

ExxonMobil Pipeline Company

**SCAT Area Transition Report
for A21**

Silvertip Pipeline Incident
Laurel, Montana

October 21, 2011



SCAT Area Transition Report for A21

Silvertip Pipeline Incident
Laurel, Montana

Prepared for:
ExxonMobil Pipeline Company

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Our Ref.:
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Date:
October 21, 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 A21, 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 A21. 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 A21, 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 A21 is 34.8. No access was granted to the left bank for any surveys, and there were access issues for the right bank.

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 A21. Three oiled Woodhouse's toads (*Bufo woodhousii*) were captured, cleaned, and released. One female bald eagle (*Haliaeetus leucocephalus*) with very light oiling was observed. One deceased moderately oiled Woodhouse's toad and one deceased lightly oiled squirrel (*Sciurus* sp.) were collected and retained. Two common garter snakes (*Thamnophis sirtalis*) were captured and taken to the Wildlife Recovery Center for an oiling evaluation, determined to be un-oiled, and released. A Wildlife Priority Cleanup Area (WPCA) was identified in Area A21. The WPCA consisted of oiled woody debris at the head of the A21 Island. The WPCA was treated to reduce the potential for wildlife oiling and it is no longer considered a wildlife hazard. Two bald eagle (*Haliaeetus leucocephalus*) nests were identified in Area A21 and the appropriate buffer zones for the various types of activity were provided to Operations.

1.3 Summary of Environmental Sampling

Table 1 (below) summarizes samples collected within Area A21. 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 A21 are provided on Figure 3.

Table 1 Environmental Sampling Summary

Agency	Sample Num	Date	Matrix	Location	Latitude	Longitude
EPA	SP5E202_072811	28-Jul-11	Sediment	SP5E202	45.6721212	-108.6864436

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 A21 are included in Appendix B. Figure 4 provides the maximum oiling zones observed by the SCAT team during the initial surveys of Area A21.

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. 16](#) and [CTR No. 31](#)).

1.6 Oil Removal Activities

Oil removal activities were conducted within Area A21 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

SCAT Operations liaisons performed an inspection of the remediated areas of SCAT Area A21 and developed a Pre-Inspection Survey Transmittal (PIST) associated with the island within Area A21, which is presented in Appendix C.

1.8 Post-Inspection Survey Transmittal

SCAT Operations liaisons performed an inspection of the remediated areas of SCAT Area A21 and developed a Post-Inspection Survey Transmittal (POST) associated with the island within Area A21, which is presented in Appendix D.

1.9 Summary of Final SCAT Surveys

Figure 5 shows the oiling conditions within Area A21 following completion of oil removal activities. The SCAT team performed final surveys of the island and right bank within SCAT Area A21 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 island and right bank within Area A21, no further treatment is recommended for these segments. SCAT Segment Sign-Off Forms are included as Appendix F.

The left bank is designated 'NFT-Access,' as described in the Exception Memos included as Appendix G, because no oiling was observed in the left bank of Area A21 in the initial SCAT survey and no access was granted for a foot survey.



**SCAT Area Transition
Report for A21**

Silvertip Pipeline Incident
Laurel, Montana

2. Transition Sign-Off Form

SCAT Area Transition Report for A21

Prepared for:

Unified Command

Date

Unified Command – RP



**SCAT Area Transition
Report for A21**

Silvertip Pipeline Incident
Laurel, Montana

SCAT Area Transition Report for A21

Prepared for:

Unified Command

Date

Unified Command – FOSC



**SCAT Area Transition
Report for A21**

Silvertip Pipeline Incident
Laurel, Montana

SCAT Area Transition Report for A21

Prepared for:

Unified Command

Date

Unified Command – MDEQ

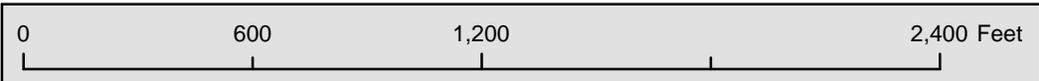
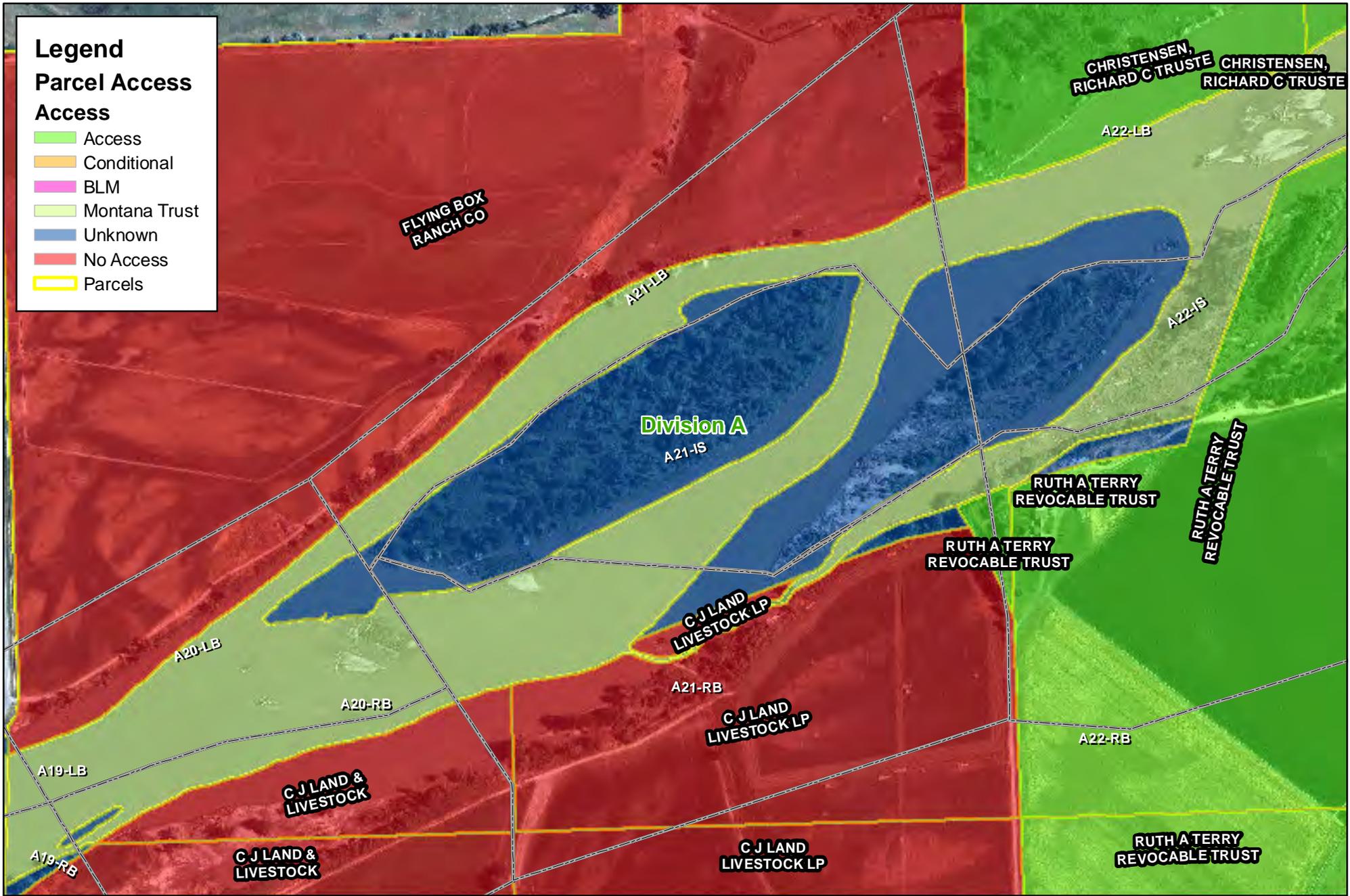


Figure 1

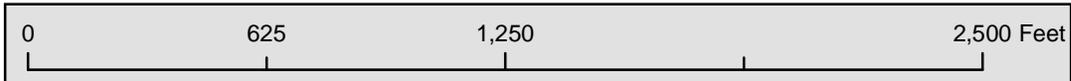
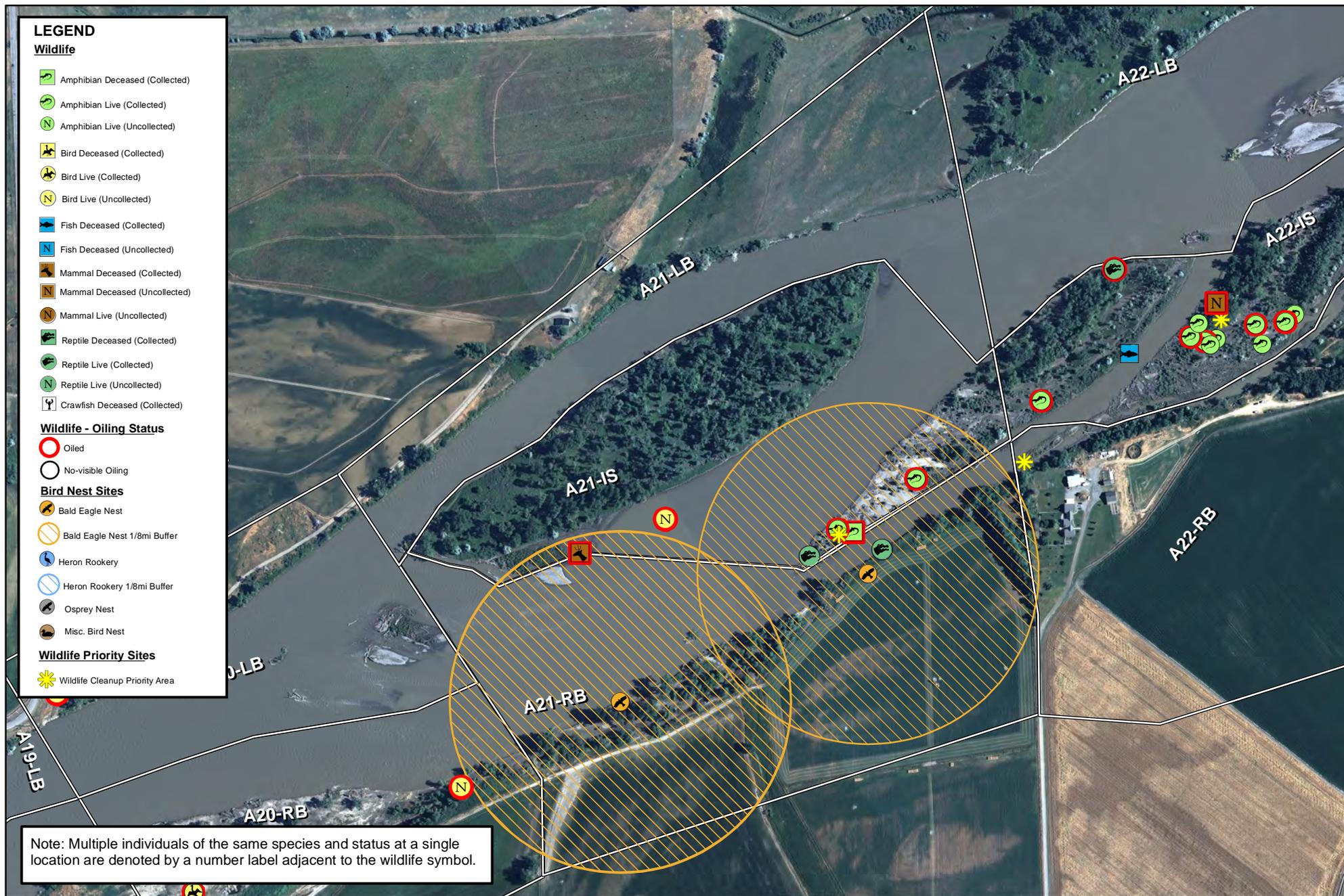
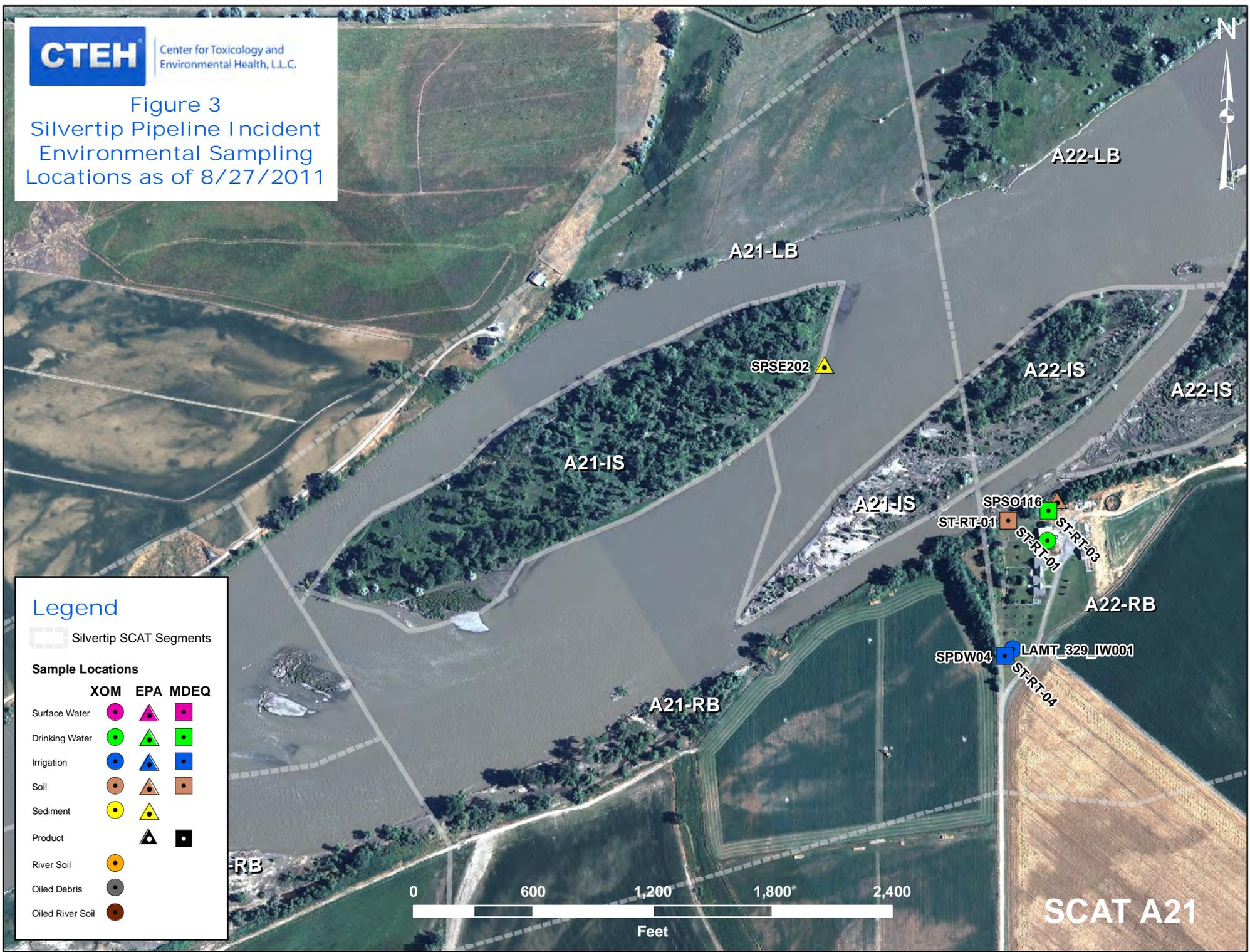


Figure 2
Wildlife Resources



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 A21



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

**Figure 4 - Maximum SCAT Observations
For SCAT Area: A21**





 <p>9999 Oiling Zone ID</p> <p> Heavy Oiling</p> <p> Moderate Oiling</p>	<p> Light Oiling</p> <p> Very Light Oiling</p> <p> No Oil Observed</p>	<p>Figure 5 - Final SCAT Observations</p> <p>For SCAT Area: A21</p> <p>390 0 390 780 Feet</p>	
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Appendix A

Sample Detection Summary



Detections in Samples Collected in
SCAT Area A21

NA - Not Available

Detected Above Screening Level

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



Appendix B

Initial SCAT Survey Forms and
Sketches

D(3)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 1132 hrs to 1133 hrs	Water Level low - mean - bankfull - <u>overbank</u> falling - steady - rising
Segment/Reach ID: A21 Left Bank / 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 1283 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 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 117m 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)	
					Length	Width	Distrib.														
	MS	LB	UB	OB	m	m	%	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR	AP		NO
A			X		1283	1	95			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	TR	NO				

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

Zone A Oiled Band Height: 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# _____)



Legend

Oil Zones

Segment Boundaries



SCAT Teams 2 & 4 Survey

Segment A21 Island

11-Jul-2011

RB/8/SC

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy) 15-Jul-2011	Time (24h): std / daylight 0935 hrs to 1200 hrs	Water Level low - mean - bankfull - overbank falling - steady - rising
Segment/Reach ID: A21 Left Bank / Right Bank / <u>Island</u>		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 # 1 & 2	name	organization	contact phone number
Andrew Milanes		Polaris	
Tom Freeman		Polaris	
Bruce Kvam		Polaris	
Pete Lee		Polaris	
Travis Olson		USCG	
Aaron Anderson		MTDEQ	406-841-5049
Darrick Turner		MTDEQ	406-444-1504

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 1055 m

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

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

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

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

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

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

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

Sloped: (>5°)(15°)(30°) straight 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 117m 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 20 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

214
215
216
217

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	550	125				X	X										X	Grass, trees, debris
B				X	175	50	15			X	X											Grass, trees, debris
C				X	80	10	30			X	X											Grass, trees, debris
D				X	250	70	15	X	X	X	X											Grass, trees, debris, water

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

Oil band heights: Zone B – 30cm; Zone C – 40cm; Zone D – 80cm

Survey performed along interior of island. Shoreline of island previously surveyed.

Treatment Recommendations:
 Zone A: No Oil Observed, No Treatment Required
 Zones B & C: Cut & remove oil coated vegetation smaller than 1" diameter. Remove oil coated debris smaller than 4" diameter. Wipe larger oil coated vegetation and debris.
 Zone D: Remove pooled oil with sorbents. Cut & remove oil coated vegetation smaller than 1" diameter. Remove oil coated debris smaller than 4" diameter. Wipe larger oil coated vegetation and debris. Due to the size and quantity of oil coated debris in this zone, alternative methods, such as burning, could be considered.

*Refer to current approved treatment methods #1 (Cutting of Vegetation), #2 (Dead Vegetation and Small Debris), #3 (Large Woody Debris), #6 (Sorbent Use)

Sketch Yes / No Photos Yes / No Frames 4129-4173, 4293-4356 (Milanes); 0416-0473, 0589-0619 (Freeman)

1 GENERAL INFORMATION		Date (dd/mm/yy) 15-Jul-2011	Time (24h): std / daylight 0935 hrs to 1200 hrs	Water Level low - mean - bankfull - <u>overbank</u> <u>falling</u> - steady - rising
Segment/Reach ID: A21 Left Bank / Right Bank / <u>Island</u>				
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 # 1 & 2	name	organization	contact phone number
Andrew Milanes	<i>AMM</i>	Polaris	
Tom Freeman	<i>TF</i>	Polaris	
Bruce Kvam	<i>BK</i>	Polaris	
Pete Lee	<i>PL</i>	Polaris	
Travis Olson	<i>TO</i>	USCG	
Aaron Anderson	<i>AA</i>	MTDEQ	406-841-5049 <i>Betsy Horde for AA</i>
Darrick Turner	<i>DT</i>	MTDEQ	406-444-1504 <i>Betsy Horde for DT</i>

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 1055 m

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

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

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

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

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

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

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

Sloped: (>5°)(15°)(30°) straight 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 117m est. water depth: <1m 1-3m 3-10m >10m _____ m

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Debris: Y/N oiled Y/N amount _____ bags or 20 trucks access restrictions _____

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

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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	550	125															X	Grass, trees, debris
B				X	175	50	15			X	X			X								Grass, trees, debris
C				X	80	10	30			X	X			X								Grass, trees, debris
D				X	250	70	15	X	X	X	X		X									Grass, trees, debris, water

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

Oil band heights: Zone B – 30cm; Zone C – 40cm; Zone D – 80cm

Survey performed along interior of island. Shoreline of island previously surveyed.

Treatment Recommendations:
 Zone A: No Oil Observed, No Treatment Required

Zones B & C: Cut & remove oil coated vegetation smaller than 1" diameter. Remove oil coated debris smaller than 4" diameter. Wipe larger oil coated vegetation and debris. Workers should be aware of large patches of poison ivy throughout the island.

Zone D: Remove pooled oil with sorbents. Cut & remove oil coated vegetation smaller than 1" diameter. Remove oil coated debris smaller than 4" diameter. Wipe larger oil coated vegetation and debris. Due to the size and quantity of oil coated debris in this zone, alternative methods, such as burning, could be considered. The Technical Advisory Group will need to be consulted for alternative treatment methods for oiled debris.

*Refer to current approved treatment methods #1 (Cutting of Vegetation), #2 (Dead Vegetation and Small Debris), #3 (Large Woody Debris), #6 (Sorbent Use)

Sketch Yes / No Photos Yes / No Frames 4129-4173, 4293-4356 (Milanes); 0416-0473, 0589-0619 (Freeman)

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1. GENERAL INFORMATION				Date (dd/mm/yy) 15-Jul-2011	Time (24h): std / daylight 0935 hrs to 1200 hrs	Water Level low - mean - bankfull - <u>overbank</u> falling - steady - rising															
Segment/Reach ID: A21 Left Bank / Right Bank / Island				Operations Division: A		Sun / Clouds / Fog / Rain / Snow / Windy / Calm				Air Temp +/- <u>32</u> deg C											
Survey by: <u>Foot / ATV / Boat / Helicopter / Overlook /</u>				Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- <u>32</u> deg C															
2. SURVEY TEAM # 1 & 2				name organization contact phone number																	
Andrew Milanes <u>AMM</u>				Polaris																	
Tom Freeman <u>TFM</u>				Polaris																	
Bruce Kvam <u>BK</u>				Polaris																	
Pete Lee <u>PL</u>				Polaris																	
Travis Olson				USCG																	
Aaron Anderson <u>A</u>				MTDEQ 406-841-5049																	
Darrick Turner <u>DT</u>				MTDEQ 406-444-1504																	
3. SEGMENT				Total Segment/Reach Length _____ m		Segment/Reach Length Surveyed <u>1055</u> m															
Start GPS: LATITUDE _____ deg. _____ min. LONGITUDE _____ deg. _____ min. Datum: _____																					
End GPS: LATITUDE _____ deg. _____ min. LONGITUDE _____ deg. _____ min.																					
4A. RIVER BANK TYPE				SELECT only one primary (P) shoreline type and any number of secondary (S) types. CIRCLE those OILED																	
Bedrock: Cliff/Ramp _____ Shelf _____				Manmade: Solid _____ Permeable _____ (type) _____			Wetland: Swamp _____ Bog/Fen _____ Marsh _____														
Sediment Bank: Clay/Mud _____ Sand _____ Mixed S _____ Pebble/Cobble S _____ Boulder _____ Peat/Organic _____				Vegetated Bank: <u>S</u>			Wooded Upland: <u>P</u>														
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: <u>mixed</u>														
Sloped: (>5°)(15°)(30°)				straight <u>P</u> braided <u>S</u> oxbow _____ flood plain valley _____			Forested / Vegetated / Bare														
4C. RIVER CHANNEL CHARACTER				circle or select as appropriate																	
est. width: <1m 1-10m 10-100m <u>>100m 117m</u>				est. water depth: <1m 1-3m <u>3-10m</u> >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 / <u>overbank flow</u>				est. change over next 7 days: <u>falling</u> — 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 <u>20</u> 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																	
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	550	125														X	grass, trees, debris
B				X	175	50	15			X	X			X							grass, trees, debris
C				X	80	10	30			X	X			X							grass, trees, debris
D				X	250	70	15	X	X	X	X			X							grass, trees, debris, water
7. SUBSURFACE OILING CONDITIONS				use later 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	B, R, S, N	Yes / No	
					cm	cm-cm															
8. COMMENTS ecological/recreational/cultural/economic constraints; shoreline biota and wildlife observations; cleanup recommendations																					
Oil band heights: Zone B - 30cm; Zone C - 40cm; Zone D - 60cm																					
Survey performed along interior of island. Shoreline of island previously surveyed.																					
Treatment Recommendations:																					
Zone A: No Oil Observed, No Treatment Required																					
Zones B & C: Cut & remove oil coated vegetation smaller than 1" diameter. Remove oil coated debris smaller than 4" diameter. Wipe larger oil coated vegetation and debris. <u>Workers should be aware of large patches of poison ivy throughout the island.</u>																					
Zone D: Remove pooled oil with sorbents. Cut & remove oil coated vegetation smaller than 1" diameter. Remove oil coated debris smaller than 4" diameter. Wipe larger oil coated vegetation and debris. Due to the size and quantity of oil coated debris in this zone, alternative methods, such as burning, could be considered. The Technical Advisory Group will need to be consulted for alternative treatment methods for oiled debris.																					
*Refer to current approved treatment methods #1 (Cutting of Vegetation), #2 (Dead Vegetation and Small Debris), #3 (Large Woody Debris), #6 (Sorbent Use)																					
Sketch Yes / No Photos Yes / No Frames 4129-4173, 4293-4356 (Milanes); 0416-0473, 0569-0618 (Freeman)																					

1 GENERAL INFORMATION		Date (dd/mm/yy) 15-Jul-2011	Time (24h): std / daylight 0935 hrs to 1200 hrs	Water Level low - mean - bankfull - <u>overbank</u> falling - steady - rising																		
Segment/Reach ID: A21 Left Bank / Right Bank / <u>Island</u>		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 # 1 & 2		name organization contact phone number																				
Andrew Milanes <i>AMM</i>		Polaris																				
Tom Freeman <i>TF</i>		Polaris																				
Bruce Kvam <i>BK</i>		Polaris																				
Pete Lee <i>PL</i>		Polaris																				
Travis Olson		USCG																				
Aaron Anderson <i>AA</i>		MTDEQ		406-841-5049																		
Darrick Turner		MTDEQ		406-444-1504																		
3 SEGMENT		Total Segment/Reach Length _____ m Segment/Reach Length Surveyed <u>1055</u> m																				
Start GPS: LATITUDE _____ deg. _____ min. LONGITUDE _____ deg. _____ min. Datum: _____		End GPS: LATITUDE _____ deg. _____ min. LONGITUDE _____ deg. _____ min.																				
4A RIVER BANK TYPE		SELECT only one primary (P) shoreline type and any number of secondary (S) types. CIRCLE those OILED																				
Bedrock: Cliff/Ramp _____ Shelf _____		Manmade: Solid _____ Permeable _____ (type) _____		Wetland: Swamp _____ Bog/Fen _____ Marsh _____																		
Sediment Bank: Clay/Mud _____ Sand _____ Mixed <u>S</u> Pebble/Cobble <u>S</u> Boulder _____ Peat/Organic _____		Vegetated Bank: <u>S</u>		Wooded Upland: <u>P</u>																		
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: <u>mixed</u>																		
Sloped: (>5°)(15°)(30°)		straight <u>P</u> braided <u>S</u> oxbow _____ flood plain valley _____		Forested / <u>Vegetated</u> / Bare																		
4C RIVER CHANNEL CHARACTER		circle or select as appropriate																				
est. width: <1m 1-10m 10-100m <u>>100m 117m</u>		est. water depth: <1m 1-3m <u>3-10m</u> >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 / <u>overbank flow</u>		est. change over next 7 days: <u>falling</u> — 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 <u>20</u> 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																				
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	550	125				X	X										X	Grass, trees, debris
B				X	175	50	15			X	X			X								Grass, trees, debris
C				X	80	10	30			X	X			X								Grass, trees, debris
D				X	250	70	15	X	X	X	X			X								Grass, trees, debris, water
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																						
Oil band heights: Zone B – 30cm; Zone C – 40cm; Zone D – 80cm																						
Survey performed along interior of island. Shoreline of island previously surveyed.																						
Treatment Recommendations:																						
Zone A: No Oil Observed, No Treatment Required																						
Zones B & C: Cut & remove oil coated vegetation smaller than 1" diameter. Remove oil coated debris smaller than 4" diameter. Wipe larger oil coated vegetation and debris. <u>Workers should be aware of large patches of poison ivy throughout the island.</u>																						
Zone D: Remove pooled oil with sorbents. Cut & remove oil coated vegetation smaller than 1" diameter. Remove oil coated debris smaller than 4" diameter. Wipe larger oil coated vegetation and debris. Due to the size and quantity of oil coated debris in this zone, alternative methods, such as burning, could be considered. <u>The Technical Advisory Group will need to be consulted for alternative treatment methods for oiled debris.</u>																						
*Refer to current approved treatment methods #1 (Cutting of Vegetation), #2 (Dead Vegetation and Small Debris), #3 (Large Woody Debris), #6 (Sorbet Use)																						
Sketch <u>Yes</u> / No Photos <u>Yes</u> / No Frames 4129-4173, 4293-4356 (Milanes); 0416-0473, 0589-0619 (Freeman)																						



Legend

- Segment Boundaries
- Oiling Zones



SCAT Teams 1 & 2 Survey

Segment A21 - Island

15 July 2011

DB/G

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>A21</u> Left Bank / Right Bank / Island <input checked="" type="radio"/>		<u>22/08/11</u>	<u>15:00</u> hrs to <u>15:10</u> hrs	low - mean - bankfull - overbank
Operations Division: <u>A</u>				<input checked="" type="radio"/> falling <input checked="" type="radio"/> steady - rising
Survey by: <input checked="" type="radio"/> Foot / ATV / Boat / Helicopter / Overlook /		<input checked="" type="radio"/> Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- ___ deg C

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

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 123 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

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

Sloped: (>5°)(15°)(30°) straight _____ braided P oxbow _____ flood plain valley _____ Substrate Type: silt

Forested / Vegetated / Bare

4C RIVER CHANNEL CHARACTER circle or select as appropriate

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

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

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

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

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

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

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

OIL ZONE ID	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER							SUBST. TYPE(S)	
	MS	LB	UB	OB	Length m	Width m	Distrib. %	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR	AP		NO
A		X			45	5															X
B		X			78	28															X

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

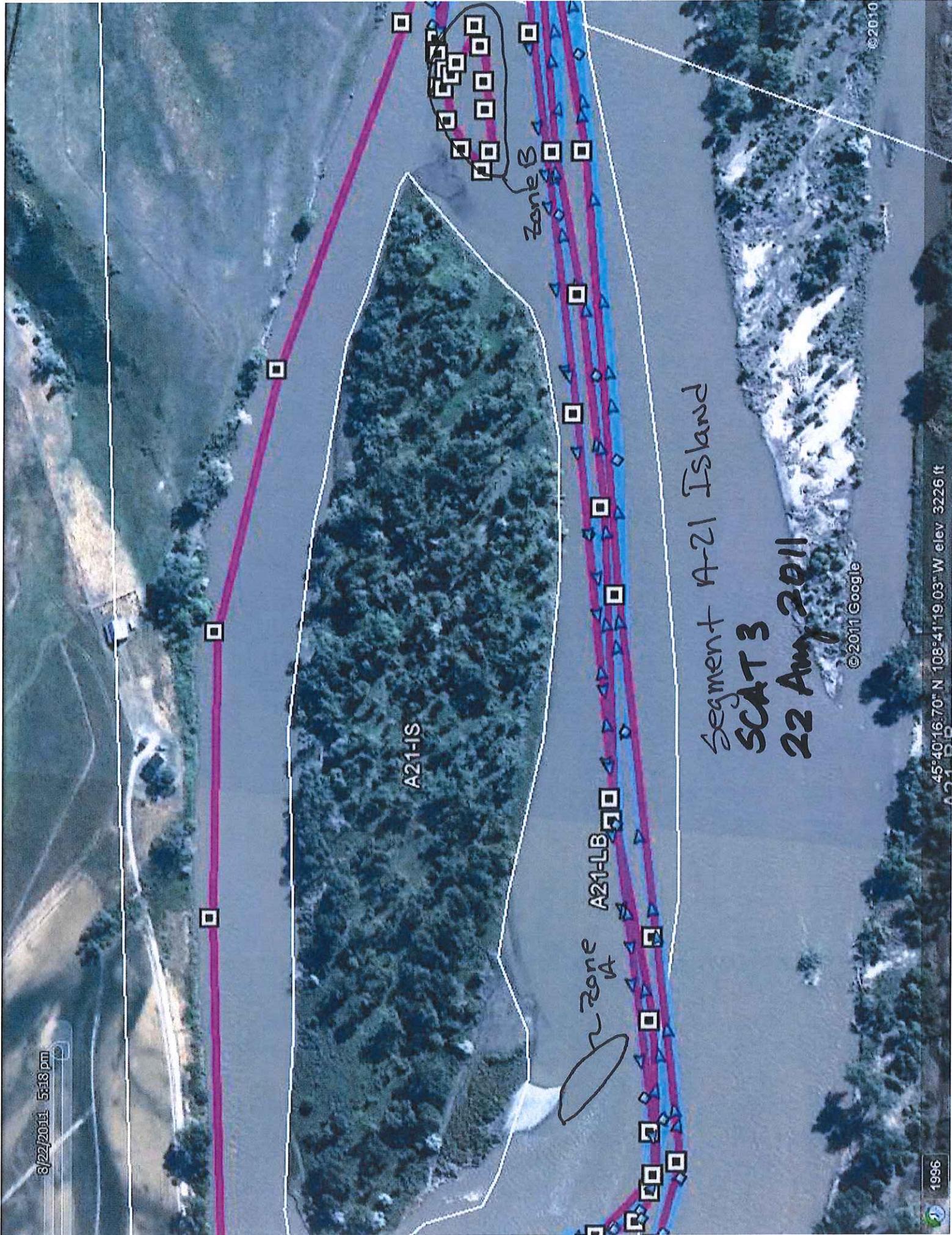
TRENCH or PIT NO.	RIVER BANK ZONE				MAX. PIT DEPTH cm	OILED ZONE cm-cm	SUBSURFACE OIL CHARACTER						WATER TABLE cm	SHEEN COLOUR B, R, S, N	CLEAN BELOW Yes / No	SUBST. TYPE(S)	
	MS	LB	UB	OB			SAP	OP	PP	OR	OF	TR					NO

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

Zones A & B - No oiling observed

3/22/2011 5:18 pm



A21-IS

Zone B

Zone A

A21-LB

Segment A-21 Island
 SCAT 3
 22 Aug 2011

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45°40'16.70" N 108°41'19.03" W elev 3226 ft

1996

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

D/B

R.

1 GENERAL INFORMATION		Date (dd/mm/yy) 08/30/11	Time (24h): std / daylight 8:50 hrs to 11:30 hrs	Water Level low - <u>mean</u> - bankfull - overbank falling - steady - rising
Segment/Reach ID: 21	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 +/- 29 deg C

2 SURVEY TEAM # 5	Name	Organization	Signature
Daniel Elefant		Cardno Entrix	
Lee Burroughs		FWP	
Juan Patino		USCG	

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 436 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: X Wooded Upland: _____

Sediment Flat: Clay/Mud _____ Sand _____ Mixed/Coarse P _____ 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: Veg, Debris

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

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

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

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

Debris: M / N oiled M / N amount 30+ bags or _____ trucks access restrictions

Oiled trees/shrubs M / N River Current strong M / N Other Features: Remaining oil lies in debris piles.

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	436	70	<1%			X							X					Debris/Veg
B				X	110	50	1%			X							X					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

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

Continue CTR, Operations is already on site. Shrubs and veg NFT. Ops to treat transferable oiled debris only.

ZNA: NFT <1%, CT

ZNB: CONTINUE CTR, FOCUS ON OILED DEBRIS REMOVAL - TRANSFERABLE OIL ONLY.

PARTIAL RESCAT: ZN A & ZNB ONLY.

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

8/30/2011 3:51 pm
 3 pm



ACTIVE LOG 003

2NB: CONTINUE CRP, ALSO STAYS ONLY

A21-RB

N.A.: 1% OF NET

ACTIVE LOG 001

ACTIVE LOG 001

A21-RB

© 2011 Google

Google

2012 A21-RB ES OK 9/5/11

DB/R/Sc

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy) 11-Jul-2011	Time (24h): std / daylight 1132 hrs to 1133 hrs	Water Level low - mean - bankfull - <u>overbank</u> falling - steady - rising
Segment/Reach ID: A21 <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 817 m

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

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

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

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

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

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

4B RIVER VALLEY CHARACTER select as appropriate **complete for primary**

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

Sloped: (>5°)(15°)(30°) straight 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 65m 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		160	1															X	Grass, trees, debris
B			X		332	1	60			X	X		X									Grass, trees, debris
C			X		325	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

Oiled Band Heights: Zone B - 15cm

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;

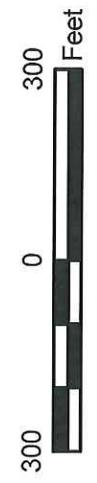
(for ALL sub-segments record: sub-segment ID, length, length surveyed, and GPS start/end fixes)

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



Legend

-  Oil Zones
-  Segment Boundaries



SCAT Teams 2 & 4 Survey

Segment A21 Left Bank

11-Jul-2011

DR/a/sc

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy) 11-Jul-2011	Time (24h): std / daylight 1052 hrs to 1054 hrs	Water Level low - mean - bankfull - <u>overbank</u> <u>falling</u> - steady - rising
Segment/Reach ID: A21 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 735 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 S Permeable S (type) Ramp 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 S 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 117m 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		735	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

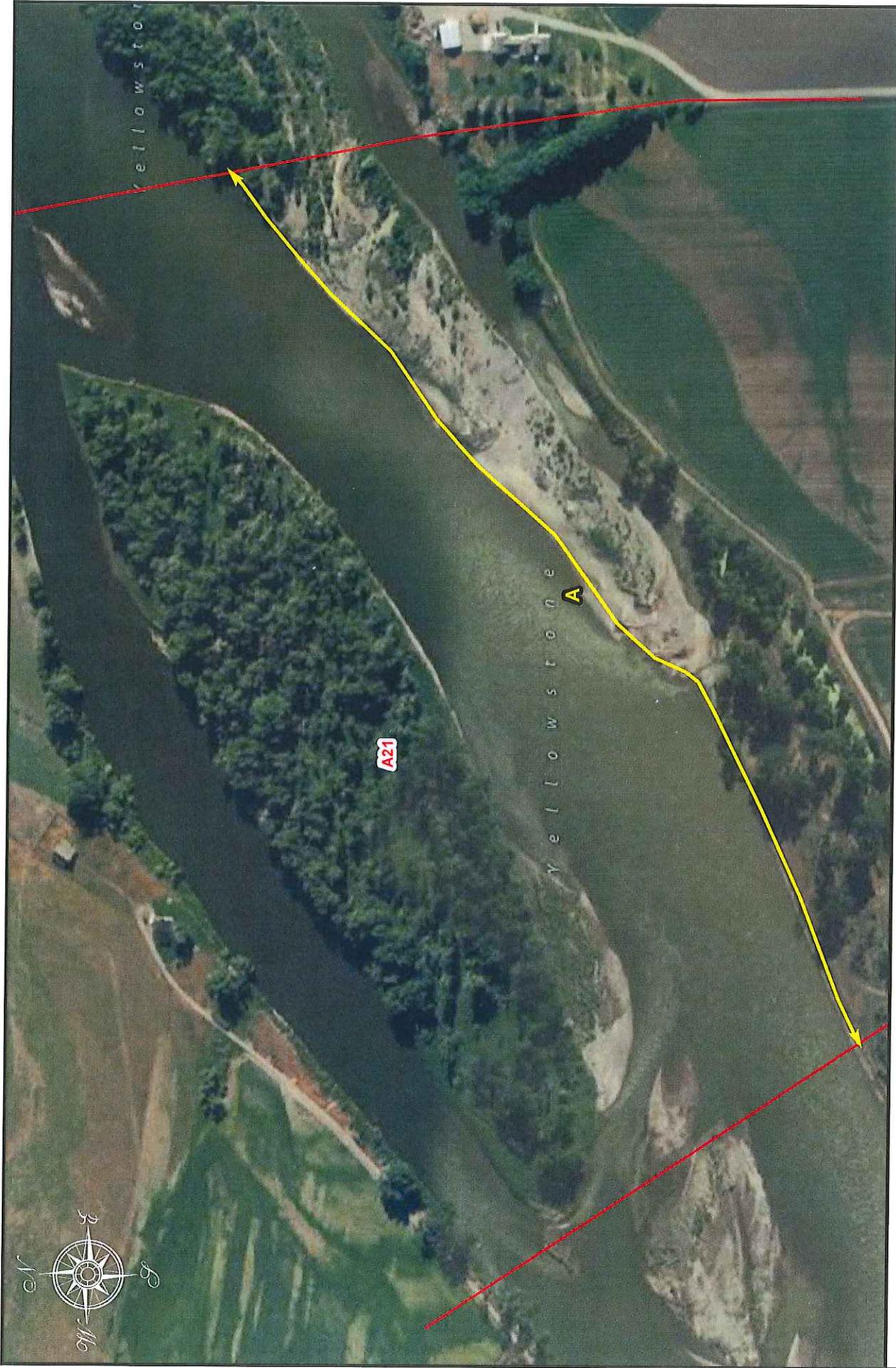
Zone A Oiled Band Height: 40cm

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; wipe rocks (if can be performed safely).

(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 A21 Right Bank

11-Jul-2011



12A from Segs to 4th St
5/11/16
11:45

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>R21</u> Left Bank / Right Bank / Island		<u>24/07/11</u>	<u>8:40</u> hrs to <u>10:40</u> hrs	low - <u>mean</u> - bankfull - overbank
Operations Division: <u>SMT</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 Matusch</u>	<u>Coastal ENTRIX</u>	<u>[Signature]</u>
	<u>GARY RILEY</u>	<u>UC EPA</u>	
	<u>Ray Mule</u>	<u>MT FWP</u>	<u>Ray Mule</u>

3 SEGMENT Total Segment/Reach Length 670 m Segment/Reach Length Surveyed 91 m

Start GPS: LATITUDE 45 deg. 40.062 min. LONGITUDE 108 deg. 41.507 min. Datum: 1983 NAD

End GPS: LATITUDE 45 deg. 40.253 min. LONGITUDE 108 deg. 41.058 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 ___ 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: VA

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 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	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	%																
<u>A</u>		<u>P</u>				<u>670</u>	<u>44</u>	<u>50</u>			<u>P</u>	<u>S</u>					<u>P</u>							<u>veg.</u>
<u>B</u>				<u>P</u>		<u>670</u>	<u>25</u>	<u>0</u>														<u>N/A</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)
							CHARACTER									
	MS	LB	UB	OB			SAP	OP	PP	OR	OF	TR				

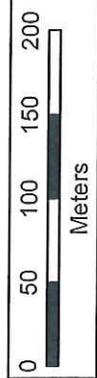
8 COMMENTS ecological/recreational/cultural/economic constraints - shorezone biota and wildlife observations - cleanup recommendations

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

Zone A width ranges from 10-45m wide Did not go beyond fence line/road. Recommended needed grass & debris pile removal.

Zone B - no oil

Sketch (Y) / No Photos (Y) / No Frames _____ Photographer _____



COMMENTS:

A21 -
(L/R/I)??

DATE:
TEAM:

D13/G

1 GENERAL INFORMATION		Date (dd/mm/yy)	Time (24h): std / <u>daylight</u>	Water Level
Segment/Reach ID: <u>21</u>	Left Bank / <u>Right Bank</u> / Island		<u>1135</u> - <u>1500</u>	low - <u>mean</u> - bankfull - overbank
Operations Division: <u>A</u>		<u>01/09/11</u>	<u>1150</u> hrs to <u>1545</u> hrs	<u>falling</u> - steady - rising
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook /	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 D. 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 745 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	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER						SUBST. TYPE(S)		
	MS	LB	UB	OB	Length	Width	Distrib.	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR		AP	NO
A			X		670	2	<1%			S	P						X				Grasses, brush
B			X		5	5	50%			P	S						X				Grasses, trees, brush
C			X		70	5	25%			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	OILED ZONE	SUBSURFACE OIL CHARACTER						WATER TABLE	SHEEN COLOUR	CLEAN BELOW	SUBST. TYPE(S)					
	MS	LB	UB	OB			cm	cm-cm	SAP	OP	PP	OR					OF	TR	NO	cm	B, R, S, N

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

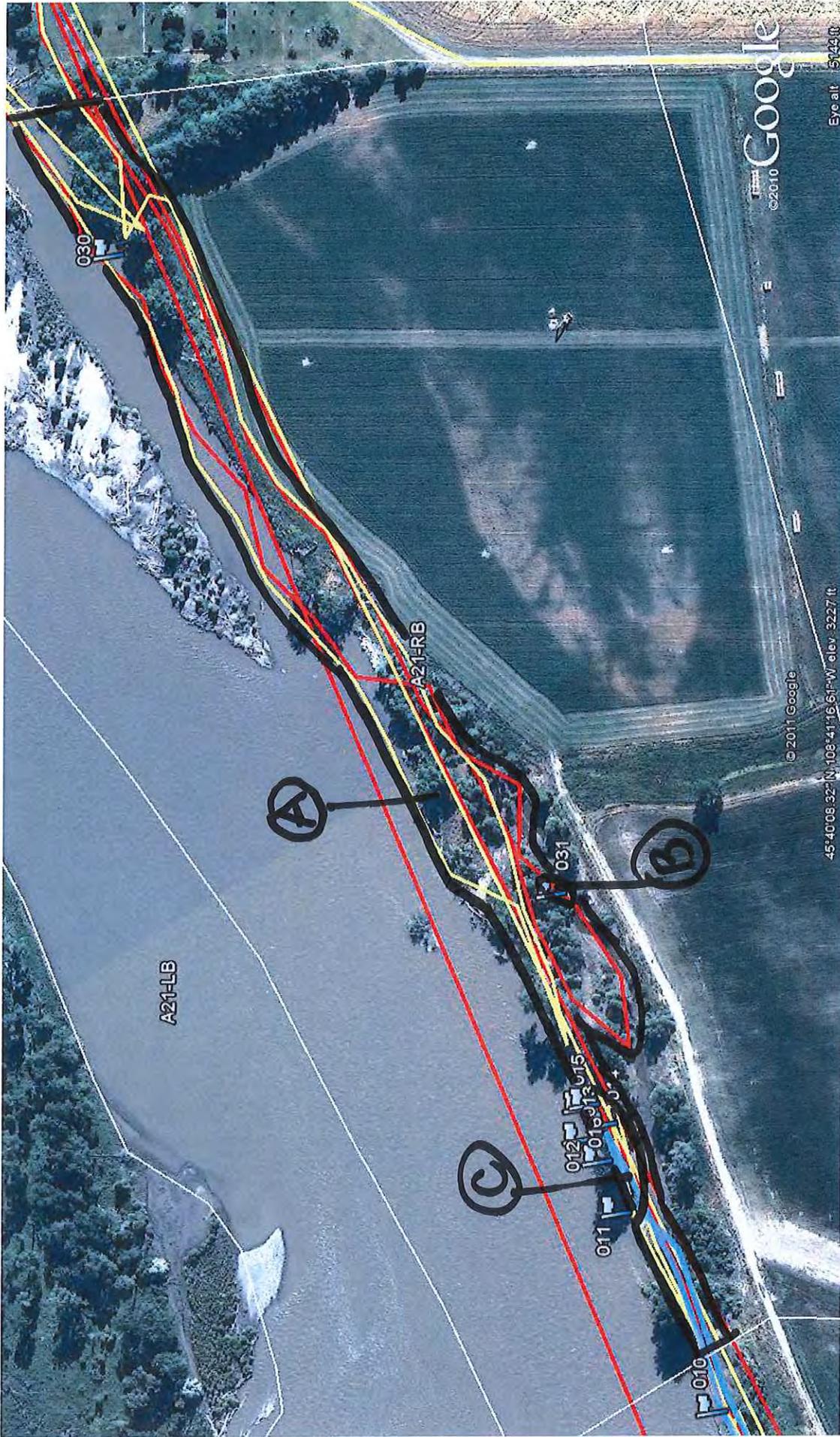
OILING BAND (BATHUB RING)
 -HTG HEIGHTS: 0.05m to 2.0m
 1100 09/02/11

TREATMENT RECOMMENDATIONS:

ZONE A: NO FURTHER TREATMENT, CONTINUOUS STAIN ONLY.

ZONE B & C: ATM #1 & ATM #2. ZONE C NEAR EAGLE'S NEST, ZONE B IN TREE LIMBS AT EYE LEVEL.

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



A21-RB
SCAT 4
1 Sept 2011



Appendix C

Pre-Inspection Survey Transmittal

CTR 16
PARTIAL

SCAT – Pre Inspection Survey Transmittal (PIST) Memo

Survey Date: 10 AUG 2011 and 12 AUG 2011

Segment: A21 ISLAND

Team: SCAT Liaison LAUREN GLUSHIK Signed: [Signature]

Observer FRED STROUD Signed: [Signature]

Observer _____ Signed: _____

Observer _____ Signed: _____

Segment meets criteria? YES X NO _____

RBOS attached? YES _____ NO X

If NO:

Location Sketch attached? YES _____ NO X

CTR continue? YES _____ NO X

Comments:

10 AUG : ISOLATED AREAS WERE FLAGGED FOR FOLLOW UP AND DIRECTIONS WERE GIVEN TO OPS SUPERVISOR ON ISLAND.

12 AUG : FOLLOW UP CHECK OF FLAGGED AREAS. ~~WAS~~ CONFIRMED. SEGMENT READY FOR SCAT.

PIST

Pre Inspection Survey Transmittal

Segment A21 IS (EAST)

Date of Survey 9-2-11

SCAT/Ops Liaison Ray McKelvey

Signed: [Signature]

State/DEQ
SCAT/Ops Liaison Daryl Reed

Signed: [Signature]

SCAT/Ops Liaison _____

Signed: _____

SCAT/Ops Liaison _____

Signed: _____

Segment meets Approved Treatment Methods Target Endpoints Criteria and is ready for a ReSCAT Assessment (Mark Yes or No)?

YES → Segment Referred to SCAT for Sign-Off Assessment

Comments for SCAT:

NO → Segment Referred to Ops for Further Treatment

Describe the areas requiring further treatment. Based on the CTR(s), comment on oiling conditions, the appropriate ATMs to use, GPS waypoints, additional comments, attach a map, etc.

Zone Dimensions: Length _____ Width _____ GPS Waypoint: Lat. _____ Long. _____
(required) (center of zone)



Appendix D

Post-Inspection Survey Transmittal

POST

Post Inspection Survey Transmittal

Segment _____ A21-RB IS
OK 2/5/11

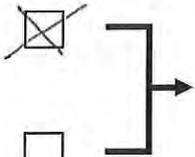
Date of Survey _____ 8/30/11 _____

SCAT Team Member: Daniel Elefant Signed: _____ *[Signature]*

SCAT Team Member: Lee Burroughs Signed: _____ *[Signature]*

SCAT Team Member: Juan Patino Signed: _____ *[Signature]*

Segment FAILED ReSCAT



Referred to Ops
For Further Treatment

Segment Conditionally PASSES ReSCAT

IF the *Segment FAILED ReSCAT*, another ReSCAT is required after treatment has been completed.
IF the *Segment Conditionally PASSES ReSCAT*, a SCAT/Ops Liaison will verify treatment completion.

Describe the zone requiring further treatment. Comment on oiling conditions, relevant portions of the CTR(s), the appropriate ATMs to use, GPS waypoints, additional comments, etc. Attach map.

Continue CTR. Focus on transferable oiled debris. OPS IS ONSITE,

Zone Dimensions: Length _____ Width _____ GPS Waypoint: Lat. _____ Long. _____
(required) (center of zone)

Estimated Work Effort: Number of People _____ Hours of Work _____ Applicable CTR(s) _____
(required)

The undersigned attests that the above treatment has been completed and the identified area meets the Approved Treatment Methods Target Endpoints.

Sign Name _____ Print Name/ Affiliation _____ Date _____

Sign Name _____ Print Name/ Affiliation _____ Date _____



Appendix E

Final SCAT Survey Forms and
Sketches

DB/915

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy) 14/08/11	Time (24h): std / daylight hrs to _____ hrs	Water Level low <u>mean</u> - bankfull - overbank falling - steady - rising
Segment/Reach ID: <u>A21</u> Left Bank / Right Bank / Island		Operations Division:		
Survey by: <u>(Foot) / ATV / (Boat) / Helicopter / Overlook /</u>		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		
Air Temp +/- <u>32</u> deg C				

2 SURVEY TEAM # <u>1</u>	Name	Organization	Signature
Joseph Busalacchi		Cardno ENTRIX	
Donnie McCurry		MDEQ	
John Davis		USCG	
Bob Nailon		Cardno ENTRIX	

3 SEGMENT Total Segment/Reach Length 789 m Segment/Reach Length Surveyed 2,088 m

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

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

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

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

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

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

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

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

1540
1541
1542
1543

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	590	125															X	grass debris
B				X	175	50	<1			(X)	X		X				(X)					grass debris
C				X	80	10	<1			(X)	X		X				(X)					grass debris
AP				X	1283	10	<1			X	(X)		X				(X)					grass debris willow

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

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

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

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

Zone A - (NOO)

Zone B - 2 small areas of debris w/ light coat were observed and removed by hot shot crews. (NFT)

Zone C - 1 small area of debris w/ light coat/coar observed and removed by hotshot crew; coated veg. observed & removed by hot shot crew. (NFT)

Zone AP - a couple small areas of light coat veg were observed and removed by hot shot crew; some 2 small debris dusted. (NFT)

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



©2011 Google
Google

Eye alt: 5516 ft

©2011 Google

lat: 45.671135° lon: -108.689426° elev: 3226 ft

Adi I
Team #1
11/08/11

DB16

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy) 03/09/11	Time (24h): std / daylight 12:10 hrs to 12:40 hrs	Water Level low - MEAN - bankfull - overbank falling - STEADY - rising
Segment/Reach ID: <u>A-21</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>26</u> deg C

2 SURVEY TEAM # <u>1</u>	name	organization	contact phone number
	Tom Freeman	Polaris Applied Sciences	<i>Tom Freeman</i>
	Jeffrey Herrick	<i>MTC DEQ</i>	<i>Jeffrey Herrick</i>
	Griff Miller	<i>EPA</i>	<i>Griff Miller</i>

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 120 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 X _____ Mixed X _____ Pebble/Cobble X _____ Boulder _____ Peat/Organic _____ Vegetated Bank: Yes _____ 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: MIXED

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 4.3M 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	120	60	21				P						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

Zone A: Operations in Zone A have reached NFT standards. No further work is required on this Island.

(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# _____)

Sept 3, 2011

TEAM #1

A-21 Island

Zone A

NFT

NFT

A21-RB

©2010



DB/G

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>A21</u> Left Bank / <u>Right Bank</u> / Island		<u>25/09/11</u>	<u>1300</u> hrs to <u>1530</u> hrs	low - <input checked="" type="radio"/> - bankfull - overbank
Operations Division: <u>A</u>				falling - steady - rising
Survey by: <input checked="" type="radio"/> Foot / <input checked="" type="radio"/> ATV / <input checked="" type="radio"/> Boat / Helicopter / Overlook / _____		<input checked="" type="radio"/> Sun / 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 Alvey</u>	<u>DEQ</u>	<u>[Signature]</u>

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

Cliff or Bluff: S Est Height 8 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 N point bar present N bar-shoal substrate: silt / sand / gravel / cobble / boulder / bedrock / debris

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

5 OPERATIONAL FEATURES

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

Debris N oiled N amount 1 bags or _____ trucks access restrictions

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

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

OIL ZONE ID	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER							SUBST. TYPE(S)				
	MS	LB	UB	OB	Length m	Width m	Distrib. %	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR	AP		NO			
A				X	650	50	<1			S	P													Jg

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

Located sporadic coat a stain on vegetation & debris. Hot shot crew removed or treated oiled material. No further treatment Required (WFT)

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

A-21 RB

TEAM 1
SEPT 24, 2011

9/24/2011 4:28 pm

A21-IS

A21-LB

A21-RB

CONF A

RB

© 2011 Google

45°40'11.20" N 108°41'16.16" W elev 3226 ft

©2011 Google

1996



Eye alt





Appendix F

Completed SCAT Segment Sign-Off
Forms

SCAT SEGMENT OPERATIONS COMPLETION SIGN-OFF SHEET

SILVERTIP PIPELINE RELEASE

Segment A21

Date of Survey 14/08/11

Dates of Initial SCAT Assessments _____

(to be filled out by SCAT Data Management)

CTR(s) Associated with SCAT Segment _____

16

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).

[Signature] STEVEN MERRITT, POSC 9/5/11
Sign Name Print Name/ Affiliation Date
Federal Representative (EPA/USCG)

Tom Livers Tom Livers SOSC 9/5/11
Sign Name Print Name/ Affiliation Date
State Representative (DEQ/FWP)

[Signature] Andrew Milanes Polaris SCAT Coordinator 9/5/11
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.

SCAT SEGMENT OPERATIONS COMPLETION SIGN-OFF SHEET

SILVERTIP PIPELINE RELEASE

Segment A21

Date of Survey 14/08/11

Dates of Initial SCAT Assessments _____

(to be filled out by SCAT Data Management)

CTR(s) Associated with SCAT Segment _____

16

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).*

Sign Name
Federal Representative (EPA/USCG)

Print Name/ Affiliation

Date

Sign Name
State Representative (DEQ/FWP)

Print Name/ Affiliation

Date

Sign Name
RP Representative (SCAT RP Representative)

Print Name/ Affiliation

Date

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.

SCAT SEGMENT OPERATIONS COMPLETION SIGN-OFF SHEET

SILVERTIP PIPELINE RELEASE

Segment A-21 Island Date of Survey Sept 30, 2011

Dates of Initial SCAT Assessments 11 JUL 11
(to be filled out by SCAT Data Management)

CTR(s) Associated with SCAT Segment CTR # 16

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).

[Signature] Giff Miller / EPA 9-3-11
Sign Name Print Name/ Affiliation Date
Federal Representative (EPA/USCG)

[Signature] Frank Herrick / MT DEQ 03 Sept. 2011
Sign Name Print Name/ Affiliation Date
State Representative (DEQ/FWP)

[Signature] Tom Freeman / Polaris Sept 3, 2011
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.

SCAT SEGMENT OPERATIONS COMPLETION SIGN-OFF SHEET

SILVERTIP PIPELINE RELEASE

Segment A21 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).

[Signature] Laura Alvey - MT DEQ 9/25/11
Sign Name Print Name/ Affiliation Date

~~Federal Representative (EPA/USCG)~~
STATE DEQ

No Federal Rep Present

Sign Name Print Name/ Affiliation Date

~~State Representative (DEQ/FWP)~~
Federal

[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

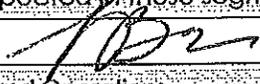
MESSAGE:

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 "NFI-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
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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 "NFI-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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