

ExxonMobil Pipeline Company

**SCAT Area Transition Report for
A14**

Silvertip Pipeline Incident
Laurel, Montana

October 18, 2011



SCAT Area Transition Report for A14

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 18, 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	
Figure 5 Final 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 A14, 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 A14. 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 A14, 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 A14 is 36.1. There were no access issues for the left bank; however, there was a conditional access agreement for a portion of the right bank within 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 regular inspections of Area A14. One oiled western terrestrial garter snake (*Thamnophis elegans*) was captured, cleaned, and released. One deceased oiled Lazuli bunting (*Passerina amoena*) and one deceased starling (*Sturnus vulgaris*) with no visible oiling were collected and retained. No Wildlife Priority Cleanup Areas were identified. No active migratory bird nests were identified in Area A14.

1.3 Summary of Environmental Sampling

Table 1 (below) summarizes samples collected within Area A14. 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 A14 are provided on Figure 3.

Table 1 Environmental Sampling Summary

Agency	Sample Num	Date	Matrix	Location	Latitude	Longitude
CTEH	LAMT0708DW4002	08-Jul-11	Water_Drinking	LAMT_299_DW001	45.656491	-108.701897
CTEH	LAMT0709DW305	09-Jul-11	Water_Drinking	LAMT_288_DW305	45.652388	-108.703387
CTEH	LAMT0722DW303	22-Jul-11	Water_Drinking	LAMT_396_DW303	45.652881	-108.703
CTEH	LAMT0722DW303DUP	22-Jul-11	Water_Drinking	LAMT_396_DW303	45.652881	-108.703
CTEH	LAMT0824SO611	24-Aug-11	Soil_River	SO-A14L	45.654218	-108.707633
MDEQ	ST-071411-YELLR1	14-Jul-11	Water_Surface	ST-YELLR-01	45.65322	-108.70583
EPA	SPSO112D01_071311	13-Jul-11	Soil_Surface	SPSO112	45.6544445	-108.7059989
EPA	SPSO113D02_071311	13-Jul-11	Soil_Surface	SPSO113	45.6541268	-108.7059981
EPA	SPSO201D02_071211	12-Jul-11	Soil_Surface	SPSO201	45.6530729	-108.7057364
EPA	SPSO202D01_071211	12-Jul-11	Soil_Surface	SPSO202	45.6528525	-108.7060354
EPA	SPSO203D01_071211	12-Jul-11	Soil_Surface	SPSO203	45.6526514	-108.7060926
EPA	SPSO204D01_071211	12-Jul-11	Soil_Surface	SPSO204	45.6523808	-108.7063842

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 three exceedances in surface soils for total extractable hydrocarbons.

1.4 Summary of Initial SCAT Surveys

The SCAT teams used systematic evaluation criteria and treatment method tables approved by the National Oceanic and Atmospheric Administration to provide a standard approach for data collection and conducting field surveys. The forms and sketches from the initial SCAT surveys performed along the river bank (water edge) and floodplain within Area A14 are included in Appendix B. Figure 4 provides the maximum oiling zones observed by the SCAT team during the initial surveys of Area A14.

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. 1](#) and [CTR No. 2](#)).

1.6 Oil Removal Activities

Oil removal activities were conducted within Area A14 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

SCAT Operations liaisons performed an inspection of the remediated areas of SCAT Area A14 and developed a Pre-Inspection Survey Transmittal (PIST) associated with the right and left banks within Area A14, which is presented in Appendix C.

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 A14 following completion of oil removal activities. The SCAT team performed final surveys of the left and right banks within SCAT Area A14 to confirm the agreed-upon cleanup endpoints identified in the applicable CTRs had been achieved. The final SCAT survey documentation is presented in Appendix E.

1.10 SCAT Area Conclusions

Based on the final SCAT surveys performed on the left and right banks within Area A14, no further treatment is recommended for these segments. SCAT Segment Sign-Off Forms are included as Appendix F.



**SCAT Area Transition
Report for A14**

Silvertip Pipeline Incident
Laurel, Montana

2. Transition Sign-Off Form

SCAT Area Transition Report for A14

Prepared for:

Unified Command

Date

Unified Command – RP



**SCAT Area Transition
Report for A14**

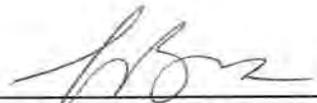
Silvertip Pipeline Incident
Laurel, Montana

SCAT Area Transition Report for A14

Prepared for:

Unified Command

9/28/2011
Date

 S. METTERS
Unified Command – FOSC



**SCAT Area Transition
Report for A14**

Silvertip Pipeline Incident
Laurel, Montana

SCAT Area Transition Report for A14

Prepared for:

Unified Command

9/26/11
Date

Lawley
Unified Command – MDEQ



Legend

Parcel Access

Access

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

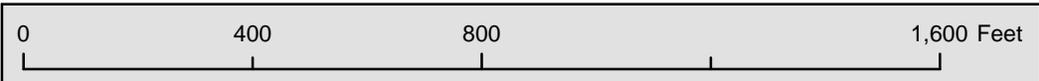


Figure 1

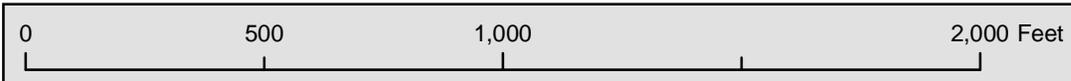
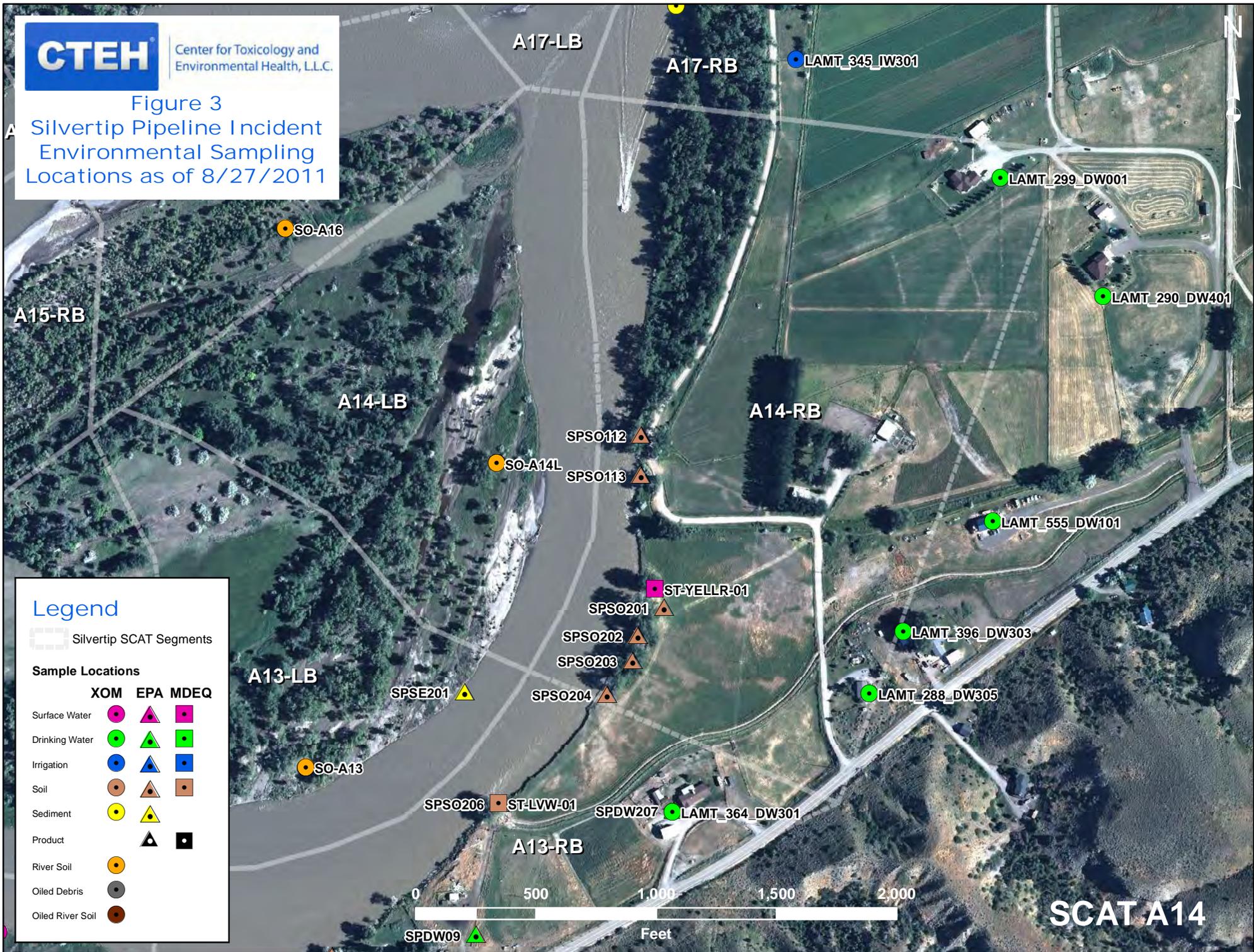


Figure 2
Wildlife Resources



Center for Toxicology and Environmental Health, LLC.

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 A14



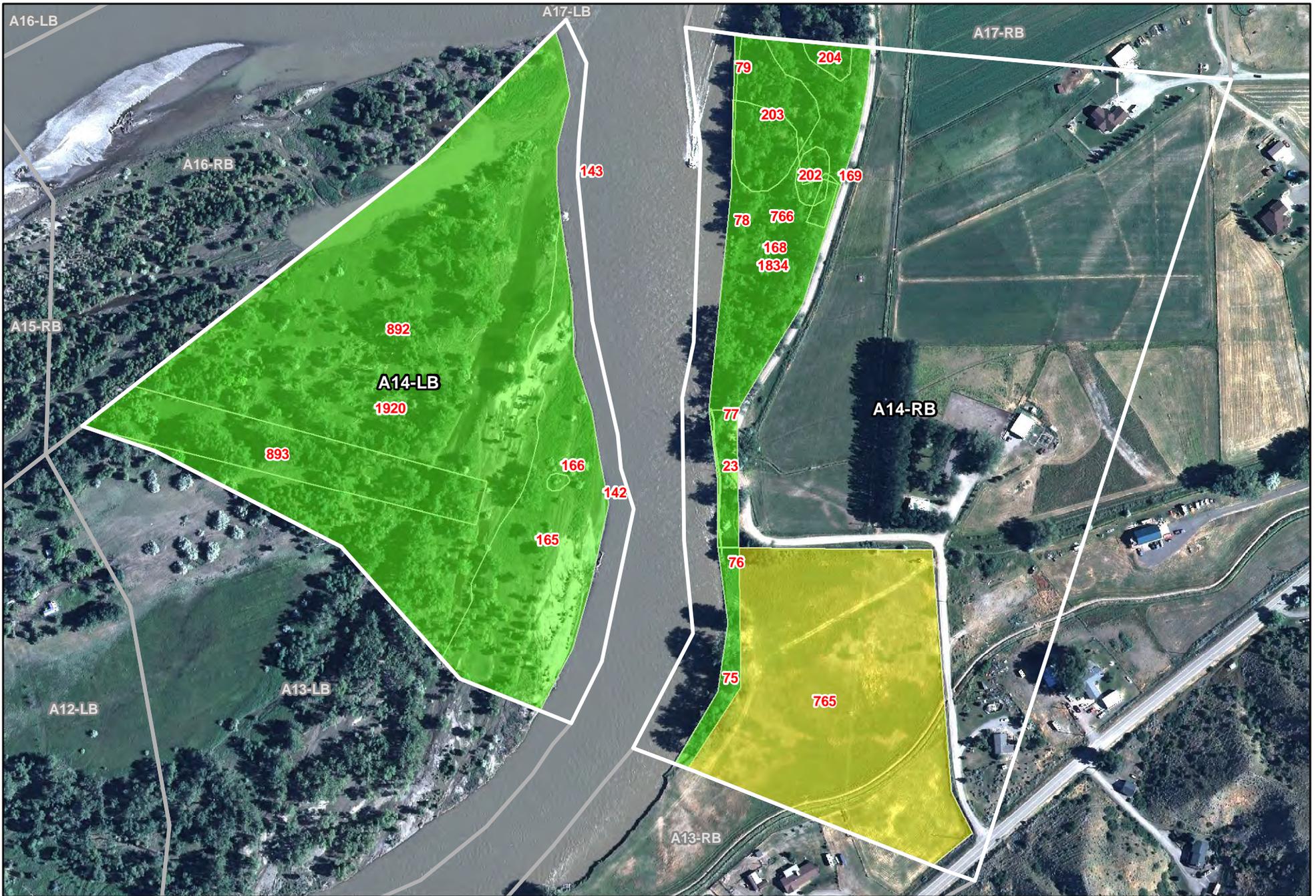
- 9999 Oiling Zone ID
- Heavy Oiling
- Moderate Oiling

- Light Oiling
- Very Light Oiling
- No Oil Observed

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



240 0 240 480
Feet



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

Figure 5 - Final SCAT Observations
For SCAT Area: A14

240 0 240 480
 Feet



Appendix A

Sample Detection Summary



Detections in Samples Collected in SCAT Area A14

Printed 9/7/2011

NA - Not Available

Detected Above Screening Level

Sample Num	Sample Type	Matrix	Analytical Method	Analyte	Detected	Result	Screening Level	Result Qualifier	Lab Result Qualifier	Units	Above?
ST-071411-YELLR1	Field	Water_Surface	8260B	1,2-Dichloroethane-d4	Y	92				%	no
ST-071411-YELLR1	Field	Water_Surface	8260B	Dibromofluoromethane	Y	99				%	no
ST-071411-YELLR1	Field	Water_Surface	8260B	p-Bromofluorobenzene	Y	98				%	no
ST-071411-YELLR1	Field	Water_Surface	8260B	Toluene	Y	0.63	1000	J		ug/l	no
ST-071411-YELLR1	Field	Water_Surface	8260B	Toluene-d8	Y	111				%	no
LAMT0708DW4002	Field	Water_Drinking	E524.2	1,2,4-Trimethylbenzene	Yes	0.2	15	J	J	ug/L	no
LAMT0708DW4002	Field	Water_Drinking	E524.2	m+p-Xylenes	Yes	0.56	10000	J		ug/L	no
LAMT0708DW4002	Field	Water_Drinking	E524.2	o-Xylene	Yes	0.22	10000	J	J	ug/L	no
LAMT0708DW4002	Field	Water_Drinking	E524.2	Toluene	Yes	0.84	1000	J		ug/L	no
LAMT0708DW4002	Field	Water_Drinking	E524.2	Xylenes, Total	Yes	0.78	10000	J		ug/L	no
SPSO201D02_071211	Field	Soil_Surface	MADEP EPH	Total Extractable Hydrocarbons	Y	14300	200			mg/kg	YES
SPSO203D01_071211	Field	Soil_Surface	MADEP EPH	Total Extractable Hydrocarbons	Y	65.8	200			mg/kg	no
SPSO204D01_071211	Field	Soil_Surface	MADEP EPH	Total Extractable Hydrocarbons	Y	420	200			mg/kg	YES
SPSO113D02_071311	Field	Soil_Surface	EPA 8260	1,2,4-Trimethylbenzene	Y	5770	62000			ug/kg	no
SPSO113D02_071311	Field	Soil_Surface	EPA 8260	1,3,5-Trimethylbenzene	Y	2450	780000			ug/kg	no
SPSO113D02_071311	Field	Soil_Surface	EPA 8260	Isopropylbenzene (Cumene)	Y	76.8	2100000			ug/kg	no
SPSO113D02_071311	Field	Soil_Surface	EPA 8260	Naphthalene	Y	1240	4000			ug/kg	no
SPSO113D02_071311	Field	Soil_Surface	EPA 8260	n-Butylbenzene	Y	2010	3900000			ug/kg	no
SPSO113D02_071311	Field	Soil_Surface	EPA 8260	n-Propylbenzene	Y	286	3400000			ug/kg	no
SPSO113D02_071311	Field	Soil_Surface	EPA 8260	p-Isopropyltoluene	Y	1720				ug/kg	no
SPSO113D02_071311	Field	Soil_Surface	EPA 8260	sec-Butylbenzene	Y	482				ug/kg	no
SPSO113D02_071311	Field	Soil_Surface	EPA 8260	Xylene (Total)	Y	770	70000			ug/kg	no
SPSO113D02_071311	Field	Soil_Surface	MADEP EPH	Total Extractable Hydrocarbons	Y	8440	200			mg/kg	YES
SPSO113D02_071311	Field	Soil_Surface	MADEP VPH	Aliphatic (C09-C12), Adjusted	Y	10.7	100			mg/kg	no
SPSO113D02_071311	Field	Soil_Surface	MADEP VPH	Aliphatic (C09-C12).Unadjusted	Y	39.3	100			mg/kg	no
SPSO113D02_071311	Field	Soil_Surface	MADEP VPH	Aromatic (C09-C10)	Y	28.6	100			mg/kg	no
SPSO113D02_071311	Field	Soil_Surface	MADEP VPH	Naphthalene	Y	2.9	4			mg/kg	no
SPSO113D02_071311	Field	Soil_Surface	MADEP VPH	Total Purgeable Hydrocarbons	Y	67.1	200			mg/kg	no



Appendix B

Initial SCAT Survey Forms and
Sketches

DB10-15c

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy) 11-Jul-2011	Time (24h): std / daylight 1058 hrs to 1100 hrs	Water Level low - mean - bankfull - <u>overbank</u> falling - steady - rising
Segment/Reach ID: A14 <u>Left Bank</u> / Right Bank / Island				
Operations Division: A				
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 507 m

Start GPS: LATITUDE _____ deg. _____ min. LONGITUDE _____ deg. _____ min. Datum: _____

End GPS: LATITUDE _____ deg. _____ min. LONGITUDE _____ deg. _____ min.

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

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

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

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

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

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: <1m 1-10m 10-100m >100m 105m est. water depth: <1m 1-3m 3-10m >10m _____ m

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

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

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

Debris: Y/N oiled Y/N amount _____ bags or 1 trucks access restrictions

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

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

OIL ZONE	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER							SUBST. TYPE(S)			
					Length	Width	Distrib.	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR	AP		NO		
ID	MS	LB	UB	OB	m	m	%																
A			X		236	1	95			X	X			X									Grass, trees, debris
B			X		271	1															X	Grass, trees, debris	

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

TRENCH or PIT NO.	RIVER BANK ZONE				MAX. PIT DEPTH	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

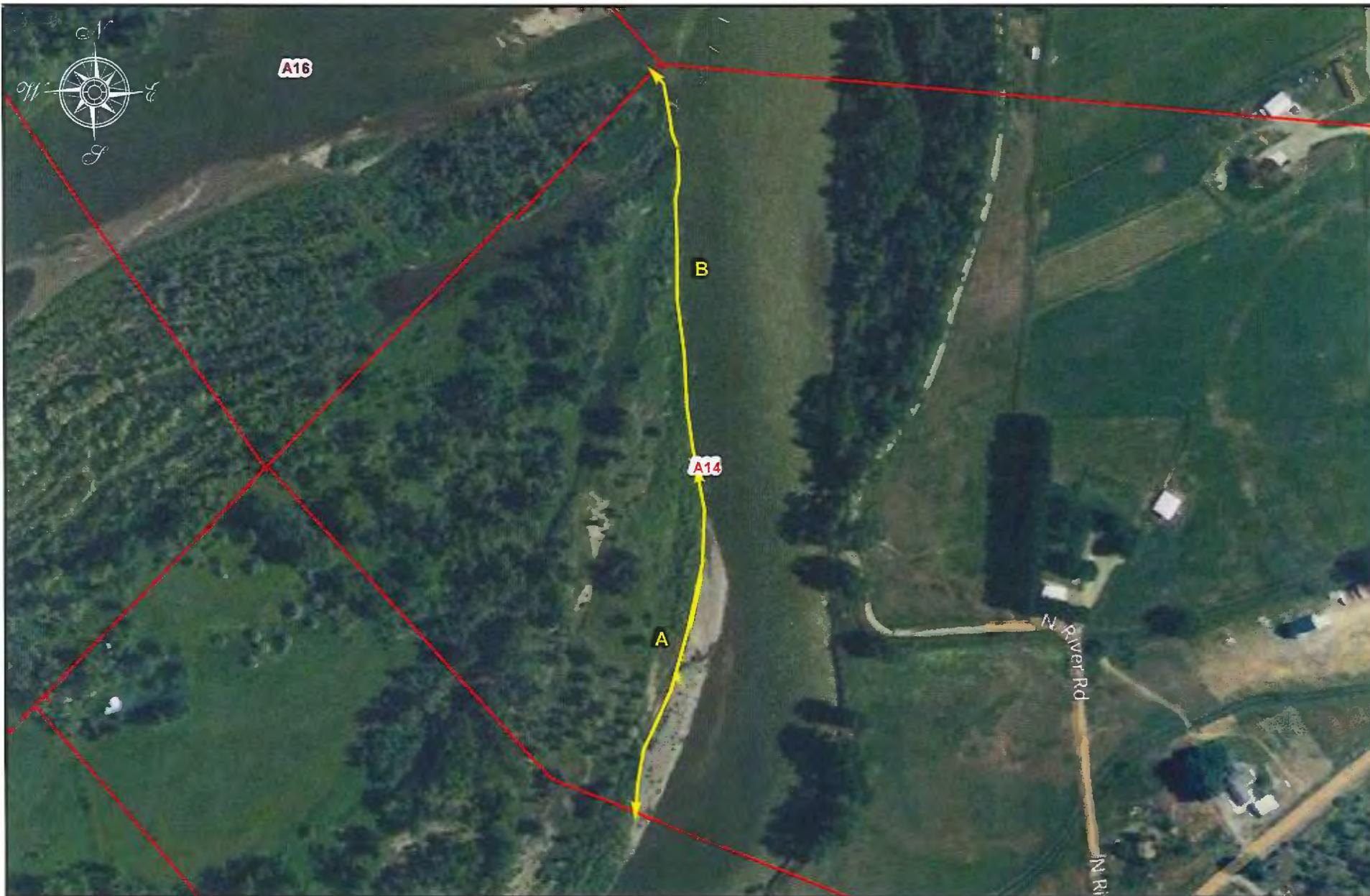
Oiled Band Heights: Zone A - 40cm

Due to survey platform (jet-drive boat) oil band width and heights are estimates. Unable to verify by foot.

Cleanup Recommendations: Trim oiled vegetation; wipe large oiled debris; remove small oiled debris; wipe oiled trees;

(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 A14 Left Bank

11-Jul-2011



Legend

-  Oil Zones
-  Segment Boundaries

DD 16/15c

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy) 13-Jul-2011	Time (24h): std / daylight 1044 hrs to 1120 hrs	Water Level low - mean - bankfull - overbank falling - steady - rising
Segment/Reach ID: A14 <u>Left Bank</u> / Right Bank / Island				
Operations Division: A				
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook /		<u>Sun</u> / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp + / - <u>32</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	
Trevor Selch		Montana Fish & Game	

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 302 m

Start GPS: LATITUDE _____ deg. _____ min. LONGITUDE _____ deg. _____ min. Datum: _____

End GPS: LATITUDE _____ deg. _____ min. LONGITUDE _____ deg. _____ min.

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

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

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

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

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

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: <1m 1-10m 10-100m >100m 105m est. water depth: <1m 1-3m 3-10m >10m _____ m

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

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

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

Debris: Y/N oiled Y/N amount _____ bags or 1 trucks access restrictions

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

165
126

OIL ZONE	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER							SUBST. TYPE(S)				
					Length	Width	Distrib.	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR	AP		NO			
ID	MS	LB	UB	OB	m	m	%																	
A				X	300	40	5				X	X		X										Grass, trees, debris
B				X	25	25	15				X	X		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)
							SAP	OP	PP	OR	OF				

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

Oiled Band Heights: Zone A - 10cm; Zone B - 40cm

Cleanup Recommendations: For substrates with oiling **greater** than stain, trim oiled vegetation; wipe large oiled debris; remove small oiled debris; wipe oiled trees. No treatment for stained substrates is recommended.

STR to be developed.

(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# _____)

DD 16/Sc

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy) 13-Jul-2011	Time (24h): etd / daylight 1044 hrs to 1120 hrs	Water Level low - mean - bankfull - <u>overbank</u>
Segment/Reach ID: A14 <u>Left Bank / Right Bank / Island</u>				<u>falling</u> - steady - rising
Operations Division: A				Air Temp +/- <u>32</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	
Trevor Selch			Montana Fish & Game	<i>Trevor Selch</i>

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 302 m

Start GPS: LATITUDE _____ deg. _____ min. LONGITUDE _____ deg. _____ min. Datum: _____

End GPS: LATITUDE _____ deg. _____ min. LONGITUDE _____ deg. _____ min.

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

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

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

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

4B RIVER VALLEY CHARACTER select as appropriate

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

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: <1m 1-10m 10-100m >100m 105m est. water depth: <1m 1-3m 3-10m >10m _____ m

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

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

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

Debris: Y/N oiled Y/N amount _____ bags or 1 trucks access restrictions _____

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

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

165
166

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	300	40	5			X	X		X									grass, trees, debris
B				X	25	25	15			X	X		X									grass, trees, debris

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

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

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

Oiled Band Heights: Zone A - 10cm; Zone B - 40cm

Cleanup Recommendations: For substrates with oiling greater than stain, trim oiled vegetation; wipe large oiled debris; remove small oiled debris; wipe oiled trees. No treatment for stained substrates is recommended.

STR to be developed.

(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 A14 - Left Bank

13-Jul-2011



Legend

-  Oiling Zones
-  Segment Boundaries

DB/G/Sc

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy) 14-Jul-2011	Time (24h): std / daylight 1034 hrs to 1130 hrs	Water Level low - mean - bankfull - <u>overbank</u> falling - steady - rising
Segment/Reach ID: A14 <u>Left Bank / Right Bank / Island</u>				
Operations Division: A				
Survey by: <u>Foot / ATV / Boat / Helicopter / Overlook /</u>		<u>Sun / Clouds / Fog / Rain / Snow / Windy / Calm</u>		Air Temp +/- <u>32</u> deg C

2 SURVEY TEAM # 1 & 2	name	organization	contact phone number
Andrew Milanes <i>AM</i>		Polaris	
Tom Freeman <i>TF</i>		Polaris	
Andrew Johnson <i>AJ</i>		USCG	
Travis Olson <i>TO</i>		USCG	
Aaron Anderson <i>AA</i>		MTDEQ	406-841-5049
Darrick Turner <i>DT</i>		MTDEQ	406-444-1504 <i>406-444-1504</i>

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 595 m

Start GPS: LATITUDE _____ deg. _____ min. LONGITUDE _____ deg. _____ min. Datum: _____

End GPS: LATITUDE _____ deg. _____ min. LONGITUDE _____ deg. _____ min.

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

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

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

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

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

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: < 1m 1-10m 10-100m >100m 105m 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 30 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

892
893

OIL ZONE	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER							SUBST. TYPE(S)		
	MS	LB	UB	OB	Length m	Width m	Distrib. %	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR	AP		NO	
A				X	345	195	15			X	X		X									Grass, trees, debris
B				X	250	30	45	X	X	X	X		X									Grass, trees, debris

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

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

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

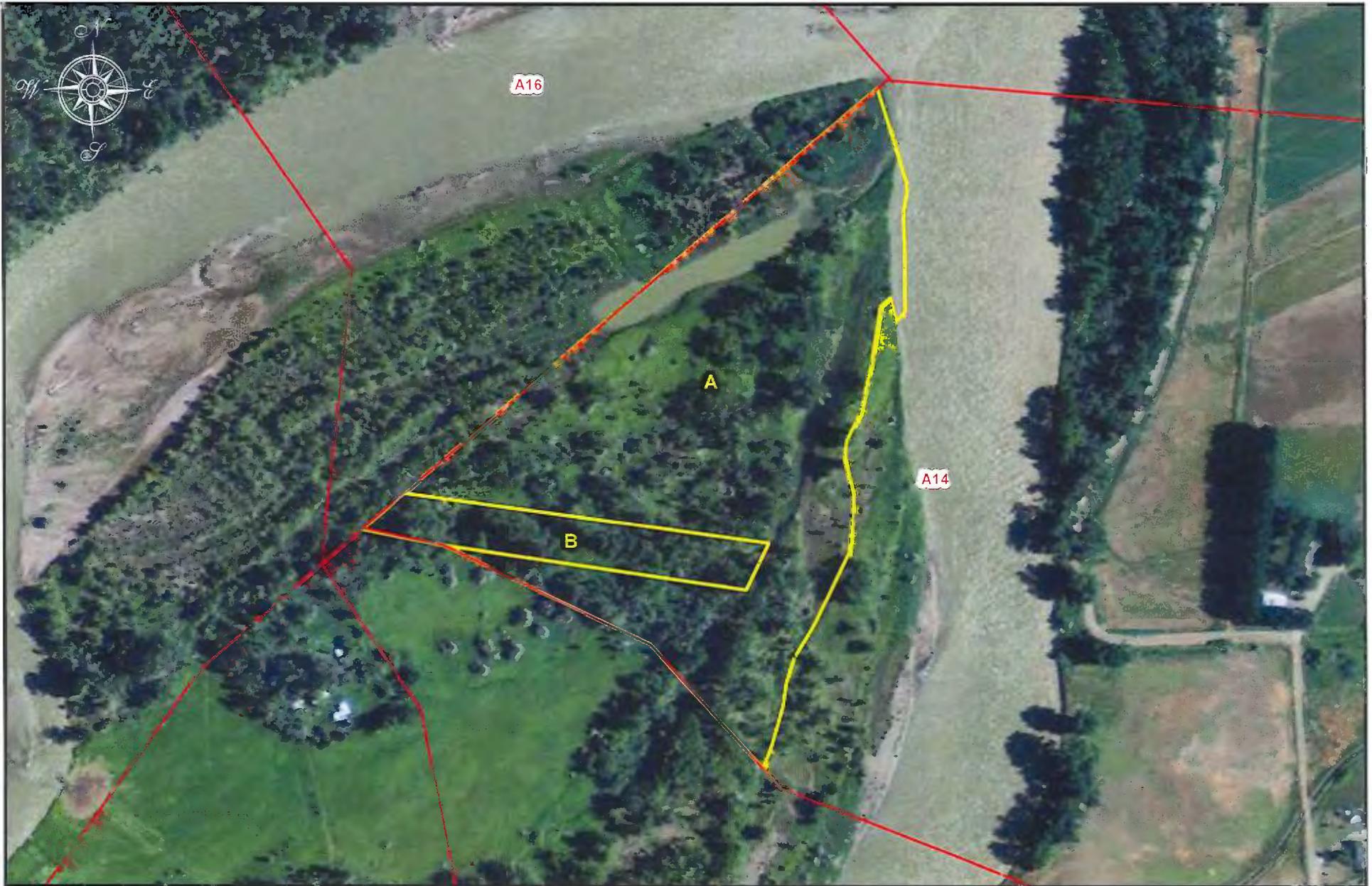
Oiled Band Heights: Zone A - 10cm; Zone B - 35cm

Cleanup Recommendations: For substrates with oiling greater than stain, trim oiled vegetation; wipe large oiled debris; remove small oiled debris; wipe oiled trees. No treatment for stained substrates is recommended.

STR to be developed.

(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 1 & 2 Survey

Segment A14 - Left Bank

14 July 2011



Legend

- Segment Boundaries
- ▭ Oiling Zones



A14.

015

012

Zone A

014

DB/G/SC

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy) 11-Jul-2011	Time (24h): std / daylight 1058 hrs to 1100 hrs	Water Level low - mean - bankfull - <u>overbank</u> falling - steady - rising
Segment/Reach ID: A14 Left Bank / <u>Right Bank</u> / Island				
Operations Division: A				
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 538 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 (P) Permeable S (type) Rip/Rip Wetland: Swamp _____ Bog/Fen _____ Marsh _____

Sediment Bank: Clay/Mud _____ Sand _____ Mixed S _____ Pebble/Cobble S _____ Boulder _____ Peal/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 1-10m 10-100m >100m 105m 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 10 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		83	1	95			X	X		X												Grass, trees, debris
B			X		117	1																		X	Grass, trees, debris
C			X		110	1	95			X	X		X												Grass, trees, debris
D			X		162	1																		X	Grass, trees, debris
E			X		66	1	95			X	X		X												Grass, trees, debris, rocks

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

Zones A, C, E Oiled Band Height: 30cm

Due to survey platform (jet-drive boat) oil band width and heights are estimates. Unable to verify by foot.

Cleanup Recommendations: Trim oiled vegetation; wipe large oiled debris; remove small oiled debris; wipe oiled trees;

(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 A14 Right Bank

11-Jul-2011



Legend

-  Oil Zones
-  Segment Boundaries

BB/6/SC

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy) 13-Jul-2011	Time (24h): std / daylight 1611 hrs to 1640 hrs	Water Level low - mean - bankfull - <u>overbank</u> falling - steady - rising
Segment/Reach ID: A14 Left Bank / <u>Right Bank</u> / Island				
Operations Division: A				
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook /		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp + / - <u>32</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 200 m

Start GPS: LATITUDE _____ deg. _____ min. LONGITUDE _____ deg. _____ min. Datum: _____

End GPS: LATITUDE _____ deg. _____ min. LONGITUDE _____ deg. _____ min.

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

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

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

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

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

Sloped: (>5°)(15°)(30°) straight _____ 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 105m 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 10 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

16B
100

OIL ZONE	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER						SUBST. TYPE(S)		
					Length	Width	Distrib.	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR		AP	NO
	ID	MS	LB	UB	OB	m	m	%													
A				X	200	40	30		X	X	X			X							Grass, trees, debris
B				X	35	15	60	X	X	X			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	OILED ZONE	SUBSURFACE OIL CHARACTER						WATER TABLE	SHEEN COLOUR	CLEAN BELOW	SUBST. TYPE(S)
							CHARACTER									
	MS	LB	UB	OB	cm	cm-cm	SAP	OP	PP	OR	OF	TR	NO	cm	B, R, S, N	

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

Oiled Band Heights: Zone A - 25cm; Zone B - 50cm

Cleanup Recommendations: For substrates with oiling greater than stain, trim oiled vegetation; wipe large oiled debris; remove small oiled debris; wipe oiled trees. No treatment for stained substrates is recommended.

STR to be developed.

(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# _____)

3768-3819 (Milanes); 1-45 (Freeman)



SCAT Teams 2 & 4 Survey
Segment A14 - Right Bank
13-Jul-2011



Legend
[Yellow Outline] Oiling Zones
[Red Line] Segment Boundaries

05/6/15

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy) 15/07/2011	Time (24h): std / daylight 855 hrs to 1000 hrs	Water Level low - mean - bankfull - <u>overbank</u> falling - steady - rising
Segment/Reach ID: A14 Left Bank/ <u>Right Bank</u> /Island				
Operations Division: A				
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook / _____		<u>Sun</u> / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- <u>27</u> deg C

2 SURVEY TEAM # 3	name	organization	contact phone number
Richard Marty		Polaris	208-360-0733 <i>Richard Marty</i>
Jenni Nelson		Polaris	
Andrew Johnson		US Coast Guard	<i>Andrew Johnson</i>
Mike Ruggles		Montana Fish Wildlife and Parks	
Ned Balcon		Exxon-Mobile	

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 240 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: _____

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 P confined or leveed _____ Substrate Type: Mud

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: <1m 1-10m 10-100m >100m 150 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 100 trucks access restrictions Area is wet and will not bear loads

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	130	13	15		X				X								Mud
B				X	285	50	5			X			X								Veg
C				X	100 100	10 10	30		X				X								mud

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								
NONE																					

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

Zones A and B are located in an overbank area that has been flooded. Zone A contains abundant pockets of thick oil in oiled debris. Zone B contains lesser amounts of oil on vegetation.

Cleanup is required in both zones but the area is muddy contain standing water. The thick oil and oiled vegetation should be physically removed from Zone A; Zone B should be mowed and trimmed to remove oiled vegetation.

(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# _____)

11:08 am
11:03 pm
7/2011

N45.6588°



W108.702°

©2011 Google

lat 45.657247° lon -108.704380° elev 3246 ft

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>A14</u>	Left Bank / <u>Right Bank</u> / Island	<u>25/07/11</u>	<u>0830</u> hrs to <u>1230</u> hrs	low / mean - bankfull - overbank
Operations Division: <u>A</u>				falling - steady - rising
Survey by: <u>Foot / ATV / Boat / Helicopter / Overlook /</u>	<u>Sun / Clouds / Fog / Rain / Snow / Windy / Calm</u>			Air Temp +/- <u>30</u> deg C

2 SURVEY TEAM # <u>3</u>	Name	Organization	Signature
	<u>Joe By U</u>	<u>Cardno ENTRIX</u>	<u>[Signature]</u>
	<u>John Moran</u>	<u>MOER</u>	<u>[Signature]</u>
	<u>GAL EUST</u>	<u>WSELA</u>	<u>[Signature]</u>
	<u>Steve Kennedy</u>	<u>Cardno Entrix</u>	<u>[Signature]</u>

3 SEGMENT Total Segment/Reach Length 530 m Segment/Reach Length Surveyed 530 m

Start GPS: LATITUDE 45 deg. 39.133 min. LONGITUDE 108 deg. 42.342 min. Datum: WGS 84

End GPS: LATITUDE 45 deg. 39.418 min. LONGITUDE 108 deg. 42.297 min.

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

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

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

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: mod

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 120m 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 2 trucks access restrictions private property

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

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

OIL ZONE ID	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER							SUBST. TYPE(S)		
	MS	LB	UB	OB	Length	Width	Distrib.	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR	AP		NO	
					m	m	%															
<u>A</u>			<u>P</u>	<u>B</u>	<u>200</u>	<u>170</u>	<u>5</u>			<u>P</u>	<u>S</u>		<u>P</u>									<u>mod veg</u>
<u>B</u>			<u>S</u>	<u>P</u>	<u>360</u>	<u>70</u>	<u>75</u>			<u>S</u>	<u>P</u>	<u>S</u>	<u>P</u>									<u>mod 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

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

Zone A: light distribution oil coated veg @ upper bank
 Recommendations: cut/trim oiled veg

Zone B: high distribution oil coated veg ^{to top} ; high distribution of oil coated/covered debris (large & small)
 Recommendation: cut/trim oiled vegetation ^{to top}; remove oiled debris

operations were in the area

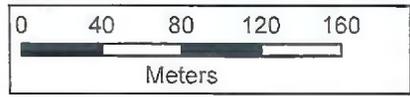
Sketch Yes / No Photos Yes / No Frames _____ Photographer _____



A14 -
(LR/1)??

DATE: 07/25/11
TEAM: 3

COMMENTS:





Appendix C

Pre-Inspection Survey Transmittal

SCAT – Pre Inspection Survey Transmittal (PIST) Memo

Survey Date: 24 Aug 2011

Segment: A14LB Tower Island CTR1

Team: SCAT Liaison Lauren Glushik-Polaris Signed: [Signature]

Observer Tom Freeman Signed: Tom Freeman

Observer [Signature] Signed: [Signature]

Observer _____ Signed: _____

Segment meets criteria? YES NO

RBOS attached? YES NO

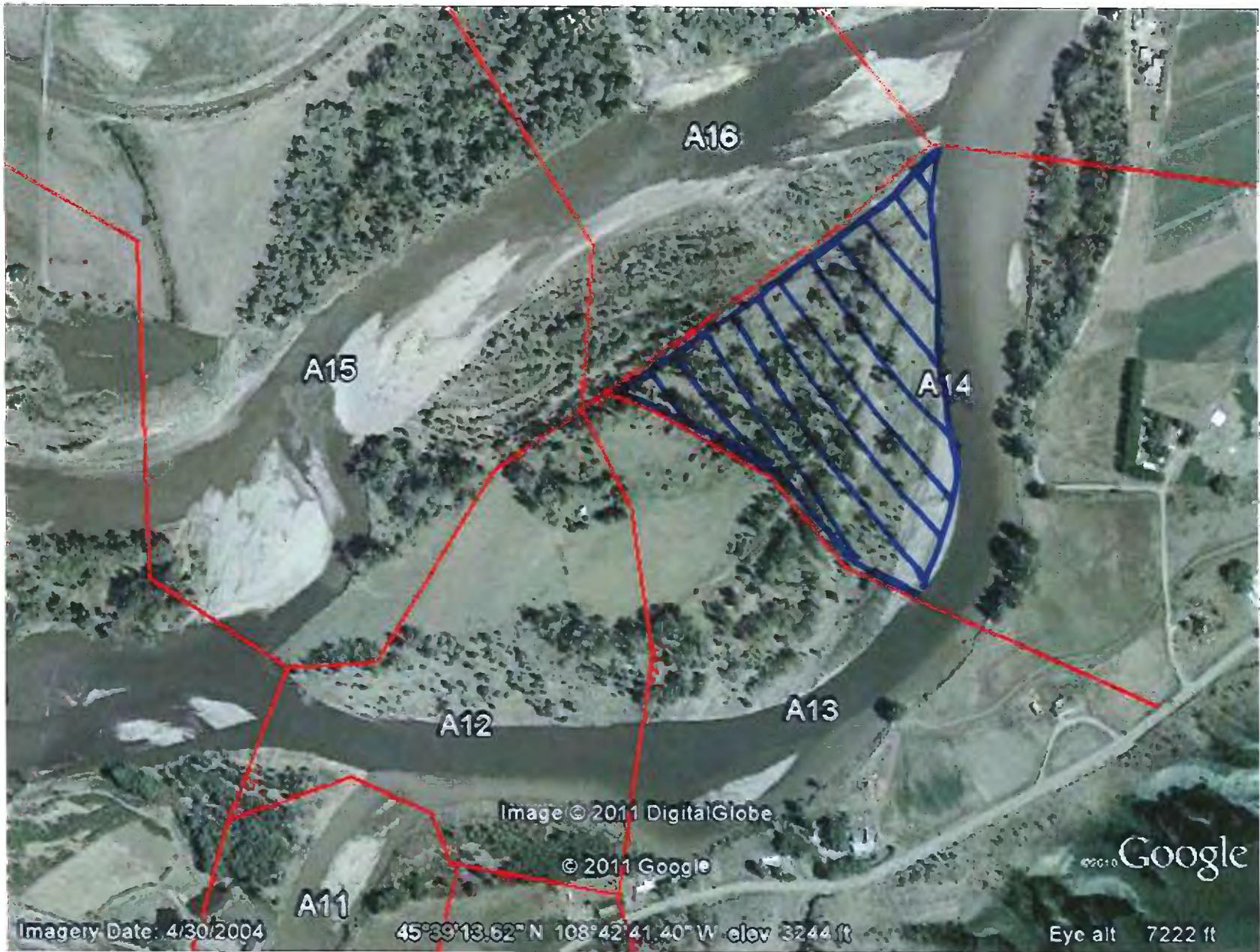
If NO:

Location Sketch attached? YES NO

CTR continue? YES NO

Comments:

This PIST covers the A14 portion of Tower Island under CTR1.



A16

A15

A14

A12

A13

Image © 2011 DigitalGlobe

© 2011 Google

Google

A11

Imagery Date: 4/30/2004

45°39'13.62" N 108°42'41.40" W elev 3244 ft

Eye alt 7222 ft

SCAT – Pre Inspection Survey Transmittal (PIST) Memo

Survey Date: 8/8/11

Segment: A14 RB

Team: SCAT Liaison Ray McKelvey

Signed: 

Observer _____

Signed: _____

Observer _____

Signed: _____

Observer _____

Signed: _____

X

Segment meets criteria? YES X NO _____

RBOS attached? YES X NO _____

If NO:

Location Sketch attached? YES _____ NO X

CTR continue? YES _____ NO X

Comments: **This segment involves claims**



Appendix D

Post-Inspection Survey Transmittal

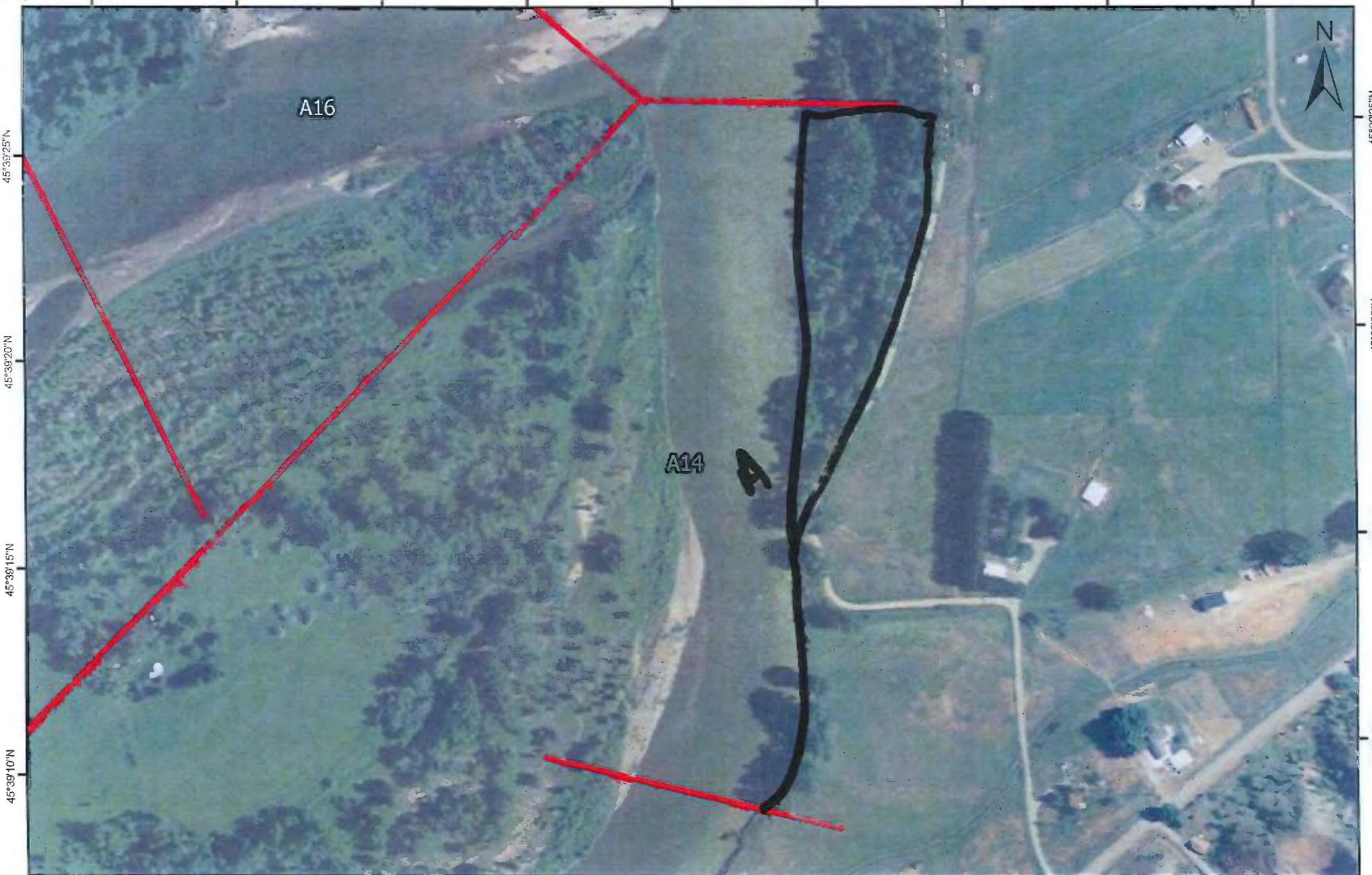
**A Post-Inspection Survey
was not conducted for this area**



Appendix E

Final SCAT Survey Forms and
Sketches

108°42'45"W 108°42'40"W 108°42'35"W 108°42'30"W 108°42'25"W 108°42'20"W 108°42'15"W 108°42'10"W 108°42'5"W



45°39'25"N
45°39'20"N
45°39'15"N
45°39'10"N

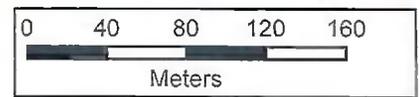
45°39'25"N
45°39'20"N
45°39'15"N
45°39'10"N

108°42'45"W 108°42'40"W 108°42'35"W 108°42'30"W 108°42'25"W 108°42'20"W 108°42'15"W 108°42'10"W 108°42'5"W

A14 -
(L(R))??

DATE: 08/24/2011
TEAM: 6

COMMENTS:



DB16

R

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy) 26/AUG/2011	Time (24h): sid / daylight 10:15 hrs to 10:50 hrs	Water Level low - mean - bankfull - overbank falling - steady - rising
Segment/Reach ID: A14 <u>Left Bank / Right Bank / Island</u>				
Operations Division: A14 LB				
Survey by: <u>Foot / ATV / Boat / Helicopter / Overlook /</u>		<u>Sun / Clouds / Fog / Rain / Snow / Windy / Calm</u>	Air Temp +/- <u>29</u> deg C	

2 SURVEY TEAM # 3 & 5	name	organization	contact phone number
Merlo Gauvreau		Polaris	<i>[Signature]</i>
Tom Freeman		Polaris	<i>[Signature]</i>
Ariel Blanc		Polaris	<i>[Signature]</i>
Daniel Elefant		Cardno ENTRIX	<i>[Signature]</i>
Larisa Leonova		EPA	<i>[Signature]</i>
Rachelle Thompson		EPA	<i>[Signature]</i>
Donnie McCurry		DEQ	<i>[Signature]</i>
Darrick Turner		DEQ	<i>[Signature]</i>
Ernie McKenzie		BLM	<i>[Signature]</i>

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 404 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 P Mixed _____ Pebble/Cobble S 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 2 m canyon _____ manmade _____ meander P confined or leveed _____ Substrate Type: sand/sed

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

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

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

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

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

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

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)			
	ID	MS	LB	UB	OB	Length m	Width m	Distrib. %	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR		AP	NO	
A					X	404	415	<1			X	(X)						X					Veg/debris

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

TRENCH or PIT NO.	RIVER BANK ZONE				MAX. PIT DEPTH cm	OILED ZONE 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

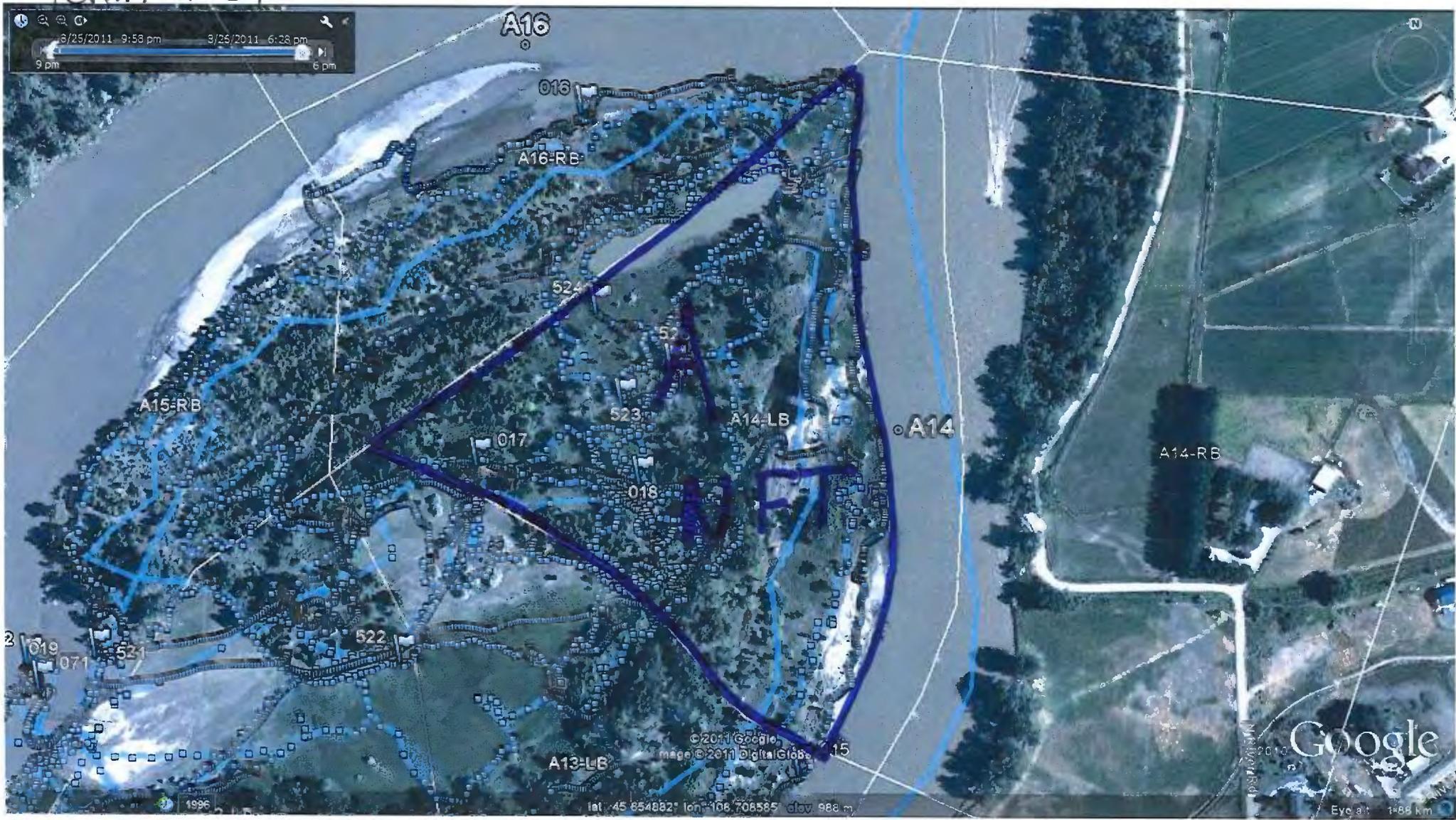
ReSCAT

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

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

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

26 August ReSCAT
A14-LB
Team # 315



2/2



Appendix F

Completed SCAT Segment Sign-Off
Forms

COMPLETED
COMPLETED

Silvertip Pipeline Spill SCAT Segment Sign-Off Sheet

Operations Division: A B C

SCAT Area Number (i.e. A12): A14

SCAT Segment Number (i.e. A12-LB/IS/RB): A14/LB

Check if Complete:

1. Completion Date for Initial SCAT Assessment: 11-13-14 July Yes/No
2. Combined Treatment Recommendations (CTRs) Developed/Issued:
List CTRs Applicable to SCAT Segment: 1 Yes/No
3. Clean-Up Operations Conducted: Yes/No
4. Meets Qualitative Approved Treatment Methods Target Endpoints: Yes/No
5. SCAT Reassessment:

Rachelle Thompson Rachelle Thompson 26/08/2011
 Sign Name Print Name Date
 Federal Representative (EPA/USCG)

Donnie McCurry Donnie McCurry 26/08/2011
 Sign Name Print Name Date
 State Representative (DEQ/FWP)

[Signature] Gerlo Gauthreau (Polaris) 26/08/2011
 Sign Name Print Name Date
 RP Representative (SCAT Contractor)

Ariel Blanc Ariel Blanc (Polaris) 26/08/2011

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 Reassessment, the SCAT area will achieve the response endpoints and an Area Transition Report will be completed and submitted to EPA and DEQ upon completion.

