

ExxonMobil Pipeline Company

**SCAT Area Transition Report
for A10**

Silvertip Pipeline Incident
Laurel, Montana

October 18, 2011



SCAT Area Transition Report for A10

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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.

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 Detections 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 A10, 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 A10. 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 A10, 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 A10 is 137.6. There were partial access issues for this area including the left and right banks and islands.

1.2 Cultural, Historic, and Natural Resource Constraints

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

Figure 2 summarizes the natural resources identified in this area. International Bird Rescue and Resource Advisors from U.S. Fish and Wildlife Service conducted regular inspections of the segments in Area A10 that did not have access issues. No oiled wildlife was observed or recovered. No Wildlife Priority Cleanup Areas were identified. One wild turkey (*Meleagris gallopavo*) nest was located in Area A10.

1.3 Summary of Environmental Sampling

Table 1 (below) summarizes samples collected within Area A10. 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 A10 are provided on Figure 3.

Table 1 Environmental Sampling Summary

Agency	Sample Number	Date	Matrix	Location	Latitude	Longitude
CTEH	LAMT0812SO408	8/12/11	Soil_River	SO-A10-01	45.658443	-108.72871
CTEH	LAMT0812SO409	8/12/11	Soil_River	SO-A10-04	45.658364	-108.7286
CTEH	LAMT0812SO410	8/12/11	Soil_River	SO-A10-05	45.65836	-108.72863
CTEH	LAMT0812SO411	8/12/11	Soil_River	SO-A10-03	45.658362	-108.72864
CTEH	LAMT0812SO412	8/12/11	Soil_River	SO-A10-02	45.658377	-108.72881

Appendix A contains a summary of sample results with detections for this sample set. Detections with a result above the screening level are highlighted; for this set, there were no exceedances.

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 A10 are included in Appendix B. Figure 4 provides the maximum oiling zones observed by the SCAT team during the initial surveys of Area A10.

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. 10](#) and [CTR No. 17](#)).

1.6 Oil Removal Activities

Oil removal activities were conducted within Area A10 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

A final SCAT survey was not conducted for this area.

1.10 SCAT Area Conclusions

Based on the initial SCAT surveys performed within Area A10, no oiling was observed on the left or right banks or islands. Therefore, a PIST, POST, and final SCAT survey were not performed and a SCAT Segment Sign-Off Form was not necessary.



**SCAT Area Transition
Report for A10**

Silvertip Pipeline Incident
Laurel, Montana

2. Transition Sign-Off Form

SCAT Area Transition Report for A10

Prepared for:

Unified Command

Date

Unified Command – RP



**SCAT Area Transition
Report for A10**

Silvertip Pipeline Incident
Laurel, Montana

SCAT Area Transition Report for A10

Prepared for:

Unified Command

9/28/2011
Date

 S. MEHLITI
Unified Command – FOSC



**SCAT Area Transition
Report for A10**

Silvertip Pipeline Incident
Laurel, Montana

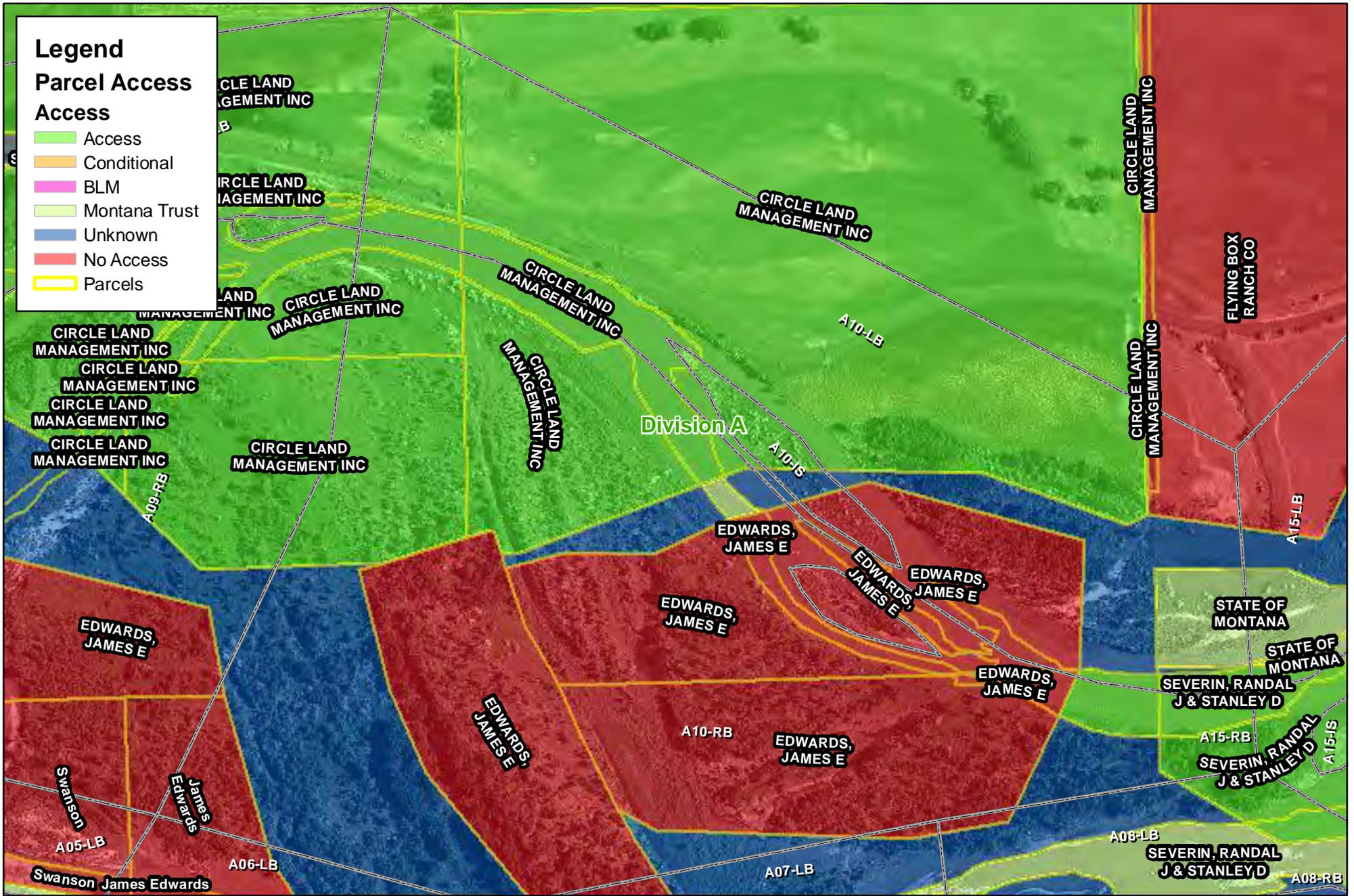
SCAT Area Transition Report for A10

Prepared for:

Unified Command

9/28/11
Date

[Signature]
Unified Command – MDEQ



Legend

Parcel Access

Access

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

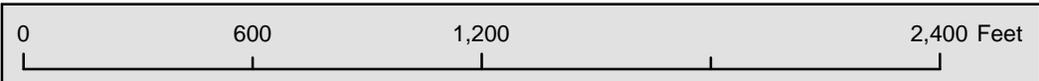


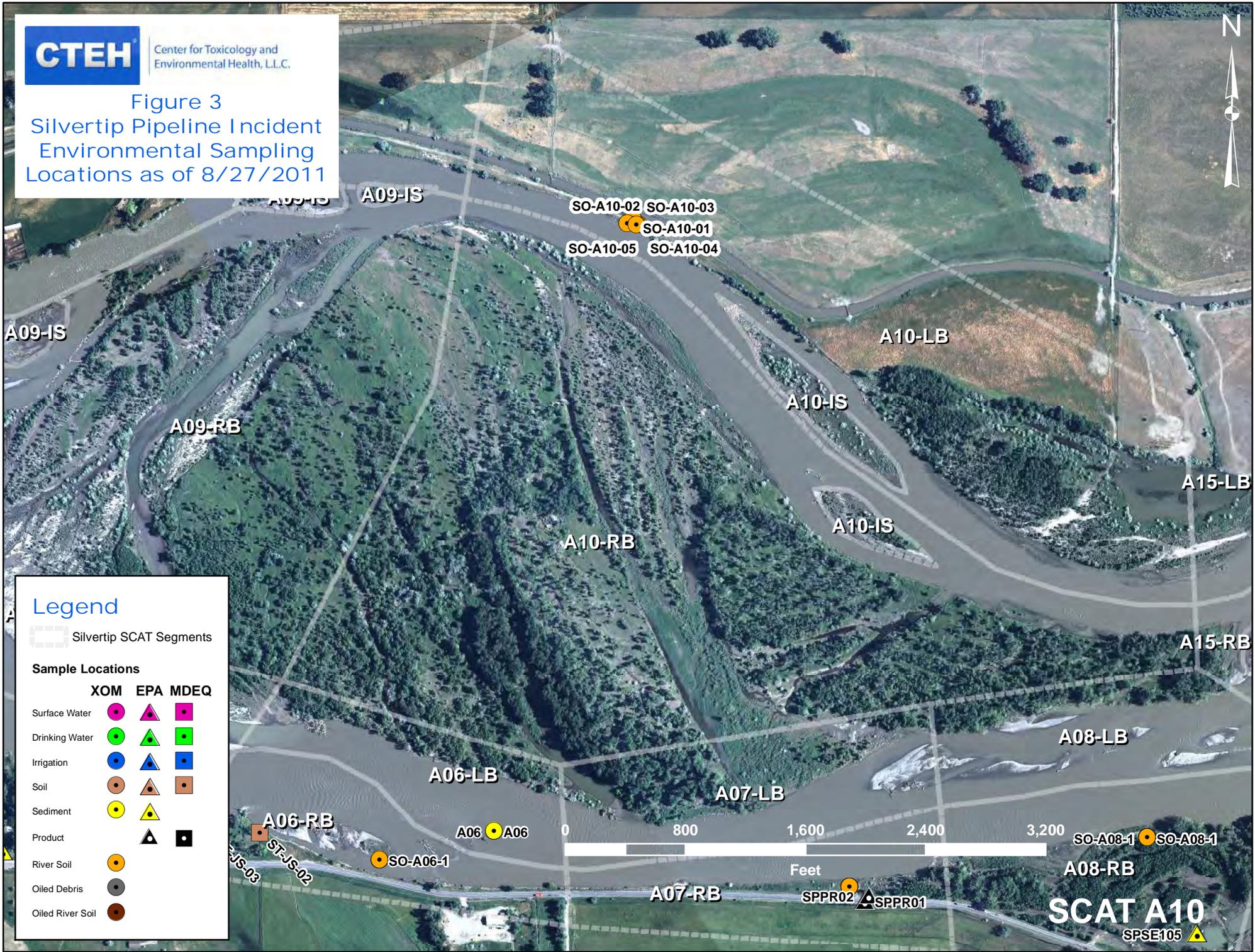
Figure 1



Figure 2
Wildlife Resources

CTEH 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 A10
 SPSE105



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

Figure 4 - Maximum SCAT Observations
For SCAT Area: A10



Appendix A

Sample Detections Summary



Detections in Samples Collected in SCAT Area A10

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	Units	Above?
LAMT0812SO408	Field	Soil_River	EPA 6010	Arsenic	Y	18.9	40		mg/kg	no
LAMT0812SO408	Field	Soil_River	EPA 6010	Barium	Y	145	820		mg/kg	no
LAMT0812SO408	Field	Soil_River	EPA 6010	Cadmium	Y	1.3	3.8		mg/kg	no
LAMT0812SO408	Field	Soil_River	EPA 6010	Chromium	Y	22.1	280		mg/kg	no
LAMT0812SO408	Field	Soil_River	EPA 6010	Lead	Y	13.5	400		mg/kg	no
LAMT0812SO408	Field	Soil_River	EPA 6010	Nickel	Y	17.7	150		mg/kg	no
LAMT0812SO408	Field	Soil_River	EPA 6010	Vanadium	Y	37.9	39		mg/kg	no
LAMT0812SO408	Field	Soil_River	EPA 9060	Mean Total Organic Carbon	Y	20800	NA		mg/kg	no
LAMT0812SO408	Field	Soil_River	EPA 9060	RSD%	Y	37	NA		%	no
LAMT0812SO408	Field	Soil_River	EPA 9060	Total Organic Carbon	Y	32000	NA		mg/kg	no
LAMT0812SO408	Field	Soil_River	MADEP EPH	Total Extractable Hydrocarbons	Y	38.6	200		mg/kg	no



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) 11-Jul-2011	Time (24h): std / daylight 1116 hrs to 1118 hrs	Water Level low - mean - bankfull - <u>overbank</u> falling - steady - rising
Segment/Reach ID: A10 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 1141 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 _____ 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 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 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		1069	1															X	Grass, trees, debris
B			X		72	1	65			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 - 20cm

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;

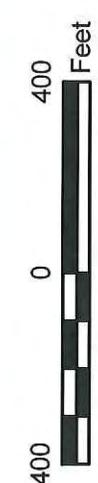
(for ALL sub-segments record: sub-segment ID, length, length surveyed, and GPS start/end fixes)

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



Legend

-  Oil Zones
-  Segment Boundaries



SCAT Teams 2 & 4 Survey
 Segment A10 Right Bank
 11-Jul-2011

DB

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION

Segment/Reach ID: A10 Left Bank / Right Bank / Island (Right Bank) Date (dd/mm/yy) 20/07/11 Time (24h): std / daylight 1000 hrs to 1400 hrs Water Level (full) low - mean - bank full - overbank
 Operations Division: A Survey by: Foot / ATV / Boat / Helicopter / Overlook / (Sun) Clouds / Fog / Rain / Snow / Windy / Calm Air Temp +/- 20 deg C

2 SURVEY TEAM

name	organization	contact phone number
<u>John Williams</u>	<u>Cardno ENTRIX</u>	<u>361 676 8138</u>
<u>Joe Boyle</u>	<u>Cardno ENTRIX</u>	<u>356 214 6858</u>
<u>Courtney Tyree</u>	<u>FWP</u>	<u>406 860 2814</u>
<u>Mike Ruggles</u>	<u>FWP</u>	<u>406 671 8863</u>
<u>Colin Riley</u>	<u>EPA</u>	<u>415 215 0690</u>

3 SEGMENT

Total Segment/Reach Length 1200 m Segment/Reach Length Surveyed 1200 m
 Start GPS: LATITUDE 45 deg. 91.5420 min. 981 LONGITUDE 108 deg. 43.770 min. Datum: WGS84
 End GPS: LATITUDE 45 deg. 39.186 min. LONGITUDE 108 deg. 43.108 min. 920

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

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	S	S		P	1200	300	0														P	veg

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

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

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

name Jenice Witul organization EPA contact phone number 415 816 6582

No recommendations for Oil zone A in A10.

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

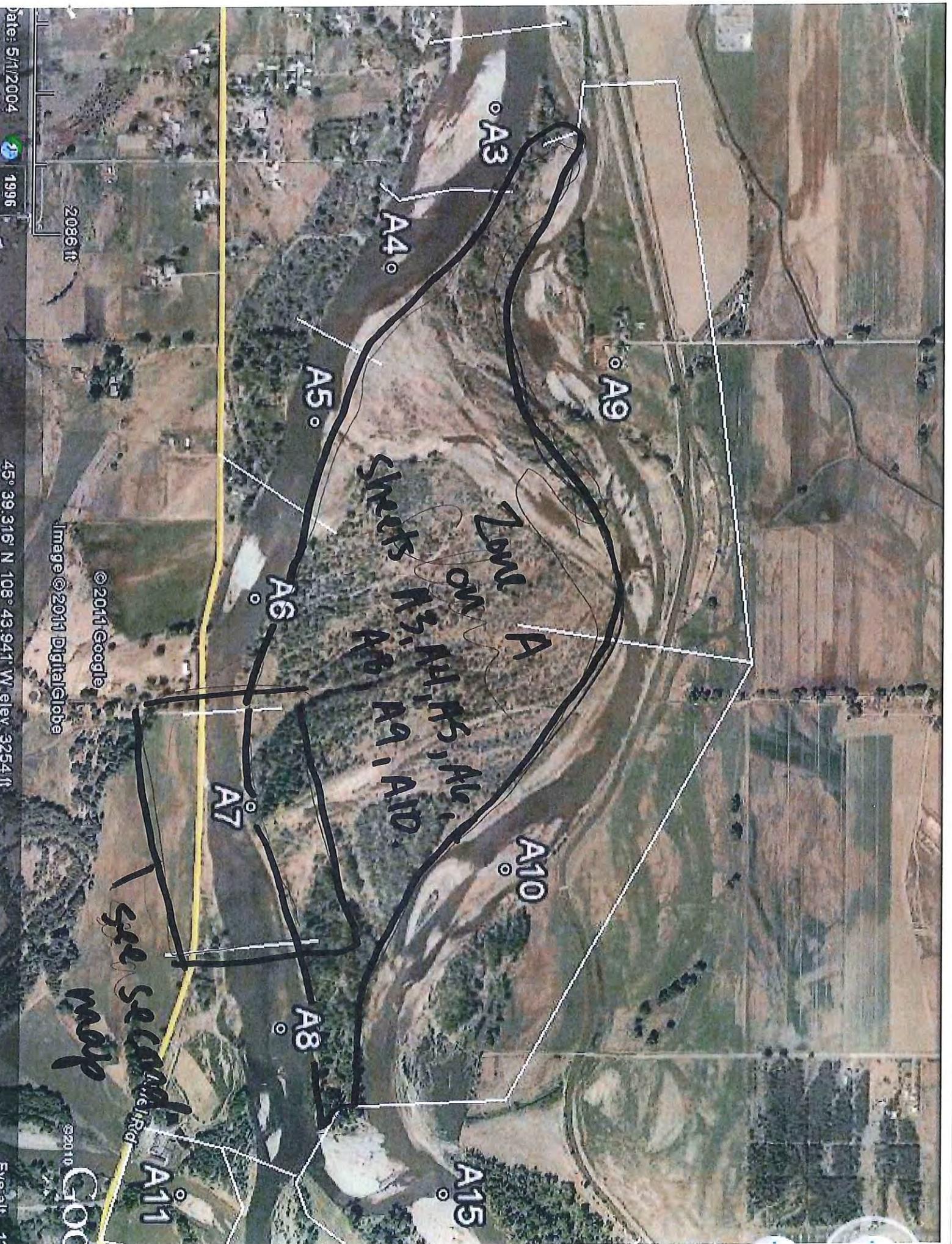
Sketch Yes/No Photos (Yes/No (Roll # Frames) Video Tape Yes/No (tape #)

2036 ft

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Image © 2011 DigitalGlobe

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RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

Page _____ of _____

1 GENERAL INFORMATION

Segment/Reach ID: A10 Left Bank / Right Bank / Island

Operations Division: N

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

Date (dd/mm/yy) 3-9-11 Time (24h): std / daylight 1035 hrs to 13:30 hrs

Water Level low - mean - bankfull - overbank falling - steady - rising

Air Temp + / - 20 deg C

2 SURVEY TEAM # 3

name	organization	contact phone number
<u>Steve OPP</u> <u>TERDY TANNER</u>	<u>DEQ</u> <u>U.S. EPA</u>	<u>1-214-011-1111</u>

3 SEGMENT Total Segment/Reach Length 1270 m Segment/Reach Length Surveyed 1270 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 S Mixed P Pebble/Cobble S Boulder _____ Peat/Organic _____ Vegetated Bank: S 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 _____

Substrate Type: Sand 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 / pebble / 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>2079</u> A				<u>X</u>	<u>1270</u>	<u>690</u>	<u>0</u>														<u>X</u>	<u>S</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 - No oil observed

(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# _____)

9/8/2011 2:01 pm

A09-LB

A9

09-IS

N45°39'31.68"

Current Tracks 03 SEP 2011 09:37

ACTIVE LOG 006

ACTIVE LOG 004

A09-RB

A10-IS

A10-LB

W108°44'16.8"

W108°43'50.88" A10-RB

W108°43'24.96"

A05-LB

A5

5-RB

A08-LB

A8

A07-LB

A7

A6 A06-LB

A06-RB

A-10RB

U01

© 2011 Google

A07-RB T-3

© 2010 Google

9-3-11

1996

45°39'15.59" N 108°43'46.36" W elev 3247 ft

Eye alt



DB/G

1 GENERAL INFORMATION		Date (dd/mm/yy) 03/09/11	Time (24h): std / daylight 1230 hrs to 1300 hrs	Water Level low - <u>mean</u> - bankfull - overbank falling - steady - rising
Segment/Reach ID: A <u>10</u> 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 + / - ___ deg C

2 SURVEY TEAM # 2	Name	Organization	Signature
Pete Lee		Polaris	<i>P. Lee</i>
Larry Alheim		MTDEQ	<i>L. Alheim</i>
Stephen Ball		USEPA	<i>S. Ball</i>

3 SEGMENT Total Segment/Reach Length 38 m Segment/Reach Length Surveyed 260 m

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

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

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

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

Sediment Bank: Clay/Mud ___ Sand ___ Mixed X Pebble/Cobble ___ Boulder ___ Peat/Organic ___ Vegetated Bank: 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: ___

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

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

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

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

5 OPERATIONAL FEATURES

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

Debris Y / N oiled Y / N amount ___ bags or ___ trucks Access restrictions: Boat only

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

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

OIL ZONE	RIVER BANK ZONE					OIL COVER			OIL THICKNESS					OIL CHARACTER							SUBST. TYPE(S)		
	MS	LB	UB	OB	OB	Length	Width	Distrib.	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR	AP		NO	
A					<u>X</u>	260	100															<u>X</u>	Grass, trees, debris

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

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

Oil height: _____

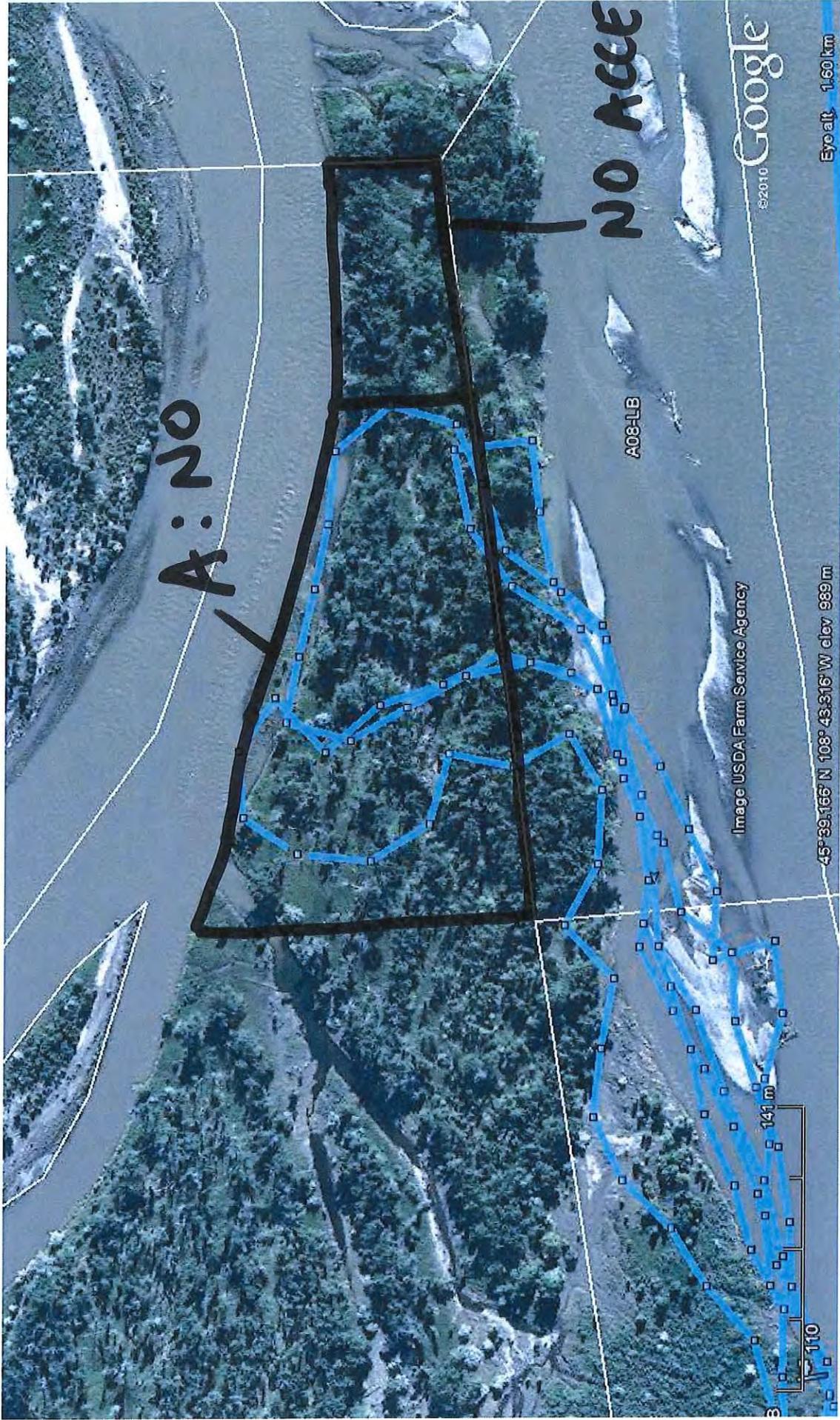
Treatment recommendations:

Zone A: No oil ; no treatment required

Zone _____:

Surveyed portion of A10RB with Team 3
Private land surveyed ; eastern portion no access

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



A: NO

NO ACCESS

141 m

Image USDA Farm Service Agency

©2010 Google

Eye alt: 1.60 km

45°39.166' N 108° 43.316' W elev 989 m

Portion of A10 RB

T2 9/3/11

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 1116 hrs to 1118 hrs	Water Level low - mean - bankfull - <u>overbank</u> falling - steady - rising
Segment/Reach ID: A10 <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 960 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 _____ 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: _____

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		286	1															X	Grass, trees, debris
B			X		350	1															X	Grass, trees, debris
C			X		324	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 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					

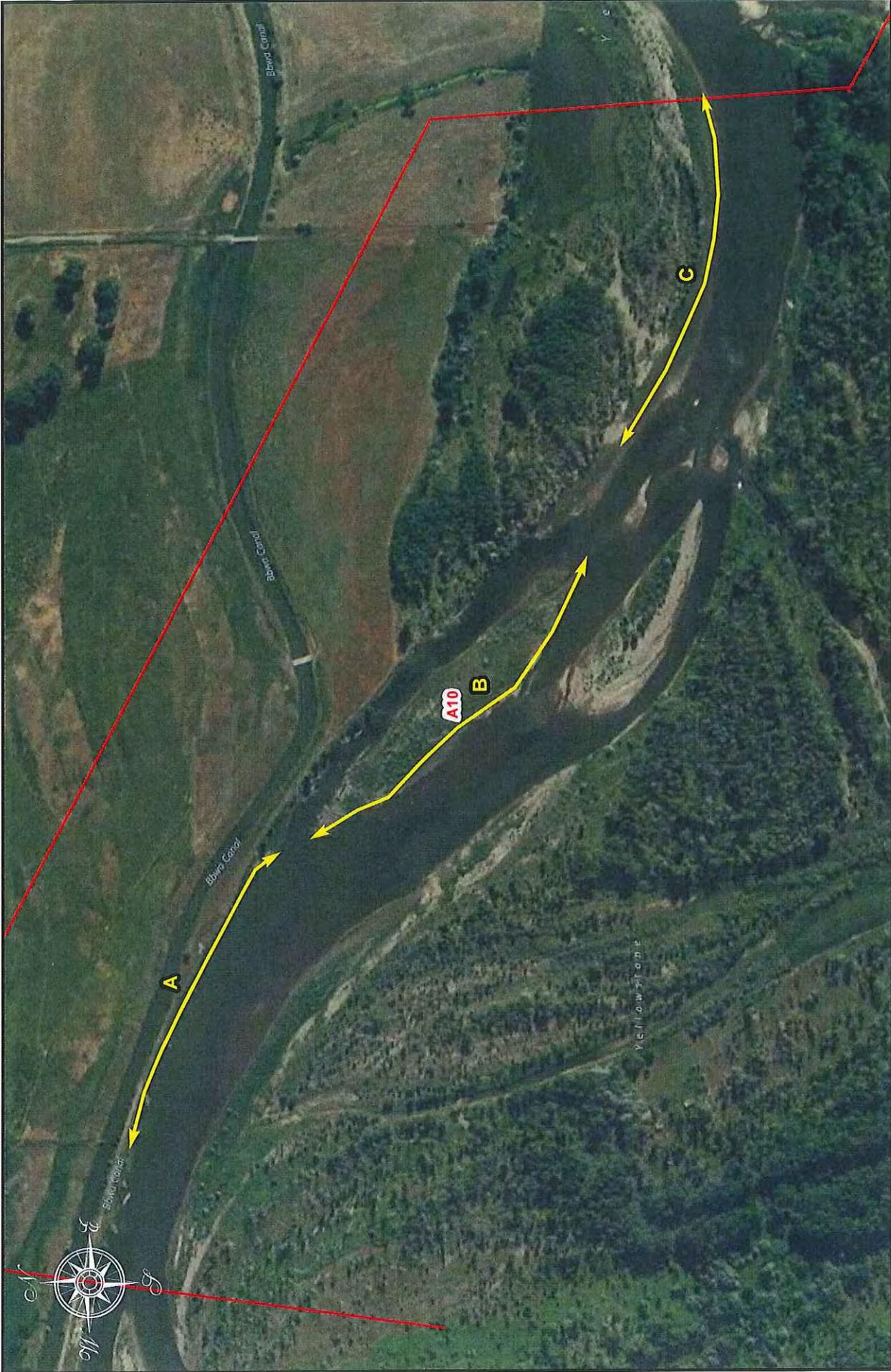
8 COMMENTS ecological/recreational/cultural/economic constraints - shorezone biota and wildlife observations - cleanup recommendations

Cleanup Recommendations: No oil observed along river channel margin

(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 # _____)

139
140
141



Legend

-  Oil Zones
-  Segment Boundaries



SCAT Teams 2 & 4 Survey

Segment A10 Left Bank

11-Jul-2011

D1316/S

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>A10</u>	<u>Left Bank</u> / Right Bank / Island	<u>25/07/11</u>	<u>9:45</u> hrs to <u>11:50</u> hrs	low - mean - bankfull - overbank
Operations Division: <u>A</u>				falling - steady - rising
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook / _____	<u>Sun</u> Clouds / Fog / Rain / Snow / Windy / Calm			Air Temp +/- <u>30</u> deg C

2 SURVEY TEAM # <u>2</u>	Name	Organization	Signature
	<u>Chuck Pons</u>	<u>Cadco ENTRIX</u>	<u>Chuck Pons</u>
	<u>Perq1 Ruro</u>	<u>MDEU</u>	<u>Perq1 Ruro</u>
	<u>Patauk Kishk</u>	<u>USCG</u>	<u>Patauk Kishk</u>

3 SEGMENT Total Segment/Reach Length 1185 m Segment/Reach Length Surveyed 650 m

Start GPS: LATITUDE 45 deg. 39.2422 min. LONGITUDE 108 deg. 43.20.82 min. Datum: WGS 81

End GPS: LATITUDE 45 deg. 39.265 min. LONGITUDE 108 deg. 43.056 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 _____ Peal/Organic _____ Vegetated Bank: X Wooded Upland: _____

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

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

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 160m 200 est. water depth: <1m 1-3m 3-10m >10m _____ m

shoal(s) present Y / N point bar present Y / N bar-shoal substrate: S / 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

768

OIL ZONE ID	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER						SUBST. TYPE(S)		
	MS	LB	UB	OB	Length m	Width m	Distrib. %	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR		AP	NO
A			X	X	650	175	0														P

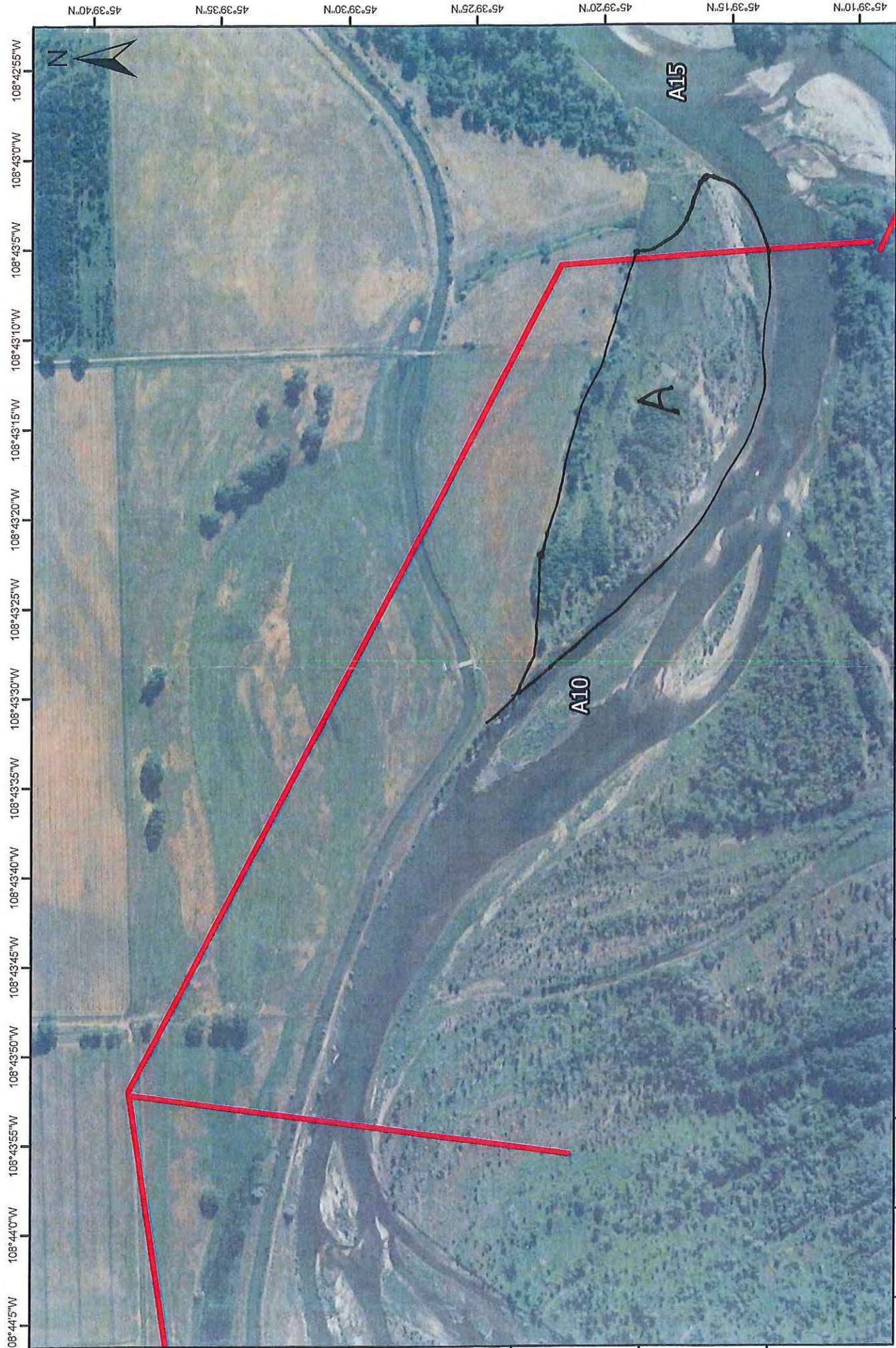
7 SUBSURFACE OILING CONDITIONS use letter for ZONE location plus Number of pit or trench - e.g., "A1"

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 oil observed.



A10 -
(L/R/I)??

DATE:
TEAM:

COMMENTS:

0 75 150 225 300
Meters

108°44'5"W 108°44'0"W 108°43'55"W 108°43'50"W 108°43'45"W 108°43'40"W 108°43'35"W 108°43'30"W 108°43'25"W 108°43'20"W 108°43'15"W 108°43'10"W 108°43'5"W 108°43'0"W 108°42'55"W

45°39'15"N 45°39'20"N 45°39'25"N 45°39'30"N 45°39'35"N 45°39'40"N

DB/G/S

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy) 28/07/11	Time (24h): std / daylight hrs to _____ hrs	Water Level low - mean - <u>bankfull</u> - overbank falling - steady - rising
Segment/Reach ID: A <u>10</u> Left Bank / Right Bank / <u>Island</u>				
Operations Division:				
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook / _____		Sun / Clouds / Fog / Rain / Snow / Windy / Calm	Air Temp + / - <u>28</u> deg C	

2 SURVEY TEAM # 1	Name	Organization	Signature
Pete Lee	<u>PL</u>	Polaris	225.892.6459
Janice Witul	<u>JW</u>	US EPA	415.816.6582 <u>Janice Witul</u>
Mark Ewanic	<u>ME</u>	MT DEQ	406.533.5216

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 1190 m

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

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

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

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

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

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

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

1075
1076

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>674</u>	<u>50</u>															<u>X</u>	Grass, trees
B				<u>X</u>	<u>516</u>	<u>50</u>															<u>X</u>	"

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

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

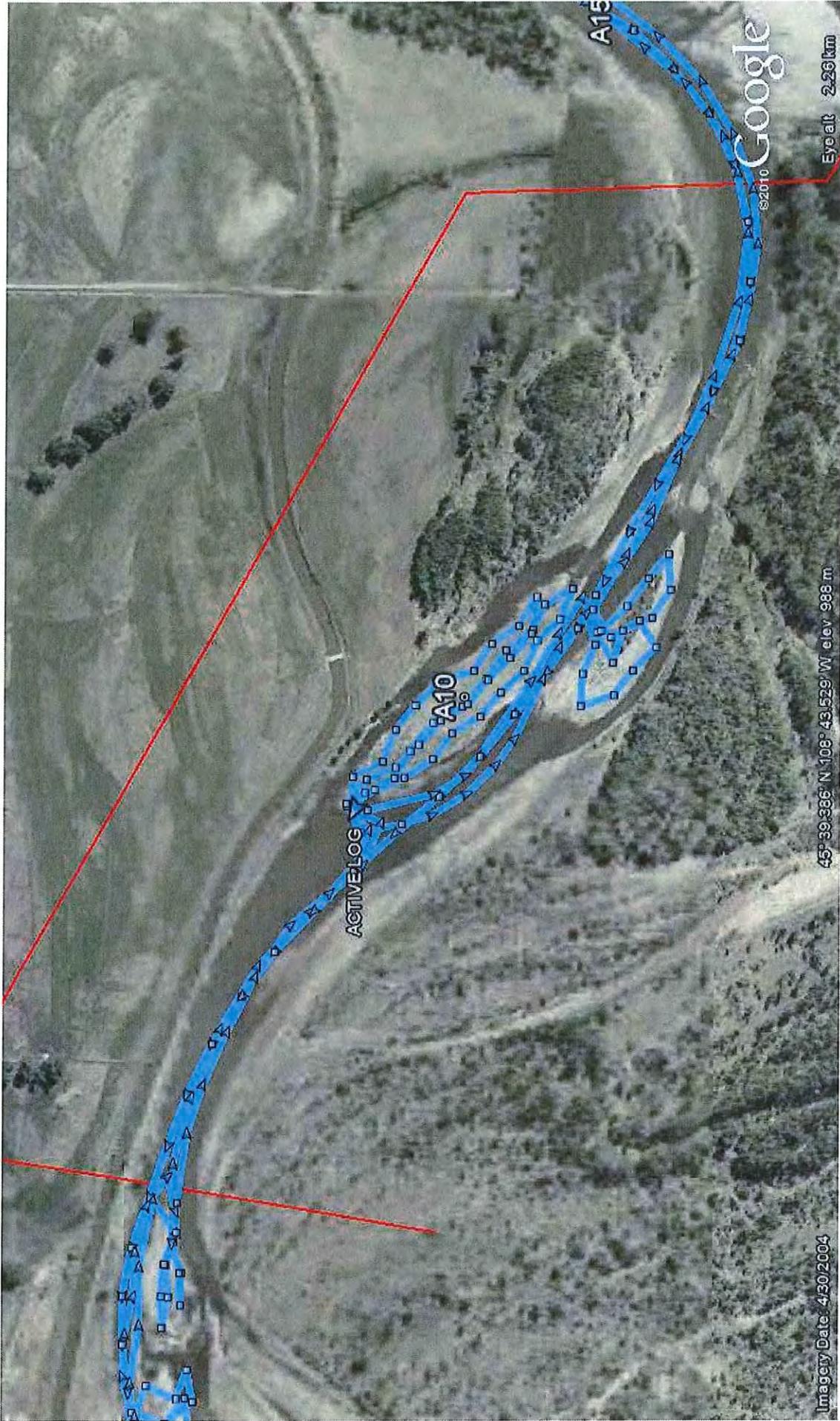
Note: Zones A, B are isolated islands as of this date -

Treatment recommendations:

Zone A, B : No oil observed; no treatment required.

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

A = 157 + 187 + 170 + 160
B = 170 + 178 + 168



DB/16

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

Page _____ of _____

1 GENERAL INFORMATION		Date (dd/mm/yy) <u>3-9-11</u>	Time (24h): std / daylight <u>1430</u> hrs to <u>1515</u> hrs	Water Level low - mean - bankfull - overbank falling - steady - rising <u>falling - steady - rising</u>
Segment/Reach ID: <u>A10</u> Left Bank / Right Bank / Island				
Operations Division: <u>A</u>				
Survey by: <u>Foot / ATV / Boat / Helicopter / Overlook /</u>		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp + / - <u>22</u> deg C

2 SURVEY TEAM # <u>3</u>	name	organization	contact phone number
<u>Steve OPP</u> <u>LENNY KANNER</u>	<u>Steve OPP</u>	<u>U.S. EPA</u>	<u>1-202-233-1000</u>
<u>Charles Pan</u>	<u>Charles Pan</u>	<u>EMM</u>	<u>1-202-233-1000</u>

3 SEGMENT Total Segment/Reach Length 360 m Segment/Reach Length Surveyed 360 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 S Mixed P 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

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

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:

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

OIL ZONE ID	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER					SUBST. TYPE(S)				
					Length	Width	Distrib.	THICKNESS					CHARACTER									
	MS	LB	UB	OB	m	m	%	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC		SR	AP	NO	
<u>2048</u> A				<u>X</u>	<u>360</u>	<u>60</u>	<u>0</u>														<u>X</u>	<u>Sw</u>

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

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

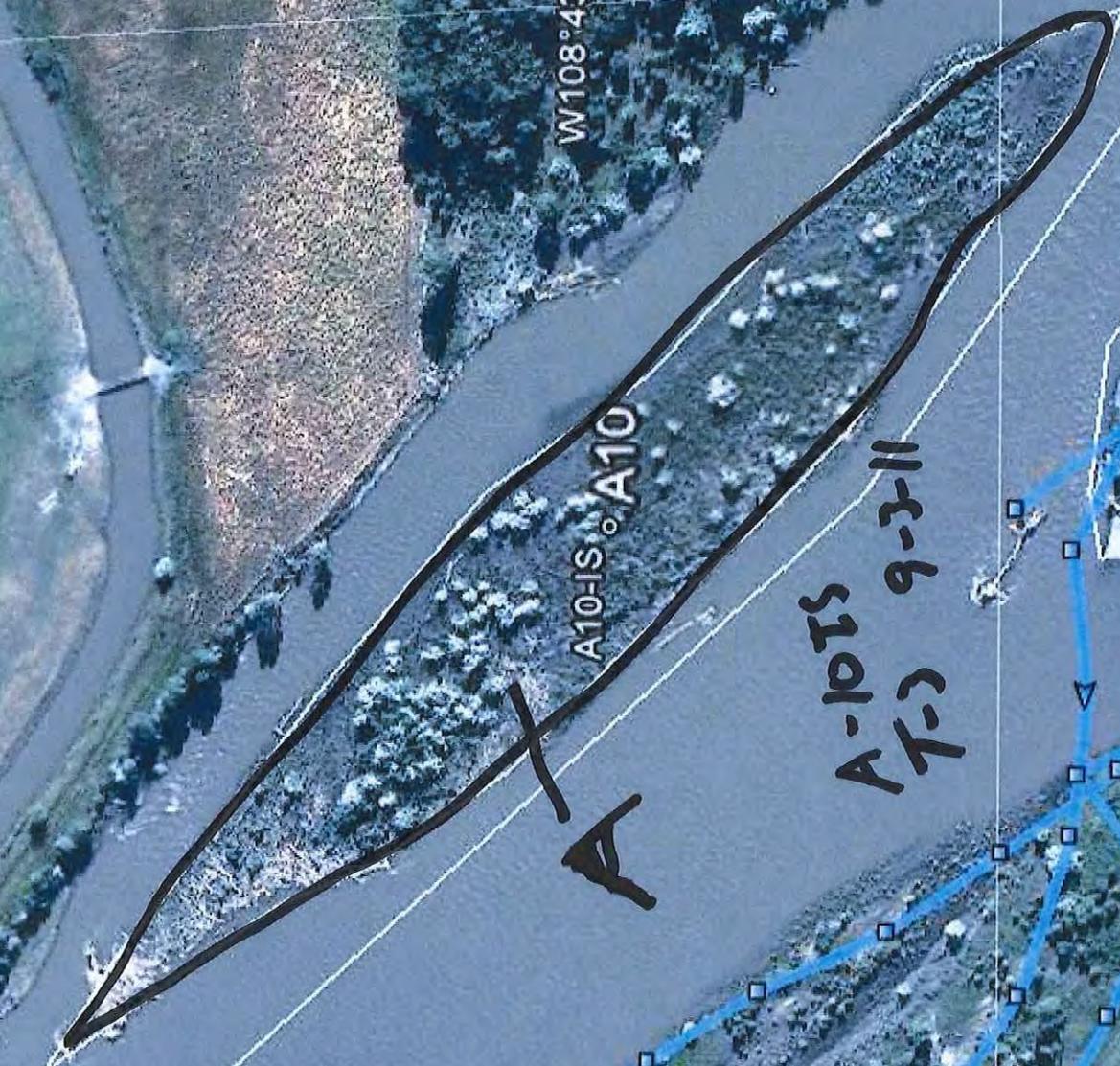
8 COMMENTS ecological/recreational/cultural/economic constraints - shorezone biota and wildlife observations - cleanup recommendations

Zone A - No oil observed

(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 # _____)

9/3/2014 2:01pm



W108°43'24.96"

A10-IS A10

A-10TS 9-3-11
T-3

Date: 4/30/2004 1996

45°39'22.18" N 108°43'31.44" W elev 3246 ft

©2010 Google

Eye alt



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**