEAM: 2

COMMENTS:  
Zones A, B, C, + D

0 40 80 120 160  
Meters

**1 GENERAL INFORMATION**

Segment/Reach ID: Seg 32 Left Bank / Right Bank (Island) Date (dd/mm/yy) 28/07/11 Time (24h): std / daylight 0918 hrs to 1124 hrs Water Level low - mean - bankfull overbank falling steady - rising

Operations Division: Scat Team 2 (Sun) Clouds / Fog / Rain / Snow / Windy / Calm Air Temp +/- 25 deg C

Survey by: (Foot) / ATV / Boat / Helicopter / Overlook / (Sun) contact phone number 281 723-1254

**2 SURVEY TEAM #** 2 name SAIK organization Cardno Centre

Steve Kennedy Cardno Centre MT FWP Steve Kennedy

Courtney Tyree NS EPA

Gary Riley

**3 SEGMENT** Total Segment/Reach Length 670 m Segment/Reach Length Surveyed 670 m

Start GPS: LATITUDE 45° 44.612 deg. \_\_\_\_\_ min. LONGITUDE 108° 30.835 deg. \_\_\_\_\_ min. Datum: WGS 84

End GPS: LATITUDE 45° 44.748 deg. \_\_\_\_\_ min. LONGITUDE 108° 30.837 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 N/A Manmade: Solid \_\_\_\_\_ Permeable \_\_\_\_\_ (type) \_\_\_\_\_ Wetland: Swamp \_\_\_\_\_ Bog/Fen \_\_\_\_\_ Marsh \_\_\_\_\_

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

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

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

Cliff or Bluff: Est Height 2 m canyon \_\_\_\_\_ manmade \_\_\_\_\_ meander \_\_\_\_\_ confined or leveed \_\_\_\_\_ Substrate Type: grass

Sloped: S (>5°)(15°)(30°) straight S 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 m est. water depth: <1m 1-3m 3-10m >10m \_\_\_\_\_ m

shoal(s) present Y/N point bar present Y/N bar-shoal substrat: 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**

Debris: Y/N oiled Y/N amount \_\_\_\_\_ bags or \_\_\_\_\_ trucks Suitable backshore staging Y/N Access: Direct from backshore Y/N Alongshore from next segment Y/ N

Oiled trees/shrubs Y/N River Current strong Y/N Other Features: none access restrictions

**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			P	S	600	30	5%			P	S			P									
B			P	S	70	30	75%			P	S			P									

**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 DEPT cm	OIL CHARACTER				WATER TABLE cm	SHEEN COLOUR B, R, S, N	CLEAN BELOW Yes/No	SUBST. TYPE(S)
	MS	LB	UB	OB		OIL CHARACTER							
						OR	OF	TR	NO				

*VOID Original DS split between LB + 15*

**8 COMMENTS** ecological/recreational/ shorezone flora and wildlife observations - cleanup recommendations

Seg 32 Zone A, v. sporadic w/ primary stain near shore of beginning cut remove -> to become coat as you move inland, mainly impact CT to grasses w/ trace of sm debris piles.

Zone B, 75% coverage to both grass by debris cut of remove "B" zone

(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 # \_\_\_\_\_)



108°30'55"W 108°30'50"W 108°30'45"W 108°30'40"W 108°30'35"W 108°30'30"W 108°30'25"W 108°30'20"W 108°30'15"W 108°30'10"W

45°44'30"N 45°44'35"N 45°44'40"N 45°44'45"N

108°30'55"W 108°30'50"W 108°30'45"W 108°30'40"W 108°30'35"W 108°30'30"W 108°30'25"W 108°30'20"W 108°30'15"W 108°30'10"W

0 40 80 120 160  
Meters

**B32** - (L/R/I)??

DATE: \_\_\_\_\_  
TEAM: \_\_\_\_\_

COMMENTS:



## **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

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: B32 Left Bank / <u>Right Bank</u> / Island		09/03/2011	08:10 hrs to 10:40 hrs	low - mean - bankfull - overbank
Operations Division: B				<u>falling</u> - steady - rising
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook /		<u>Sun</u> / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- 60 F deg C

<b>2 SURVEY TEAM #</b> <u>4</u>	Name	Organization	Signature
	Michael Dirks	Cardno ENTRIX	<i>Michael D. Dirks</i>
	Eric Harlow	Cardno ENTRIX	<i>Eric Harlow</i>
	Larisa Leonova	USEPA	<i>Larisa Leonova</i>
	Earl Radonski	MTFWP	<i>Earl Radonski</i>

**3 SEGMENT** Total Segment/Reach Length 710 m Segment/Reach Length Surveyed 485 m

Start GPS: LATITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. LONGITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. Datum: WGS84

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 X Shelf \_\_\_\_\_ Manmade: Solid \_\_\_\_\_ Permeable \_\_\_\_\_ (type) N/A Wetland: Swamp \_\_\_\_\_ Bog/Fen \_\_\_\_\_ Marsh \_\_\_\_\_ N/A

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 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 1/2 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>A</u>		T	P	S	478	152	<1%			X							X					Shrubs, grasses, trees
<del>B</del>			<del>S</del>	<del>P</del>	<del>200</del>	<del>150</del>	<del>N/A</del>															Not Visited

**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

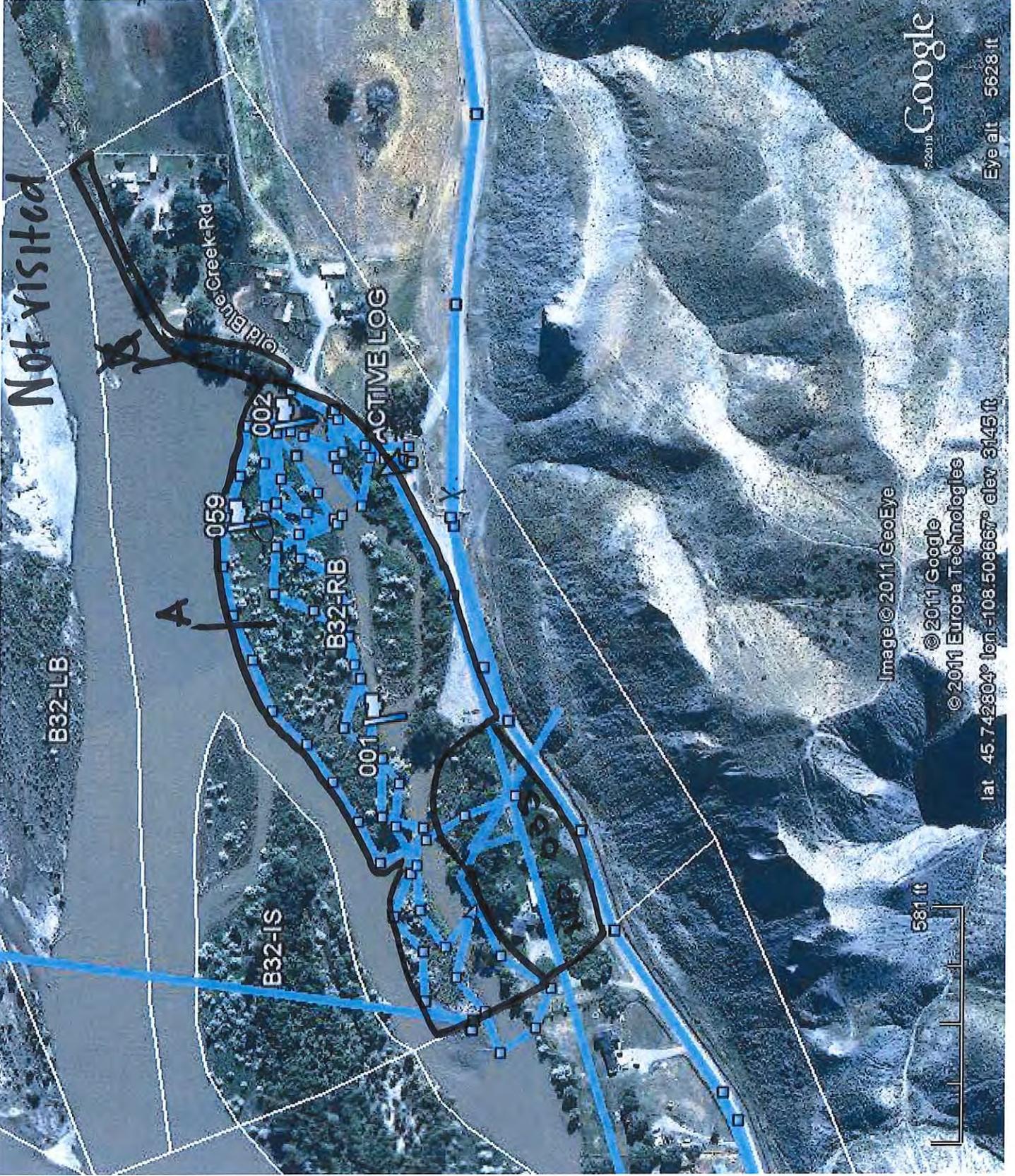
Overbank Survey Required Y / N Overbank Survey Completed Y / N Shoreline Survey Completed Y / N

Zone A: Visible UTV tracks from Ops. Teams, treatments from CTR 42 followed for #1 cutting vegetation, #2 removing dead vegetation and small debris and #3 large woody debris and other hard surfaces wiped. Hotshots crew removed patchy areas of remaining oil on the island and in the river bend. Three small bags of debris collected and returned by the Hot Shots team lead by Nathan "Ed" Jessup.

Recommendations: No further treatment. Partial Post (75% of the segment Re-SCAT completed)

Zone B: Not visited during this SCAT visit.

Sketch Yes / No Photos Yes / No Frames/Photographer: Michael Dirks and Randy Henry



Not visited

A

ACTIVE LOG

B32-LB

B32-IS

B32-RB

059

001

002

X

581 ft

Image © 2011 GeoEye

© 2011 Google

© 2011 Europa Technologies

lat 45.742804 lon -108.508667 elev 3145 ft

Google

Eye alt 5628 ft

B32RB  
Team 2  
03/09/11

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy)	Time (24h): std / daylight	<b>Water Level</b>
Segment/Reach ID: B32 Left Bank / <u>Right Bank</u> / Island		09/03/2011	08:10 hrs to 10:40 hrs	low - mean - bankfull - overbank
Operations Division: B				<u>falling</u> - steady - rising
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook /		<u>Sun</u> / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- <u>6.0</u> F deg C
<b>2 SURVEY TEAM #</b>	<b>Name</b>	<b>Organization</b>	<b>Signature</b>	
	Michael Dirks	Cardno ENTRIX		
	Eric Harlow	Cardno ENTRIX		
	Larisa Leonova	USEPA		
	Earl Radonski	MTFWP		

**3 SEGMENT** Total Segment/Reach Length 710 m Segment/Reach Length Surveyed 485 m

Start GPS: LATITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. LONGITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. Datum: WGS84

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 X Shelf \_\_\_\_\_ Manmade: Solid \_\_\_\_\_ Permeable \_\_\_\_\_ (type) N/A Wetland: Swamp \_\_\_\_\_ Bog/Fen \_\_\_\_\_ Marsh N/A

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 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 1/2 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		T	P	S	478	152	<1%			X							X					Shrubs, grasses, trees

**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				

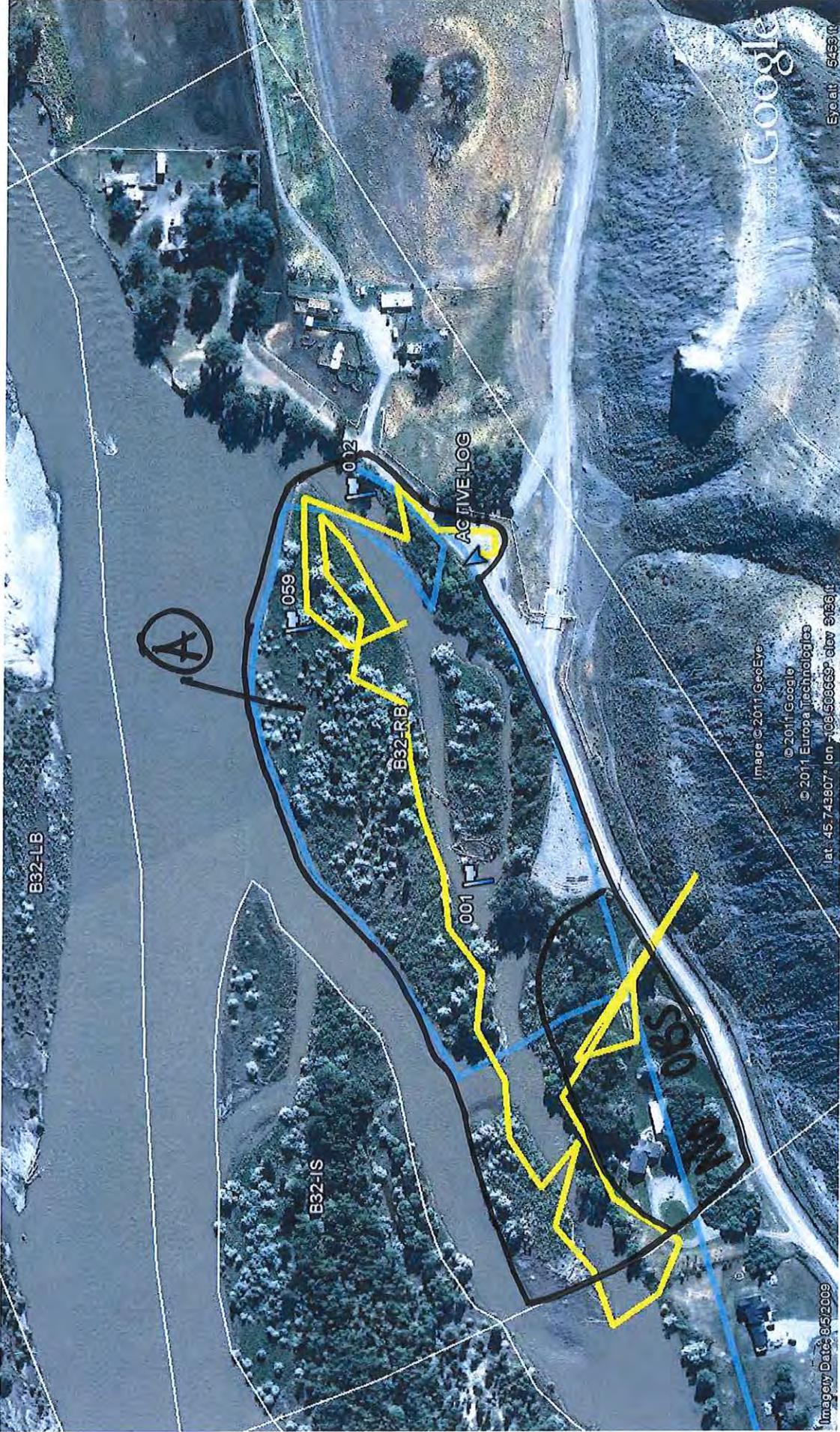
**8 COMMENTS** ecological/recreational/cultural/economic constraints - shorezone biota and wildlife observations - cleanup recommendations

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

Zone A: Visible UTV tracks from Ops. Teams, treatments from CTR 42 followed for #1 cutting vegetation, #2 removing dead vegetation and small debris and #3 large woody debris and other hard surfaces wiped. Hot Shots crew removed patchy areas of remaining oil on the island and in the river bend. Three small bags of debris collected and returned by the Hot Shots team lead by Nathan "Ed" Jessup.

Recommendations: No further treatment. Partial Post (75% of the segment Re-SCAT completed)

Sketch Yes / No Photos Yes / No Frames/Photographer: Michael Dirks and Randy Henry



TEAM 4 ZONE A: NFT

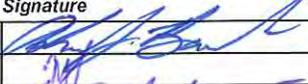
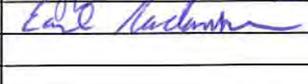
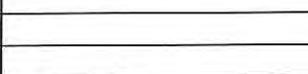
09/03/11

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

DB/G

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

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy) 08/09/11	Time (24h): std / daylight 0825 hrs to 0845 hrs	<b>Water Level</b> low - <u>mean</u> - bankfull - overbank falling - steady - rising
Segment/Reach ID: B32 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 + / - 30 _ deg C

<b>2 SURVEY TEAM # 3</b>	Name	Organization	Signature
Adam Bausch		Cardno Entrix	
Mike Shannon		USCG	
Earl Radonski		FWP	

<b>3 SEGMENT</b>	Total Segment/Reach Length <u>708</u> m	Segment/Reach Length Surveyed _____ 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 _____ Mixed <input checked="" type="checkbox"/>	Pebble/Cobble _____ Boulder _____ Peat/Organic _____	Vegetated Bank <u>P</u>		Wooded Upland: <u>S</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 <input checked="" type="checkbox"/>	confined or leveed _____		Substrate Type: _____							
Sloped: (>5°)(15°)(30°)	straight _____ braided _____ oxbow _____	flood plain valley _____		Forested <input checked="" type="checkbox"/> Vegetated <input checked="" type="checkbox"/> Bare _____							

<b>4C RIVER CHANNEL CHARACTER</b>				circle or select as appropriate			
est. width: <1m 1-10m 10-100m <u>&gt;100m</u> 160m		est. water depth: <1m <u>1-3m</u> 3-10m >10m _____ m					
shoal(s) present <input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N		point bar present <input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N					
seasonal water level: low <input checked="" type="checkbox"/> mean <input checked="" type="checkbox"/> bank full / overbank flow		est. change over next 7 days: <u>falling</u> - same - rising					

<b>5 OPERATIONAL FEATURES</b>		Suitable backshore staging <input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N	Access: Direct from backshore <input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N	Alongshore from next segment <input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N
Debris: Y / <input checked="" type="checkbox"/> N oiled Y / <input checked="" type="checkbox"/> N amount _____ bags or _____ trucks		access restrictions _____		
Oiled trees/shrubs <input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N		River Current strong <input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N		
		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	%																
2188 A				<input checked="" type="checkbox"/>	216	10	<1				<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>			Vegetation		

<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

<b>8 COMMENTS</b>			ecological/recreational/cultural/economic constraints - shorezone biota and wildlife observations - cleanup recommendations		
Overbank Survey Required <input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N			Overbank Survey Completed <input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N		
			Shoreline Survey Completed <input checked="" type="checkbox"/> Y / <input checked="" type="checkbox"/> N		

Zone A - 1 piece of stained vegetation observed

No Further Treatment Recommended

Sketch <input checked="" type="checkbox"/> Yes / <input checked="" type="checkbox"/> No	Photos Yes / <input checked="" type="checkbox"/> No	Frames _____	Photographer _____
---	---	--------------	--------------------



Google

Eye alt: 5453 ft.

© 2011 Europa Technologies  
© 2011 Google  
Image © 2011 GeoEye

45°44'37.60" N 108°30'27.34" W elev 3137 ft

A - NFT

B32RB  
Team 3  
08/09/11

DB/G

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>B32</u>	Left Bank / Right Bank / Island	<u>10/09/11</u>	<u>1010</u> hrs to <u>1020</u> hrs	low / mean - bankfull - overbank
Operations Division: <u>B</u>		Sun / Clouds / Fog / Rain / Snow / Windy / Calm	Air Temp +/- <u>25</u> deg C	falling - steady - rising
Survey by: Foot / ATV / Boat / Helicopter / Overlook /				

<b>2 SURVEY TEAM # <u>5</u></b>	Name	Organization	Signature
	<u>Damien Korte</u>	<u>Cardno Entrix</u>	<u>[Signature]</u>
	<u>Matthew Kent</u>	<u>DEQ</u>	<u>[Signature]</u>

**3 SEGMENT** Total Segment/Reach Length 705 m Segment/Reach Length Surveyed 210 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

Cliff or Bluff: X Est Height 5 m canyon \_\_\_\_\_ manmade \_\_\_\_\_ meander \_\_\_\_\_ confined or leveed \_\_\_\_\_ Substrate Type: Rip Rap

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 \_\_\_\_\_ bags or \_\_\_\_\_ trucks access restrictions Private property

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>2243</u> A			<u>X</u>		<u>210</u>	<u>5</u>	<u>0</u>														<u>✓</u> Rip-rap

**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 - NOO

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

9/10/2011 11:31 am  
9/10/2011 12:28 pm  
9/10/2011

B32-IS

SCAT  
09/10/11  
Team 5  
B32-RB

○ B32

B32-RB

A

Image © 2011 GeoEye

© 2011 Google

45°44'39.58" N 108°30'27.39" W elev. 3137 ft

1996

©2010



DB/G

R

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy) 29/AUG/2011	Time (24h): std / daylight 09:45 hrs to 11:00 hrs	Water Level low - mean - bankfull - overbank falling - steady - rising
Segment/Reach ID: B 32 <u>Left Bank / Right Bank / Island</u>				
Operations Division: B 32 LB				
Survey by: <u>Foot / ATV / Boat / Helicopter / Overlook /</u>		Sun / Clouds / Fog / Rain / Snow / Windy / Calm	Air Temp + / - <u>30</u> deg C	

<b>2 SURVEY TEAM # 5</b>	name	organization	contact phone number
Ariel Blanc		Polaris	<i>[Signature]</i>
Daniel Elefant		Cardno ENTRIX	<i>[Signature]</i>
Earl Radonski		DEQ MFWP	<i>[Signature]</i>
Larisa Leonova		EPA	<i>[Signature]</i>

**3 SEGMENT** Total Segment/Reach Length \_\_\_\_\_ m Segment/Reach Length Surveyed 535 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 2-3 m canyon \_\_\_\_\_ manmade \_\_\_\_\_ meander P \_\_\_\_\_ confined or leveed \_\_\_\_\_ Substrate Type: sand/sed

Sloped: (>5°)(15°)(30°) \_\_\_\_\_ straight \_\_\_\_\_ 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 \_\_\_\_\_ 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 7 bags or \_\_\_\_\_ trucks access restrictions

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

**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	
A				X	535	90	<1			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	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

**ReSCAT**

Zone A: Trace oiled vegetation and natural debris. Hotshot crew accompanied ReSCAT Team. Remaining transferable oil removed during ReSCAT. Zone A meets operational endpoints. NFT.

(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# \_\_\_\_\_)



DBIG

<b>1 GENERAL INFORMATION</b>		Date (30/Aug/11)	Time (24h): std / daylight	Water Level
Segment/Reach ID: B32 Left Bank / Right Bank / Island				low - <u>mean</u> - bankfull - overbank
Operations Division: B			820 hrs to 930 hrs	falling - steady - rising
Survey by: Foot / ATV / Boat / Helicopter / Overlook /		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp + / - 80F

<b>2 SURVEY TEAM # 2</b>	Name	Organization	Signature
David Eric Harlow		Cardno ENTRIX	<i>David Harlow</i>
Pete Lee		Polaris	<i>Pete Lee</i>
Stephen Ball		EPA	<i>Stephen Ball</i>
Larry Alheim		DEQ	<i>Larry Alheim</i>

**3 SEGMENT** Total Segment/Reach Length 290 m Segment/Reach Length Surveyed 290 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 \_\_\_\_\_ Boulder \_\_\_\_\_ Peat/Organic \_\_\_\_\_ Vegetated Bank: s Wooded Upland: p

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/silt \_\_\_\_\_

Sloped: \_\_\_\_\_ (>5°)(15°)(30°) 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 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  / N Access: Direct from backshore Y / N Alongshore from next segment Y / N

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

Oiled trees/shrubs  / 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	Width	Distrib.	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR		AP	NO		
	m	m	%																				
1955 A				x	290	120	<1			s	p							X					trees, shrubs, debris, sand, silt

**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)							
	MS	LB	UB	OB			SAP	OP	PP	OR	OF	TR					NO						
	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

RESCAT- Ops had finished treating unit. Visited with Hotshot Team

Zone A: Scattered small patches of oiled shrubs and debris. 1 bag of material collected. NFT.

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



RESCAT

B32- Island

8/30/11 Team 2



## **Appendix F**

Completed SCAT Segment Sign-Off  
Forms

# SCAT SEGMENT OPERATIONS COMPLETION SIGN-OFF SHEET

## SILVERTIP PIPELINE RELEASE

Segment 332 RB Date of Survey 09/03/2011

Dates of Initial SCAT Assessments 07/17/11, 07/21/11, 07/19/11, 07/24/11  
(to be filled out by SCAT Data Management)

CTR(s) Associated with SCAT Segment 42 42

Segment has been treated by Operations or an Operations Hotshot Team  YES  NO

Segment Assessment Complete<sup>1</sup>

Partial Segment Assessment  (75% complete)

*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).*

Larisa Leonova LARISA LEONOVA 9/3/11  
Sign Name Print Name/Affiliation Date  
**Federal Representative (EPA/USCG)**

Earl Radonski FWP Earl Radonski 9/3/11  
Sign Name Print Name/Affiliation Date  
**State Representative (DEQ/FWP)**

Michael D. Dirks MICHAEL DIRKS/Caridwo ENTRIX 09/03/2011  
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 B32RB Date of Survey Sept 8 2011

Dates of Initial SCAT Assessments \_\_\_\_\_  
(to be filled out by SCAT Data Management)

CTR(s) Associated with SCAT Segment CTR 42

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] Michael Shannon/USCB 9/8/2011  
Sign Name Print Name/ Affiliation Date  
**Federal Representative (EPA/USCG)**

[Signature] Earl Radonski 9/8/11  
Sign Name Print Name/ Affiliation Date  
**State Representative (DEQ/FWP)**

[Signature] Adam Bausch Carbonate Entry 9/8/2011  
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 B32-RB Date of Survey 09/10/11

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

CTR(s) Associated with SCAT Segment 42

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)**

MATTHEW KEYS Matthew Keys / DEQ 9/10/11  
Sign Name \_\_\_\_\_ Print Name/ Affiliation \_\_\_\_\_ Date \_\_\_\_\_  
**State Representative (DEQ/FWP)**

D. Korte Damien Korte / Cardno Entrix 09/10/11  
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 832-LB Date of Survey 29-AUG-2011

Dates of Initial SCAT Assessments 28-July-2011  
(to be filled out by SCAT Data Management)

CTR(s) Associated with SCAT Segment CTR - 27

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).*

Larisa Leonova LARISA LEONOVA 8/29/11  
Sign Name Print Name/ Affiliation Date  
**Federal Representative (EPA/USCG)**

Earl Radonski EARL RADONSKI 8/29/11  
Sign Name Print Name/ Affiliation Date  
**State Representative (DEQ/FWP)**

Ariel Blanc Ariel Blanc (Polaris) 29-AUG-2011  
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 B32 IS Date of Survey 8/30/11

Dates of Initial SCAT Assessments \_\_\_\_\_  
(to be filled out by SCAT Data Management)

CTR(s) Associated with SCAT Segment 27

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).*

A.L. Ball Stephen Ball EPA 8/30/11  
Sign Name Print Name/ Affiliation Date  
**Federal Representative (EPA/USCG)**

L.P. Alheim Jr Larry Alheim Jr NHD&D 8/30/11  
Sign Name Print Name/ Affiliation Date  
**State Representative (DEQ/FWP)**

David Harlow David Harlow Cardno ENTRIX 8/30/11  
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.