

**ExxonMobil Pipeline Company**

**SCAT Area Transition Report for  
C20**

Silvertip Pipeline Incident  
Laurel, Montana

October 25, 2011



## **SCAT Area Transition Report for C20**

Silvertip Pipeline Incident  
Laurel, Montana

Prepared for:  
ExxonMobil Pipeline Company

Prepared by:  
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Our Ref.:  
B0085883.1103

Date:  
October 25, 2011

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

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

This Shoreline Cleanup Assessment Technique (SCAT) Area Transition Report provides a summary of the SCAT surveys conducted to determine the extent of oiling along the riverbanks and floodplain within SCAT Area C20, 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 C20. 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 C20, 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 C20 is 33.1. There were access issues for the left bank.

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

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

Figure 2 summarizes the natural resources identified in this segment. International Bird Rescue and Resource Advisors from U.S. Fish and Wildlife Service conducted limited inspections of Area C20 due to the low level of oiling in Division C. No oiled wildlife was observed or recovered. No Wildlife Priority Cleanup Areas were identified. No active migratory bird nests were identified in Area C20.

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

Table 1 (below) summarizes samples collected within Area C20. 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 C20 are provided on Figure 3.

**Table 1 Environmental Sampling Summary**

Area	Agency	Sample Num	Date	Matrix	Location	Latitude	Longitude
C20	EPA	SPGW201_071211	7/12/2011	Water_Irrigation	SPGW201	45.880716	-108.334658
C20	EPA	SPDW203_071211	7/12/2011	Water_Drinking	SPDW203	45.881422	-108.334109
C20	CTEH	BIMT0712IW302	7/12/2011	Water_Irrigation	BIMT_349_IW302	45.880636	-108.334692
C20	CTEH	BIMT0712DW301	7/12/2011	Water_Drinking	BIMT_349_DW301	45.881561	-108.333986

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, one exceedance was reported for bis(2-ethylhexyl)phthalate in this area.

#### 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 C20 are included in Appendix B. Figure 4 provides the maximum oiling zones observed by the SCAT team during the initial surveys of Area C20.

#### 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. 60](#)).

#### 1.6 Oil Removal Activities

Oil removal activities were conducted within Area C20 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 C20 following completion of oil removal activities. The SCAT team performed final surveys of the left and right banks within SCAT Area C20 to confirm the agreed-upon cleanup endpoints identified in the applicable CTRs had been achieved. The final SCAT survey documentation is presented in Appendix E.

### **1.10 SCAT Area Conclusions**

Based on the final SCAT surveys performed on the left and right banks within Area C20, no further treatment is recommended for these segments. SCAT Segment Sign-Off Forms are included as Appendix F.



**SCAT Area Transition  
Report for C20**

Silvertip Pipeline Incident  
Laurel, Montana

**2. Transition Sign-Off Form**

**SCAT Area Transition Report for C20**

**Prepared for:**

**Unified Command**

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Date

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Unified Command – RP



**SCAT Area Transition  
Report for C20**

Silvertip Pipeline Incident  
Laurel, Montana

**SCAT Area Transition Report for C20**

**Prepared for:**

**Unified Command**

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Date

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Unified Command – FOSC



**SCAT Area Transition  
Report for C20**

Silvertip Pipeline Incident  
Laurel, Montana

**SCAT Area Transition Report for C20**

**Prepared for:**

**Unified Command**

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Date

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Unified Command – MDEQ

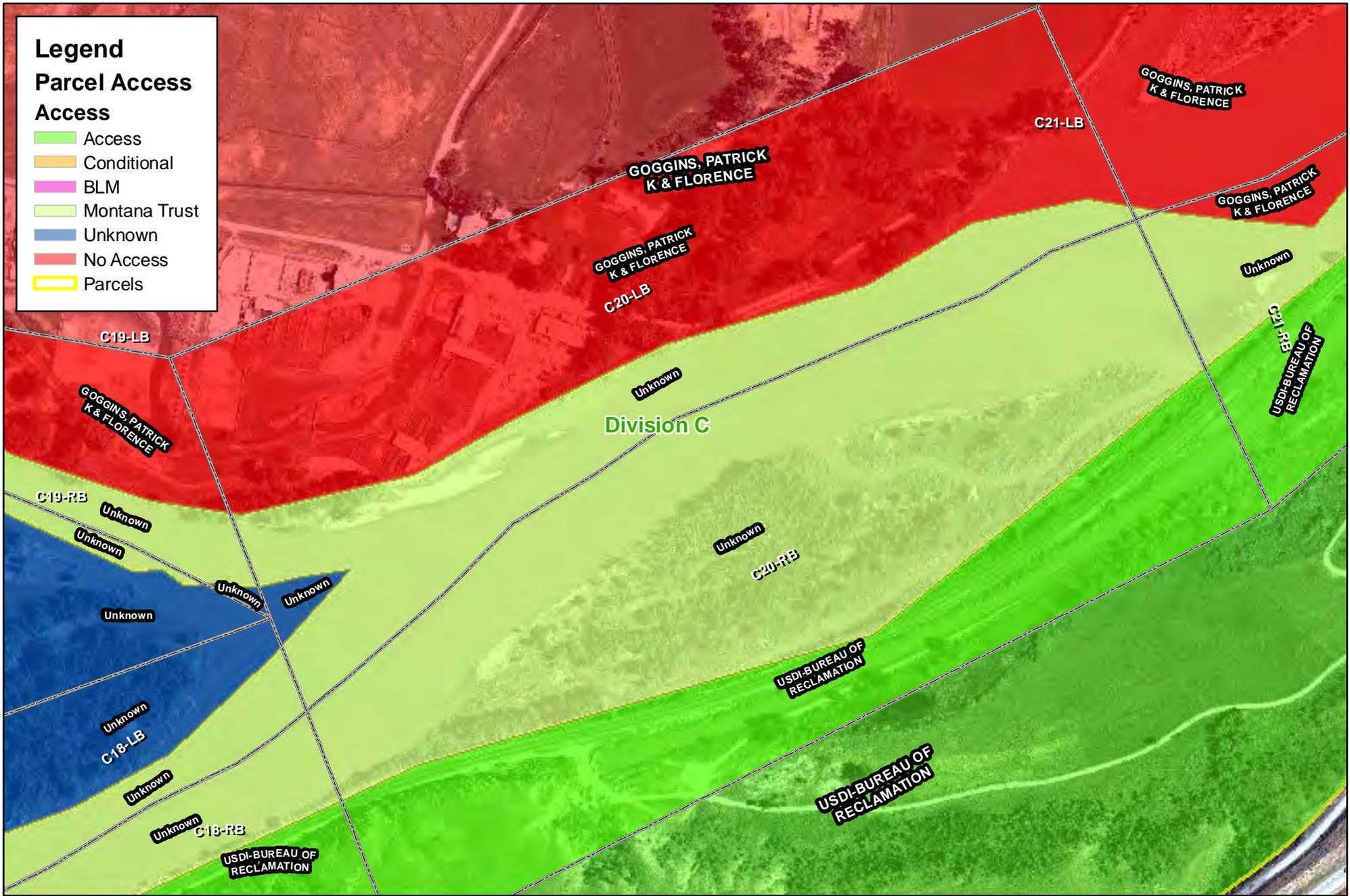
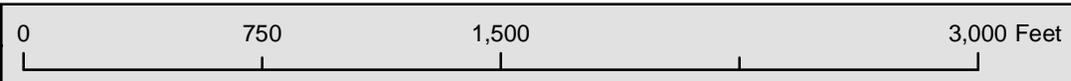


Figure 1

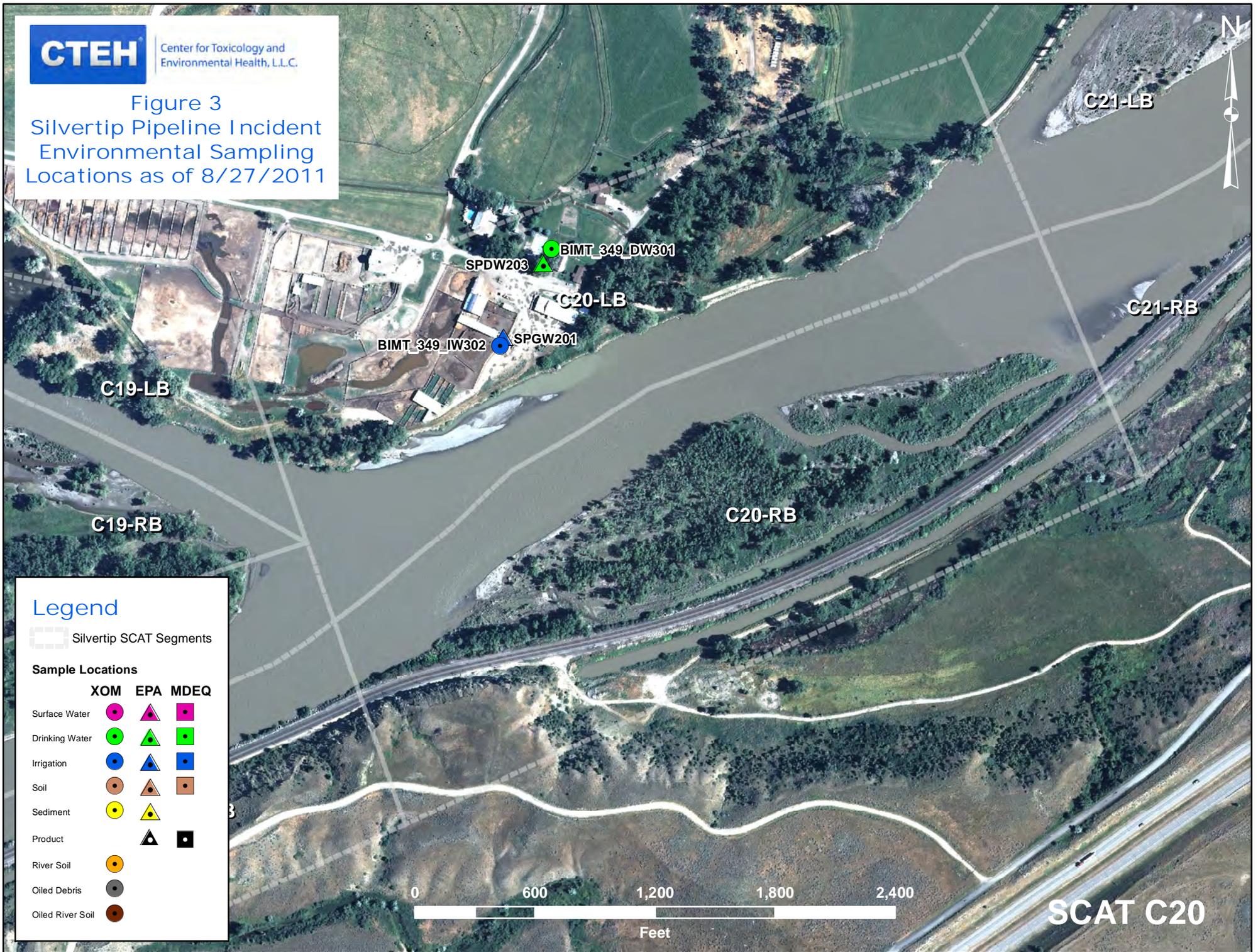


**Figure 2**  
**Wildlife Resources**



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

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



### Legend

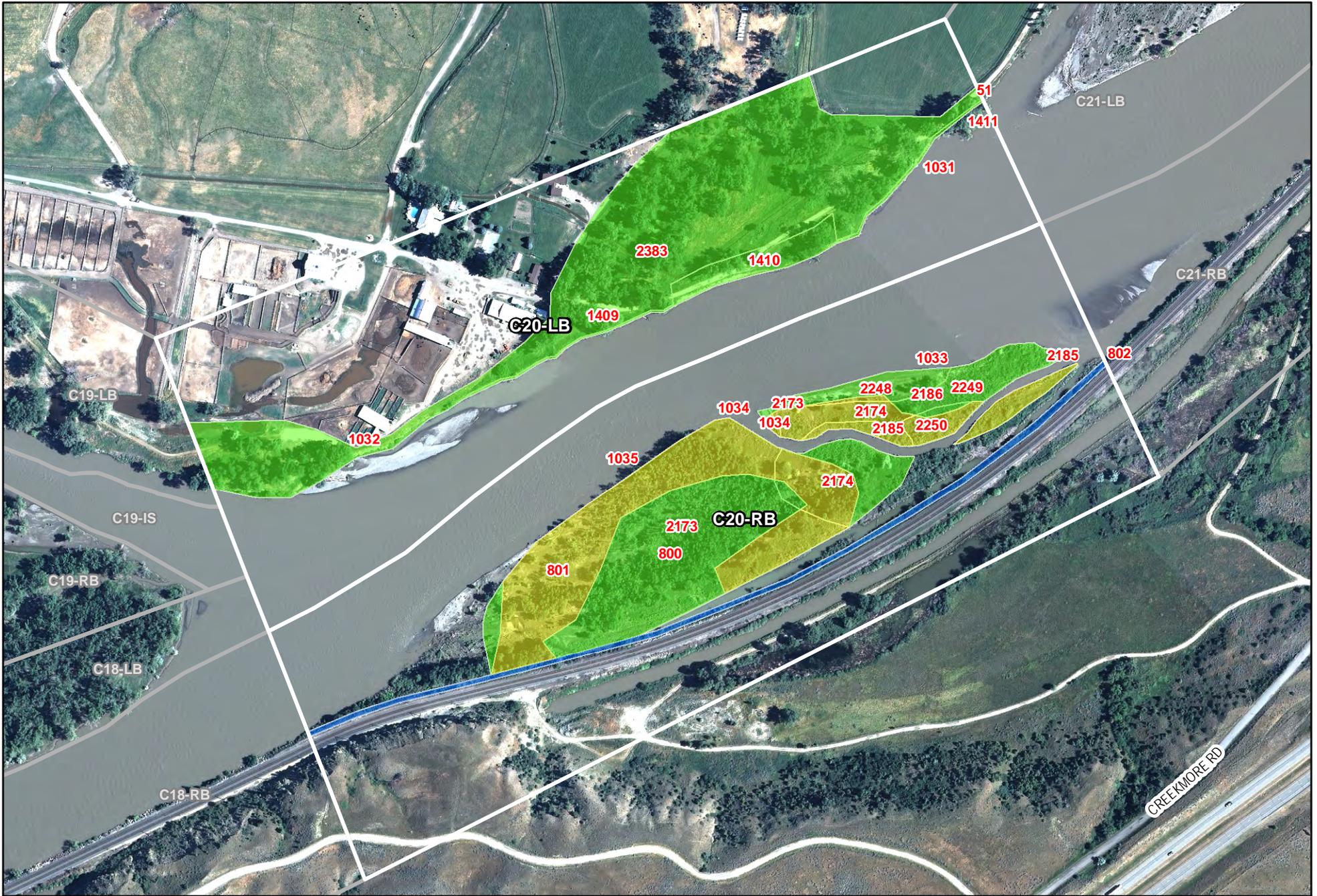
Silvertip SCAT Segments

#### Sample Locations

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



SCAT C20



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

**Figure 4 - Maximum SCAT Observations For SCAT Area: C20**



 <p><b>9999</b> Oiling Zone ID   Heavy Oiling   Moderate Oiling</p>	<p> Light Oiling   Very Light Oiling   No Oil Observed</p>	<p><b>Figure 5 - Final SCAT Observations</b>  <b>For SCAT Area: C20</b></p> <p>0 320 640 Feet</p> 	
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## **Appendix A**

Sample Detection Summary



## Detections in Samples Collected in SCAT Area C20

NA - Not Available

**Detected Above Screening Level**

Sample Num	Date	Sample Type	Matrix	Analytical Method	Analyte	Detected	Result	Screening Level	Result Qualifier	Units	Above?
SPGW201_071211	07/12/2011	Field	Water_Irrigation	EPA 8270	bis(2-Ethylhexyl)phthalate	Y	<b>14.8</b>	6		ug/L	YES



## **Appendix B**

Initial SCAT Survey Forms and  
Sketches

# DBIG

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

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

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: <u>C20</u> Left Bank / <u>Right Bank</u> / Island		<u>27/07/11</u>	<u>1144</u> hrs to <u>1145</u> hrs	low - mean - bankfull - overbank <u>falling</u> - steady - rising
Operations Division: <u>C</u>		Survey by: Foot / ATV / <u>Boat</u> / Helicopter / Overlook / _____		Air Temp +/- <u>30</u> deg C
		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		

2 SURVEY TEAM #	Name	Organization	Signature
<u>1</u>	<u>Chuck Pons</u>	<u>Cardno ENTRIX</u>	<u>Chuck Pons</u>
	<u>Joy Watson</u>	<u>MFWP</u>	
	<u>Ernie McKenzie</u>	<u>US BLM</u>	

**3 SEGMENT** Total Segment/Reach Length 635 m Segment/Reach Length Surveyed 635 m

Start GPS: LATITUDE 45 deg. 52°53'42 min. LONGITUDE 108 deg. 19°38'00 min. Datum: WGS 84

End GPS: LATITUDE 45 deg. 52°40'18 min. LONGITUDE 108 deg. 20°12'75 min.

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

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

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

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

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

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

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

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

est. width: <1m 1-10m 10-100m 100m 100m 110 est. water depth: <1m 1-3m 3-10m >10m \_\_\_\_\_ m

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

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

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

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

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

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

OIL ZONE	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER					SUBST. TYPE(S)					
					Length	Width	Distrib.	THICKNESS					CHARACTER										
	ID	MS	LB	UB	OB	m	m	%	TO	CV	CT	ST	FL	FR	MS	TB	PT		TC	SR	AP	NO	
<u>1033</u> <u>1034</u> <u>1035</u> A			X	X		420	2	0														X	<u>Silt/Veg</u>
B			X	X		20	2	60			S	P											
C			X	X		195	2	0															

**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 has S strand + Coastal veg (primarily grass)

Veg needs to be cut under tr. and out road



108°20.25'W 108°20'W 45°53.25'N 108°19.75'W 108°19.5'W 45°53.5'N 108°19.25'W



45°53'N

45°52'75"N

45°52'5"N

45°53.5'N

108°19'W

45°52'25"N

45°53'N

DB/G/S

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>C00</u> Left Bank / Right Bank / Island		<u>27/07/11</u>	<u>0900</u> hrs to <u>1230</u> hrs	low - mean - bankfull - overbank
Operations Division: <u>C</u>				falling - steady - rising
Survey by: <u>Foot / ATV / Boat / Helicopter / Overlook /</u>		<u>Sun / Clouds / Fog / Rain / Snow / Windy / Calm</u>		Air Temp + / - <u>23</u> deg C

<b>2 SURVEY TEAM #</b> <u>4</u>	Name	Organization	Signature
	<u>Joe Bugli</u>	<u>Cardno ENTRIX</u>	<u>[Signature]</u>
	<u>Loi Williams</u>	<u>Cardno ENTRIX</u>	<u>[Signature]</u>
	<u>John Beaulieu</u>	<u>US EPA</u>	<u>[Signature]</u>
	<u>EARL RADONSKI</u>	<u>MT. FWP</u>	<u>[Signature]</u>

**3 SEGMENT** Total Segment/Reach Length 850 m Segment/Reach Length Surveyed 850 m

Start GPS: LATITUDE 45.87733 deg.     min. LONGITUDE 108.33663 deg.     min. Datum: NAD 84

End GPS: LATITUDE 45.88027 deg.     min. LONGITUDE 108.32645 deg.     min.

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

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

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

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

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

Cliff or Bluff:     Est Height 5 m canyon     manmade     meander S confined or leveed     Substrate Type: mud

Sloped: >5°(15°)(30°) 760' straight     braided P oxbow     flood plain valley     Forested / Vegetated / Bare

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

est. width: <1m 1-10m 10-100m 100m >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 1 trucks access restrictions island, dense veg

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>800</u> <u>801</u> <u>802</u> <u>803</u> <u>801</u> <u>802</u>		<u>S</u>	<u>P</u>	<u>S</u>	<u>280</u>	<u>75</u>	<u>C</u>														<u>P</u>	<u>mud</u>
		<u>S</u>	<u>P</u>	<u>S</u>	<u>500</u>	<u>50</u>	<u>S</u>			<u>B</u>	<u>P</u>										<u>P</u>	<u>mud</u>
		<u>S</u>	<u>P</u>	<u>S</u>	<u>850</u>	<u>5</u>	<u>O</u>														<u>P</u>	<u>mud</u>

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

TRENCH or PIT NO.	RIVER BANK ZONE				MAX. PIT DEPTH cm	OILED ZONE 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: no oil observed  
recommendation:

ZONE B: isolated areas of oil coated veg and debris (flagged) and a 30x30m area of lightly oil stained (coated veg (banding))  
recommendations: cut/trim oiled veg, hand removal of oiled debris

ZONE C: no oil observed  
recommendations:

Sketch Yes / No Photos Yes / No Frames     Photographer



108°20.25'W

108°20'W

45°53.25'N

108°19.75'W

45°53'N

45°52.75'N

45°52.5'N



G20

ZONE C

ZONE B

ZONE A

ZONE B

ZONE C

DIVERSION DAM RD

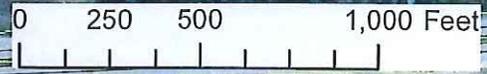
USD-BUREAU OF RECLAMATION

LUND, STEVEN R (aka STEVEN)

CREEKMORE RD

LUND, STEVEN R

194



GABEL C

108°20'W

108°19.75'W

45°52.5'N

108°19.5'W

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

DB/G

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy) 08/09/11	Time (24h): std / daylight 1350 hrs to 1535 hrs	Water Level low - <u>mean</u> - bankfull - overbank falling - steady - rising
Segment/Reach ID: C20 Left Bank / <u>Right Bank</u> / Island				
Operations Division: C				
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook / _____		<u>Sun</u> / 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	
Jay Watson	<u>Earl Radonski</u>	<del>FWP</del> <u>FWP</u>	

**3 SEGMENT** Total Segment/Reach Length 855 m Segment/Reach Length Surveyed 875 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:  Wooded Upland: 5

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 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  N Access: Direct from backshore  N Alongshore from next segment  N

Debris  N oiled  N amount ~50 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)			
					Length	Width	Distrib.	THICKNESS					CHARACTER								
	MS	LB	UB	OB	m	m	%	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC		SR	AP	NO
2185 2186 A			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	295	27	8		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						<input checked="" type="checkbox"/>				Willows debris
B			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	280	37	1			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						<input checked="" type="checkbox"/>				

**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)
							SAP	OP	PP	OR	OF				

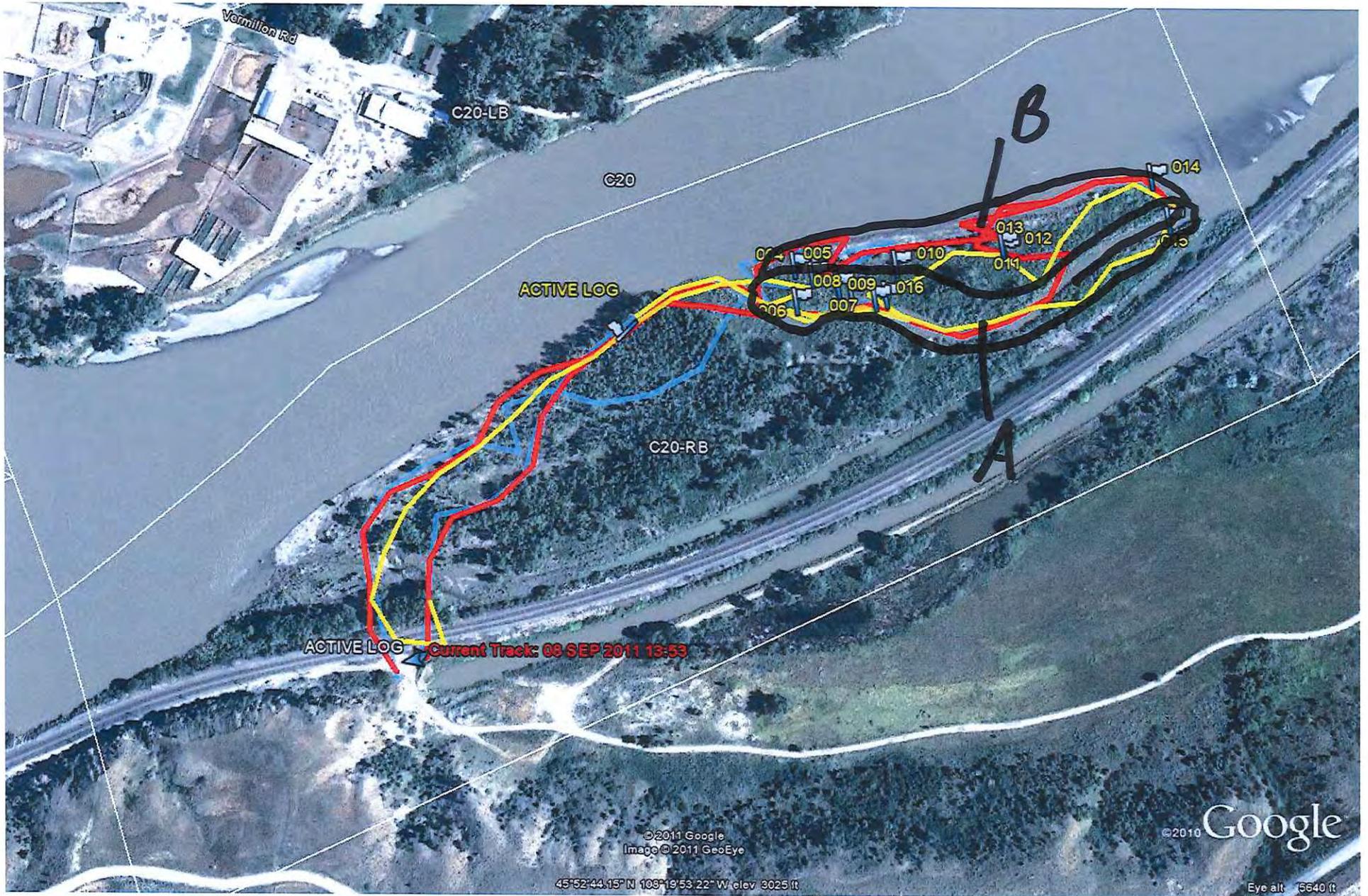
**8 COMMENTS** ecological/recreational/cultural/economic constraints - shorezone biota and wildlife observations - cleanup recommendations

Overbank Survey Required  N Overbank Survey Completed  N Shoreline Survey Completed  N

Zone A - Light oil coated and stain on willow branches along inside channel cut is transferable  
 Recommend 3 Hot Shot Crews for 1-2 days to cut and remove oil/willows/vegetation and debris, wipe down vegetation and apply dust fixative where possible  
 Estimate of 40-50 bags of oiled material for removal before ReSCAT can be done

Zone B - Very light oiling and stain on several spots. Remove oiled debris, cut vegetation and apply dust fixative where possible

Sketch  No Photos  No Frames \_\_\_\_\_ Photographer \_\_\_\_\_



A - Referte SCAT farm  
B - " "

0010/SC

**1 GENERAL INFORMATION** Date (dd/mm/yy) 9 Jul 11 Time (24h): std / daylight 1414 hrs to 1424 hrs Water Level overbank  
 Segment/Reach ID: C20 Left Bank / Right Bank / Island Left Bank falling - steady - rising  
 Operations Division: C Air Temp +/- den C  
 Survey by: Foot / ATV / Boat / Helicopter / Overlook / AP Sun / Clouds / Fog / Rain / Snow / Windv / Calm  
**2 SURVEY TEAM #** name organization contact phone number  
Andy Graham Wolverine 204 419 1745  
Politis

**3 SEGMENT** Total Segment/Reach Length \_\_\_\_\_ m Segment/Reach Length Surveyed 271 m  
 Start GPS: LATITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. LONGITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. Datum: \_\_\_\_\_  
 End GPS: LATITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. LONGITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min.

**4A RIVER BANK TYPE** SELECT only one primary (P) shoreline type and any number of secondary (S) types. CIRCLE those OILED  
 Bedrock: Cliff/Ramp \_\_\_\_\_ Shelf \_\_\_\_\_ Manmade: Solid \_\_\_\_\_ Permeable \_\_\_\_\_ (type) \_\_\_\_\_ Wetland: Swamp \_\_\_\_\_ Bog/Fen \_\_\_\_\_ Marsh \_\_\_\_\_  
 Sediment Bank: Clay/Mud S Sand \_\_\_\_\_ Mixed P Pebble/Cobble \_\_\_\_\_ Boulder \_\_\_\_\_ Peat/Organic \_\_\_\_\_ Vegetated Bank: S 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 P 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: Vermillion Ranch - levee

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

51

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	271	2	5			X	(P)						X						veg

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

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

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

Zone A - band of oil very sporadic, dist up to 40%, width up to 3m, some areas w/ no oil band ~15cm  
 No treatment recommended but on private property

(for ALL sub-segments record: sub-segment ID, length, length surveyed, and GPS start/end fixes)  
 Sketch Y/No Photos Y/No (Roll # \_\_\_\_\_ Frames \_\_\_\_\_) Video Tape Yes/No (tape # \_\_\_\_\_)

108°20'15"W 108°20'10"W 108°20'5"W 108°20'0"W 108°19'55"W 108°19'50"W 108°19'45"W 108°19'40"W 108°19'35"W



45°53'0"N  
45°52'55"N  
45°52'50"N  
45°52'45"N



C20

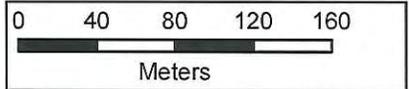
Zone A - 271m x 2m  
5%, CI/ST  
oil band on seg ~15cm  
Very sporadic, many  
areas of NOO  
dist. up to 40%

108°20'15"W 108°20'10"W 108°20'5"W 108°20'0"W 108°19'55"W 108°19'50"W 108°19'45"W 108°19'40"W 108°19'35"W

**C20 - LB**  
(L/R/I)??

DATE: 9 Jul 11  
TEAM: Graham

COMMENTS:





C20-LB, zone A (bad fix)



C20-LB, zone A

C20-L  
9 JUL 11  
Graham

DB/C/S

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

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

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: <u>20</u>	<input checked="" type="radio"/> Left Bank / <input type="radio"/> Right Bank / <input type="radio"/> Island	<u>27/07/11</u>	<u>916</u> hrs to <u>917</u> hrs	low - mean - bankfull - overbank
Operations Division: <u>C</u>				<input checked="" type="radio"/> falling - <input type="radio"/> steady - <input type="radio"/> rising
Survey by: Foot / ATV / <input checked="" type="radio"/> Boat / <input type="radio"/> Helicopter / <input type="radio"/> Overlook / _____		<input checked="" type="radio"/> Sun / <input type="radio"/> Clouds / <input type="radio"/> Fog / <input type="radio"/> Rain / <input type="radio"/> Snow / <input type="radio"/> Windy / <input type="radio"/> Calm		Air Temp +/- <u>30</u> deg C

<b>2 SURVEY TEAM #</b> <u>1</u>	Name	Organization	Signature
	<u>Chuck Pons</u>	<u>Concho ENTRIX</u>	<u>Chuck Pons</u>
	<u>Jay Watson</u>	<u>MFWP</u>	
	<u>Ernie McKenzie</u>	<u>US BLM</u>	

**3 SEGMENT** Total Segment/Reach Length 635 m Segment/Reach Length Surveyed 635 m

Start GPS: LATITUDE 45 deg. 12' 55.87 min. LONGITUDE 108 deg. 19' 39.42 min. Datum: WGS 84

End GPS: LATITUDE 45 deg. 52' 45.21 min. LONGITUDE 108 deg. 20' 15.05 min.

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

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

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

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

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

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

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 100m 110 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  / N Alongshore from next segment  / N

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

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

1031  
1032

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	X	580	2	60			S	P		X									Vg/Sw
B			X	X	55	2	0													X		Vg/Sw

**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  / N Overbank Survey Completed Y /  / N Shoreline Survey Completed  / N

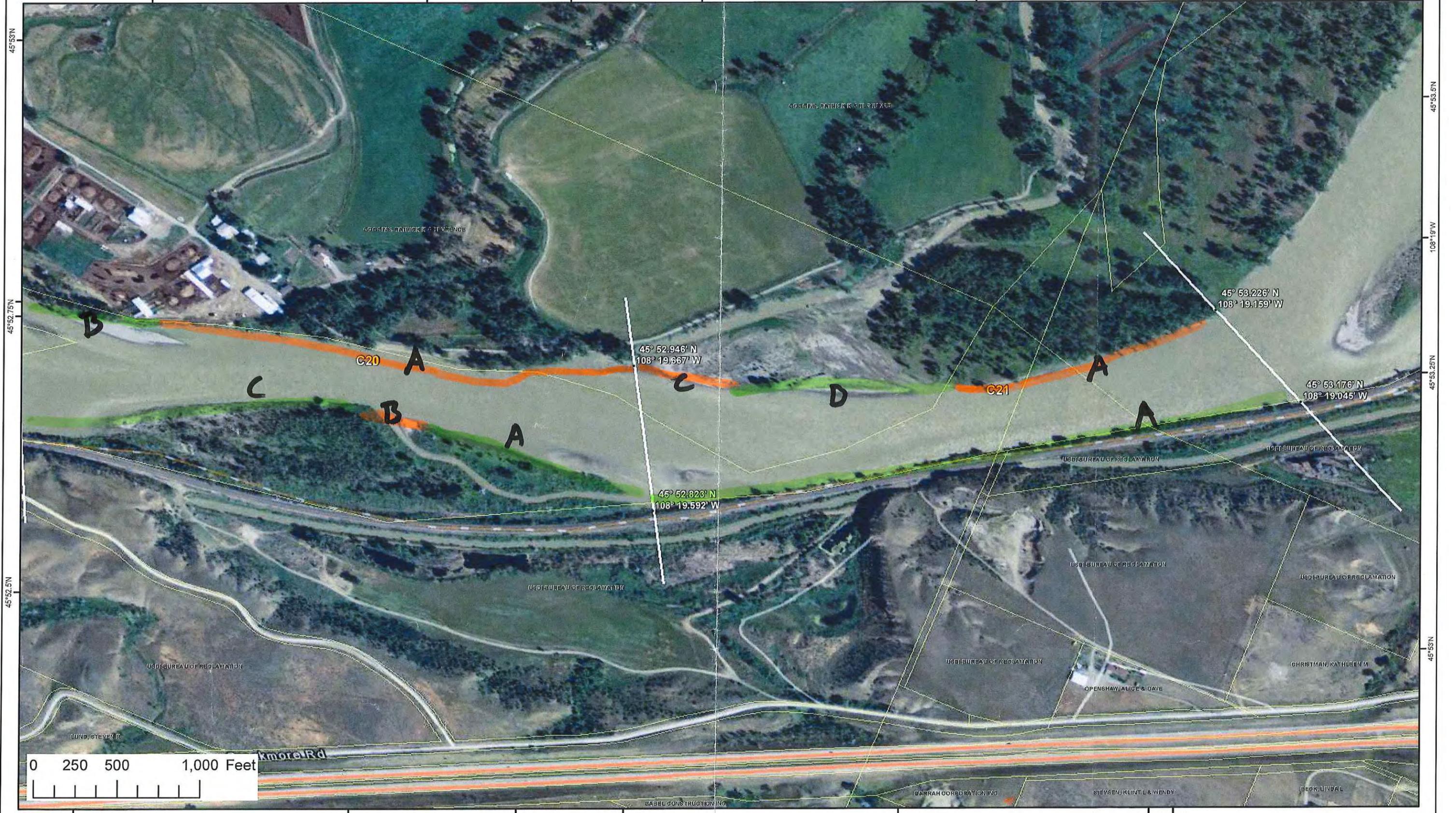
Zone A has build strand and coastal veg (primarily grass).

Veg needs to be cut and/or trampled and removed.

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

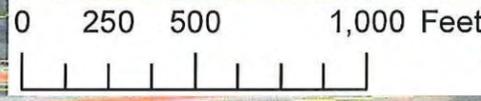


108°20.25'W 108°20'W 45°53.25'N 108°19.75'W 108°19.5'W 45°53.5'N 108°19.25'W



45°53'N  
45°52.75'N  
45°52.5'N

45°53.5'N  
45°53.25'N  
45°53'N



D13/G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident PARTIAL SURVEY

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy) 09/08/2011	Time (24h): std / daylight 1021 hrs to 1135 hrs	<b>Water Level</b> low - mean - <u>bankfull</u> - overbank falling - steady - rising
Segment/Reach ID: C20 <u>Left Bank</u> / Right Bank / Island		Operations Division:		
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook /		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp + / - <u>27</u> deg C

<b>2 SURVEY TEAM #</b> <u>NA-3</u>	Name	Organization	Signature
	Richard Marty	Polaris	<i>Richard Marty</i>
	Travis Cain	USEPA	<i>Travis Cain</i>
	Jessica Ross	State of Montana	<i>Jessica Ross</i>

**3 SEGMENT** Total Segment/Reach Length 835 m Segment/Reach Length Surveyed 540 m

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

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

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

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

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

Sediment Flat: Clay/Mud \_\_\_\_\_ Sand \_\_\_\_\_ Mixed/Coarse \_\_\_\_\_ Other: \_\_\_\_\_ 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 X confined or leveed \_\_\_\_\_ Substrate Type: Silt/mud

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

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

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

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

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

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	
A				x	205	2	<1				x						x					Vegetation
B				x	150	<u>20</u>														x		All
C				x	203	2	5			x							x					Vegetation

**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
None																

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

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

Sporadic oiling on vegetation should be addressed by cutting bagging and removing oiled vegetation. Oiling is transferable and is located near houses..

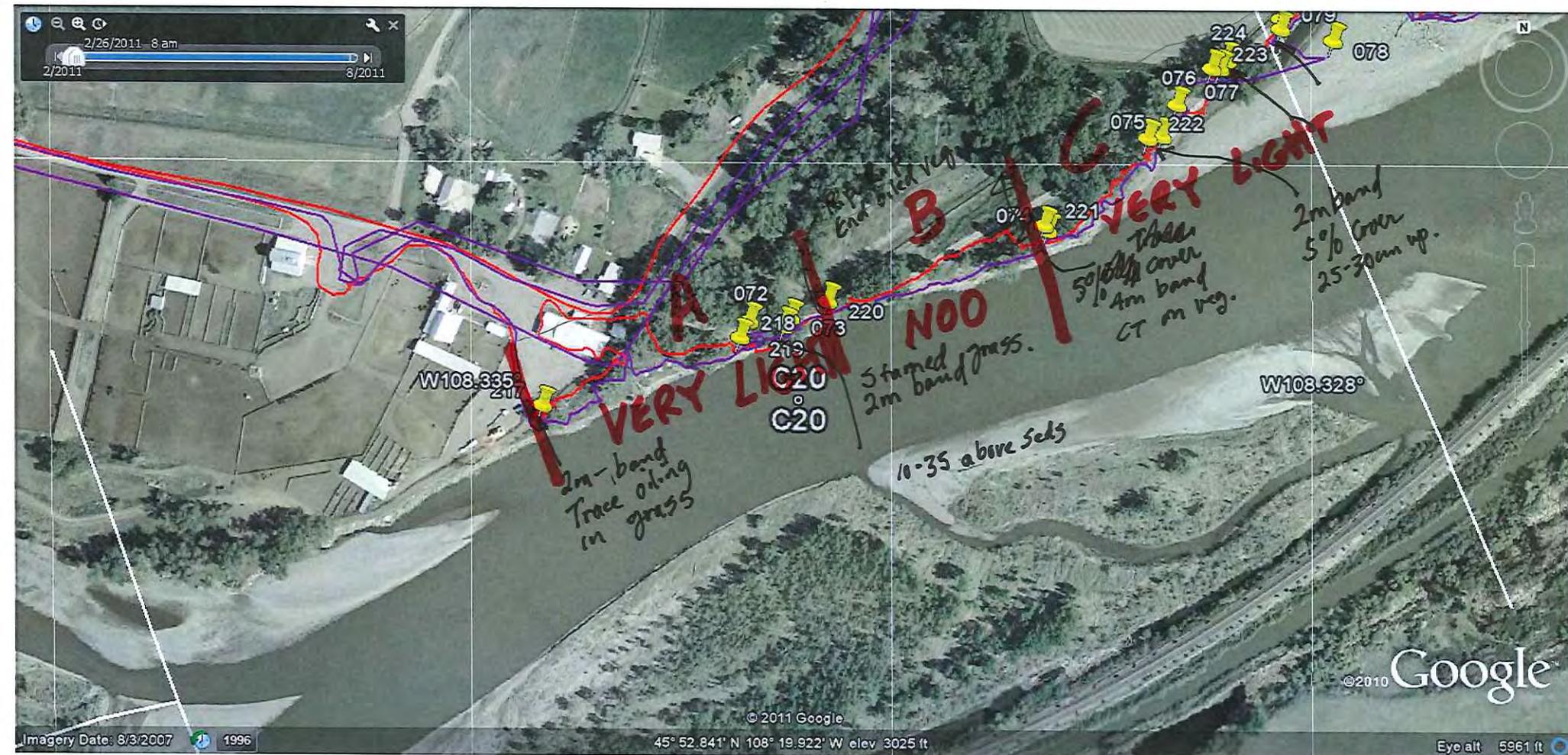
Sketch Yes / No Photos Yes / No Frames \_\_\_\_\_ Photographer \_\_\_\_\_

# PARTIAL SURVEY

C-20L

9 August 2011

Team 3



A = 205m Very Light  
B = 150m NOO  
C = 203m Very Light

Total = 540m



## **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

D/B/G

**RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident**

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

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy) 07/09/11	Time (24h): std / daylight 0822 hrs to 1013 hrs	<b>Water Level</b> low - <u>mean</u> - bankfull - overbank falling - steady - rising
Segment/Reach ID: C20 Left Bank / <u>Right Bank</u> / Island				
Operations Division: C				
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook / _____		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp + / - 33 _ deg C

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

**3 SEGMENT** Total Segment/Reach Length 855 m Segment/Reach Length Surveyed 928 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: 5 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

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 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  N Access: Direct from backshore  N Alongshore from next segment  N

Debris:  N oiled Y  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)	
					Length	Width	Distrib.	THICKNESS					CHARACTER								
	MS	LB	UB	OB	m	m	%	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR	AP		NO
A				X	330	150	<1										X				Vegetation
B				X	98	72	<1			X							X				Vegetation

**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  N Overbank Survey Completed  N Shoreline Survey Completed  N

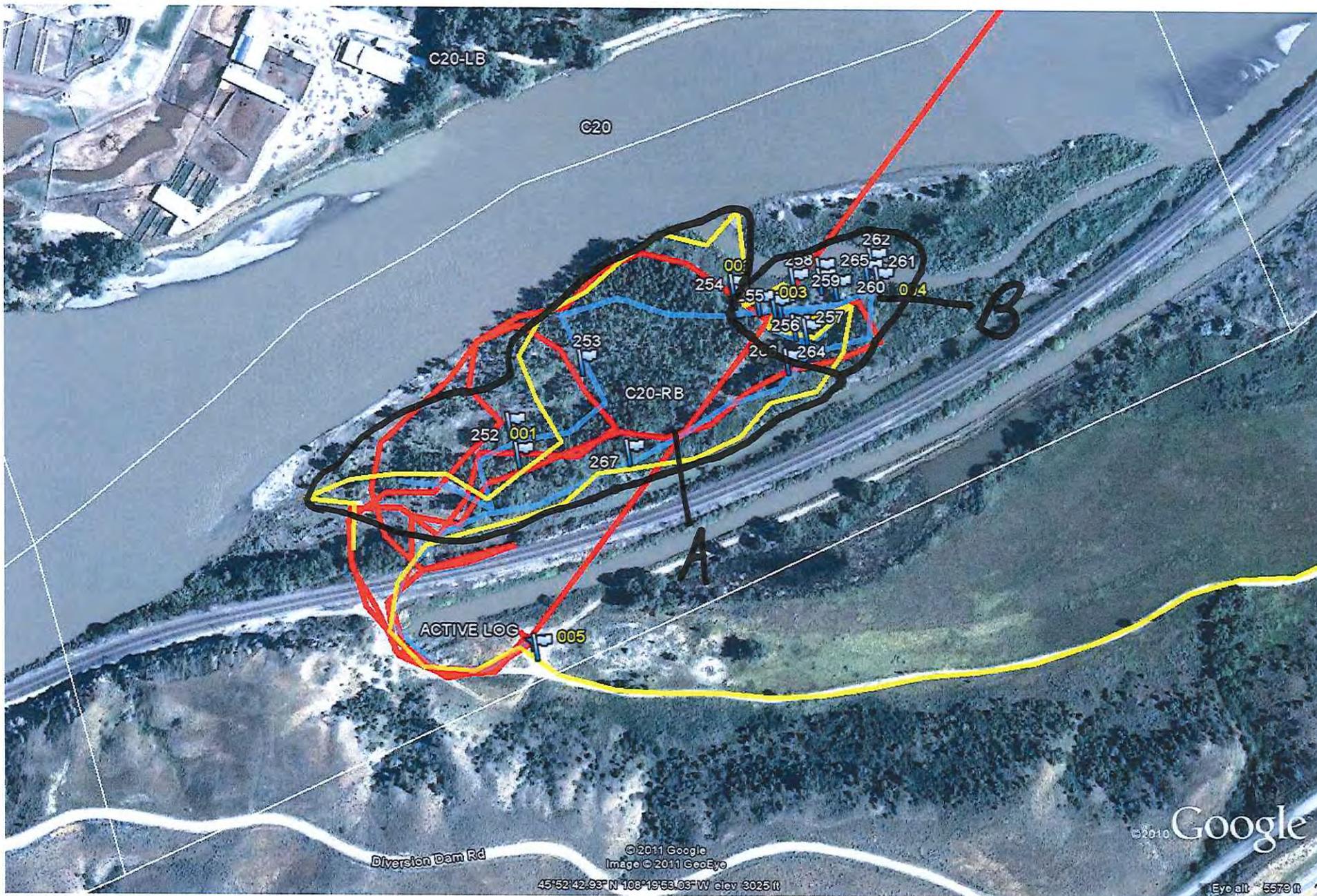
Zone A - Surface staining on some vegetation  
After Ops crew cleaned up the zone No Further Treatment Recommended

Zone B - Surface staining on grass and willow No Further Treatment Recommended

Ops crew removed 5 bags of oil/debris and vegetation during ReSCAT

NFT

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



Team 3  
07/09/11  
C20RB

A-NFT  
B-NFT



9/10/2011 12:45 pm

9/10/2011

LB

Team 6  
C20 RB  
9/10/11

ZONE A N00

ZONE B VERY LIGHT

ACTIVE LOG

ACTIVE LOG

ZONE C - N00

C20-RB

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Image © 2011 GeoEye



1996

45°52'48.15" N 108°19'45.89" W elev 3022 ft

DB/G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy) 24/09/11	Time (24h): std / daylight 0930 hrs to 1030 hrs	Water Level low - <u>mean</u> - bankfull - overbank falling - steady - rising
Segment/Reach ID: C <u>20</u> (Left Bank/ Right Bank/ Island)		Operations Division: C		
Survey by: <u>Foot / ATV / Boat / Helicopter / Overlook /</u>		<u>Sun</u> / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp + / - <u>34</u> deg C

2 SURVEY TEAM # 2 & 3	Name	Organization	Signature
Merlo Gauvreau		Polaris	<i>[Signature]</i>
Pete Lee		Polaris	<i>[Signature]</i>
Bruce Kvam		Polaris	<i>[Signature]</i>
Jeffrey Frank Herrick		MTDEQ	<i>[Signature]</i>
Bob Roll		MTDEQ	<i>[Signature]</i>

**3 SEGMENT** Total Segment/Reach Length 840 m Segment/Reach Length Surveyed 840 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 P (type) Rock Wetland: Swamp \_\_\_\_\_ Bog/Fen \_\_\_\_\_ Marsh \_\_\_\_\_

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

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

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

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

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 m est. water depth : <1m 1-3m >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: Coggins 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	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER						SUBST. TYPE(S)					
					Length	Width	Distrib.	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR		AP	NO			
ID	MS	LB	UB	OB	m	m	%																	
A				<u>X</u>	840	150	<u>21</u>			<u>S</u>	<u>P</u>								<u>X</u>					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 height: 30-60cm

Treatment recommendations:

Zone A : No Further Treatment (NFT)

Zone :

Treated by Ops Hot Shot crew

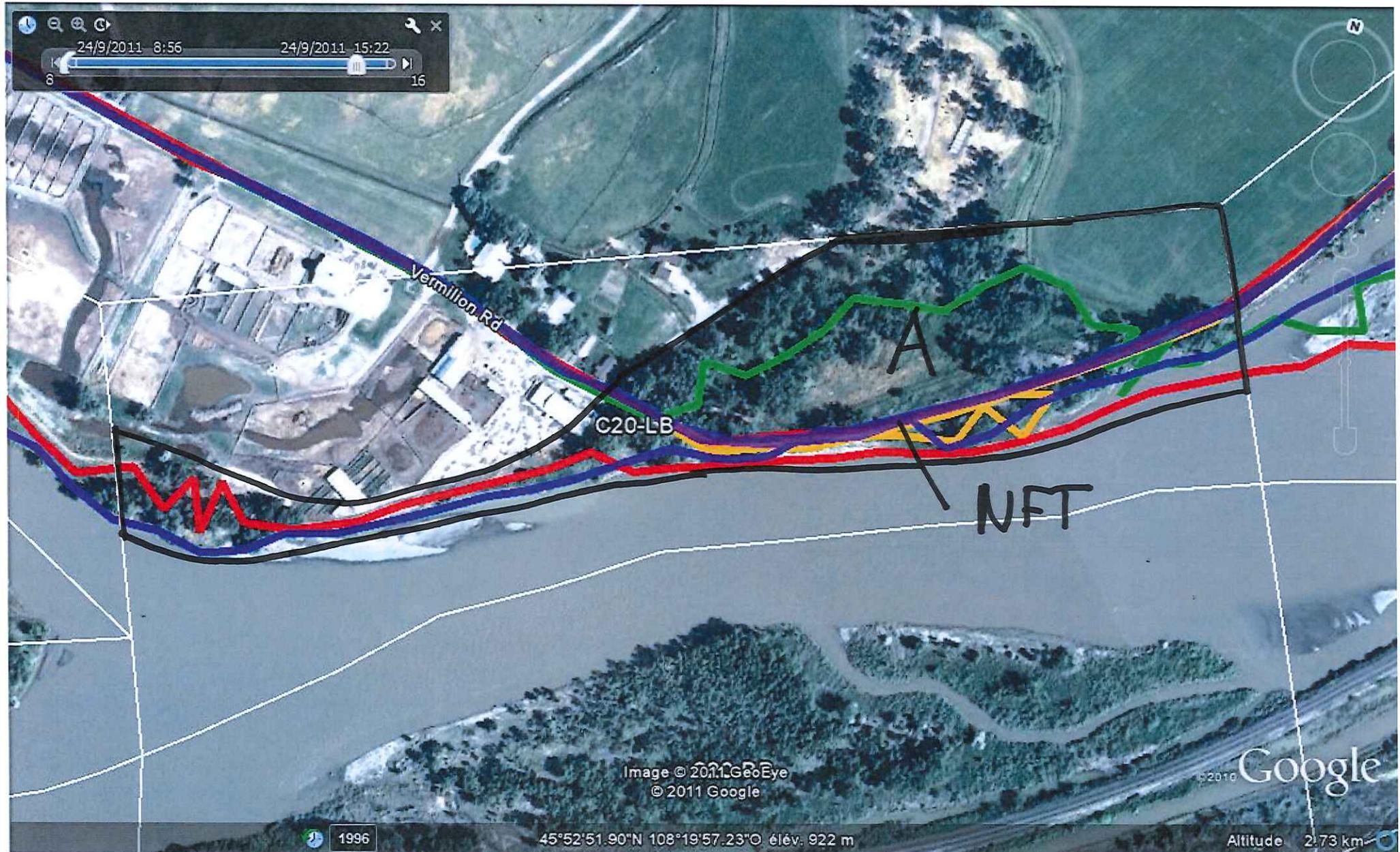
Sketch Yes / No Photos Yes / No Frames \_\_\_\_\_ Photographer \_\_\_\_\_

24/09/2011

Team #2-3

C20-LB

2/2





## **Appendix F**

Completed SCAT Segment Sign-Off  
Forms

# SCAT SEGMENT OPERATIONS COMPLETION SIGN-OFF SHEET

## SILVERTIP PIPELINE RELEASE

Segment C2ORB Date of Survey Sept 7 2011

Dates of Initial SCAT Assessments 27 JUL 11 (EC)  
(to be filled out by SCAT Data Management)

CTR(s) Associated with SCAT Segment N/A

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

Segment Assessment Complete<sup>1</sup>  AA 9/8/11  
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 Stuman / OSCG 9/8/11  
Sign Name Print Name/ Affiliation Date

**Federal Representative (EPA/USCG)**

[Signature] JAY WATSON FWP 9/7/11  
Sign Name Print Name/ Affiliation Date

**State Representative (DEQ/FWP)**

[Signature] Adam Bausch Caroline Entox 9/7/2011  
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 C2ORB Date of Survey 9/10/11

Dates of Initial SCAT Assessments 27 JUL 11 (EL)  
(to be filled out by SCAT Data Management)

CTR(s) Associated with SCAT Segment 60

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

Segment Assessment Complete<sup>1</sup>

Partial Segment Assessment

*In combination with SCAT survey on 9/7/11 segment is completely passed.*

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

### Federal Representative (EPA/USCG)

Maricela Sigler DEQ / Maricela Sigler 9/10/11  
Sign Name \_\_\_\_\_ Print Name/ Affiliation \_\_\_\_\_ Date \_\_\_\_\_

### State Representative (DEQ/FWP)

Nathan Hammond Nathan Hammond / Cardno Enviro 9/10/11  
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 C20LB Date of Survey 24/09/23  
09 Jul 2011 (to be filled out by SCAT Data Management)  
Dates of Initial SCAT Assessments  
CTR(s) Associated with SCAT Segment 60  
Segment has been treated by Operations or an Operations Hotshot Team  YES  NO

Segment Assessment Complete<sup>1</sup>   
Partial Segment Assessment

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

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

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

*No Federal Rep Present*

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

Sign Name \_\_\_\_\_ Print Name/ Affiliation Jeffrey Frank Herrick Date 24 Sept. 2011  
**State Representative (DEQ/FWP)** MT DEQ

Sign Name \_\_\_\_\_ Print Name/ Affiliation Herb Gouvescu Polaris Date 24/09/2011  
**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.