

**ExxonMobil Pipeline Company**

**SCAT Area Transition Report for  
C31**

Silvertip Pipeline Incident  
Laurel, Montana

October 20, 2011



## **SCAT Area Transition Report for C31**

Silvertip Pipeline Incident  
Laurel, Montana

Prepared for:

ExxonMobil Pipeline Company

Prepared by:

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Our Ref.:

B0085883.1103

Date:

October 20, 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 C31, 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 C31. 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 C31, 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 C31 is 21.0. There were access issues for the right 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 C31 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 C31.

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

Table 1 (below) summarizes samples collected within Area C31. 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 C31 are provided on Figure 3.

**Table 1 Environmental Sampling Summary**

Agency	Sample Num	Date	Matrix	Location	Latitude	Longitude
MDEQ	B11070821-044	7/12/2011	Soil_Surface	ST-EB-01	45.951040	-108.294140
MDEQ	B11070821-045	7/12/2011	Soil_Surface	ST-EB-01	45.951040	-108.294140
MDEQ	B11070821-046	7/12/2011	Soil_Surface	ST-EB-01	45.951040	-108.294140
MDEQ	B11070821-047	7/12/2011	Soil_Surface	ST-EB-01	45.951040	-108.294140

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 no exceedances for Area C31.

**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 C31 are included in Appendix B. Figure 4 provides the maximum oiling zones observed by the SCAT team during the initial surveys of Area C31.

**1.5 Applicable Compiled Treatment Recommendations**

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

**1.6 Oil Removal Activities**

Oil removal activities were conducted within Area C31 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 C31 following completion of oil removal activities. The SCAT team performed final surveys of the right bank within SCAT Area C31 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 C31, no oiling was observed on the island and left bank. Based on the final SCAT surveys performed on the right bank within Area C31, no further treatment is recommended for this segment. SCAT Segment Sign-Off Forms are included as Appendix F.



**SCAT Area Transition  
Report for C31**

Silvertip Pipeline Incident  
Laurel, Montana

**2. Transition Sign-Off Form**

**SCAT Area Transition Report for C31**

**Prepared for:**

**Unified Command**

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Date

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Unified Command – RP



**SCAT Area Transition  
Report for C31**

Silvertip Pipeline Incident  
Laurel, Montana

**SCAT Area Transition Report for C31**

**Prepared for:**

**Unified Command**

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Date

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Unified Command – FOSC



**SCAT Area Transition  
Report for C31**

Silvertip Pipeline Incident  
Laurel, Montana

**SCAT Area Transition Report for C31**

**Prepared for:**

**Unified Command**

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Date

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Unified Command – MDEQ

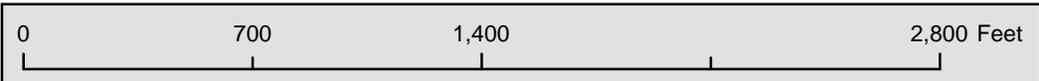
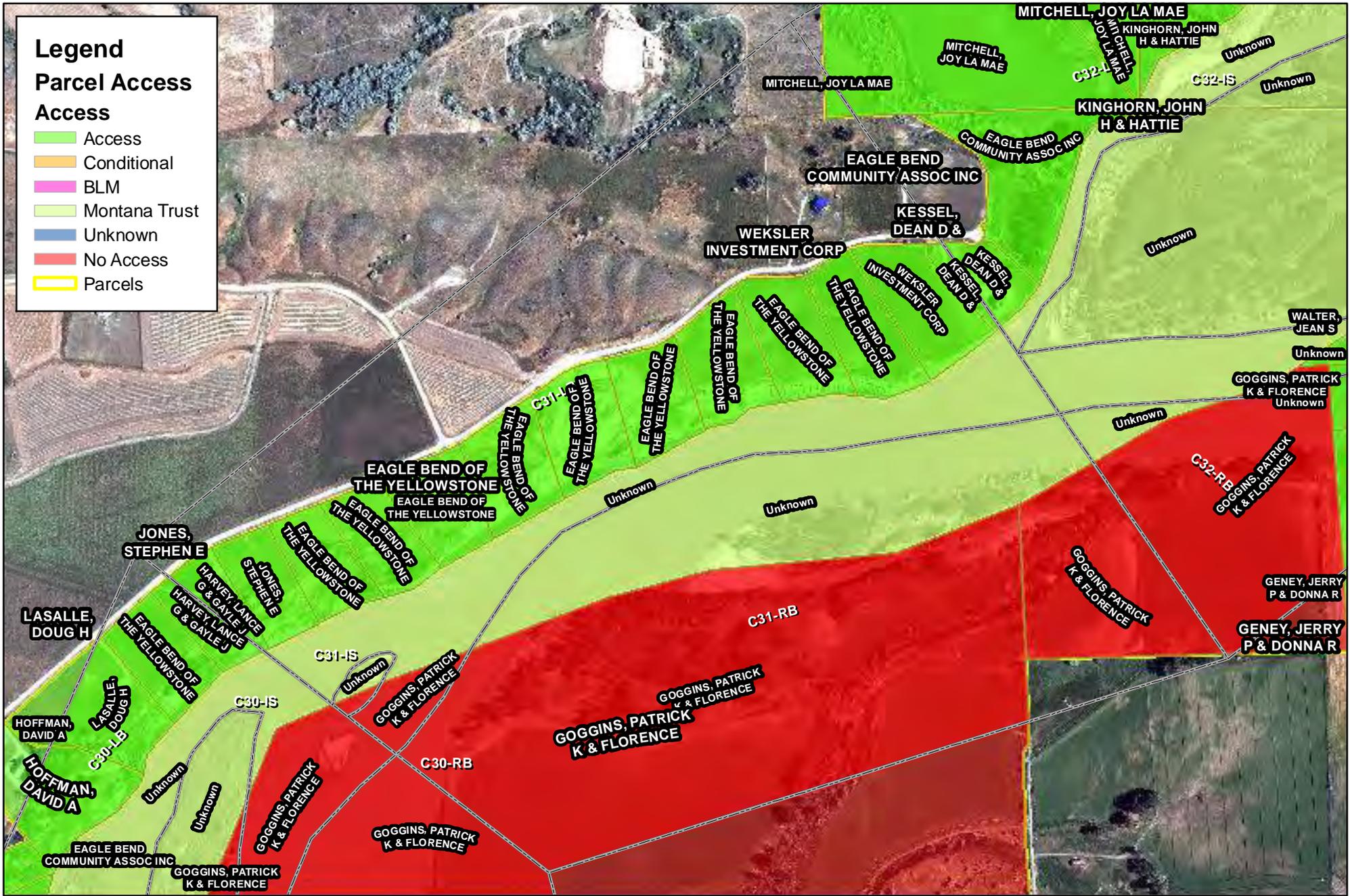
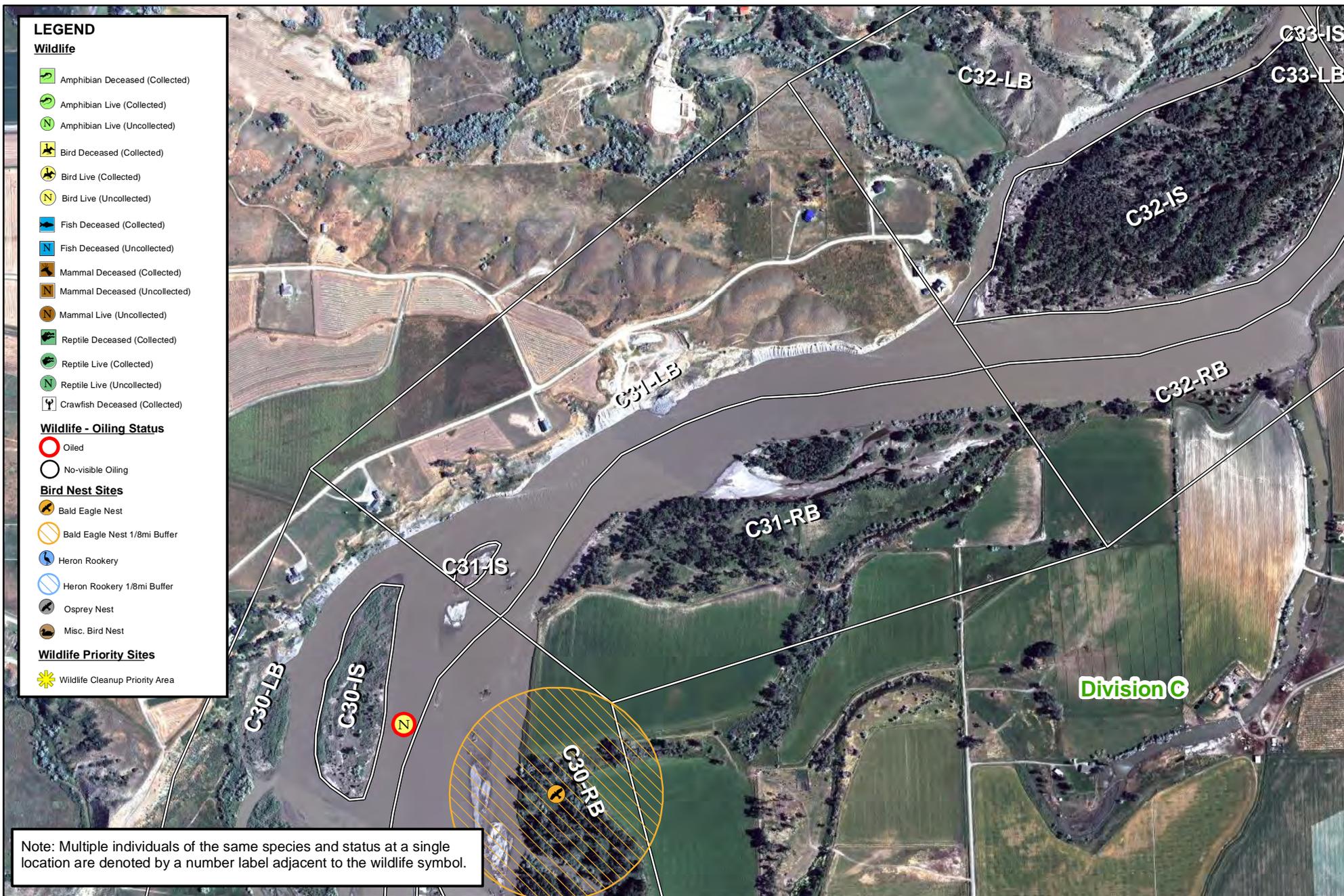


Figure 1



**LEGEND**

**Wildlife**

- Amphibian Deceased (Collected)
- Amphibian Live (Collected)
- Amphibian Live (Uncollected)
- Bird Deceased (Collected)
- Bird Live (Collected)
- Bird Live (Uncollected)
- Fish Deceased (Collected)
- Fish Deceased (Uncollected)
- Mammal Deceased (Collected)
- Mammal Deceased (Uncollected)
- Mammal Live (Uncollected)
- Reptile Deceased (Collected)
- Reptile Live (Collected)
- Reptile Live (Uncollected)
- Crawfish Deceased (Collected)

**Wildlife - Oiling Status**

- Oiled
- No-visible Oiling

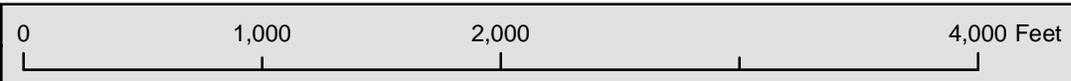
**Bird Nest Sites**

- Bald Eagle Nest
- Bald Eagle Nest 1/8mi Buffer
- Heron Rookery
- Heron Rookery 1/8mi Buffer
- Osprey Nest
- Misc. Bird Nest

**Wildlife Priority Sites**

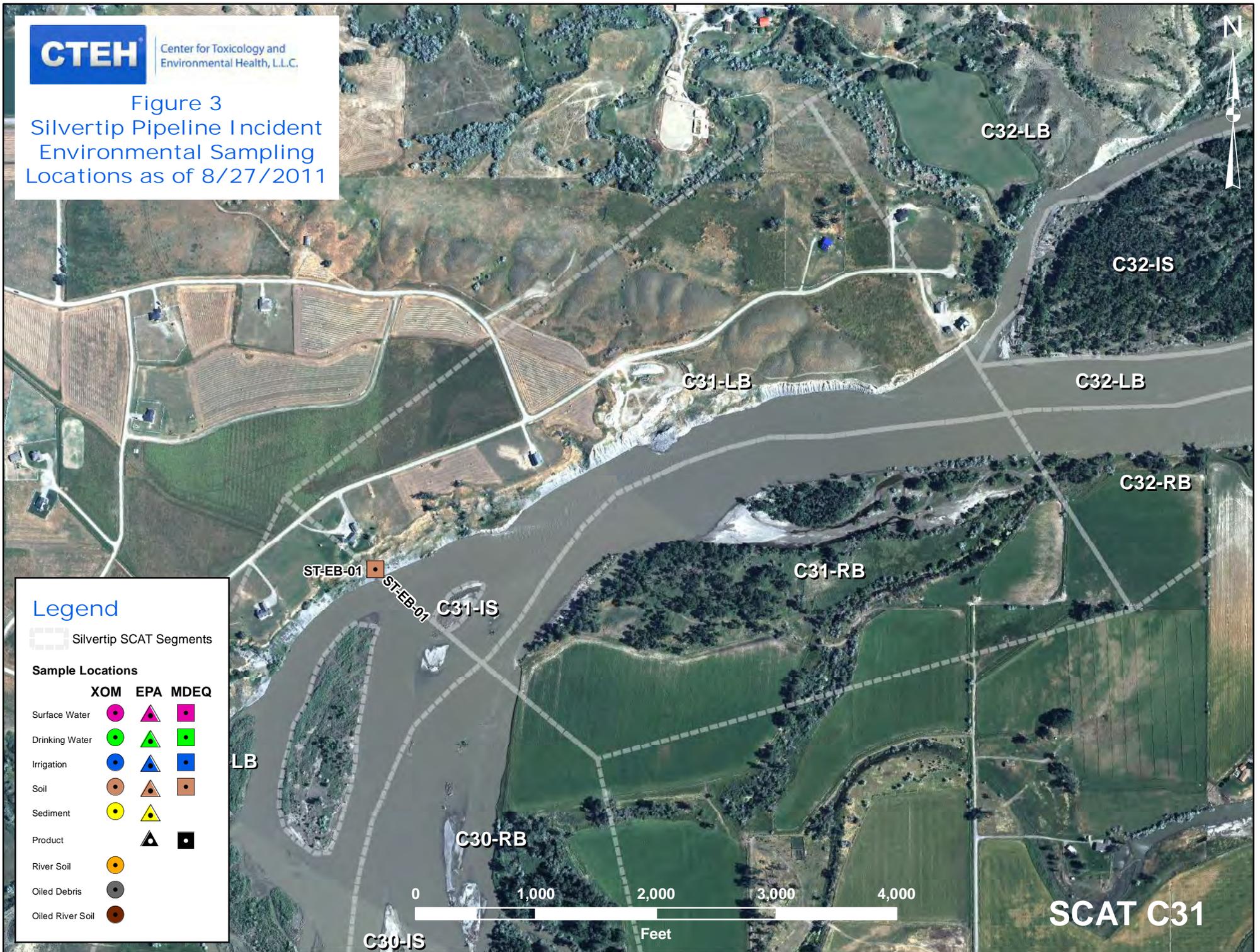
- Wildlife Cleanup Priority Area

Note: Multiple individuals of the same species and status at a single location are denoted by a number label adjacent to the wildlife symbol.



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

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





	<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:**

525    0    525    1,050  
 Feet





## **Appendix A**

Sample Detection Summary



## Detections in Samples Collected in SCAT Area C31

NA - Not Available

**Detected Above Screening Level**

Sample Num	Date	Sample Type	Matrix	Analytical Method	Analyte	Detected	Result	Screening Level	Result Qualifier	Units	Above?
B11070821-047		Field	Soil_Surface	MA-VPH-MDEQ-REM	C9-C10 Aromatics	Y	3.2	100	J	mg/kg	no
B11070821-047		Field	Soil_Surface	MA-VPH-MDEQ-REM	C9-C12 Aliphatics	Y	1.6	100	J	mg/kg	no
B11070821-047		Field	Soil_Surface	MA-VPH-MDEQ-REM	Total Purgeable Hydrocarbons	Y	25	200		mg/kg	no



## **Appendix B**

Initial SCAT Survey Forms and  
Sketches

D/G

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: <u>C-31</u> Left Bank / Right Bank / <u>Island</u>		<u>13/09/11</u>	<u>1000</u> hrs to <u>1030</u> hrs	low - <u>mean</u> - bankfull - overbank
Operations Division: <u>C</u>				( <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>21</u> deg C

<b>2 SURVEY TEAM #</b> <u>1</u>	Name	Organization	Signature
	<u>Todd Farrar</u>	<u>Polaris</u>	<u>Todd Farrar</u>
	<u>Sheila McAfee</u>	<u>DNRC</u>	<u>Sheila McAfee</u>
	<u>Jeffrey Herriack</u>	<u>DEA</u>	<u>Jeffrey Herriack</u>

**3 SEGMENT** Total Segment/Reach Length 91 m Segment/Reach Length Surveyed 91 m

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

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

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

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

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

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

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

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

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

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

est. width: <1m 1-10m 10-100m >100m 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 Island - Boat Access only

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	Width	Distrib.	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR	AP		NO
	m	m	%																		
A				<u>X</u>	<u>91</u>	<u>40</u>															<u>X</u>

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

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

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

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

Zone A consists of the portion of the Island not having restricted Access. The rest of Island on Boggins property. There was No Oil Observed. (NOO)

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

9/13/2011 3:23 pm

C-31  
Team 1  
C-31  
Island

Zone A

257  
C-31

Image © 2011 DigitalGlobe

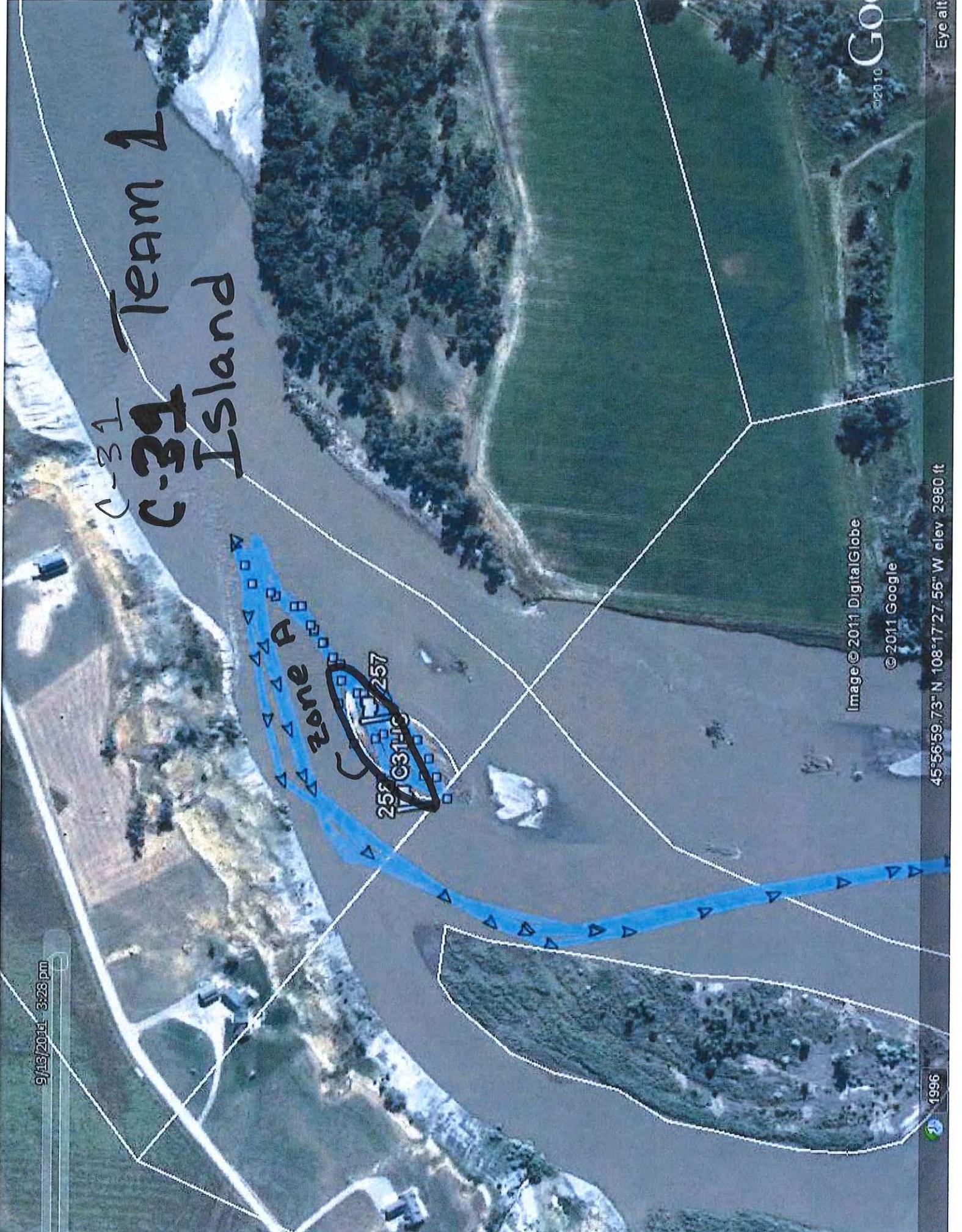
© 2011 Google

GO

1996

45°56'59.73" N 108°17'27.56" W elev 2980 ft

Eye alt



# SCAT SEGMENT OPERATIONS COMPLETION SIGN-OFF SHEET

## SILVERTIP PIPELINE RELEASE

Segment C-31 Island Date of Survey Sept 13, 2011

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

CTR(s) Associated with SCAT Segment 61

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 segment meets the Approved Treatment

Part of The segment is ~~now~~ Restricted -

Not a RESCAT Property

- Doesn't need sign-off

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).

Sign Name \_\_\_\_\_ Print Name/ Affiliation \_\_\_\_\_ Date \_\_\_\_\_  
**Federal Representative (EPA/USCG)**  
Jeffrey Frank Herrick Jeffrey Frank Herrick 13 Sept. 2011

Sign Name \_\_\_\_\_ Print Name/ Affiliation \_\_\_\_\_ Date \_\_\_\_\_  
**State Representative (DEQ/FWP)**

Sign Name \_\_\_\_\_ Print Name/ Affiliation \_\_\_\_\_ Date \_\_\_\_\_  
**RP Representative (SCAT RP Representative)**  
Todd Farver Todd Farver / Polaris 9/13/11

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.

DB/6/5

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy) 26/07/11	Time (24h): std / daylight 1237 hrs to 1240 hrs	Water Level low - mean - <u>bankfull</u> - overbank falling - steady - rising
Segment/Reach ID: C <u>31</u> <u>Left Bank</u> / Right Bank / Island				
Operations Division:				
Survey by: Foot / ATV / <u>Boat</u> / Helicopter / Overlook /		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp + / - <u>28</u> deg C

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

**3 SEGMENT** Total Segment/Reach Length \_\_\_\_\_ m Segment/Reach Length Surveyed 1102 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 XP Shelf \_\_\_\_\_ Manmade: Solid \_\_\_\_\_ Permeable \_\_\_\_\_ (type) \_\_\_\_\_ Wetland: Swamp \_\_\_\_\_ Bog/Fen \_\_\_\_\_ Marsh \_\_\_\_\_

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

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

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

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

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

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

est. width: <1m 1-10m 10-100m >100m ~~400m~~ 150m 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 Boat only

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

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

OIL ZONE ID	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER						SUBST. TYPE(S)			
	MS	LB	UB	OB	Length m	Width m	Distrib. %	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR		AP	NO	
A		<u>X</u>			1102	1															<u>X</u>	Cliff

**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: NO

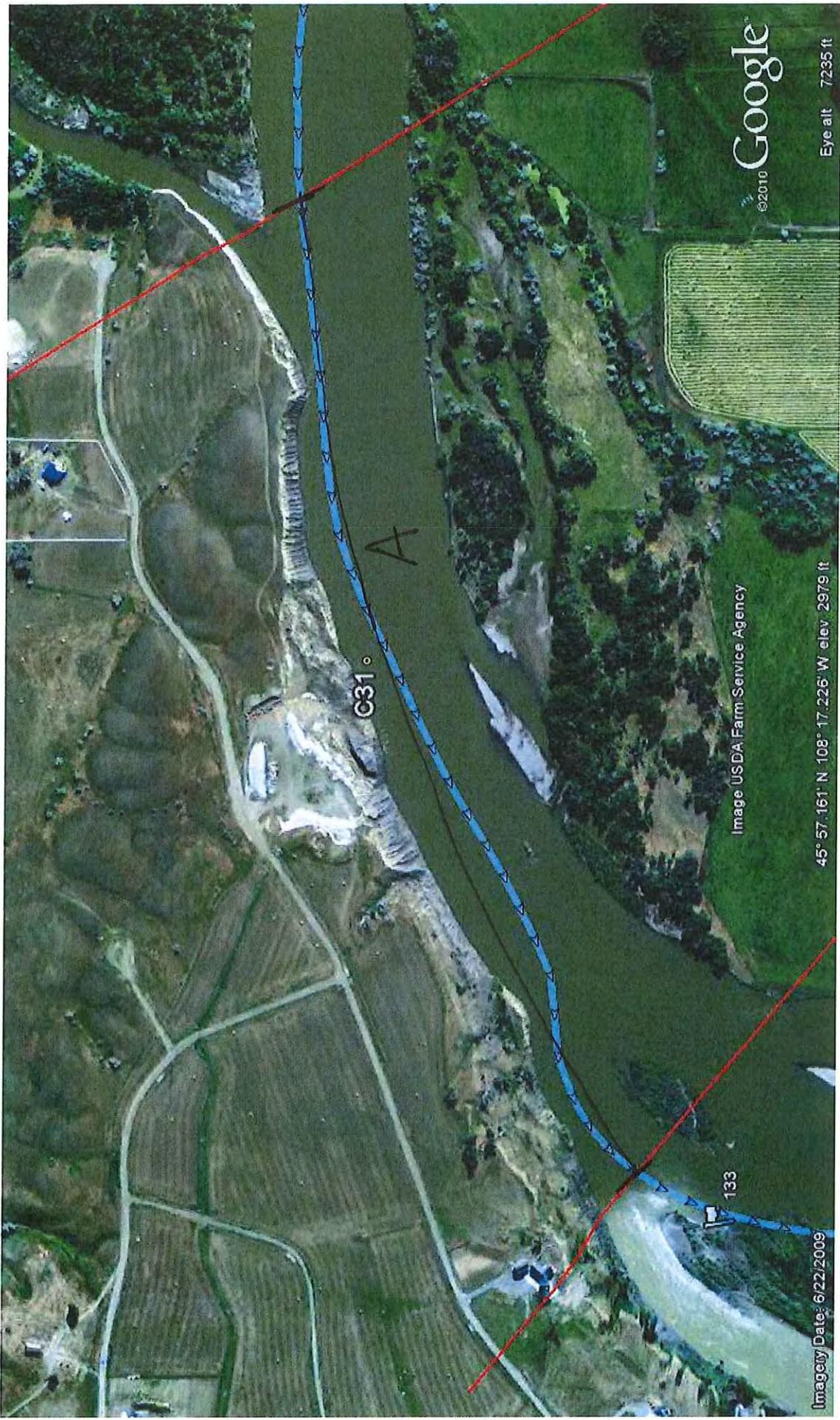
**Treatment recommendations:**

Zone A : No oil observed; no treatment required.

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

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

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



©2010 Google

Eye alt 7235 ft

C31°

A

Image USDA Farm Service Agency

45° 57.161' N 108° 17.226' W elev 2979 ft

133

Image Date: 6/22/2009

DB/G/S

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

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

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy) 13/08/11	Time (24h): std / daylight 0900 hrs to 0915 hrs	Water Level low - mean - bankfull - overbank falling - steady - rising
Segment/Reach ID: C31 <u>(Left Bank)</u> Right Bank / Island		Operations Division: C		
Survey by: Foot / ATV / <u>Boat</u> / Helicopter / Overlook / _____		(Sun) Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- 3.2 deg C

2 SURVEY TEAM # 1	Name	Organization	Signature
Joe Busalacchi	Cardno Entrix	[Signature]	
John Davis	USCG	[Signature]	
Donnie McCurry	DEQ	[Signature]	
Adam Bausch	Cardno Entrix	[Signature]	
Merlo Gauvreau	Polaris	[Signature]	

**3 SEGMENT** Total Segment/Reach Length 1112 m Segment/Reach Length Surveyed 1112 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 X Pebble/Cobble \_\_\_\_\_ Boulder \_\_\_\_\_ Peat/Organic \_\_\_\_\_ Vegetated Bank: X Wooded Upland: \_\_\_\_\_

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 X confined or leveed \_\_\_\_\_ Substrate Type: Rock / Clay / Wetland

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

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

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

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

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

Oiled trees/shrubs Y / (N) River Current strong Y / (N) Other Features: Cliff w/ boat access

**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
ID	MS	LB	UB	OB	m	m	%													
A				<u>K</u>	<u>1112</u>	<u>5</u>	<u>0</u>													<u>✓</u>

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

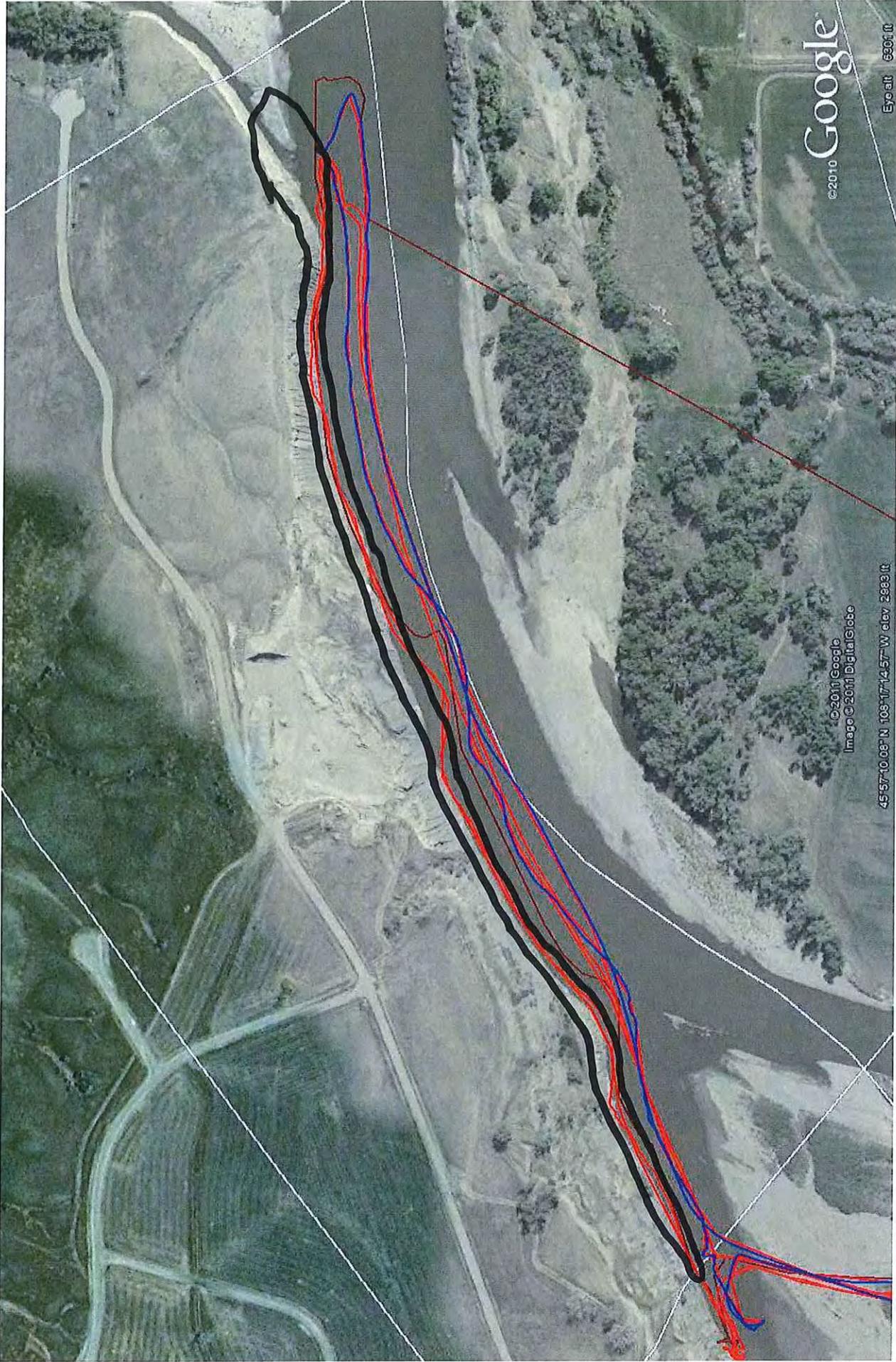
TRENCH or PIT NO.	RIVER BANK ZONE				MAX. PIT DEPTH	OILED ZONE	SUBSURFACE OIL CHARACTER						WATER TABLE	SHEEN COLOUR	CLEAN BELOW	SUBST. TYPE(S)	
							SAP	OP	PP	OR	OF	TR					NO
					cm	cm-cm											

**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 (N) / Y

Zone A - No Oil Observed - Cliffside Un-Vegetated. One narrow section of Vegetation

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



CS1LB  
Team #1  
13/08/11

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

**1 GENERAL INFORMATION**

Segment/Reach ID: (31) Left Bank (Right Bank) / Island (Sun/Clouds) / Fog / Rain / Snow / Windy (Calm)

Date (dd/mm/yy) 09/08/11 Time (24h): std / daylight 1210 hrs to 1225 hrs Water Level: low - mean - bankfull - overbank (falling) steady - rising

Operations Division: C Air Temp + / - 25 deg C

Survey by: (Foot) / ATV / Boat / Helicopter / Overlook /

**2 SURVEY TEAM #** 4

name	organization	contact phone number
<u>Nathan Hammond</u>	<u>Cardno Eotrix</u>	<u>[Signature]</u>
<u>Peter Reich</u>	<u>EPA</u>	<u>[Signature]</u>
<u>John Hunziker</u>	<u>FWP</u>	<u>[Signature]</u>

**3 SEGMENT** Total Segment/Reach Length 1040 m Segment/Reach Length Surveyed 1040 m

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

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

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

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

Sediment Bank: Clay/Mud \_\_\_\_\_ Sand \_\_\_\_\_ Mixed X Pebble/Cobble \_\_\_\_\_ Boulder \_\_\_\_\_ Peat/Organic \_\_\_\_\_ Vegetated Bank: X 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: \_\_\_\_\_ Est Height \_\_\_\_\_ m canyon \_\_\_\_\_ manmade \_\_\_\_\_ meander \_\_\_\_\_ confined or leveed \_\_\_\_\_ Substrate Type: \_\_\_\_\_

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

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

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

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

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

OIL ZONE ID	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER							SUBST. TYPE(S)		
	MS	LB	UB	OB	Length m	Width m	Distrib. %	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR	AP		NO	
<u>1365</u> A				<u>X</u>	<u>1040</u>	<u>5</u>	<u>0</u>														<u>✓</u>	<u>Veg</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

Zone A - NOO

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



C31

ZONE A - NOD

Image © 2011 DigitalGlobe

© 2010

45°57'05.75" N 108°17'06.59" W elev 2978 ft

008

002

001

1986

C31KB-Team 4 - 09/08/11

DB/G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy) 08/09/11	Time (24h): std / daylight 10:45 hrs to 11:45 hrs	Water Level low - MEAN - bankfull - overbank falling - STEADY - rising
Segment/Reach ID: <u>C 31</u> Left Bank / Right Bank / Island				
Operations Division: <u>AA 107/11</u>				
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook /		<input checked="" type="checkbox"/> Sun	Clouds / Fog / Rain / Snow / Windy / Calm	Air Temp +/- <u>26</u> deg C

<b>2 SURVEY TEAM #</b> <u>4</u>	name	organization	contact phone number
	Tom Freeman	Polaris Applied Sciences	<i>Tom Freeman</i>
	Jeffrey Herrick	<i>MIT DEQ</i>	<i>Jeffrey Herrick</i>
	Griff Miller	<i>US EPA</i>	<i>Griff Miller</i>

**3 SEGMENT** Total Segment/Reach Length 328 m Segment/Reach Length Surveyed 328 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 X \_\_\_\_\_ Mixed  \_\_\_\_\_ Pebble/Cobble  \_\_\_\_\_ Boulder \_\_\_\_\_ Peat/Organic \_\_\_\_\_ Vegetated Bank: Yes \_\_\_\_\_ 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  \_\_\_\_\_ 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  / 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	328	75	<1				X						X						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

Zone A: Minor rare small "patches" of stain on stranded debris piles. Generally patches less than 30cm diameter. Meets NFT Standards

Zone A = NFT

\* Complete Seg Survey of allowable area.

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

ZONE A

ACTIVE LOG 005-93

Goggins Property

C31-RB

Verwillian Ranch

NO-GO ZONE

C31 IS

Team 1

08/09/11

Water Rd

Image © 2011 DigitalGlobe  
© 2011 Google

© 2010 G



## **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**

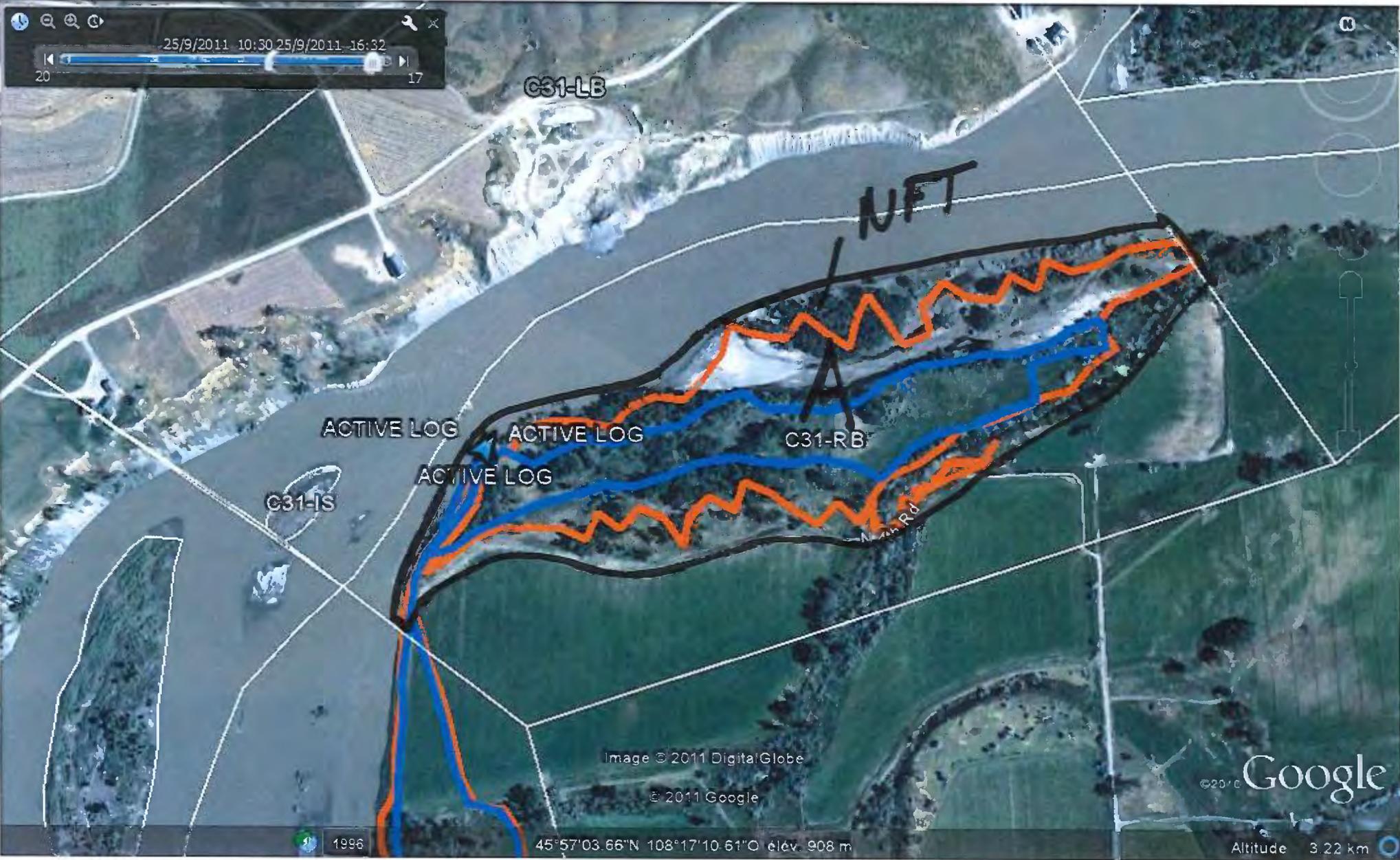
Final SCAT Survey Forms and  
Sketches



25/09/2011

Re SCAT C31-RB

Team #2





## **Appendix F**

Completed SCAT Segment Sign-Off  
Forms

# SCAT SEGMENT OPERATIONS COMPLETION SIGN-OFF SHEET

## SILVERTIP PIPELINE RELEASE

Segment C31 RB Date of Survey 25/09/11

Dates of Initial SCAT Assessments 09 Aug 2011  
(to be filled out by SCAT Data Management)

CTR(s) Associated with SCAT Segment 59

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

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

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

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

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

*No Federal Rep Present*

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

*[Signature]* \_\_\_\_\_ *Robert Poll/DEQ* \_\_\_\_\_ *9/26/11* \_\_\_\_\_  
Sign Name \_\_\_\_\_ Print Name/Affiliation \_\_\_\_\_ Date \_\_\_\_\_  
**State Representative (DEQ/FWP)**

*[Signature]* \_\_\_\_\_ *Herb GAUREAU, Polaris* \_\_\_\_\_ *25/09/2011* \_\_\_\_\_  
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.