

ExxonMobil Pipeline Company

**SCAT Area Transition Report for
A20**

Silvertip Pipeline Incident
Laurel, Montana

October 18, 2011



SCAT Area Transition Report for A20

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Laurel, Montana

Prepared for:
ExxonMobil Pipeline Company

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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.

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1. Executive Summary of Oil Removal Activities

This Shoreline Cleanup Assessment Technique (SCAT) Area Transition Report provides a summary of the SCAT surveys conducted to determine the extent of oiling along the riverbanks and floodplain within SCAT Area A20, 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 A20. 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 A20, 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 A20 is 17.7. There were access issues for the right bank and no access was granted for the left bank.

1.2 Cultural, Historic, and Natural Resource Constraints

This area has not been investigated for historic properties or cultural resources due to access restrictions from landowners.

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 A20. Four Canada geese (*Branta canadensis*) with heavy oiling were observed. One heavily oiled Canada goose was captured, cleaned, and released; this was likely one of the four previously noted oiled geese. The other geese could not be captured. One black capped chickadee (*Poecile atricapillus*) with light to medium oiling was observed, but could not be captured for cleaning. No Wildlife Priority Cleanup Areas were identified. No active migratory bird nests were identified in Area A20. However, a portion of a bald eagle (*Haliaeetus leucocephalus*) nesting buffer zone extended into Area A20. Buffer zones protecting the nest were provided to Operations.

1.3 Summary of Environmental Sampling

Table 1 (below) summarizes samples collected within Area A20. 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 A20 are provided on Figure 3.

Table 1 Environmental Sampling Summary

Agency	Sample Num	Date	Matrix	Location	Latitude	Longitude
MDEQ	ST-071511-EM2	15-Jul-11	Soil_Surface	ST-EM-02	45.66589	-108.69728

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 two exceedances: C11-C22 aromatics and 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 A20 are included in Appendix B. Figure 4 provides the maximum oiling zones observed by the SCAT team during the initial surveys of Area A20.

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. 5](#) and [CTR No. 44](#)).

1.6 Oil Removal Activities

Oil removal activities were conducted within Area A20 in accordance with the ATMs identified in the CTRs. [Appendix I](#) of the Summary of Assessment and Oil Removal Activities report presents this data including: date range/days worked, average number of people working per day, equipment used, and various types of bags removed: oily debris, personal protective equipment, plastic, trash, super sacks, wood chips, and contaminated wood.

1.7 Pre-Inspection Survey Transmittal

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

1.8 Post-Inspection Survey Transmittal

A Post-Inspection Survey Transmittal (POST) was not conducted for this area.

1.9 Summary of Final SCAT Surveys

Figure 5 shows the oiling conditions within Area A20 following completion of oil removal activities. The SCAT team performed final surveys of the right bank within SCAT Area A20 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 right bank within Area A20, no further treatment is recommended for this segment. SCAT Segment Sign-Off Forms are included as Appendix F.

The left bank is designated 'NFT- Access', as described in Exception Memos included as Appendix G, because no oiling was observed on the left bank in the initial SCAT survey and no access was granted for a foot survey.



**SCAT Area Transition
Report for A20**

Silvertip Pipeline Incident
Laurel, Montana

2. Transition Sign-Off Form

SCAT Area Transition Report for A20

Prepared for:

Unified Command

Date

Unified Command – RP



**SCAT Area Transition
Report for A20**

Silvertip Pipeline Incident
Laurel, Montana

SCAT Area Transition Report for A20

Prepared for:

Unified Command

Date

Unified Command – FOSC



**SCAT Area Transition
Report for A20**

Silvertip Pipeline Incident
Laurel, Montana

SCAT Area Transition Report for A20

Prepared for:

Unified Command

Date

Unified Command – MDEQ

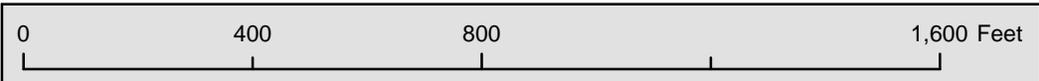
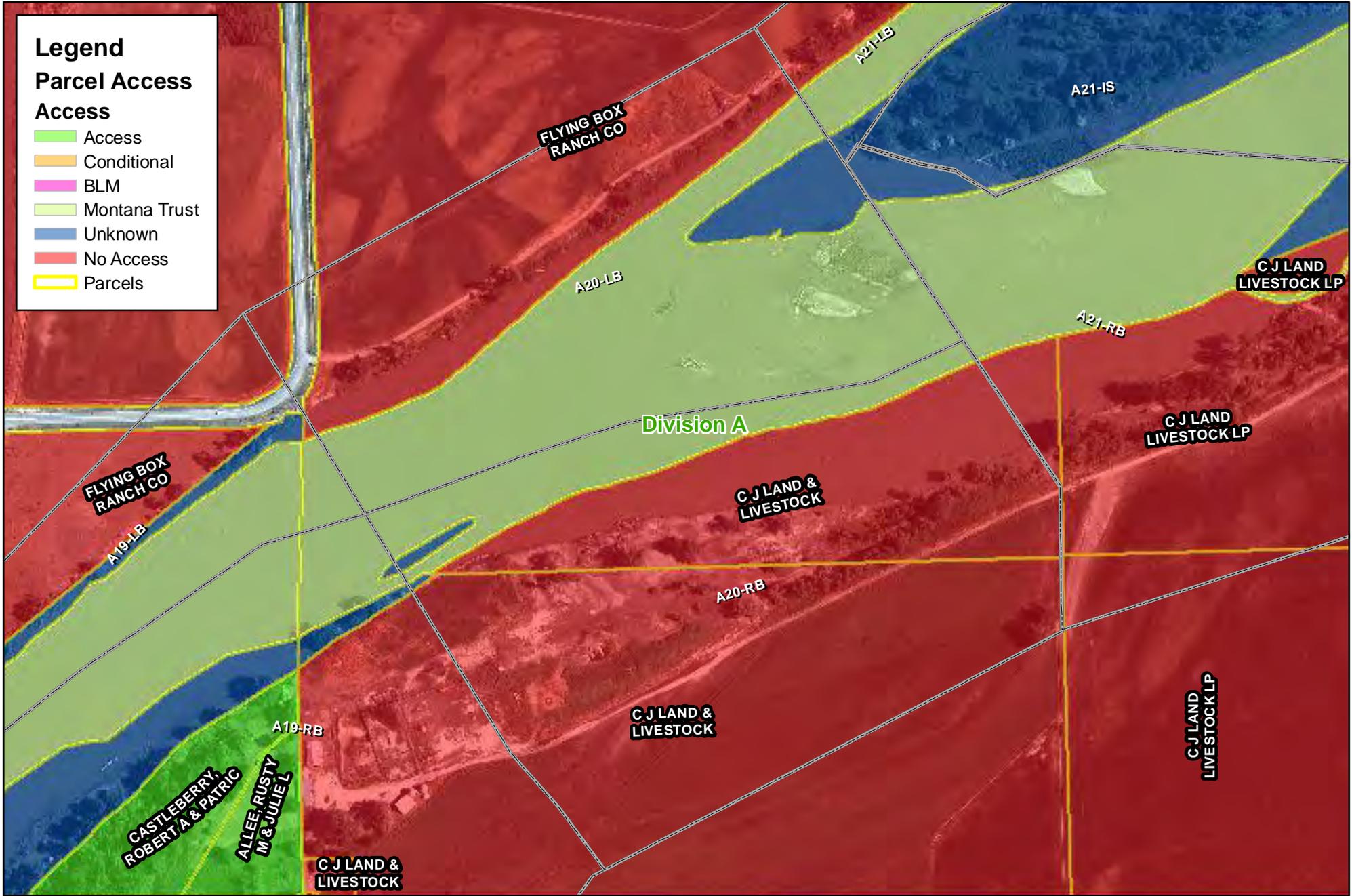


Figure 1

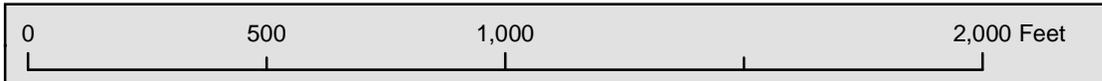
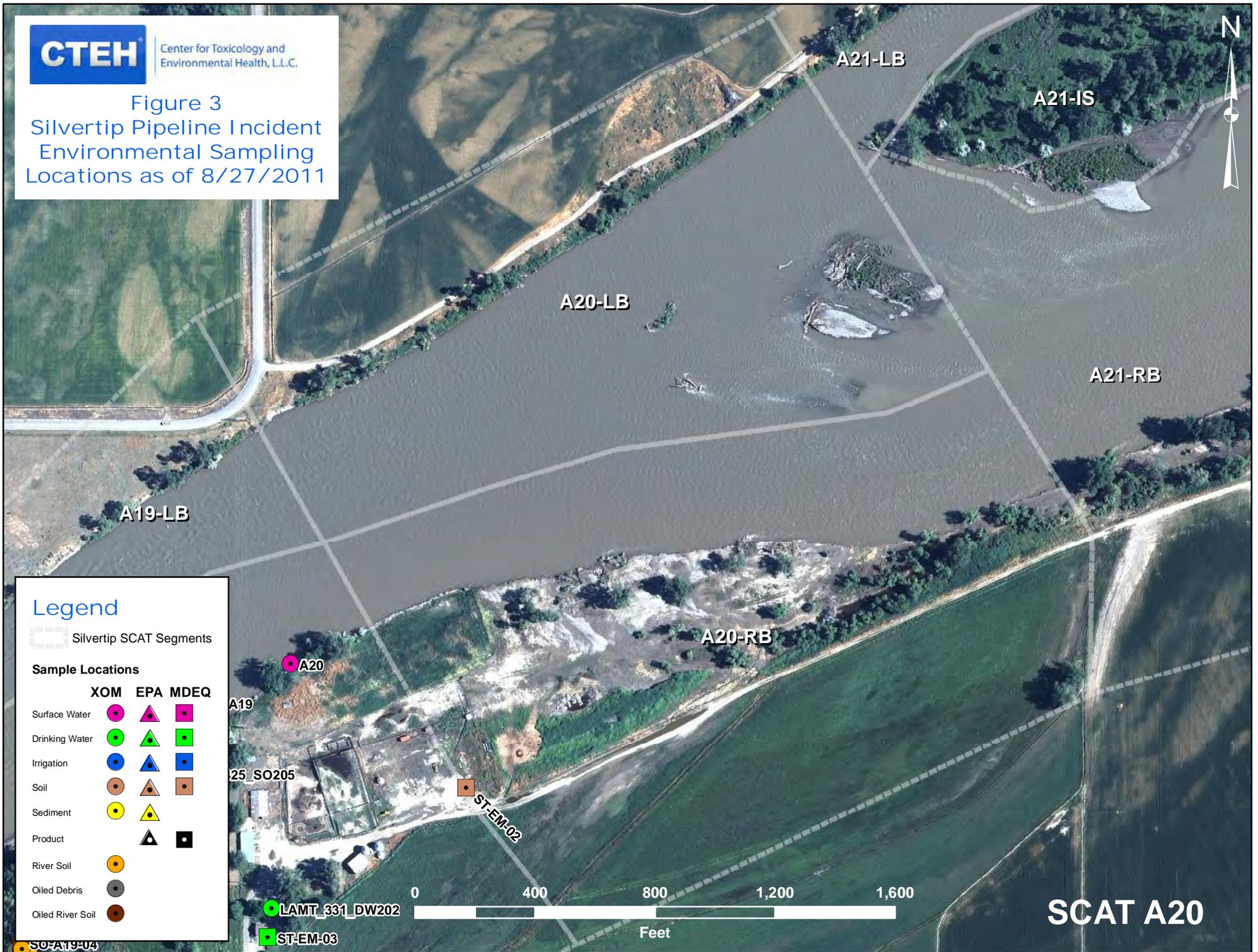


Figure 2
Wildlife Resources



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

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



Legend

--- Silvertip SCAT Segments

Sample Locations

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

SCAT A20



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

Figure 4 - Maximum SCAT Observations For SCAT Area: A20



 <p>9999 Oiling Zone ID</p> <p>Red Heavy Oiling</p> <p>Yellow Moderate Oiling</p>	<p>Light Green Light Oiling</p> <p>Very Light Green Very Light Oiling</p> <p>Blue No Oil Observed</p>	<p>Figure 5 - Final SCAT Observations</p> <p>For SCAT Area: A20</p>  <p>Feet</p>	
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Appendix A

Sample Detection Summary



Detections in Samples Collected in SCAT Area A20

NA - Not Available

Detected Above Screening Level

Sample Num	Date	Sample Type	Matrix	Analytical Method	Analyte	Detected	Result	Screening Level	Result Qualifier	Units	Above?
ST-071511-EM2		Field	Soil_Surface	8260B	1,2-Dichloroethane-d4	Y	80	NA		%	no
ST-071511-EM2		Field	Soil_Surface	8270C	2,4,6-Tribromophenol	Y	62	NA		%	no
ST-071511-EM2		Field	Soil_Surface	MA-EPH-MDEQ-REM	2-Bromonaphthalene	Y	88	NA		%	no
ST-071511-EM2		Field	Soil_Surface	MA-EPH-MDEQ-REM	2-Fluorobiphenyl	Y	80	NA		%	no
ST-071511-EM2		Field	Soil_Surface	8270C	2-Fluorobiphenyl	Y	62	NA		%	no
ST-071511-EM2		Field	Soil_Surface	MA-EPH-MDEQ-REM	C11-C22 Aromatics	Y	560	400		mg/kg	YES
ST-071511-EM2		Field	Soil_Surface	MA-EPH-MDEQ-REM	C19-C36 Aliphatics	Y	884	20000		mg/kg	no
ST-071511-EM2		Field	Soil_Surface	MA-EPH-MDEQ-REM	C9-C18 Aliphatics	Y	94	200		mg/kg	no
ST-071511-EM2		Field	Soil_Surface	8260B	Dibromofluoromethane	Y	93	NA		%	no
ST-071511-EM2		Field	Soil_Surface	8270C	Nitrobenzene-D5	Y	64	NA		%	no
ST-071511-EM2		Field	Soil_Surface	MA-EPH-MDEQ-REM	Octadecane, 1-chloro-	Y	74	NA		%	no
ST-071511-EM2		Field	Soil_Surface	8270C	o-Fluorophenol	Y	61	NA		%	no
ST-071511-EM2		Field	Soil_Surface	MA-EPH-MDEQ-REM	o-Terphenyl	Y	76	NA		%	no
ST-071511-EM2		Field	Soil_Surface	8260B	p-Bromofluorobenzene	Y	100	NA		%	no
ST-071511-EM2		Field	Soil_Surface	8270C	Phenol-d5	Y	67	NA		%	no
ST-071511-EM2		Field	Soil_Surface	8270C	Terphenyl-d14	Y	69	NA		%	no
ST-071511-EM2		Field	Soil_Surface	8260B	Toluene-d8	Y	94	NA		%	no
ST-071511-EM2		Field	Soil_Surface	MA-EPH-MDEQ-REM	Total Extractable Hydrocarbons	Y	1840	200		mg/kg	YES



Appendix B

Initial SCAT Survey Forms and
Sketches



Legend

Oil Zones

Segment Boundaries



SCAT Teams 2 & 4 Survey

Segment A20 Left Bank

11-Jul-2011

013/9

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>A20</u>	Left Bank / Right Bank / Island <input checked="" type="checkbox"/>	<u>22/08/11</u>	<u>11:20</u> hrs to <u>1320</u> hrs	low - mean - bankfull - overbank
Operations Division: <u>A</u>	<u>ck 9/2/11</u>			<input checked="" type="checkbox"/> steady - rising
Survey by: <input checked="" type="checkbox"/> Foot / <input checked="" type="checkbox"/> ATV / <input checked="" type="checkbox"/> Boat / <input type="checkbox"/> Helicopter / <input type="checkbox"/> Overlook /	<input checked="" type="checkbox"/> Sun / <input type="checkbox"/> Clouds / <input type="checkbox"/> Fog / <input type="checkbox"/> Rain / <input type="checkbox"/> Snow / <input type="checkbox"/> Windy / <input type="checkbox"/> Calm			Air Temp +/- <u> </u> deg C

2 SURVEY TEAM # <u>3</u>		Name	Organization	Signature
		<u>Todd Farrar</u>	<u>Polaris</u>	<u>[Signature]</u>
		<u>Rachelle Thompson</u>	<u>EPA</u>	<u>[Signature]</u>
		<u>Jay Watson</u>	<u>FWP</u>	<u>[Signature]</u>

3 SEGMENT Total Segment/Reach Length m Segment/Reach Length Surveyed 199 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 Pebble/Cobble P Boulder Peat/Organic Vegetated Bank: Wooded Upland:

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

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

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

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

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

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

5 OPERATIONAL FEATURES

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

Debris: Y / N oiled Y / N amount 5 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)			
					Length	Width	Distrib.																
	ID	MS	LB	UB	OB	m	m	%	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR		AP	NO	
<u>1772</u> <u>1773</u> A		<u>X</u>				<u>68</u>	<u>27</u>	<u>2</u>			<input checked="" type="checkbox"/>	<u>X</u>						<u>X</u>					<u>Shrub</u>
B		<u>X</u>				<u>199</u>	<u>90</u>															<u>X</u>	

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

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

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

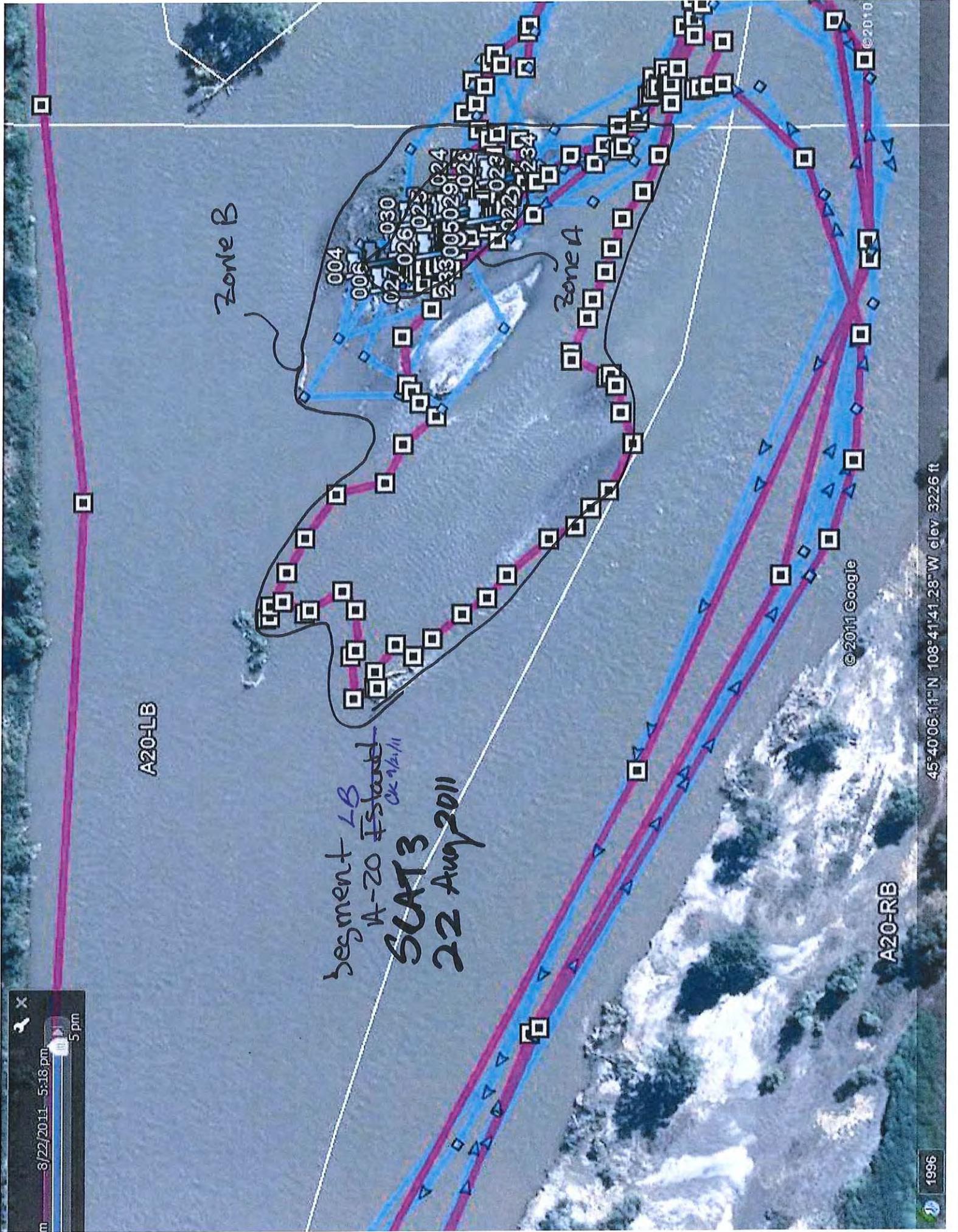
Overbank Survey Required Y / N Overbank Survey Completed N Shoreline Survey Completed N

New Emerging Island

Zone A - COAT oiling on shrubs - we had A Hotshot
 Sporadic
 ops Team who removed ~~the~~ oiled vegetation -
 No further Treatment Required

Zone B - Rest of segment - No oiling observed

Sketch Yes / No Photos Yes / No Frames Photographer



Zone B

Zone A

A20-LB

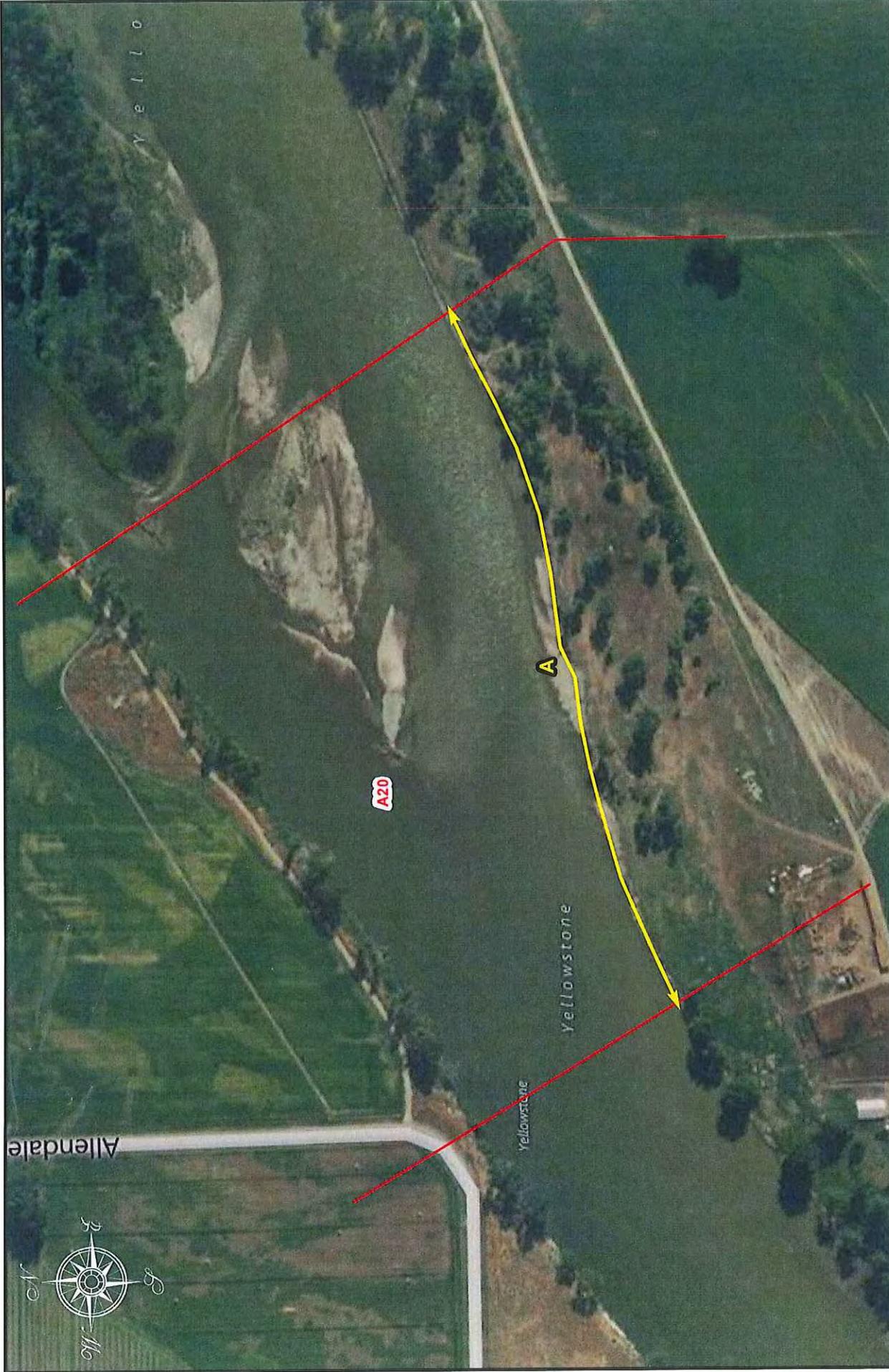
A20-RB

Segment LB
A-20 Estuary
OK 8/21/11
SCAT3
22 Aug 2011

© 2011 Google

45°40'06.11"N 108°41'41.28"W elev. 3226 ft

8/22/2011 5:18 pm
5 pm



Legend

↔ Oil Zones

— Segment Boundaries



SCAT Teams 2 & 4 Survey

Segment A20 Right Bank

11-Jul-2011

DB/6/5

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>A20</u>	Left Bank / Right Bank / Island	<u>24/07/11</u>	<u>10:00</u> hrs to <u>11:50</u> hrs	low - <u>mean</u> - bankfull - overbank
Operations Division: <u>SAT</u>				falling - steady - rising
Survey by: <u>(Foot) ATV / Boat / Helicopter / Overlook /</u>	<u>(Sun)</u> Clouds / Fog / Rain / Snow / Windy / Calm			Air Temp + / - <u>31</u> deg C

2 SURVEY TEAM # <u>4</u>	Name	Organization	Signature
	<u>John Madorsch</u>	<u>Condon Entrix</u>	<u>[Signature]</u>
	<u>GARY RAY</u>	<u>US EPA</u>	<u>[Signature]</u>
	<u>Ray Mule</u>	<u>MT FWP</u>	<u>Ray Mule</u>

3 SEGMENT Total Segment/Reach Length 475 m Segment/Reach Length Surveyed 475 m

Start GPS: LATITUDE 45 deg. 39.950 min. LONGITUDE 108 deg. 41.832 min. Datum: WGS84

End GPS: LATITUDE 45 deg. 40.077 min. LONGITUDE 108 deg. 41.517 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 P Sand ___ Mixed ___ Pebble/Cobble S Boulder ___ Peat/Organic ___ Vegetated Bank: (P) Wooded Upland: ___

Sediment Flat: Clay/Mud P 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: ___

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

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

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

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

Debris Y/N oil Y/N amount ✓ bags or ___ trucks access restrictions

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

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

559
560
561

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>S</u>	<u>P</u>	<u>477</u>	<u>187</u>	<u>50</u>			<u>P</u>	<u>S</u>							<u>P</u>					<u>Veg</u>
B				<u>P</u>	<u>475</u>	<u>10</u>	<u>0</u>			<u>P</u>	<u>S</u>										<u>No</u>		<u>Veg</u>
C				<u>P</u>	<u>178</u>	<u>60</u>	<u>75</u>			<u>S</u>	<u>P</u>							<u>P</u>					<u>Veg</u>

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

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

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

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

Zone A - varied from 187m to 40m wide. Recommend removal of needed vegetation and debris piles

Zone B - No oil

Zone C - Hay field - Recommend cut and Removal of all affected Hay grasses and vegetation

Sketch Yes Photos Yes / No Frames Photographer

by google earth file w/ polygons



Figure 4 - Maximum SCAT Observations For SCAT Area: A20

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

D/B/G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy)	Time (24h): std / <u>daylight</u>	Water Level
Segment/Reach ID: <u>20</u>	Left Bank / <u>Right Bank</u> / Island	01/09/11	1045 hrs to 1135 hrs	low - <u>mean</u> - bankfull - overbank
Operations Division: <u>A</u>				falling - steady - rising
Survey by: <u>Foot / ATV / Boat / Helicopter / Overlook /</u>		Sun / <u>Clouds</u> / Fog / Rain / Snow / Windy / Calm	Air Temp +/- <u>20°</u> deg C	

2 SURVEY TEAM # <u>4</u>	Name	Organization	Signature
	Michael Dirks	Cardno ENTRIX	<i>Michael P. Dirks</i>
	Larisa Leonova	USEPA	<i>Larisa Leonova</i>
	Earl Radonski	MTFWP	<i>Earl Radonski</i>

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 531 m

Start GPS: LATITUDE _____ deg. _____ min. LONGITUDE _____ deg. _____ min. Datum: WGS84

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

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

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

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

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

Cliff or Bluff: _____ Est Height _____ m canyon _____ manmade _____ meander _____ 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 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		36	2	50%			P	S						X				Grasses, brush
B			X		470	50	<1%			S	P						X				Grasses, trees, brush
C			X		25	5	50%			P	S						X				Grasses, brush

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

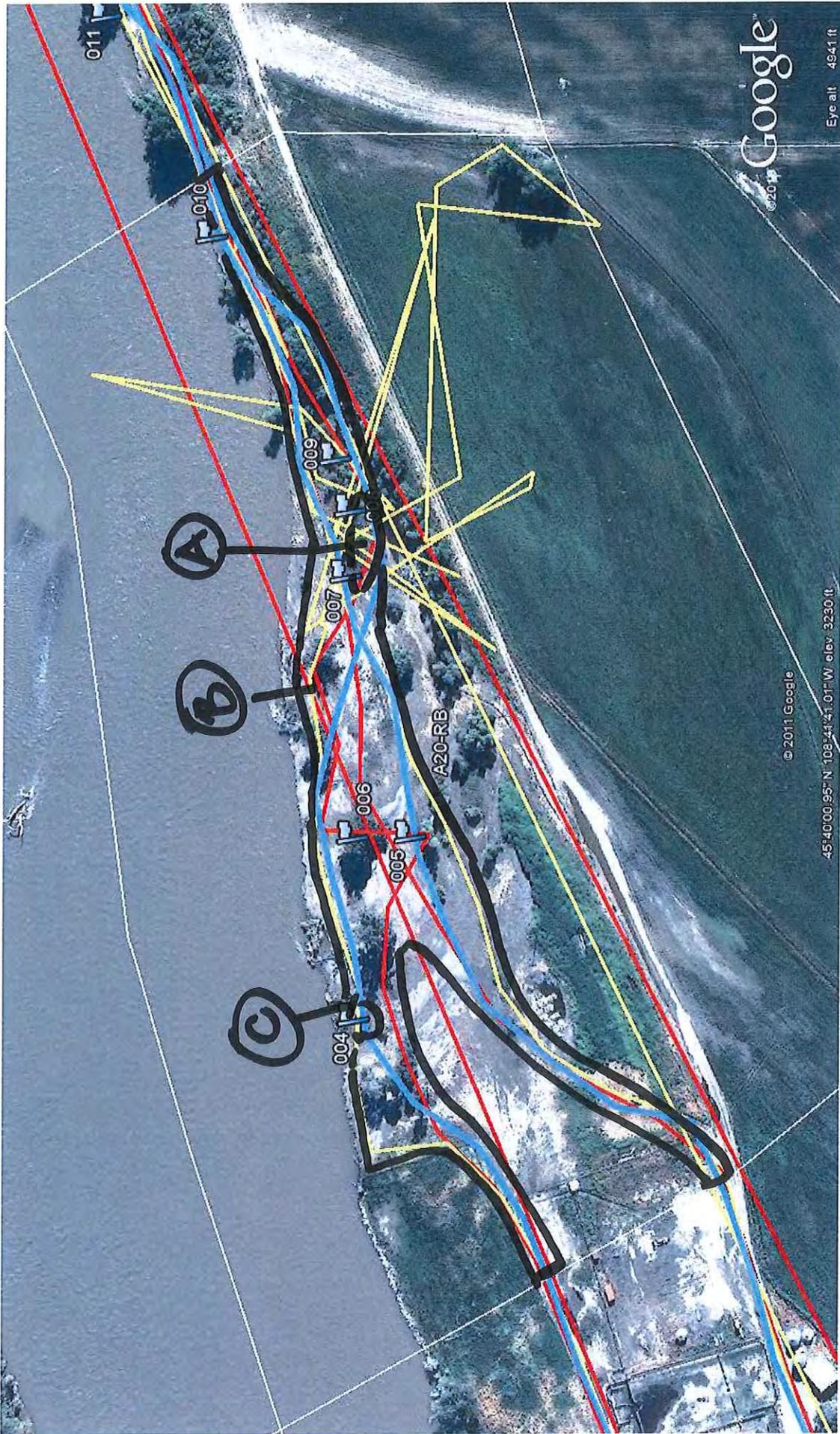
Overbank Survey Required Y/N Overbank Survey Completed Y/N Shoreline Survey Completed Y/N

OILING BAND HEIGHTS (BATH TUB RING)
 OILED HEIGHT: 0.05m - 2.0m

TREATMENT RECOMMENDATIONS:
 ZONES A & C: ATM #1 & ATM #2. ZONE C DEAD VEGETATION. ZONE A INNER, N SIDE OF DRY CREEK

ZONE B: NO FURTHER TREATMENT

Sketch Yes / No Photos Yes / No Frames/Photographer: Michael Dirks



A20-RB
SCAT 4
1 Sept 2011



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

DB/0

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>A20</u>	Left Bank / <u>Right Bank</u> / Island			low - <u>mean</u> - bankfull - overbank
Operations Division: <u>A</u>		<u>25/09/11</u>	<u>1130</u> hrs to <u>1300</u> hrs	<u>falling</u> - steady - rising
Survey by: <u>Foot</u> / ATV / <u>Boat</u> / Helico / ter / Overlook / _____		<u>Sun</u> / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp + / - <u>35</u> deg C

2 SURVEY TEAM # <u>1</u>	Name	Organization	Signature
	<u>Todd Farrar</u>	<u>Polaris</u>	<u>[Signature]</u>
	<u>Laura Alusey</u>	<u>DEC</u>	<u>[Signature]</u>

3 SEGMENT Total Segment/Reach Length 485 m Segment/Reach Length Surveyed 485 m

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

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

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

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

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

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

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

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: <1m 1-10m 10-100m >100m 160m est. water depth: <1m <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 stagin Y / N Access: Direct from backshore Y / N Alongshore from next segment Y / N

Debris Y / N oiled Y / N amount 1 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				<u>X</u>	<u>485</u>	<u>130</u>	<u><1</u>			<u>S</u>	<u>P</u>						<u>P</u>				<u>Vg</u>

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

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

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

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

Located sporadic cont a stain on vegetation & debris. Hot shot crew removed or treated oiled material. No further Treatment Required (NFT).

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

Team 1
Sept. 24, 2011
A20 RB

A21-IS

A21-LB

A20-LB

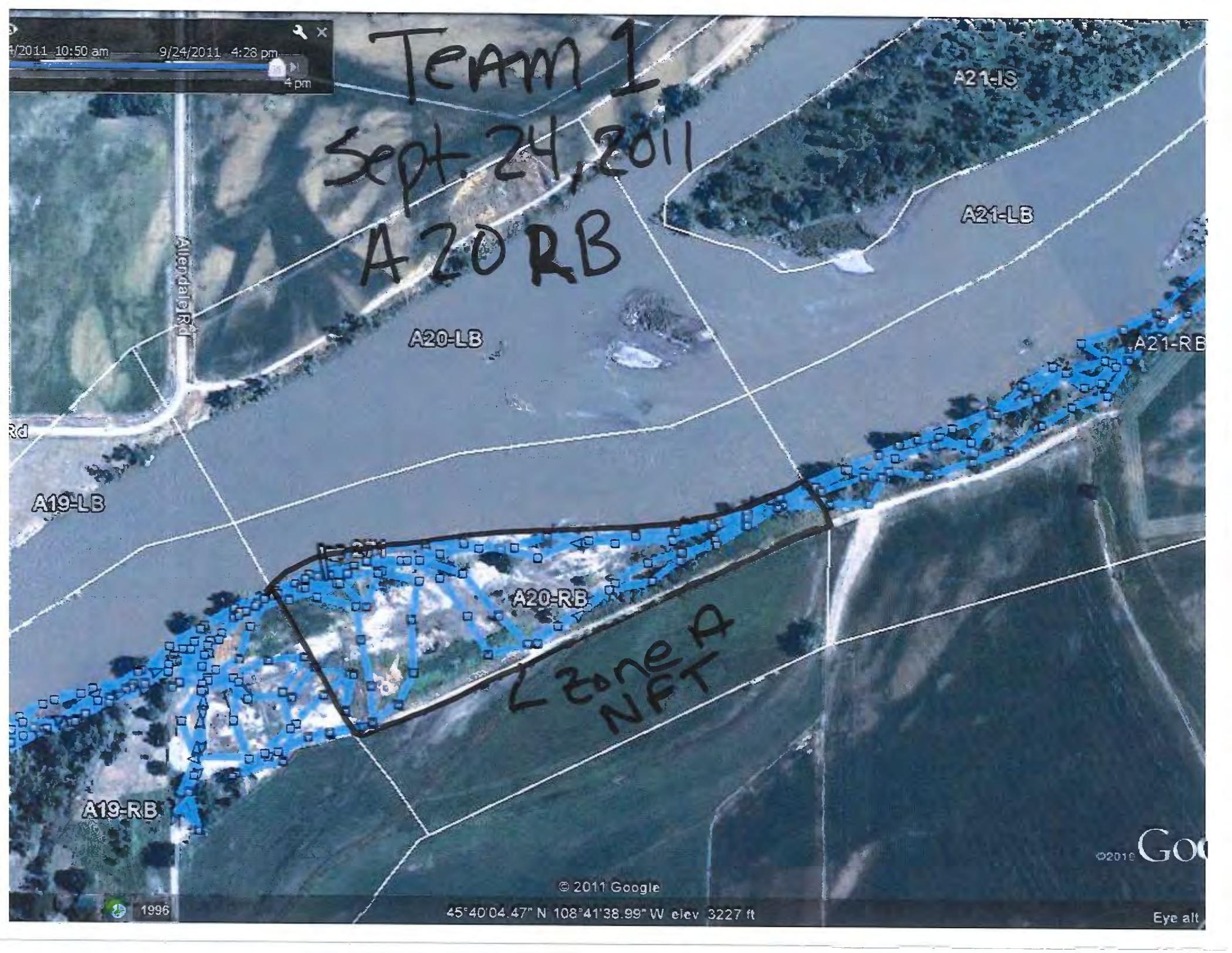
A21-RB

A19-LB

A20-RB

← 2020 D
NFT

A19-RB





Appendix F

Completed SCAT Segment Sign-Off
Forms

SCAT SEGMENT OPERATIONS COMPLETION SIGN-OFF SHEET

SILVERTIP PIPELINE RELEASE

Segment A20 RB Date of Survey Sept. 25, 2011

Dates of Initial SCAT Assessments 11 Jul 2011 (B)
(to be filled out by SCAT Data Management)

CTR(s) Associated with SCAT Segment 31

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

Segment Assessment Complete¹

Partial Segment Assessment

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

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

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

No Federal Rep Present

Sign Name _____ Print Name/ Affiliation _____ Date _____

Federal Representative (EPA/USCG)

[Signature] Laura Alvey - MT DEQ 9/25/11

Sign Name _____ Print Name/ Affiliation _____ Date _____

State Representative (DEQ/FWP)

[Signature] Todd Farrar / Polaris 9/25/11

Sign Name _____ Print Name/ Affiliation _____ Date _____

RP Representative (SCAT RP Representative)

Once all applicable SCAT Segments (i.e. LB, RB, and IS) within a particular SCAT Area (i.e. A21) have been successfully signed-off during a formal SCAT Assessment, the SCAT Area will achieve the Response Endpoints and an Area Transition Report will be completed and submitted to EPA and DEQ.

¹ A Segment Sign-Off Assessment is considered complete when all accessible lands that have not already been signed-off by a claims liaison have been surveyed. If any previous SCAT Assessments were conducted, all lands that were originally recommended for treatment must be re-surveyed in the Sign-Off Assessment. If the conducted survey does not meet these conditions it is considered a Partial Assessment. Multiple Partial Assessments that meet the conditions of a Complete Assessment may together constitute a Complete Sign-Off Assessment.



Appendix G

Exception Memos

GENERAL MESSAGE - SCAT AND OPERATIONS GUIDANCE FOR A15-A21LB EMBEDDED DEBRIS PILE SHEENING

TO: Jimmie James, RPIC Mike Trombetta, SOSC Steven Merritt, FOSC	POSITION: ExxonMobil Montana DEQ State On-Scene Coordinator EPA Federal On-Scene Coordinator
FROM: Steven Merritt, OSC	POSITION: FOSC - Unified Command
SUBJECT: A14LB-A21LB Access to Flying Box Ranch	DATE: 8/28/2011 TIME: 1130

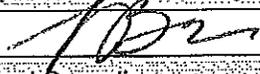
MESSAGE:

Early in the response, a SCAT team attempted to access the northern shoreline in segments A15LB, A16LB, A17LB, A18LB, A19LB, A20LB, and A21LB to determine the degree of oiling. SCAT teams also conducted a shoreline SCAT survey on July 11, 2011, which indicated NOO along the entire shoreline, with the exception of a light oiling observation on about 45% of the left bank in segment A21LB. During the overbank SCAT effort into the segments, which were conducted from the shore and not from the water, the SCAT team was confronted by an angry landowner with a shotgun and escorted off the property known as the Flying Box Ranch. Upon further review with the Surface Land Access Management unit and the Yellowstone County GIS data, the property boundaries of the Flying Box Ranch do not extend to the current shoreline in segments A15LB, A16LB, A17LB and A18LB. There are State of Montana and unclaimed lands between the Flying Box Ranch and the Yellowstone River in these segments and DNRC has been consulted on whether the land has been leased to Flying Box Ranch and becomes inaccessible accordingly. In segments A19LB, A20LB, and A21LB, the Flying Box Ranch property extends to the river and access has been denied in these areas. There are also numerous lawsuits between the State of Montana and local landowners related to property boundary changes due to river course alterations over time and takings concerns. Based upon changes in river stage since July 11, 2011, SCAT was asked to perform another shoreline assessment from the river in these segments to document any change to oiling condition.

Recommend first getting definitive answers from DNRC as it relates to any leased land in segments A15LB, A16LB, A17LB and A18LB. If these lands have been leased to Flying Box Ranch or are in legal dispute, recommend closing them out as "NOO-Access" within all tracking reports and prohibiting any operations within these segments.

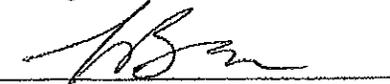
Recommend closing segments A19LB, A20LB, and A21LB as "NFT-Access" within all tracking reports and prohibiting any operations within these segments.

If DNRC confirms State of Montana access and ownership without legal dispute in segments A15LB, A16LB, A17LB and A18LB, I recommend conducting SCAT surveys in these areas, allowing a liberal buffer from the property lines with Flying Box Ranch, to determine whether any further treatment should be performed. Based upon shoreline observations and the pattern of deposition along the left bank in this area, no further treatment would be expected in these segments.

SIGNATURE:  Steven Merritt, OSC **POSITION:** FOSC - Unified Command

REPLY: SCAT and Operations

The Unified Command is aware of these access issues related to the Flying Box Ranch. In consultation with DNRC, the State of Montana and unclaimed lands are not leased to Flying Box Ranch and leased lands are not publically inaccessible. As a result of these consultations and data gathering efforts, we agree to the recommended steps outlined above, to re-SCAT shoreline and floodplain areas of segments A15LB, A16LB, A17LB and A18LB and to designate segments A19LB, A20LB, and A21LB as "NFT-Access" for all purposes, including SCAT and Operations. Attach this document to the Area Transition Report for each segment.

DATE: 8/30/2011	TIME: 1030	SIGNATURE/POSITION:  8/30/11 Jimmie James, RPIC  8/30/11 Mike Trombetta, SOSC  Steven Merritt, FOSC
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