

ExxonMobil Pipeline Company

**SCAT Area Transition Report for
C15**

Silvertip Pipeline Incident
Laurel, Montana

October 21, 2011



SCAT Area Transition Report for C15

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Laurel, Montana

Prepared for:
ExxonMobil Pipeline Company

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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 C15, 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 C15. 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 C15, 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 C15 is 41.3. There were access issues for the left bank in this area.

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 C15 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 C15.

1.3 Summary of Environmental Sampling

Table 1 (below) summarizes samples collected within Area C15. 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 C15 are provided on Figure 3. However, to date, no samples have been collected in this area.

Table 1 Environmental Sampling Summary

Agency	Sample Num	Date	Matrix	Location	Latitude	Longitude
	No Samples Collected					

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 C15 are included in Appendix B. Figure 4 provides the maximum oiling zones observed by the SCAT team during the initial surveys of Area C15.

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. 55](#) and [CTR No. 61](#)).

1.6 Oil Removal Activities

Oil removal activities were conducted within Area C15 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

A final SCAT survey was not conducted for this area.

1.10 SCAT Area Conclusions

Based on the initial SCAT survey performed within Area C15, only very light oiling was observed on a portion of the left and right banks and no oiling was observed in the remainder of Area C15. The very light oiling zones will be addressed through natural attenuation. Therefore, a PIST, POST, and final SCAT survey were not performed and a SCAT Segment Sign-Off Form is not necessary.



**SCAT Area Transition
Report for C15**

Silvertip Pipeline Incident
Laurel, Montana

2. Transition Sign-Off Form

SCAT Area Transition Report for C15

Prepared for:

Unified Command

Date

Unified Command – RP



**SCAT Area Transition
Report for C15**

Silvertip Pipeline Incident
Laurel, Montana

SCAT Area Transition Report for C15

Prepared for:

Unified Command

Date

Unified Command – MDEQ

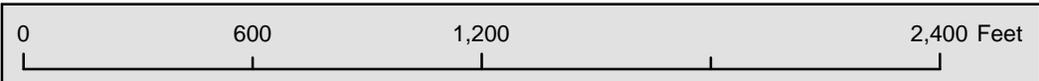
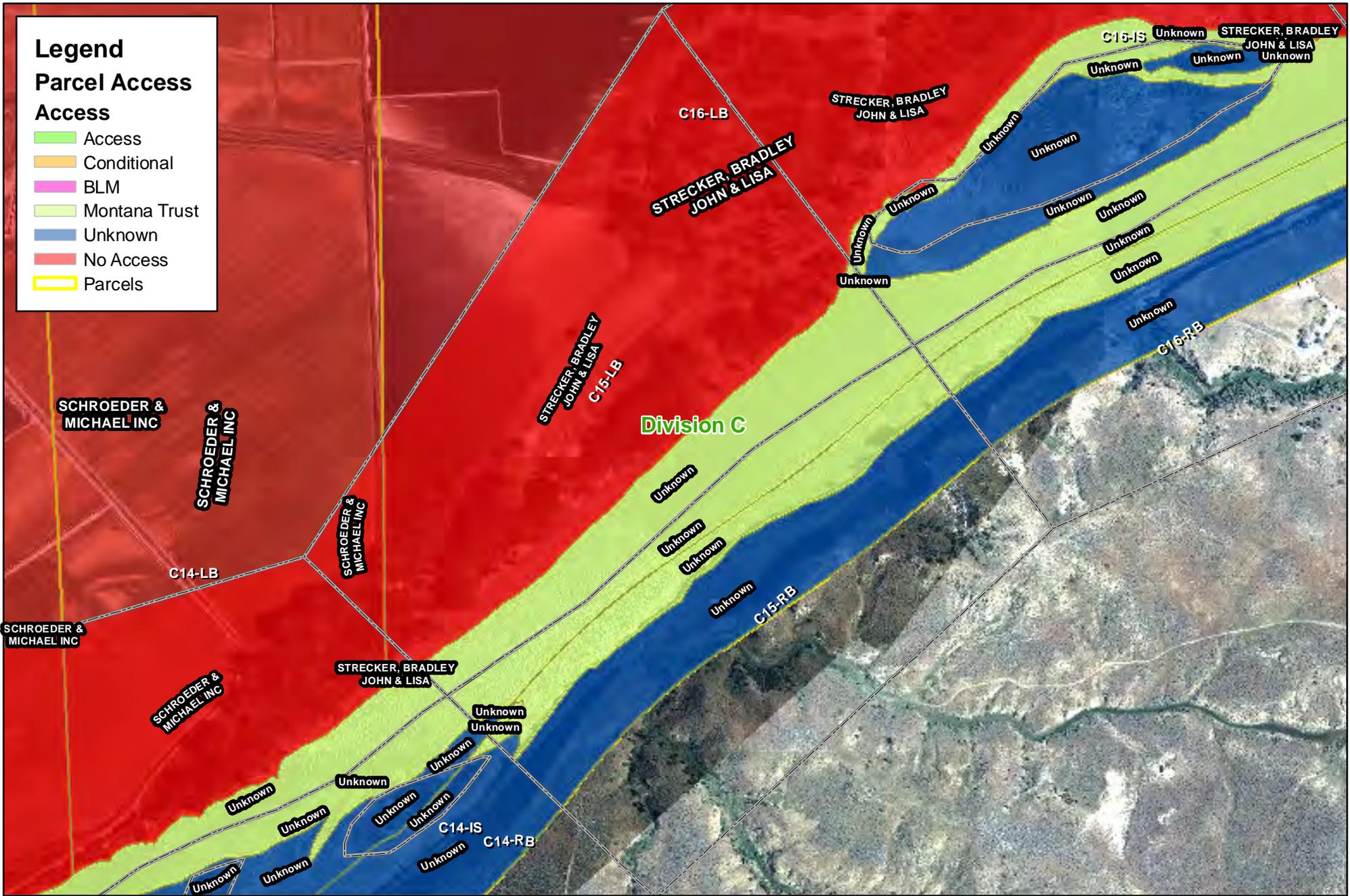


Figure 1

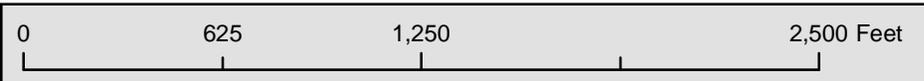
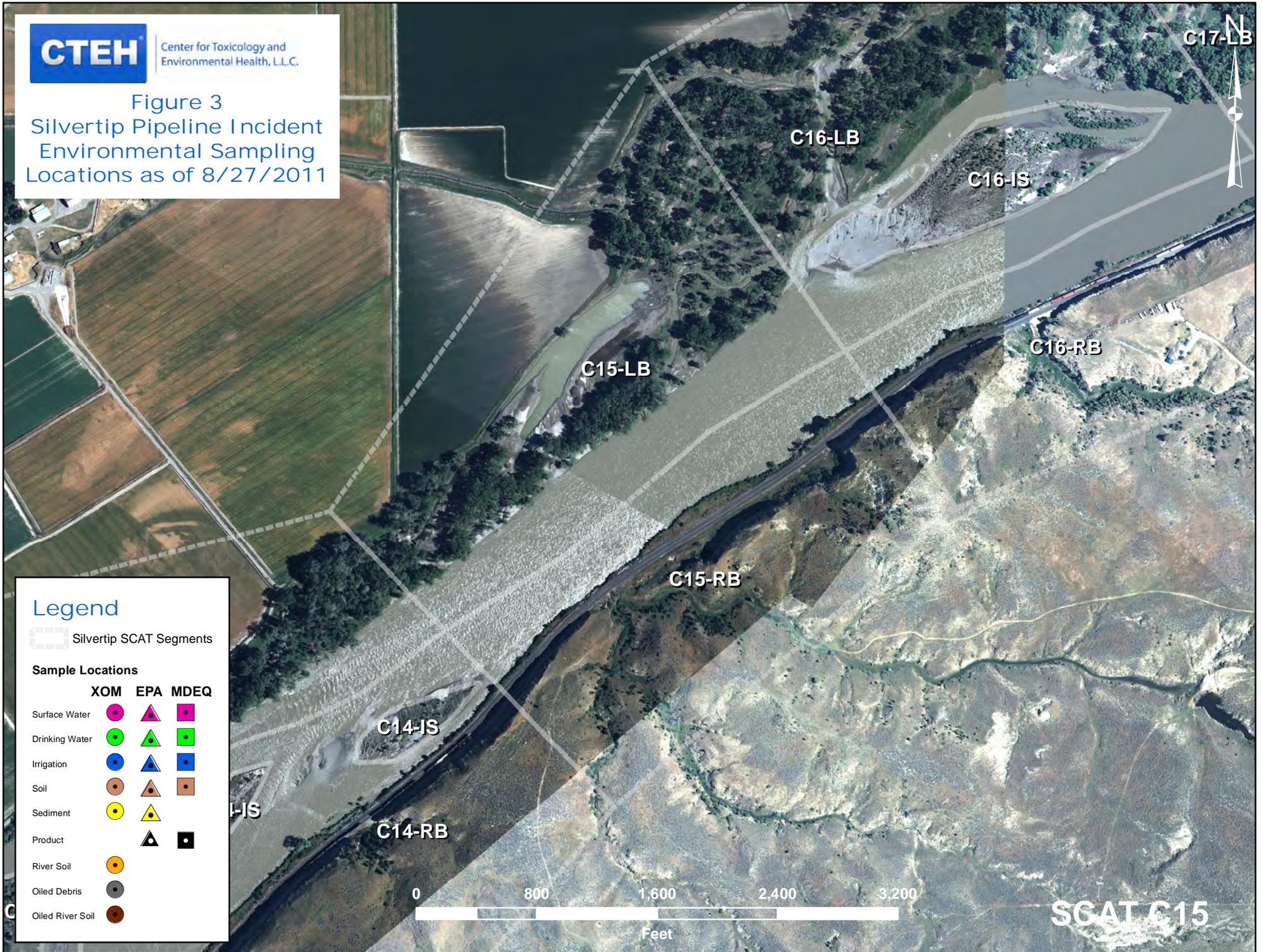


Figure 2
Wildlife Resources



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

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



Legend

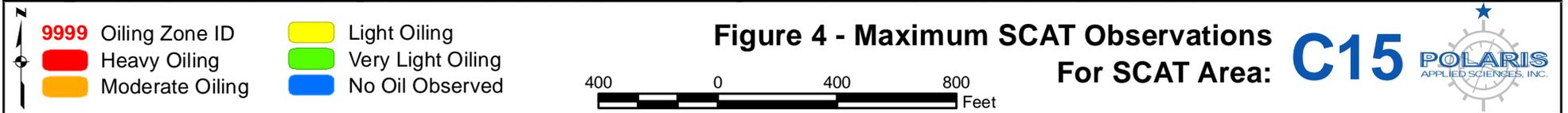
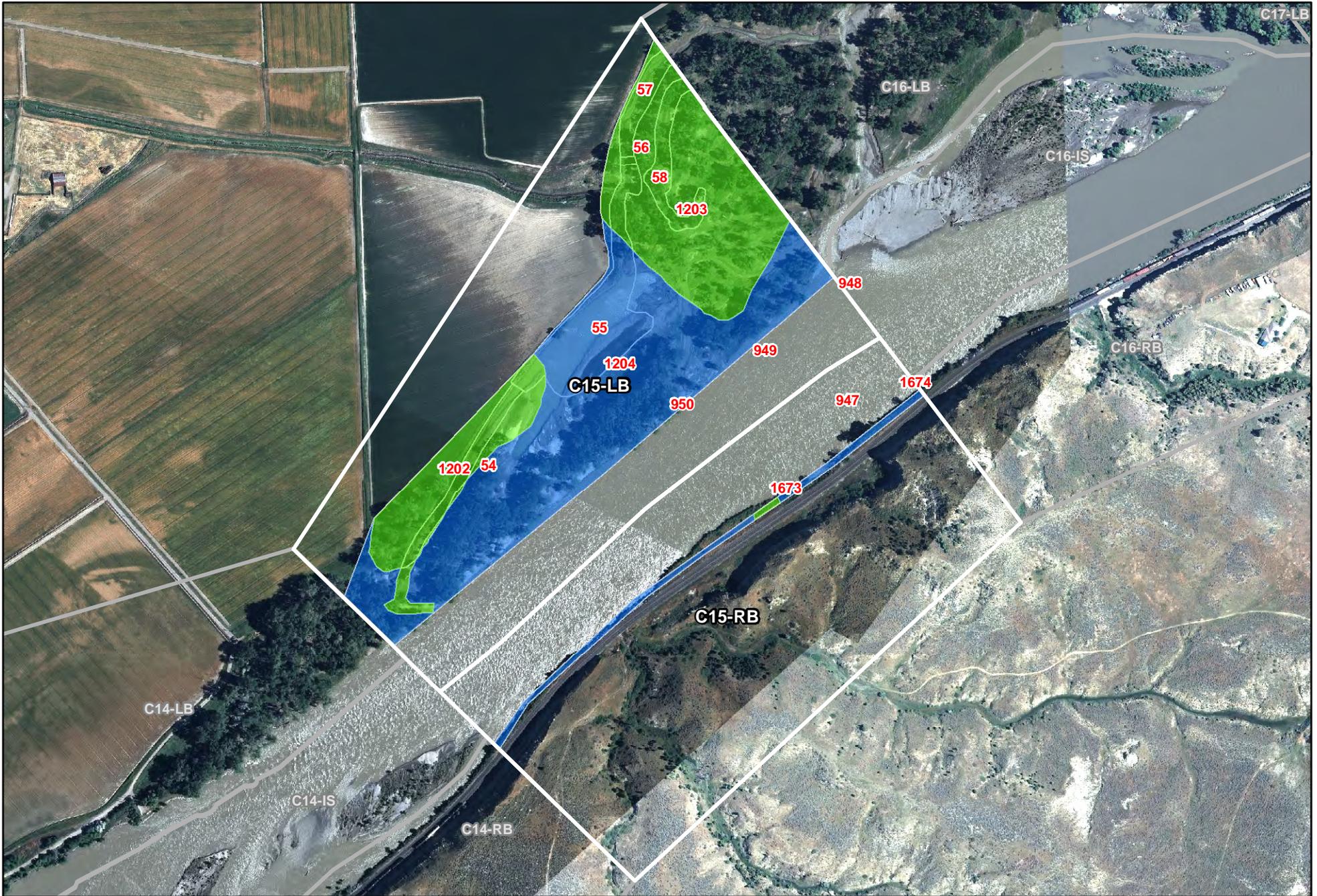
Silvertip SCAT Segments

Sample Locations

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



SCAT C15





Appendix A

Sample Detections Summary



Sample Results For
SCAT Area C15

Printed 9/8/2011

NA - Not Available

Detected Above Screening Level

Sample Num	Date	Sample Type	Matrix	Analytical Method	Analyte	Detected	Result	Screening Level	Result Qualifier	Units	Above?
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No Detections Reported



Appendix B

Initial SCAT Survey Forms and
Sketches

DB/G/Sc

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy) 10-Jul-2011	Time (24h): std / daylight 1534 hrs to 1620 hrs	Water Level low - mean - bankfull - <u>overbank</u> falling - steady - rising
Segment/Reach ID: C15 <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 +/- <u>29.4</u> deg C

2 SURVEY TEAM # 2 & 4	name	organization	contact phone number
Andrew Milanes		Polaris	
Tom Freeman		Polaris	
Andrew Johnson		USCG	
Travis Olson		USCG	

3 SEGMENT Total Segment/Reach Length _____ 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 S _____ Pebble/Cobble S _____ Boulder _____ Peat/Organic _____ Vegetated Bank: P Wooded Upland: S

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

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

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: <1m 1-10 m 10-100m >100m _____ 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 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		355	2	5				X		X										Grass, trees
B			X	X	330	40															X	Grass, trees, debris	
C				X	10	1	<1				X		X									Trees	
D			X	X	135	15															X	Grass, trees, debris	
E			X	X	210	15															X	Grass, trees, debris	

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

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

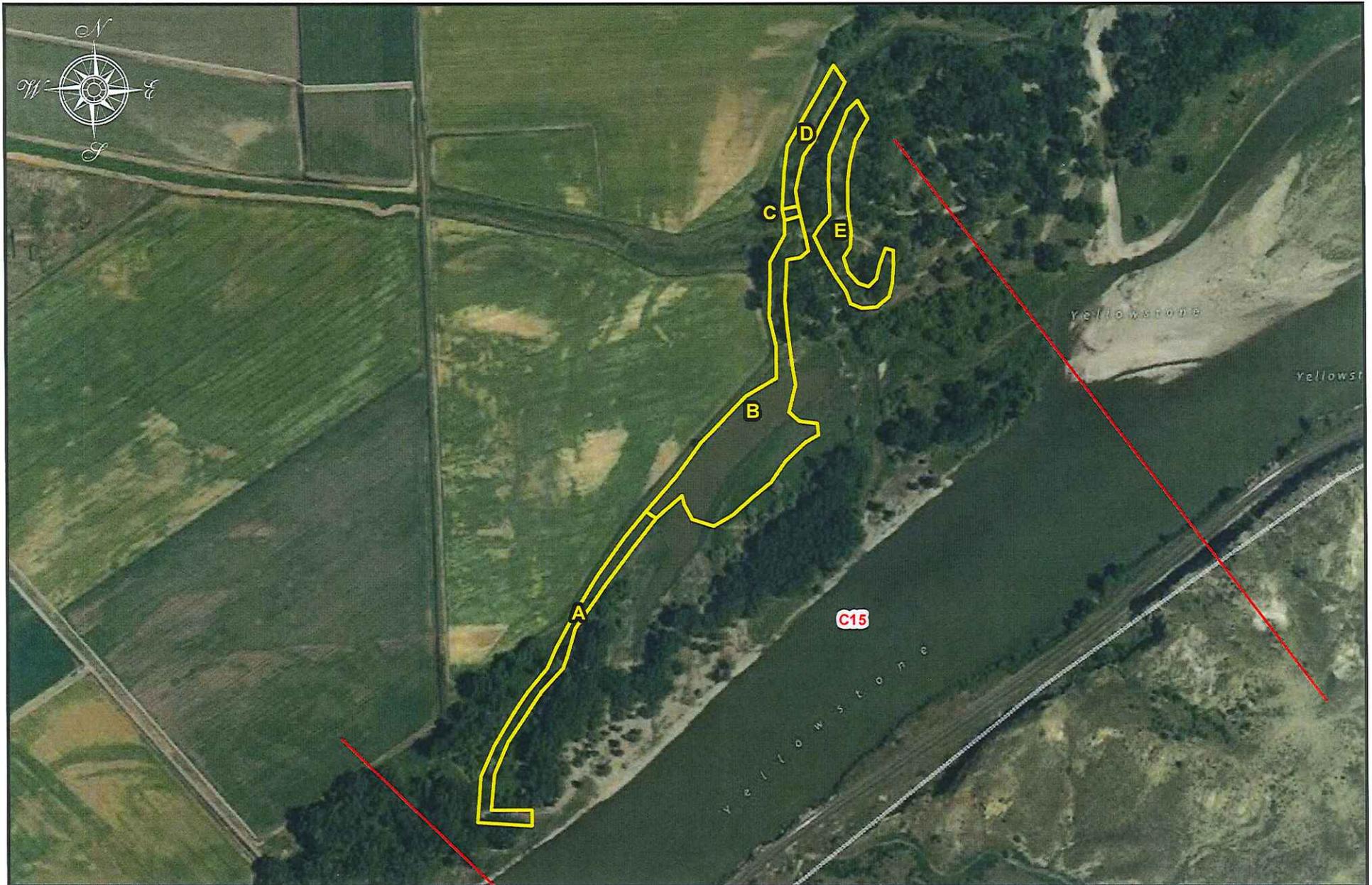
8 COMMENTS ecological/recreational/cultural/economic constraints - shorezone biota and wildlife observations - cleanup recommendations

Zone A Oiled Band Height: 10cm
 Zone C Oiled Band Height: 5cm

Cleanup Recommendations: No Further Treatment

(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# _____)



SCAT Teams 2 & 4 Survey

Segment C15 Left Bank

10-Jul-2011



Legend

- Segment Boundaries
- C15 Oil Zones

DB/C

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

Page _____ of _____

1 GENERAL INFORMATION		Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: <u>C15</u>	<input checked="" type="radio"/> Left Bank / <input type="radio"/> Right Bank / <input type="radio"/> Island	<u>27/07/11</u>	<u>928</u> hrs to <u>929</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: <input checked="" type="radio"/> Foot / <input type="radio"/> ATV / <input 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

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

3 SEGMENT Total Segment/Reach Length 680 m Segment/Reach Length Surveyed 680 m

Start GPS: LATITUDE 45 deg. 52° 28.87 min. LONGITUDE 108 deg. 22° 14.22 min. Datum: WGS 87

End GPS: LATITUDE 45 deg. 51° 47.2 min. LONGITUDE 109 deg. 22° 43.18 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

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 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

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>200</u>	<u>100</u>	<u>2</u>														<u>X</u>	<u>veg / sand</u>		
<u>B</u>					<u>20</u>	<u>2</u>	<u>60</u>			<u>S</u>	<u>P</u>		<u>X</u>											
<u>C</u>					<u>560</u>	<u>2</u>	<u>2</u>														<u>X</u>	<u>↓</u>		

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

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

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

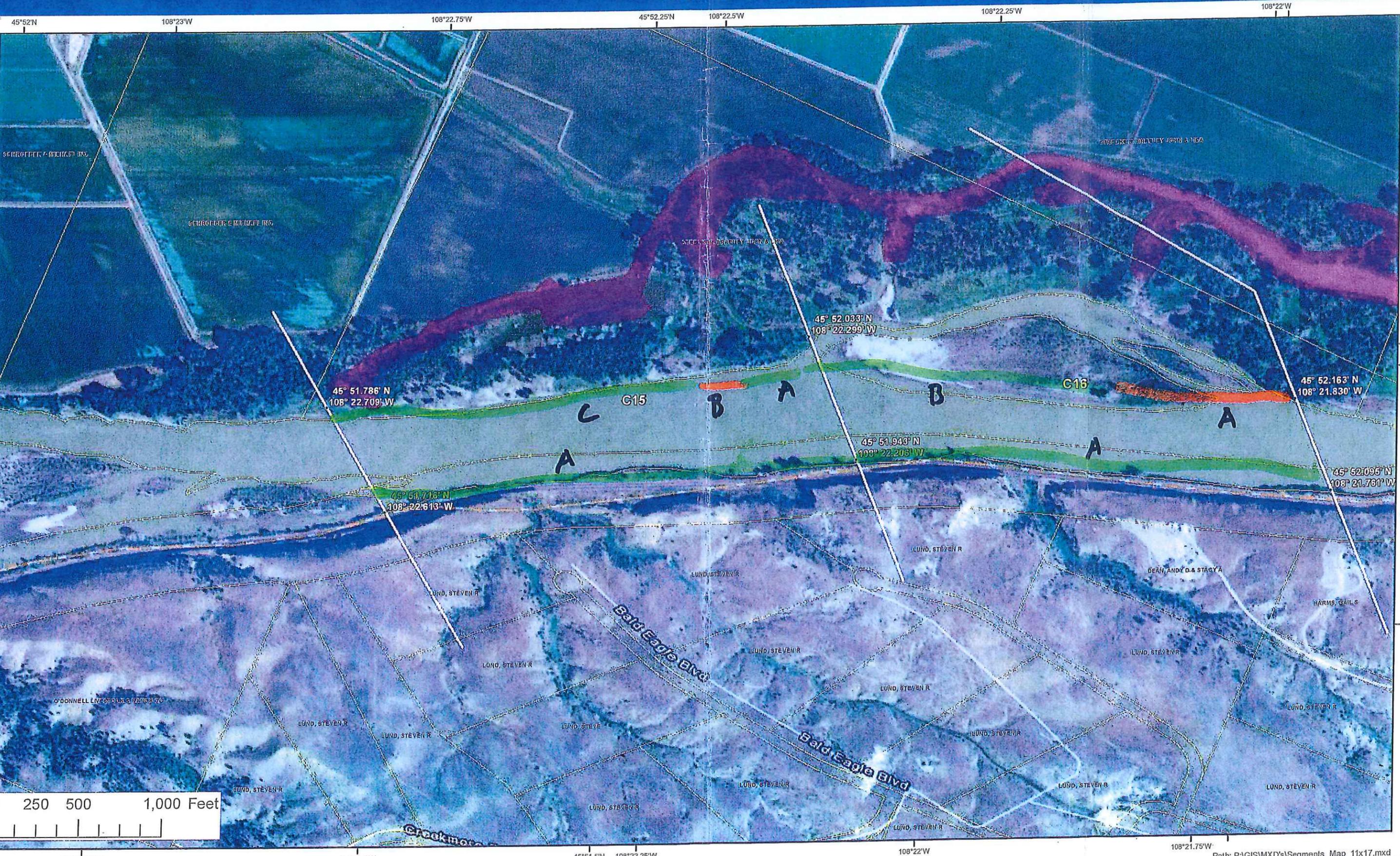
Zone B has stumps and control veg (primarily Grass)

Veg needs to be cut collar trimmed as necessary and removed.

Sketch / No Photos / No Frames _____ Photographer _____



SILVERTIP PIPELINE INCIDENT Yellowstone River Map 32



45°52'N 108°23'W 108°22.75'W 45°52.25'N 108°22.5'W 108°22.25'W 45°52.5'N

45°51.75'N 108°23'W 45°52.25'N 45°52.5'N

108°23'W 45°51.5'N 108°21.75'W

45°51.5'N 108°22.5'W 108°22'W 45°52'N

0 250 500 1,000 Feet

108°22.75'W 108°22.5'W 45°51.5'N 108°22.25'W 108°22'W 45°52'N

DB/G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy) 04/08/11	Time (24h): std / daylight 0900 hrs to 1015 hrs	Water Level low - mean - <u>bankfull</u> - overbank falling - steady - rising
Segment/Reach ID: C15 <u>Left Bank</u> / Right Bank / Island				
Operations Division:				Air Temp +/- 2 5 - 3 5 deg C
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook /		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		

2 SURVEY TEAM # 5	Name	Organization	Signature
Josh Hofkes		Cardno ENTRIX	
Ron Lynn		USCG	
Mike Ruggles		FWP	
John Brown		DEQ	

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 S Sand S Mixed S Pebble/Cobble S Boulder _____ Peat/Organic P Vegetated Bank: X Wooded Upland: (X)

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 S confined or leveed _____ Substrate Type: organic

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

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

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

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

OIL ZONE ID	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER							SUBST. TYPE(S)	
	MS	LB	UB	OB	Length m	Width m	Distrib. %	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR	AP		NO
A				X	288	50	<1			S	P	S	S				S				vegetative
B				X	170	240	<1			S	P	S	S				S				Vegetative/cobble
C				X	711	170														X	mix

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: Isolated and contiguous trace (<1%) oiling coat and stain on vegetation and small vegetative debris. Silver oil sheen within isolated slack waters/ox bows within floodplain. No further treatment (NFT) recommended.

Zone B: Isolated and contiguous trace (<1%) oiling coat and stain on vegetation and small vegetative debris. Silver oil sheen within isolated slack waters/ox bows within floodplain. No further treatment (NFT) recommended.

Zone C: No oiling observed. No further treatment (NFT) recommended.

Sketch Yes / No Photos Yes / No Frames/Photographer: _____

DB/G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy) 04/08/11	Time (24h): std / daylight 0900 hrs to 1015 hrs	Water Level low - mean - <u>bankfull</u> - overbank falling - steady - rising
Segment/Reach ID: C15 <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 + / - 2 5 - 3 5 deg C

2 SURVEY TEAM # 5	Name	Organization	Signature
Josh Hofkes		Cardno ENTRIX	
Ron Lynn		USCG	
Mike Ruggles		FWP	
John Brown		DEQ	

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

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 S confined or leveed _____ Substrate Type: organic

Sloped: (>5°)(15°)(30°) straight _____ braided _____ oxbow S flood plain valley P 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: <1m 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 NA bags or NA 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

1202-
1203
1204

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	288	50	<1			S	P	S	S				S				vegetative
B				X	170	240	<1			S	P	S	S				S				Vegetative/cobble
C				X	711	170														X	mix

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

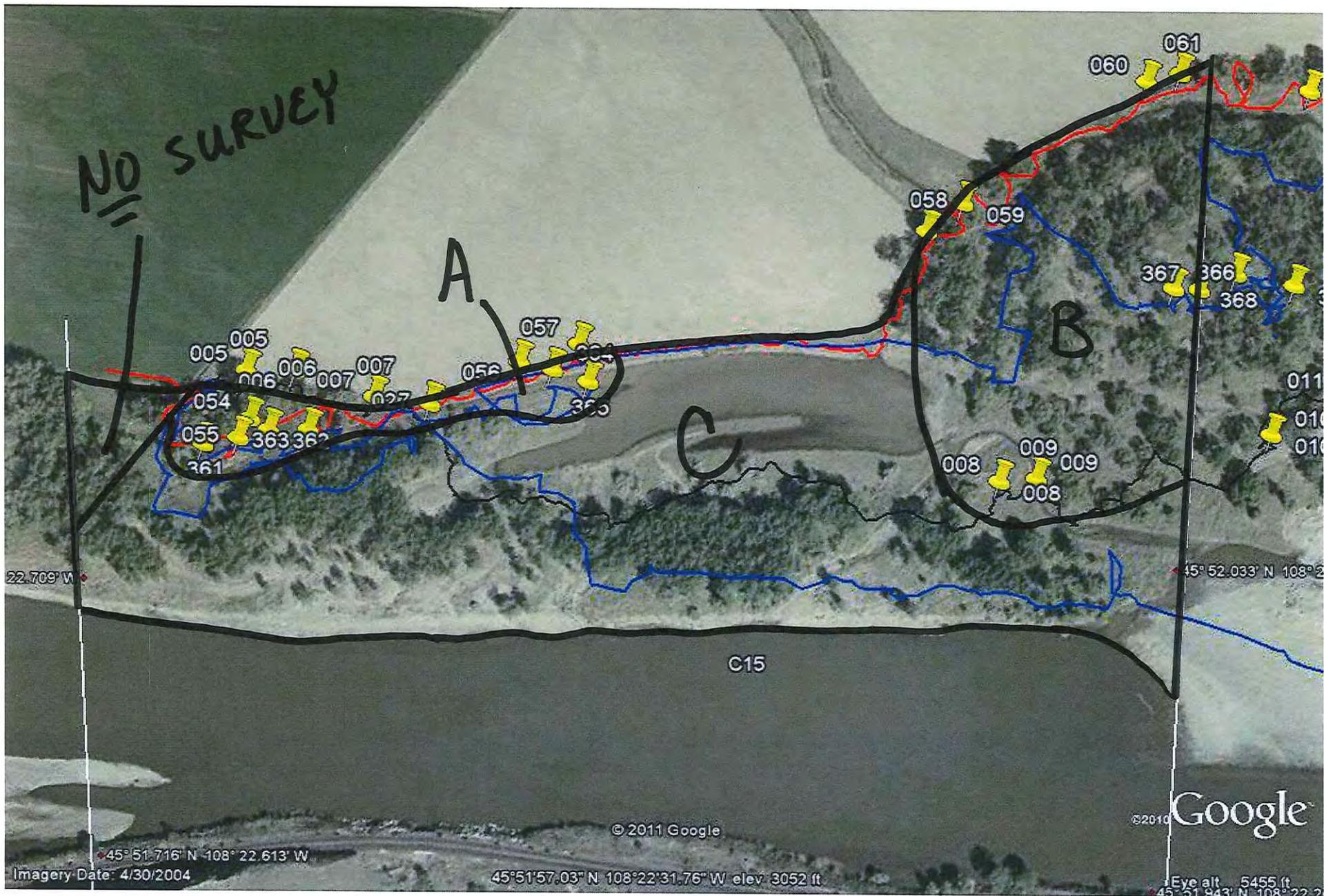
Overbank Survey Required Y/N Overbank Survey Completed Y/N Shoreline Survey Completed Y/N

Zone A: Isolated and contiguous trace (<1%) oiling coat and stain on vegetation and small vegetative debris. Silver oil sheen within isolated slack waters/ox bows within floodplain. No further treatment (NFT) recommended.

Zone B: Isolated and contiguous trace (<1%) oiling coat and stain on vegetation and small vegetative debris. Silver oil sheen within isolated slack waters/ox bows within floodplain. No further treatment (NFT) recommended.

Zone C: No oiling observed. No further treatment (NFT) recommended.

Sketch Yes / No Photos Yes / No Frames/Photographer: _____



August 4, 2011

TEAM 5 C15 LB

Zones A, B, + C

DB/G/S

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: <u>C15</u>	Left Bank / <u>Right Bank</u> / Island	<u>27/07/11</u>	<u>1150</u> hrs to <u>1151</u> hrs	low - mean - bankfull - overbank
Operations Division: <u>C</u>				falling - steady - rising
Survey by: Foot / ATV / <u>Boat</u> / Helicopter / Overlook / _____		<u>(Sun)</u> Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- <u>30</u> deg C

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

3 SEGMENT Total Segment/Reach Length 680 m Segment/Reach Length Surveyed 680 m

Start GPS: LATITUDE 45 deg. 51:56.72 min. LONGITUDE 109 deg. 22:12.94 min. Datum: WGS 84

End GPS: LATITUDE 45 deg. 51:45.28 min. LONGITUDE 109 deg. 22:35.75 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: (C) Wooded Upland: (C)

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

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

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: <1m 1-10m 10-100m (100m) 100m 110 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

947

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>	<u>X</u>	<u>680</u>	<u>2</u>	<u>0</u>													<u>X</u>	<u>Sand</u>			

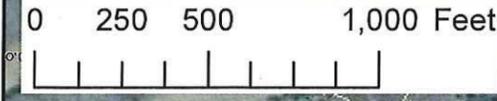
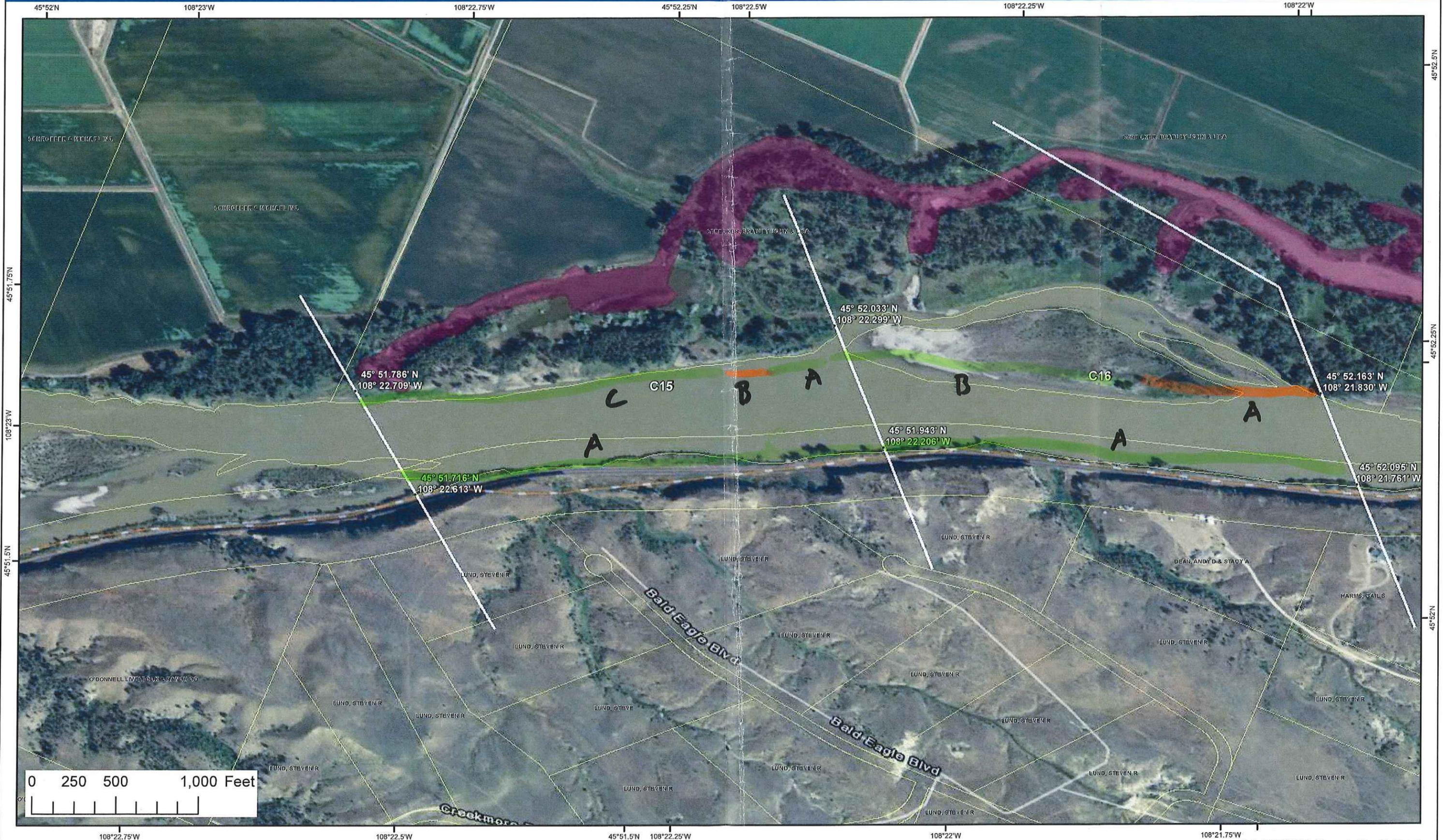
7 SUBSURFACE OILING CONDITIONS use letter for ZONE location plus Number of pit or trench - e.g., "A1"

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

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

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

No oil observed



DB / G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

Page 1 of 2 OK 8/2/11

1 GENERAL INFORMATION		Date (dd/mm/yy) <u>8/20/11</u>	Time (24h): std / daylight <u>09:35</u> hrs to <u>09:55</u> hrs	Water Level low - mean - bankfull - overbank falling - steady - rising
Segment/Reach ID: <u>C15</u> Left Bank / Right Bank / Island		Operations Division: <u>C</u>		
Survey by: Foot / ATV / Boat / Helicopter / Overlook / _____		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		
Air Temp +/- <u>29</u> deg C				

2 SURVEY TEAM # <u>108</u>	Name	Organization	Signature
	<u>Joe Anselacchi</u>	<u>Cardno ENTRIX</u>	<u>[Signature]</u>
	<u>Arial Blanc</u>	<u>Polaris</u>	<u>[Signature]</u>
	<u>Jessica Ross</u>	<u>M DEQ</u>	<u>[Signature]</u>
	<u>John Perrin</u>	<u>USCG</u>	<u>[Signature]</u>

3 SEGMENT Total Segment/Reach Length 680 m Segment/Reach Length Surveyed 680 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) _____ Wetland: Swamp _____ Bog/Fen _____ Marsh _____

Sediment Bank: Clay/Mud _____ Sand _____ Mixed _____ 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 S confined or leveed _____ Substrate Type: Mixed

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: 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	
<u>1673</u> <u>1674</u> A				<u>X</u>	<u>10</u>	<u>1.5</u>	<u><1</u>				<u>P</u>						<u>P</u>				<u>X</u>	<u>mid veg</u>
B		<u>P</u>	<u>S</u>		<u>680</u>	<u>2</u>	<u>0</u>														<u>P</u>	<u>exp clay</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 - Noo

Zone A: ~ 10m x 0.5m area trace distribution oiled veg → NFF

Zone B: No oil observed → NFF

Sketch Yes / No Photos Yes / No Frames _____ Photographer _____

C16-LB

C16-B

C16-E

350
053
051

C16-RB

C15-LB

C15-E

360
361

RB: NOO

at 0.5/10m cl/. ST on veg

C15-RB

C14-E

C15
SCAT 1
20 Aug 2011

Unit 21
01



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**