

ExxonMobil Pipeline Company

**SCAT Area Transition Report
for C46**

Silvertip Pipeline Incident
Laurel, Montana

October 24, 2011



SCAT Area Transition Report for C46

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 24, 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.

1. Executive Summary of Oil Removal Activities	1
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
2. Transition Sign-Off Form	4
Tables	
Table 1 Environmental Sampling Summary	2
Figures	
Figure 1 Aerial Map with Parcel Boundaries	
Figure 2 Wildlife Resources	
Figure 3 Sample Location Map	
Figure 4 Maximum SCAT Observations	
Appendices	
A Sample Detection Summary	
B Initial SCAT Survey Forms and Sketches	
C Pre-Inspection Survey Transmittal	
D Post-Inspection Survey Transmittal	
E Final SCAT Survey Forms and Sketches	
F Completed SCAT Segment Sign-Off Forms	

1. Executive Summary of Oil Removal Activities

This Shoreline Cleanup Assessment Technique (SCAT) Area Transition Report provides a summary of the SCAT surveys conducted to determine the extent of oiling along the riverbanks and floodplain within SCAT Area C46, 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 C46. 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 C46, 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 C46 is 134.7. There were no access issues for this area other than conditional access restraints on a portion of the right bank and island.

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 C46 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 C46.

1.3 Summary of Environmental Sampling

Table 1 (below) summarizes samples collected within Area C46. 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 C46 are provided on Figure 3.

Table 1 Environmental Sampling Summary

Agency	Sample Num	Date	Matrix	Location	Latitude	Longitude
CTEH	WOMT0727DW101	7/27/2011	Water_Drinking	WOMT_455_DW101	45.991742	-108.122034
CTEH	WOMT0727DW103	7/27/2011	Water_Drinking	WOMT_455_DW103	45.991742	-108.122034
CTEH	WOMT0825SW203	8/25/2011	Water_Surface	WOMT_399_SW203	45.995430	-108.112062
CTEH	WOMT0825SW204	8/25/2011	Water_Surface	WOMT_399_SW203	45.995430	-108.112062

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 detections reported and therefore no exceedances.

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 C46 are included in Appendix B. Figure 4 provides the maximum oiling zones observed by the SCAT team during the initial surveys of Area C46.

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. 61](#)).

1.6 Oil Removal Activities

Oil removal activities were conducted within Area C46 in accordance with the ATMs identified in the CTRs. [Appendix I](#) of the Summary of Assessment and Oil Removal Activities report presents this data including: date range/days worked, average number of people working per day, equipment used, and various types of bags removed: oily debris, personal protective equipment (PPE), plastic, trash, super sacks, wood chips, and contaminated wood.

1.7 Pre-Inspection Survey Transmittal

A Pre-Inspection Survey Transmittal (PIST) was not conducted for 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

Final SCAT surveys were not conducted for this area.

1.10 SCAT Area Conclusions

Based on the initial SCAT survey performed within Area C46, only very light oiling was observed on a portion of the left and right banks and island, and no oiling was observed in the remainder of Area C46. The very light oiling zones will be addressed through natural attenuation. Therefore, a PIST, a POST, and a final SCAT survey were not conducted and a SCAT Segment Sign-Off Form is not necessary.

2. Transition Sign-Off Form

SCAT Area Transition Report for C46

Prepared for:

Unified Command

Date

Unified Command – RP



**SCAT Area Transition
Report for C46**

Silvertip Pipeline Incident
Laurel, Montana

SCAT Area Transition Report for C46

Prepared for:

Unified Command

10/11/2011

Date

 *S. MERRILL*

Unified Command – FOSC



**SCAT Area Transition
Report for C46**

Silvertip Pipeline Incident
Laurel, Montana

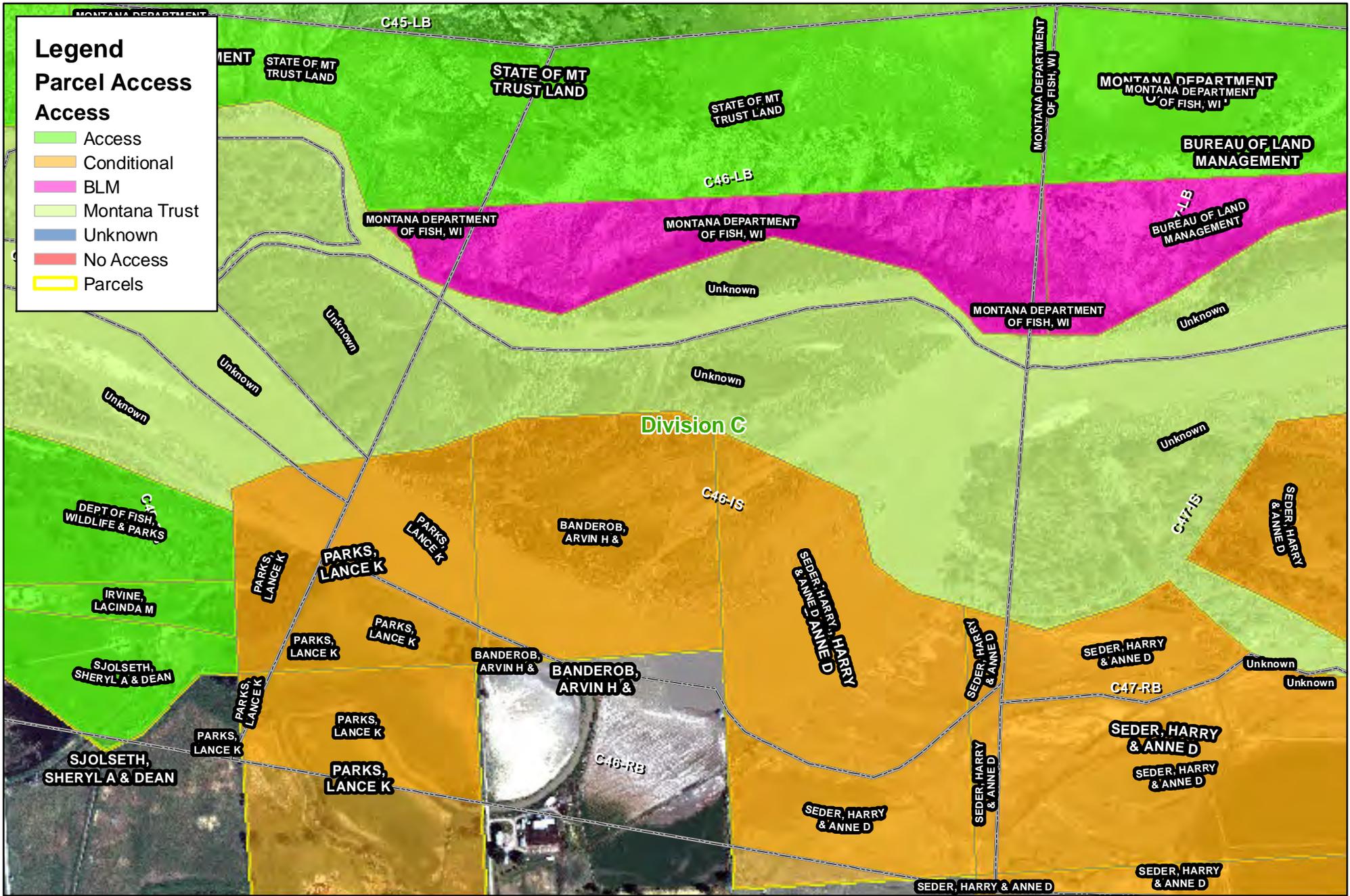
SCAT Area Transition Report for C46

Prepared for:

Unified Command

Date

Unified Command – MDEQ



Legend
Parcel Access

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

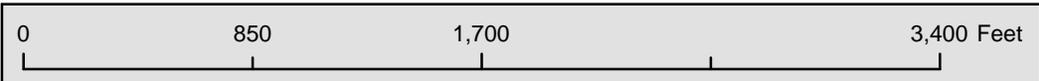
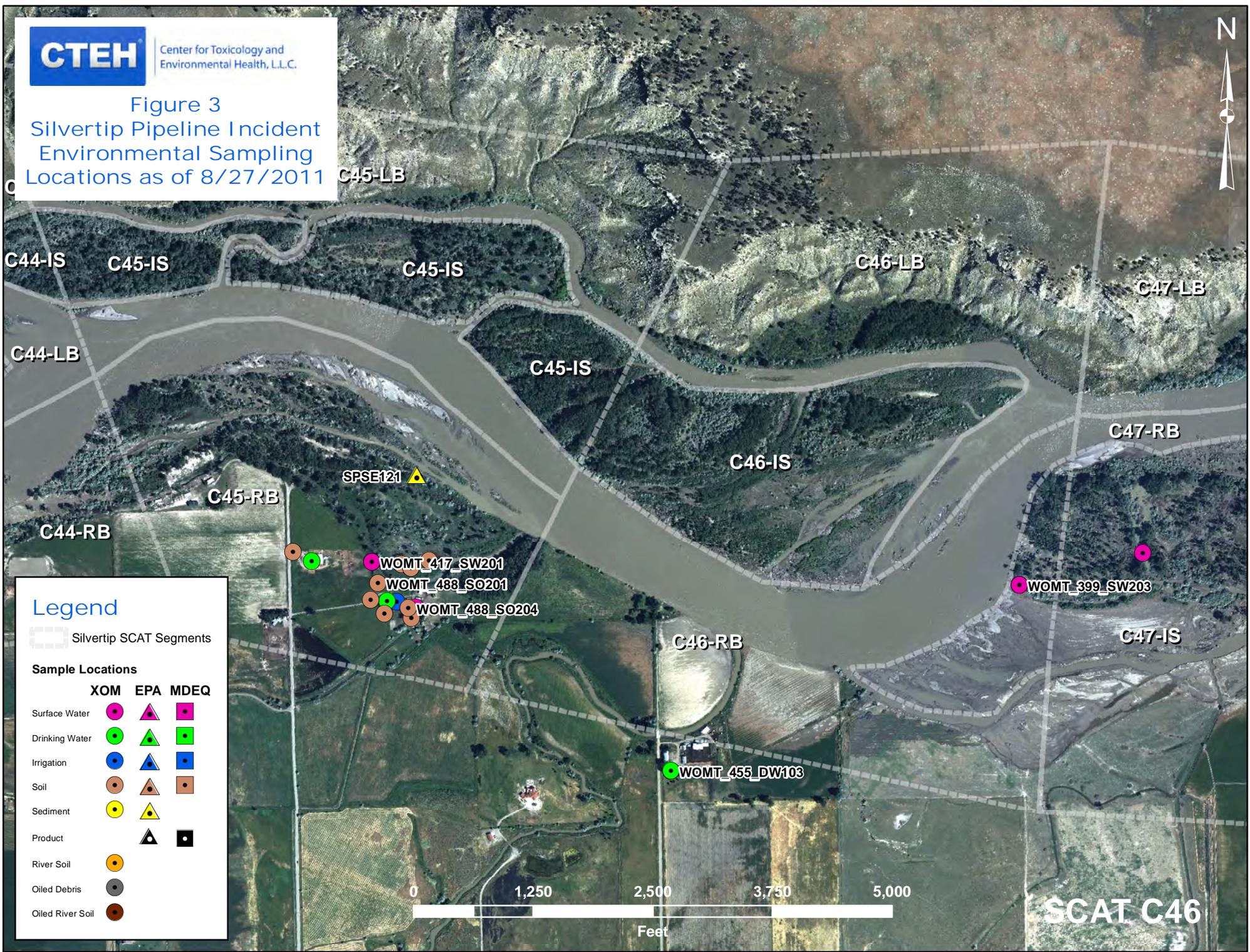


Figure 1



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



Legend

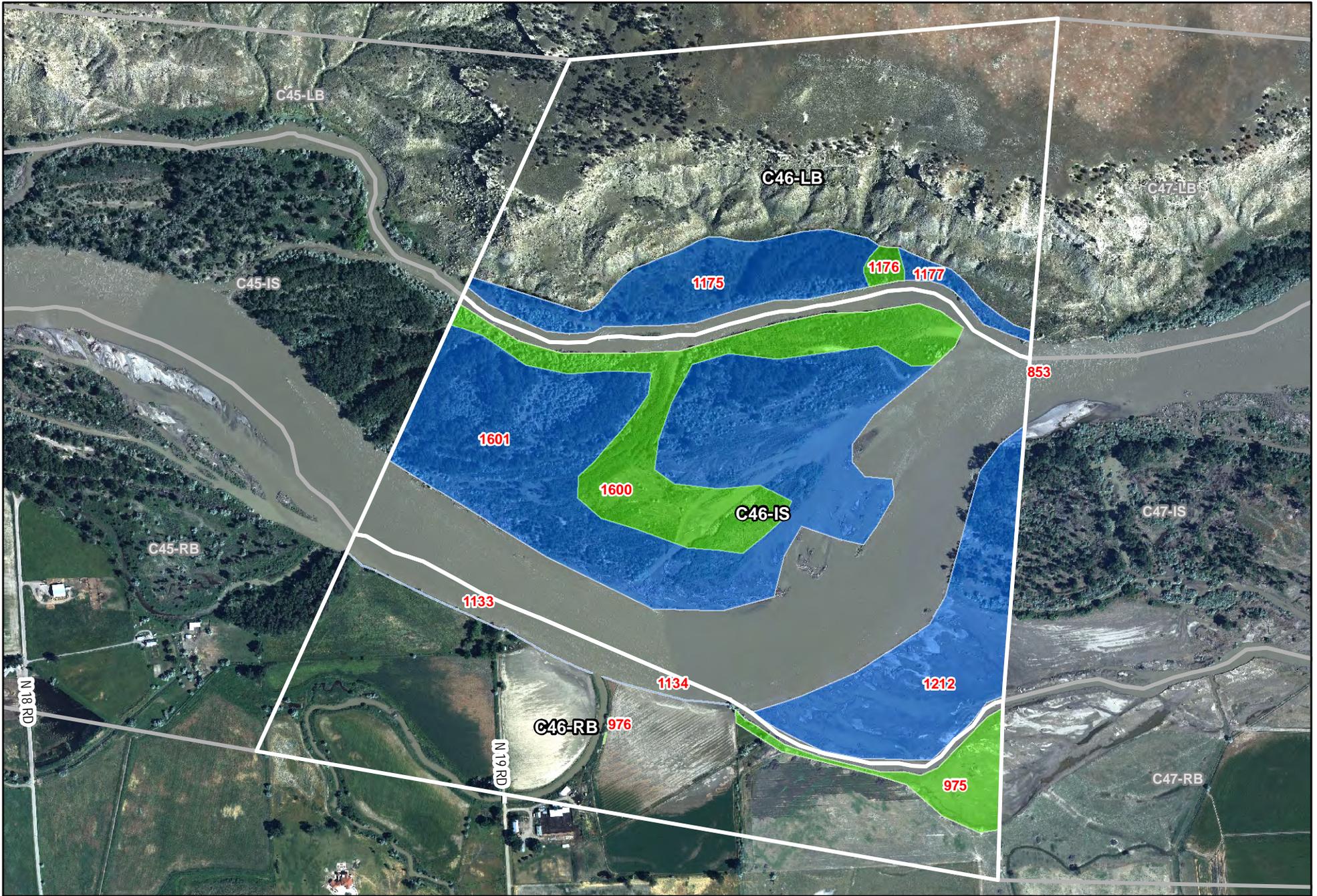
Silvertip SCAT Segments

Sample Locations

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



SCAT C46



	9999 Oiling Zone ID	Light Oiling
	Heavy Oiling	Very Light Oiling
	Moderate Oiling	No Oil Observed

Figure 4 - Maximum SCAT Observations For SCAT Area: C46



Appendix A

Sample Detection Summary



Appendix B

Initial SCAT Survey Forms
and Sketches

D13/G/S

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy) <u>29/07/11</u>	Time (24h): std / daylight <u>1000 hrs to 1830 hrs</u>	Water Level low - mean - bankfull - overbank falling - steady - rising
Segment/Reach ID: <u>C410</u> Left Bank / Right Bank / Island				
Operations Division:				
Survey by: <u>(Fog) / ATV / Boat / Helicopter / Overlook /</u>		<u>Sun</u> / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- <u>36</u> deg C

2 SURVEY TEAM # <u>3</u>	Name	Organization	Signature
	<u>Lois Williams</u>	<u>Caroline ENTRIX</u>	<u>Lois Williams</u>
	<u>Sara Beach</u>	<u>USEPA</u>	<u>Sara Beach</u>
	<u>MIKE PIRKS</u>	<u>Caroline ENTRIX</u>	<u>Michael P. Pirks</u>
	<u>Brandon Owens</u>	<u>Caroline ENTRIX</u>	<u>Brandon Owens</u>
	<u>Aaron Anderson</u>	<u>DEA</u>	<u>Aaron Anderson</u>

3 SEGMENT Total Segment/Reach Length 1355 m Segment/Reach Length Surveyed 414 m

Start GPS: LATITUDE 45 deg. 59.604 min. LONGITUDE 108 deg. 6.999 min. Datum: WGS84

End GPS: LATITUDE 45 deg. 59.605 min. LONGITUDE 108 deg. 6.677 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 S 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 X confined or leveed Substrate Type: Mixed

Sloped: (>5°)(15°)(30°) straight braided 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 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:

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>				<u>✓</u>	<u>414</u>	<u>100</u>	<u><1</u>				<u>✓</u>		<u>✓</u>									<u>veg./debris</u>
<u>B</u>				<u>✓</u>	<u>20</u>	<u>2</u>	<u><1</u>				<u>✓</u>		<u>✓</u>									<u>Vegetation</u>

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

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

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

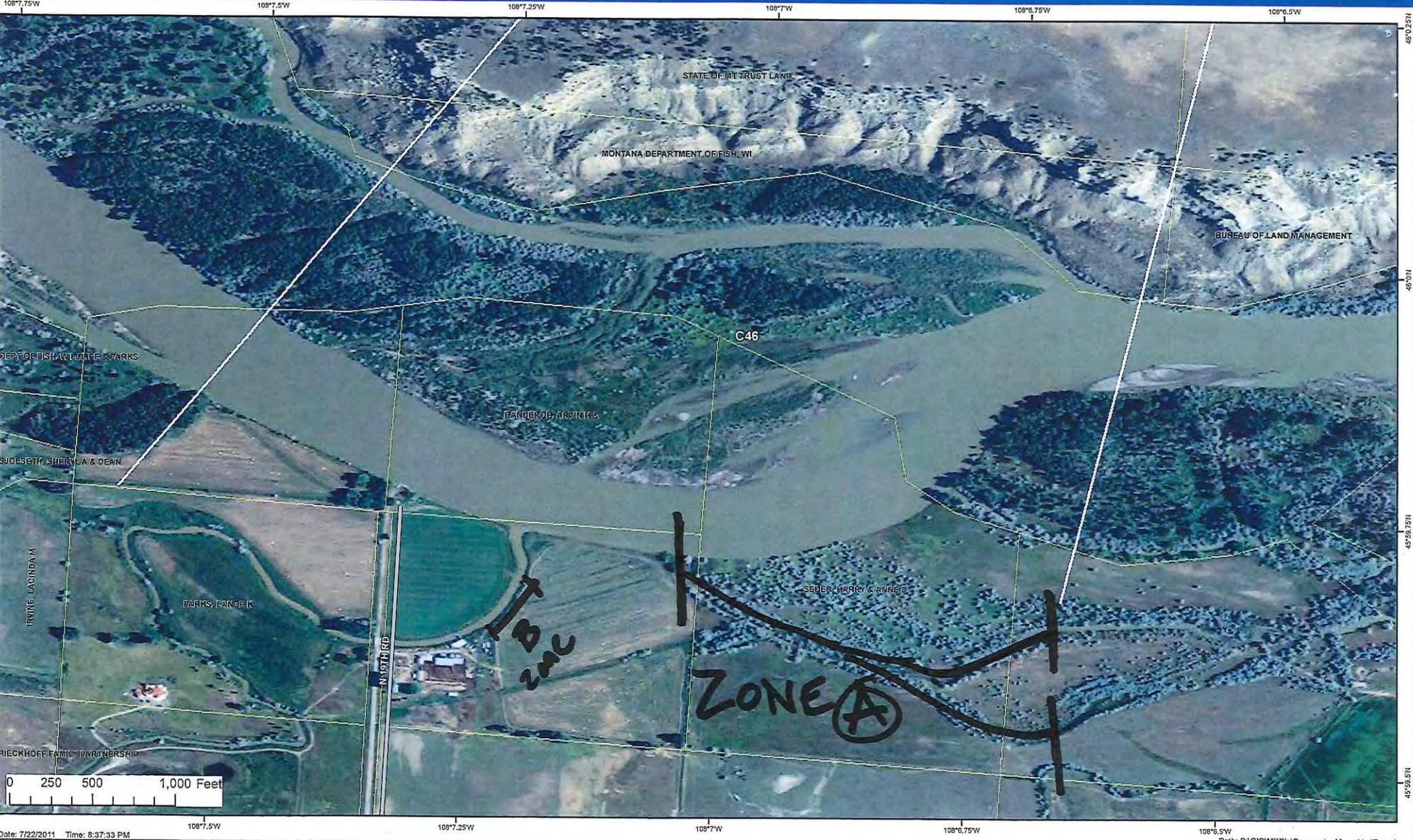
Overbank Survey Required (Y/N) Overbank Survey Completed Y/(N) Shoreline Survey Completed Y/(N)

Zone A → very light sporadic oiling throughout segment, only approx. 10-12 spots less than 0.5m x 2m.

Recommendation: Natural attenuation

Zone B → light staining on veg./fence near the house, the band can be dispersed/sporadic pattern seen on Barley in adjacent field.

Sketch Yes / No Photos Yes / No Frames Photographer



DBIG

1 GENERAL INFORMATION

Segment/Reach ID: 46 Left Bank (Right Bank) Island 02/08/11 Date (dd/mm/yy)

Operations Division: C Time (24h): std / daylight 1022 hrs to 1037 hrs 1057 hrs

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

Water Level: low - mean bankfull - overbank

Air Temp +/- 26 deg C

2 SURVEY TEAM # 5

name	organization	contact phone number	Signature
<u>Nathan Hammond</u>	<u>Cardno Entrix</u>		<u>[Signature]</u>
<u>Brandon Owens</u>	<u>Cardno Entrix</u>		<u>[Signature]</u>
<u>Dominic Ventura</u>	<u>EPA</u>		<u>[Signature]</u>
<u>Ken Frazer</u>	<u>FWS</u>		<u>[Signature]</u>
<u>Jack Smith</u>	<u>USCG</u>		<u>[Signature]</u>

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 711 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: _____

Sediment Flat: Clay/Mud _____ Sand _____ Mixed/Coarse _____ Other: Agriculture 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 _____

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

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>			<u>X</u>	<u>X</u>	<u>469</u>	<u>1</u>	<u>0</u>														<u>✓</u>	<u>✓</u>	<u>veg</u> <u>veg</u>
<u>B</u>			<u>X</u>	<u>X</u>	<u>242</u>	<u>1</u>	<u>0</u>																

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

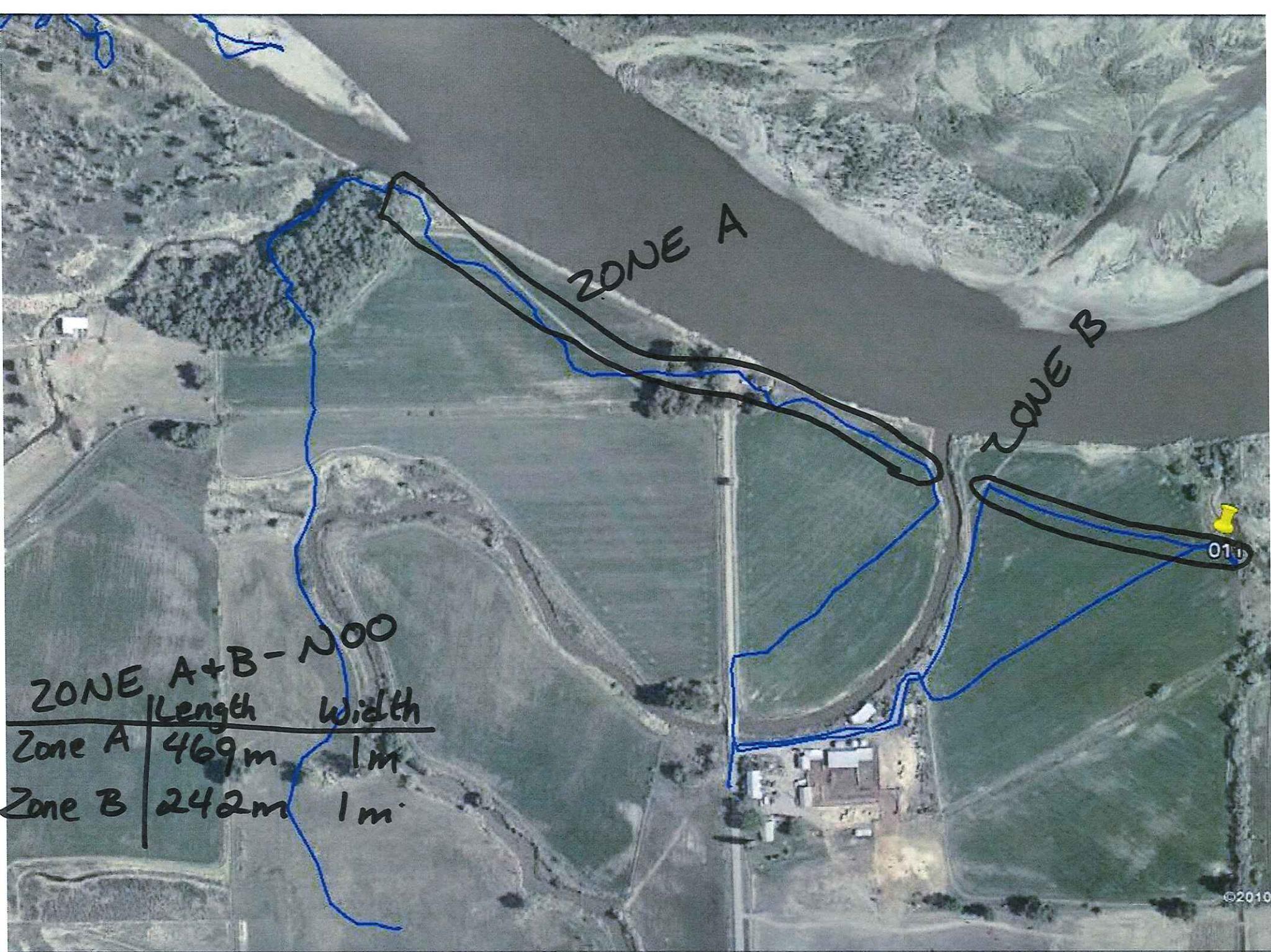
TRENCH or PIT NO.	RIVER BANK ZONE				MAX. PIT DEPTH cm	OILED ZONE cm-cm	SUBSURFACE OIL CHARACTER						WATER TABLE cm	SHEEN COLOUR B, R, S, N	CLEAN BELOW Yes / No	SUBST. TYPE(S)	
	MS	LB	UB	OB			SAP	OP	PP	OR	OF	TR					NO

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

Zone A - NOO
Zone B - 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# _____)



ZONE A

ZONE B

01

ZONE A+B - NOO

	Length	Width
Zone A	469m	1m
Zone B	242m	1m

©2010

1996

45°59'38.79" N 108°07'24.08" W elev 2922 ft

C46RB-TEAM#5-02/08/11

DB/G/S

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy) 26/07/11	Time (24h): std / daylight	Water Level low - mean - <u>bankfull</u> - overbank
Segment/Reach ID: C <u>46</u> <u>Left Bank</u> / Right Bank / Island				falling - steady - rising
Operations Division:			hrs to _____ hrs	Air Temp +/- <u>2.8</u> deg C
Survey by: Foot / ATV / Boat / Helicopter / Overlook / _____		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		

2 SURVEY TEAM # 1	Name	Organization	Signature
Pete Lee		Polaris	225.892.6459
John Beach		US EPA	415.972.3347
Larry Alheim		MT DEQ	406.461.7516

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 1379 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: 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

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

Sloped: (>5°)(15°)(30°) straight _____ braided X oxbow _____ flood plain valley X

Substrate Type: _____ Forested / Vegetated / Bare

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: <1m 1-10m 10-100m >100m ~~460m~~ 100m est. water depth: <1m 1-3m 3-10m >10m _____ m

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

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

5 OPERATIONAL FEATURES

Suitable backshore staging Y N Access: Direct from backshore Y N Alongshore from next segment Y N

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

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

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

OIL ZONE ID	RIVER BANK ZONE				OIL COVER			OIL THICKNESS										OIL CHARACTER										SUBST. TYPE(S)
	MS	LB	UB	OB	Length m	Width m	Distrib. %	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR	AP	NO								
<u>853</u> A				<u>X</u>	<u>1379</u>	<u>1</u>															<u>X</u>	<u>grass, reeds</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

Oil height: NO

Treatment recommendations:

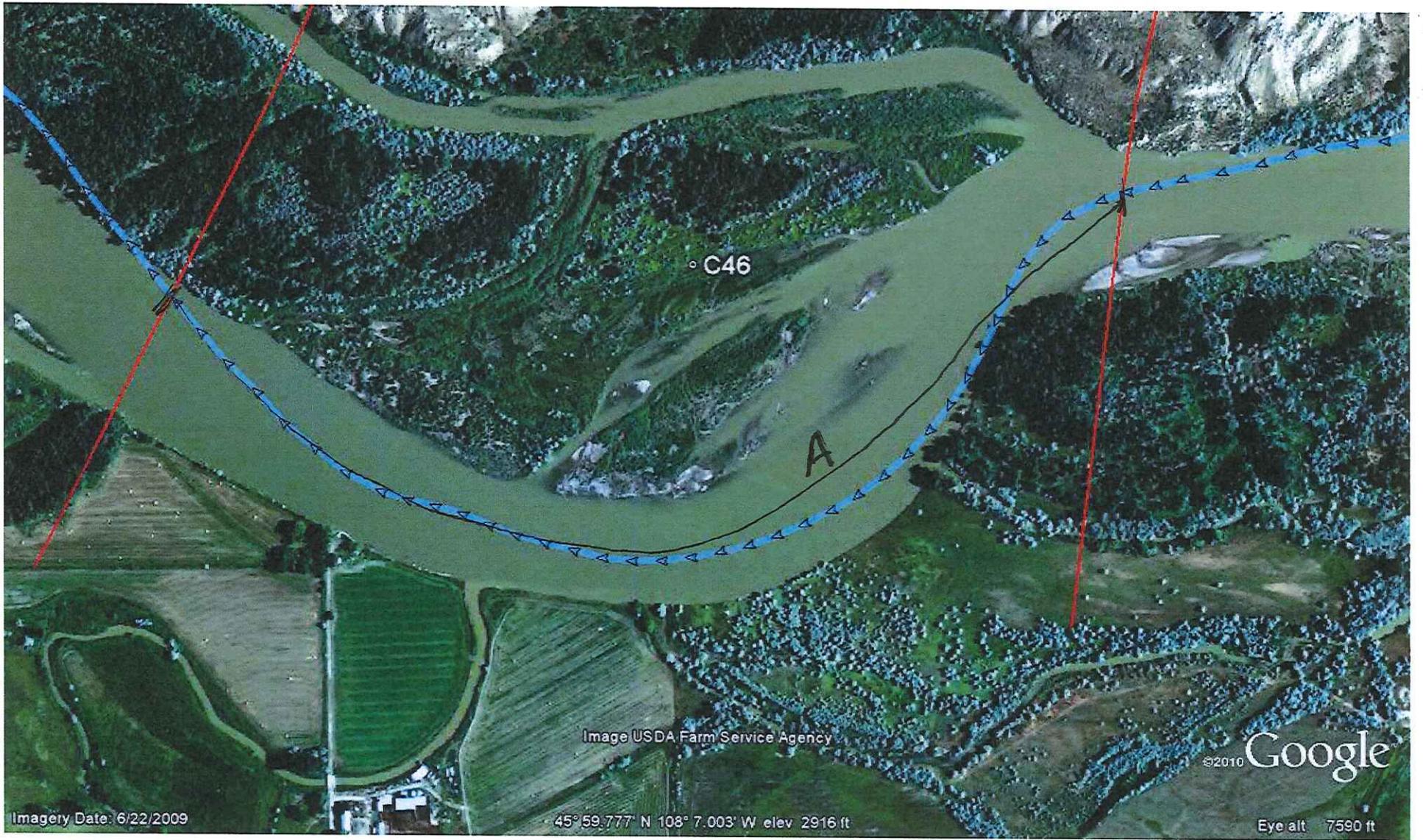
Zone A : No oil observed; no treatment required.

Zone _____ : Cut & remove oil coated vegetation smaller than 4" 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 _____

A = 4771 + 611 + 246 + 522 Ver. 04 July 2011



° C46

A

Image USDA Farm Service Agency

©2010 Google

Imagery Date: 6/22/2009

45° 59.777' N 108° 7.003' W elev 2916 ft

Eye alt 7590 ft

D/B/G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy) 04/ 08/ 11	Time (24h): std / <u>daylight</u>	Water Level low - mean <u>bankfull</u> - overbank
Segment/Reach ID: C46 <u>Left Bank</u> / Right Bank / Island			1115 hrs to 1230 hrs	<u>falling</u> - steady - rising
Operations Division: C				Air Temp +/- 3 2 _ deg C
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook /		<u>Sun</u> Clouds / Fog / Rain / Snow / Windy / Calm		

2 SURVEY TEAM # 3	Name	Organization	Signature
Michael Dirks		Cardno ENTRIX	<i>Michael Dirks</i>
Matthew Kent		MTDEQ	<i>Matthew Kent</i>
Travis Cain		EPA	

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 981 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 _____ Shelf _____ **Manmade:** Solid _____ Permeable _____ (type) _____ **Wetland:** Swamp _____ Bog/Fen _____ Marsh _____

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

Sediment Flat: Clay/Mud X 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 _____ m canyon _____ manmade _____ meander _____ confined or leveed _____ Substrate Type: silt

Sloped: ~10° _____ (>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 1-10 m 10-100 m >100m 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 N/A bags or N/A trucks access restrictions: steep bluff slopes, drive Bozeman Rd & MTFWP cut-off

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

1175
1176
1177

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>		642	78	0														X	Wooded bank, vegetated shore
B			<u>X</u>		54	54	<1			X				X								Wooded bank
C			<u>X</u>	<u>X</u>	285	30	0														X	Wooded bank, vegetated shore

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: No oiling observed, no treatment required

Zone B: Oil coated tree branch, <1% coat, sporadic, no treatment required

Zone C: No oiling observed, no treatment required.

- Recommend boating surveys of the C46 Islands and shoreline that was inaccessible by foot.

Sketch Yes / No Photos Yes / No Frames/Photographer: Matthew Kent

1 GENERAL INFORMATION		Date (dd/mm/yy) 04/ 08/ 11	Time (24h): std / <u>daylight</u>	Water Level low - mean <u>bankfull</u> - overbank falling - steady - rising
Segment/Reach ID: C46 <u>Left Bank</u> / Right Bank / Island		Operations Division: C		
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook / _____		<u>(Sun)</u> Clouds / Fog / Rain / Snow / Windy / Calm		
1115 hrs to 1230 hrs		Air Temp +/- 3 2 _ deg C		

2 SURVEY TEAM # 3	Name	Organization	Signature
Michael Dirks	Cardno ENTRIX	<i>Michael D. Dirks</i>	
Matthew Kent	MTDEQ	<i>Matthew Kent</i>	
Travis Cain	EPA	<i>Travis Cain</i>	

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 981 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 _____ Shelf _____ Manmade: Solid _____ Permeable _____ (type) _____ Wetland: Swamp _____ Bog/Fen _____ Marsh _____

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

Sediment Flat: Clay/Mud X 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 _____ m canyon _____ manmade _____ meander _____ confined or leveed _____ Substrate Type: silt _____

Sloped: ~10° (>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 1-10 m 10-100 m >100m 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 N/A bags or N/A trucks access restrictions: steep bluff slopes, drive Bozeman Rd & MTFWP cut-off

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			<u>X</u>		642	78	0														X	Wooded bank, vegetated shore
B			<u>X</u>		54	54	<1			X			X									Wooded bank
C			<u>X</u>	<u>X</u>	285	30	0														X	Wooded bank, vegetated shore

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

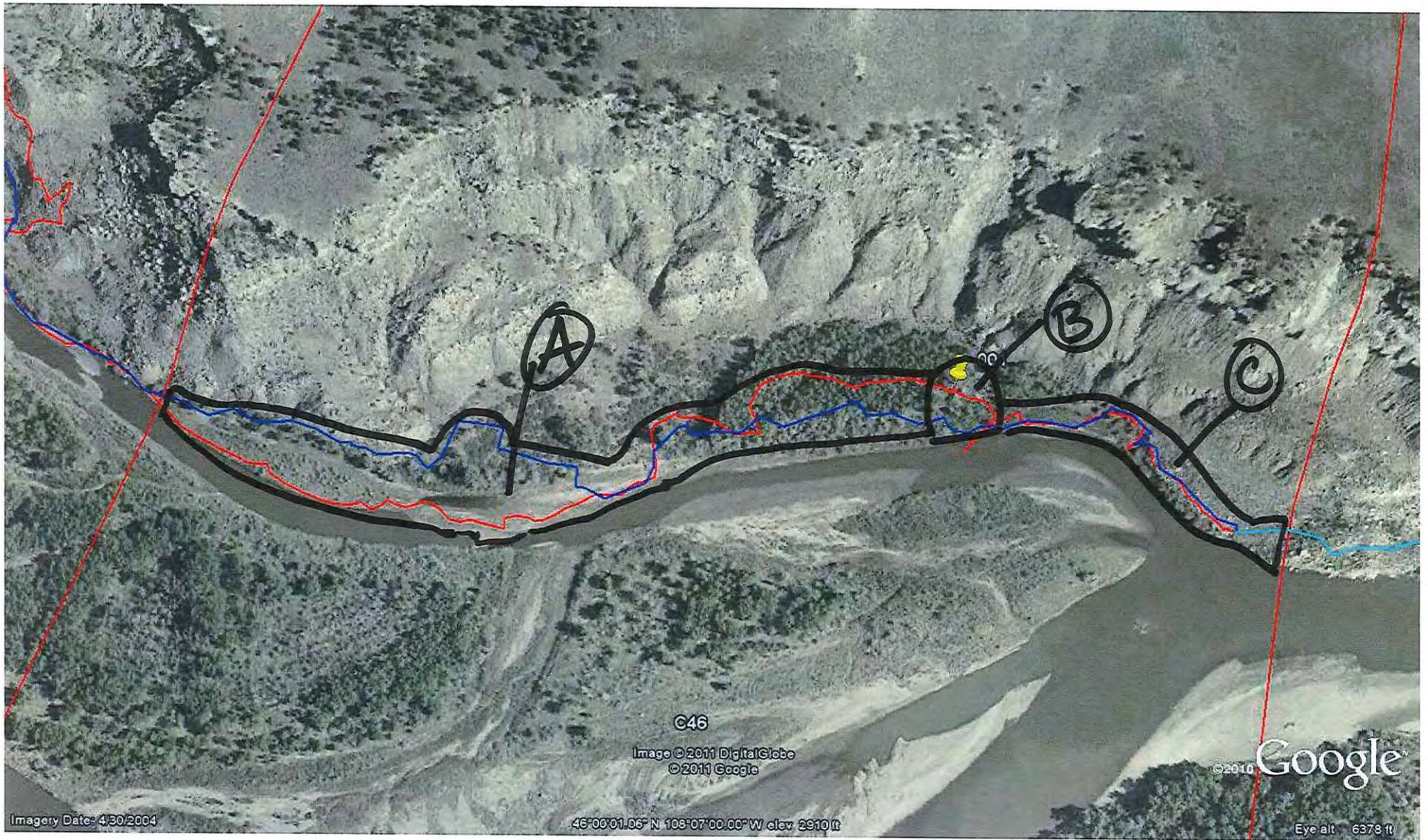
Zone A: No OILING OBSERVED, NO TREATMENT REQUIRED

Zone B: OIL COATED TREE BRANCH <1%, SPORADIC, NO TREATMENT REQUIRED

Zone C: No OILING OBSERVED, NO TREATMENT REQUIRED

* RECOMMEND BOATING SURVEYS OF THE C46 ISLANDS & SHORELINE THAT WAS INACCESSIBLE BY FOOT.

Sketch Yes / No Photos Yes / No Frames/Photographer: Matthew Kent



C46 LB
Zones A, B, + C

Michael Dirks
Team #3
04/08/11

DB/G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

Page 1 of 2

1 GENERAL INFORMATION		Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: <u>46</u>	Left Bank/Right Bank/Island	<u>05/08/11</u>	<u>12:00</u> hrs to <u>13:00</u> hrs	low - mean - bankfull - overbank
Operations Division: <u>C</u>				falling - steady - rising

Survey by: <u>Foot/DATV / Boat / Helicopter / Overlook /</u>	<u>Sun / Clouds / Fog / Rain / Snow / Windy / Calm</u>	Air Temp + / - <u>27</u> deg C
--	--	--------------------------------

2 SURVEY TEAM # <u>142</u>	Name	Organization	Signature
	<u>Nathan Hammond</u>	<u>Cardno ENTRIX</u>	<u>Nathan Hammond</u>
	<u>Adam Bausch</u>	<u>Cardno ENTRIX</u>	<u>Adam Bausch</u>
	<u>Pete Lee</u>	<u>Polaris</u>	<u>Pete Lee</u>
	<u>Peter Rexh</u>	<u>EPA</u>	<u>Peter Rexh</u>
	<u>Mark Knapp</u>	<u>DEQ</u>	<u>Mark Knapp</u>
	<u>Jack Smith</u>	<u>USCG</u>	<u>Jack Smith</u>
	<u>Betsy Howard</u>	<u>DEQ</u>	<u>Betsy Howard</u>

3 SEGMENT	Total Segment/Reach Length <u>1156</u> m	Segment/Reach Length Surveyed <u>533</u> 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 <u>X</u>	Pebble/Cobble _____ Boulder _____ Peat/Organic _____	Vegetated Bank: <u>5</u>	Wooded Upland: <u>15</u>
Sediment Flat: Clay/Mud _____ Sand _____ Mixed/Coarse <u>P</u>	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: <u>Other</u>
Sloped: (>5°)(15°)(30°)	straight _____ braided <u>X</u>	oxbow _____ flood plain valley _____	Forested / Vegetated: <u>Bare</u>

4C RIVER CHANNEL CHARACTER		circle or select as appropriate
est. width: <1m 1-10m 10-100m <u>>100m</u>	est. water depth: <1m <u>1-3m</u> 3-10m >10m _____ m	
shoal(s) present <u>Y/N</u>	point bar present <u>Y/N</u>	bar-shoal substrate: <u>silt / sand / gravel</u> cobble / boulder / bedrock / debris
seasonal water level: low / mean / bank full / overbank flow	est. change over next 7 days: <u>falling</u> - same - rising	

5 OPERATIONAL FEATURES		Suitable backshore staging <u>Y/N</u>	Access: Direct from backshore <u>Y/N</u> Alongshore from next segment <u>Y/N</u>
Debris <u>Y/N</u> oiled <u>Y/N</u> amount <u>1</u> bags or _____ trucks	Oiled trees/shrubs <u>Y/N</u>	River Current strong <u>Y/N</u>	Other Features: _____

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

1212

OIL ZONE	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER						SUBST. TYPE(S)			
	MS	LB	UB	OB	Length	Width	Distrib.	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR		AP	NO	
A			X	X	533	244	O														✓	Bare

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

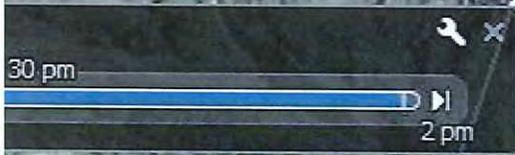
TRENCH or PIT NO.	RIVER BANK ZONE				MAX. PIT DEPTH	OILED ZONE	SUBSURFACE OIL CHARACTER						WATER TABLE	SHEEN COLOUR	CLEAN BELOW	SUBST. TYPE(S)
	MS	LB	UB	OB			cm	cm-cm	SAP	OP	PP	OR				

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

30 pm
2 pm



C46

ZONE A

© 2011 Google

©2010

DB/G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

Page _____ of _____

1 GENERAL INFORMATION		Date (dd/mm/yy) 15/08/11	Time (24h): std / daylight 0926 hrs to 1123 hrs	Water Level low - mean - bankfull - overbank falling - steady - rising
Segment/Reach ID: C46 Left Bank / Right Bank / Island				Air Temp +/- 2.7 deg C
Operations Division: C		Survey by: Foot/LATV/Boat/Helicopter/Overlook/		Sun/Clouds/Fog/Rain/Snow/Windy/Calm

2 SURVEY TEAM # 1,2	Name	Organization	Signature
	Joe Busalacchi	Cardno Entrix	[Signature]
	John Davis	USCG	[Signature]
	Donnie McCurry	DEQ	[Signature]
	Adam Bausch	Cardno Entrix	[Signature]
	Rich Marty	Polaris	[Signature]
	Lance Richman	EPA	[Signature]
	Matthew Kent	DEQ	[Signature]

3 SEGMENT Total Segment/Reach Length 1,050 m Segment/Reach Length Surveyed 2,195 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: Mixed

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: <1m 1-10m 10-100m >100m 160m est. water depth: <1m 1-3m 3-10m >10m _____ m

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

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

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

Debris N oiled Y/N amount _____ bags or _____ trucks access restrictions _____

Oiled trees/shrubs N River Current strong N Other Features: Island - 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 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	1295	120	<1			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						<input checked="" type="checkbox"/>						<u>veg</u>
B				X	900	460																	

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

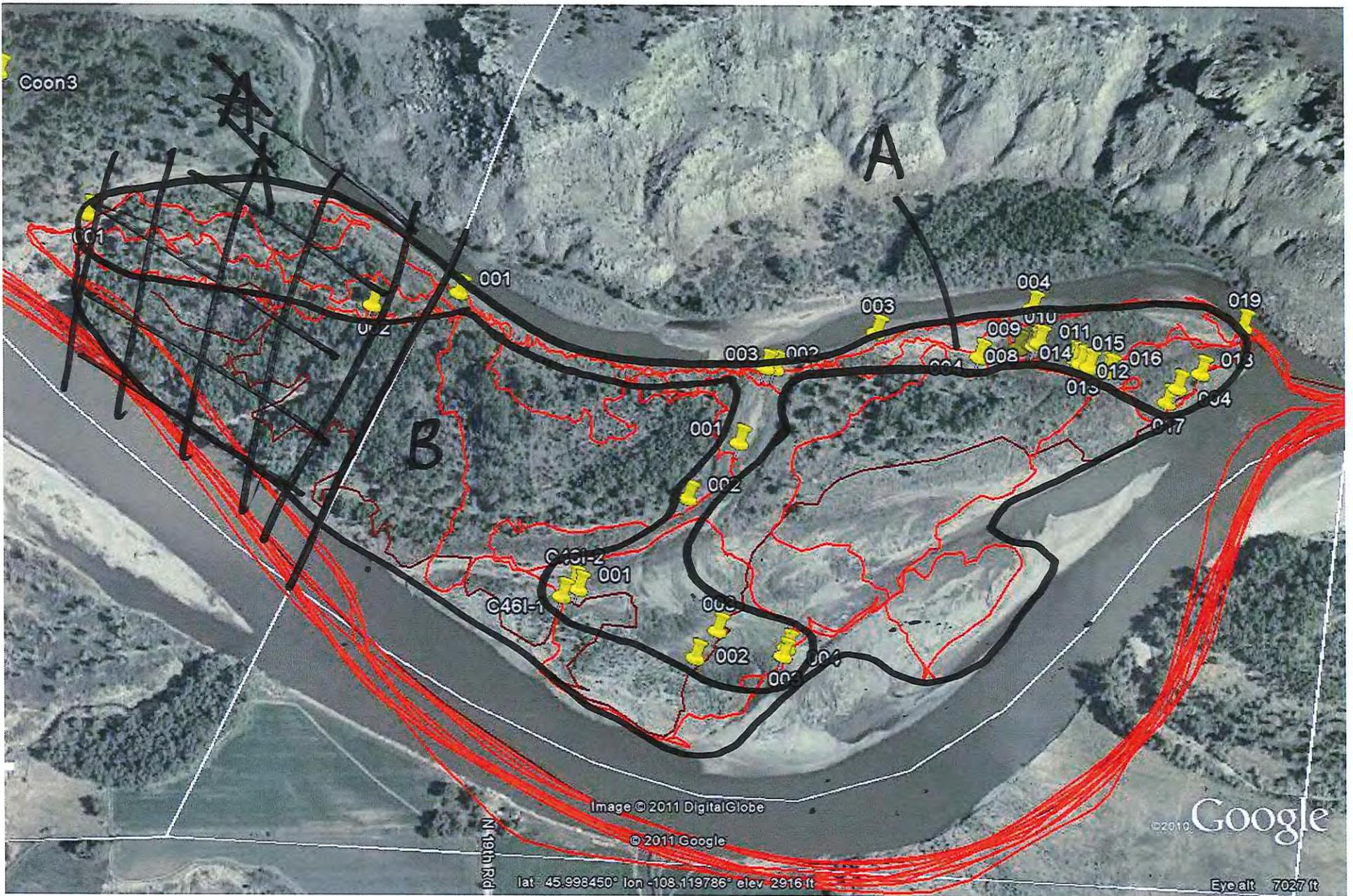
8 COMMENTS ecological/recreational/cultural/economic constraints - shorezone biota and wildlife observations - cleanup recommendations

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

Zone A - ^{<1%} Observed Trace amounts of Light boat and stain on grass + willows the oil had Tor Ball / Tan boat elsewhere - NFT

zone B - NOO

Sketch No Photos No Frames _____ Photographer _____



Coon3

A

B

001

001

003

004

019

002

003

007

009

010

011

014

015

012

016

013

017

004

001

002

C451-2

001

C451-1

003

002

004

N 19th Rd

Image © 2011 DigitalGlobe

© 2011 Google

lat 45.998450° lon -108.119786° elev 2916 ft

© 2010 Google

Google

Eye alt 7027 ft



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

**Final SCAT Surveys were not
conducted for this area**



Appendix F

Completed SCAT Segment
Sign-Off Forms

**SCAT Segment Sign-Off Forms were not
necessary for this area**