

ExxonMobil Pipeline Company

**SCAT Area Transition Report
for C42**

Silvertip Pipeline Incident
Laurel, Montana

October 24, 2011



SCAT Area Transition Report for C42

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Laurel, Montana

Prepared for:
ExxonMobil Pipeline Company

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Our Ref.:
B0085883.1103

Date:
October 24, 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 C42, 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 C42. 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 C42, 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 C42 is 112.8. There was conditional access for a portion of 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 limited inspections of Area C42 due to the low level of oiling in Division C. No oiled wildlife was observed or recovered. No Wildlife Priority Cleanup Areas were identified. A bald eagle (*Haliaeetus leucocephalus*) nest was identified in Area C42 and a buffer zone was provided to Operations to protect the nest.

1.3 Summary of Environmental Sampling

Table 1 (below) summarizes samples collected within Area C42. 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 C42 are provided on Figure 3.

Table 1 Environmental Sampling Summary

Agency	Sample Num	Date	Matrix	Location	Latitude	Longitude
CTEH	WOMT07235W101	7/23/2011	Water_Surface	WOMT_397_5W101	45.993658	-108.184440
CTEH	WOMT0728DW203	7/28/2011	Water_Drinking	WOMT_451_DW203	45.989700	-108.162830
CTEH	WOMT0819DW201	8/19/2011	Water_Drinking	WOMT_557_DW201	45.987483	-108.178820
EPA	SP5E120_071511	7/15/2011	Sediment	SP5E120	45.995415	-108.172617

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 analytical detections reported.

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 C42 are included in Appendix B. Figure 4 provides the maximum oiling zones observed by the SCAT team during the initial surveys of Area C42.

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. 46](#), [CTR No. 54](#), and [CTR No. 61](#)).

1.6 Oil Removal Activities

Oil removal activities were conducted within Area C42 in accordance with the ATMs identified in the CTRs. [Appendix I](#) of the Summary of Assessment and Oil Removal Activities report presents this data including: date range/days worked, average number of people working per day, equipment used, and various types of bags removed: oily debris, personal protective equipment (PPE), plastic, trash, super sacks, wood chips, and contaminated wood.

1.7 Pre-Inspection Survey Transmittal

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

1.8 Post-Inspection Survey Transmittal

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

1.9 Summary of Final SCAT Surveys

Figure 5 shows the oiling conditions within Area C42 following completion of oil removal activities. The SCAT team performed final surveys of the right bank within SCAT Area C42 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 initial SCAT surveys performed on the left bank and island within Area C42, only very light oiling was observed. The very light oiling zones will be addressed through natural attenuation. Based on the final SCAT surveys performed on the right bank within Area C42, no further treatment is recommended for this segment. SCAT Segment Sign-Off Forms are included as Appendix F.



**SCAT Area Transition
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Silvertip Pipeline Incident
Laurel, Montana

2. Transition Sign-Off Form

SCAT Area Transition Report for C42

Prepared for:

Unified Command

Date

Unified Command – RP



**SCAT Area Transition
Report for C42**

Silvertip Pipeline Incident
Laurel, Montana

SCAT Area Transition Report for C42

Prepared for:

Unified Command

Date

Unified Command – FOSC



**SCAT Area Transition
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Laurel, Montana

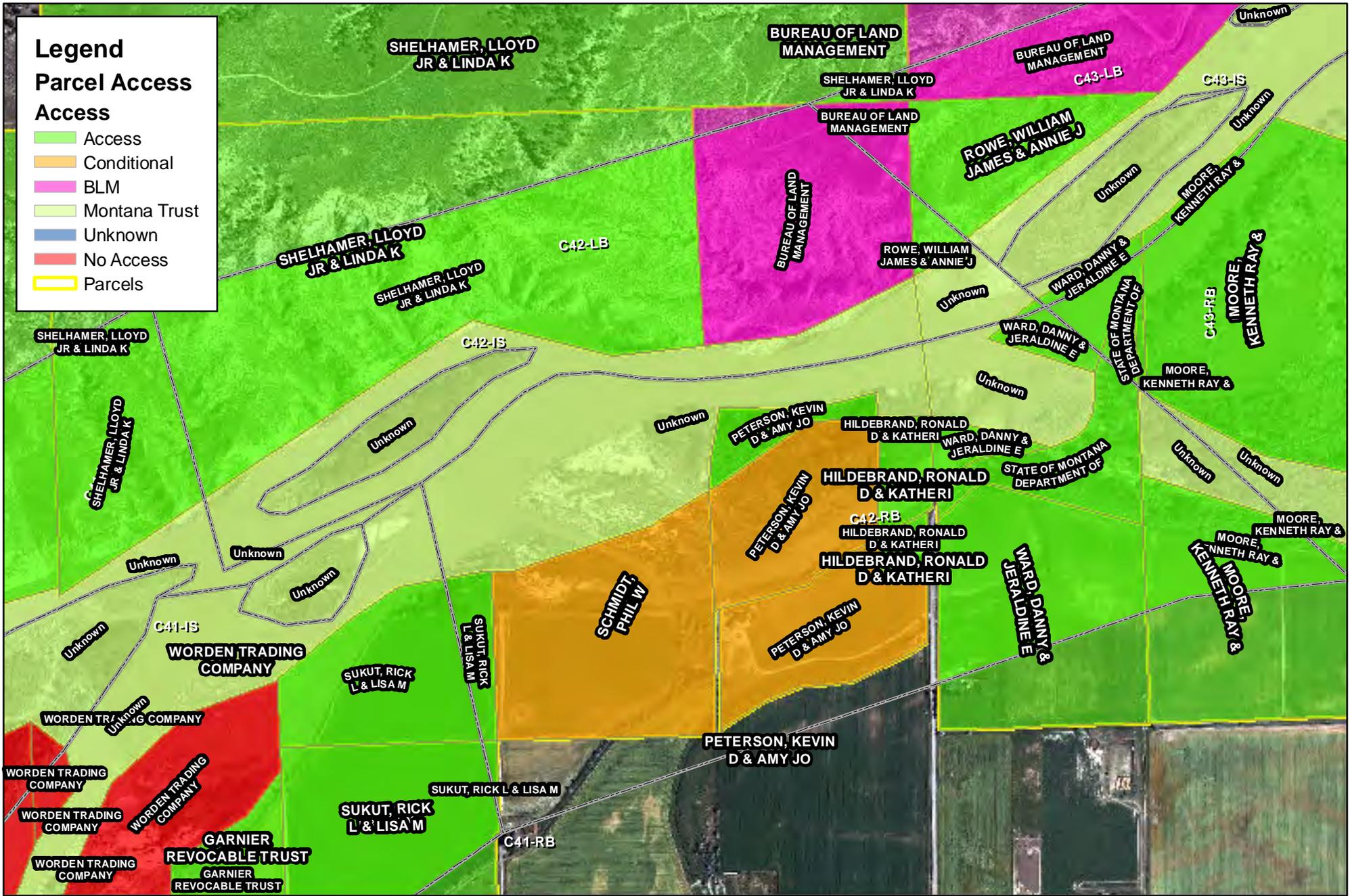
SCAT Area Transition Report for C42

Prepared for:

Unified Command

Date

Unified Command – MDEQ



Legend

Parcel Access

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

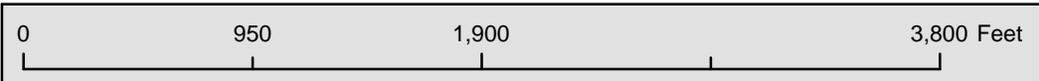


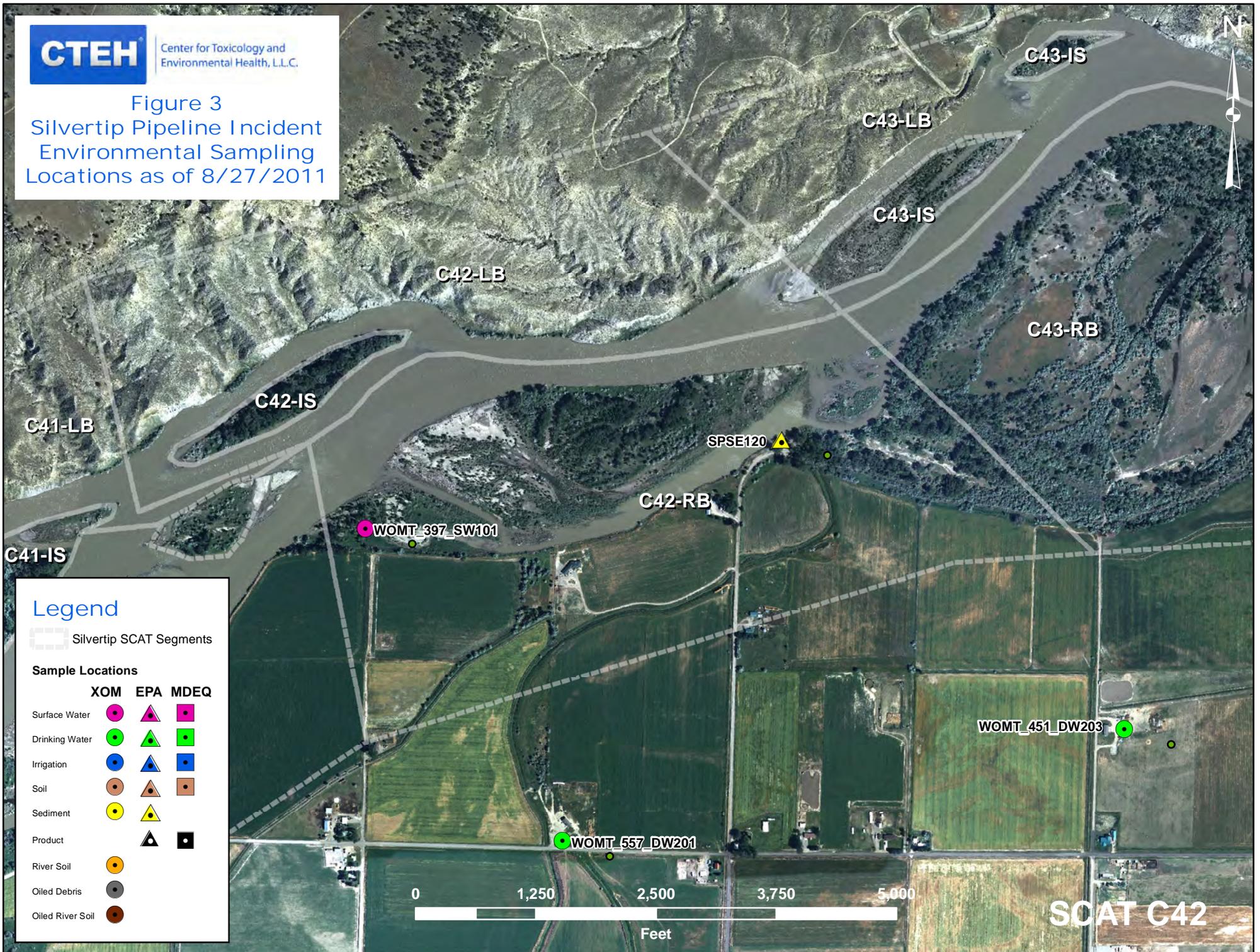
Figure 1





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 C42



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

Figure 4 - Maximum SCAT Observations For SCAT Area:



 <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: C42</p> <p>580 0 580 1,160</p> <p>Feet</p>	
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Appendix A

Sample Detection Summary



Appendix B

Initial SCAT Survey Forms and
Sketches

DBIG/S

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

Page 1 of 1

1 GENERAL INFORMATION		Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: <u>C42</u>	Left Bank / Right Bank / Island	<u>28/07/11</u>	<u>0855</u> hrs to <u>0935</u> hrs	low - mean - <u>bankfull</u> - overbank
Operations Division: <u>C</u>				falling - steady - rising
Survey by: (<u>Foot</u>) / ATV / Boat / Helicopter / Overlook /		(<u>Sun</u>) / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- <u>21</u> deg C

2 SURVEY TEAM # <u>5</u>	Name	Organization	Signature
	<u>Chelsea Murphy</u>	<u>Cardno ENTRIX</u>	<u>[Signature]</u>
	<u>Josh Hofke</u>	<u>Cardno ENTRIX</u>	<u>[Signature]</u>
	<u>Austin Hess</u>	<u>WLLG</u>	<u>[Signature]</u>
	<u>Justin Hankaluk</u>	<u>Montana FWA</u>	<u>[Signature]</u>
	<u>Nathan Hammond</u>	<u>Cardno Entrix</u>	<u>[Signature]</u>

3 SEGMENT Total Segment/Reach Length ~1,335 m Segment/Reach Length Surveyed ~350 m

Start GPS: LATITUDE 45.90512 deg. 598 min. LONGITUDE 108.13011 deg. 12-3918 min. Datum: WGS 84

End GPS: LATITUDE 45.90309 deg. 35 min. LONGITUDE 108.13078 deg. 12-3934 min.

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

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

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

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

Cliff or Bluff: ___ Est Height ___ m canyon ___ manmade ___ meander S confined or leveed ___ Substrate Type: Silt/mud

Sloped 50 (>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 30m 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 Private Property

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

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

OIL ZONE ID	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER					SUBST. TYPE(S)				
	MS	LB	UB	OB	Length m	Width m	Distrib. %	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC		SR	AP	NO	
<u>A</u>			<u>S</u>	<u>P</u>	<u>70</u>	<u>20</u>	<u>Ø</u>														<u>P</u>	<u>veg/mud</u>
<u>B</u>				<u>P</u>	<u>275</u>	<u>350</u>	<u>L1</u>			<u>P</u>	<u>S</u>		<u>P</u>									

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

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

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

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

oil observed in woody debris - Back line - Probably amount to 5 bags of operational debris

Zone A - NOV - NFT

Zone B - Trace Distribution < 1% - Recommendation - handcrews w/ hand tools - picking up woody debris - no veg cutting

* Access Restrictions - Kept SCAT team on Eastern side of C42 - AB

Sketch Yes/No Photos Yes/No Frames 61-63 Photographer Chelsea Murphy

1-4 ← → Justin H. (FWP)



42

ZONE A

ZONE B

North Rd

Image USDA Farm Service Agency

© 2011 Google

45° 59.764' N 108° 10.708' W elev 2932 ft

©2010 Google

Eye alt 8343 ft

Imagery Date: 6/22/2009 1996

7/28/2011

1996

2011

DB/G/S

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy) 02/08/11	Time (24h): std / daylight 1200 hrs to 1200 hrs	Water Level low - mean - bankfull - overbank falling - steady - rising
Segment/Reach ID: <u>C 42</u> Left Bank / Right Bank / Island				
Operations Division:				
Survey by: <u>Foot / ATV / Boat / Helicopter / Overlook /</u>		<u>Sun</u> / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- <u>28</u> deg C

2 SURVEY TEAM # 4	Name	Organization	Signature
	Pete Lee	Polaris	<i>Pete Lee</i>
	Peter Reich	US EPA	<i>Peter Reich</i>
	Matt Kemp <u>KEMP</u>	MT DEQ	<i>Matt Kemp</i>
	Lee Burroughs	MT FWP	<i>Lee Burroughs</i>

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 1343 m

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

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

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

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

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

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

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

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: <1m 1-10m 10-100m >100m 70 m est. water depth: <1m 1-3m 3-10m >10m _____ m

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

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

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

Debris: Y/N oiled Y/N amount _____ bags or _____ trucks Access restrictions: Private Landowners

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

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

OIL ZONE ID	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER							SUBST. TYPE(S)		
	MS	LB	UB	OB	Length	Width	Distrib.	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR	AP		NO	
	m	m	%	m	m	%																
A				<u>X</u>	1343	350	21			<u>X</u>	<u>X</u>		<u>X</u>									Grass, trees, debris

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

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

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

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

Oil height: 30-180 cm

Treatment recommendations:

Zone A : No oil observed, no treatment required; very light oil categorization

Zone _____ : Cut & remove oil coated vegetation smaller than 1" diameter. Remove debris smaller than 4" diameter. Wipe larger oil coated vegetation.

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

Sketch Yes / No Photos Yes / No Frames 0281-0288 (Lee) Photographer _____

A = 908 + 435

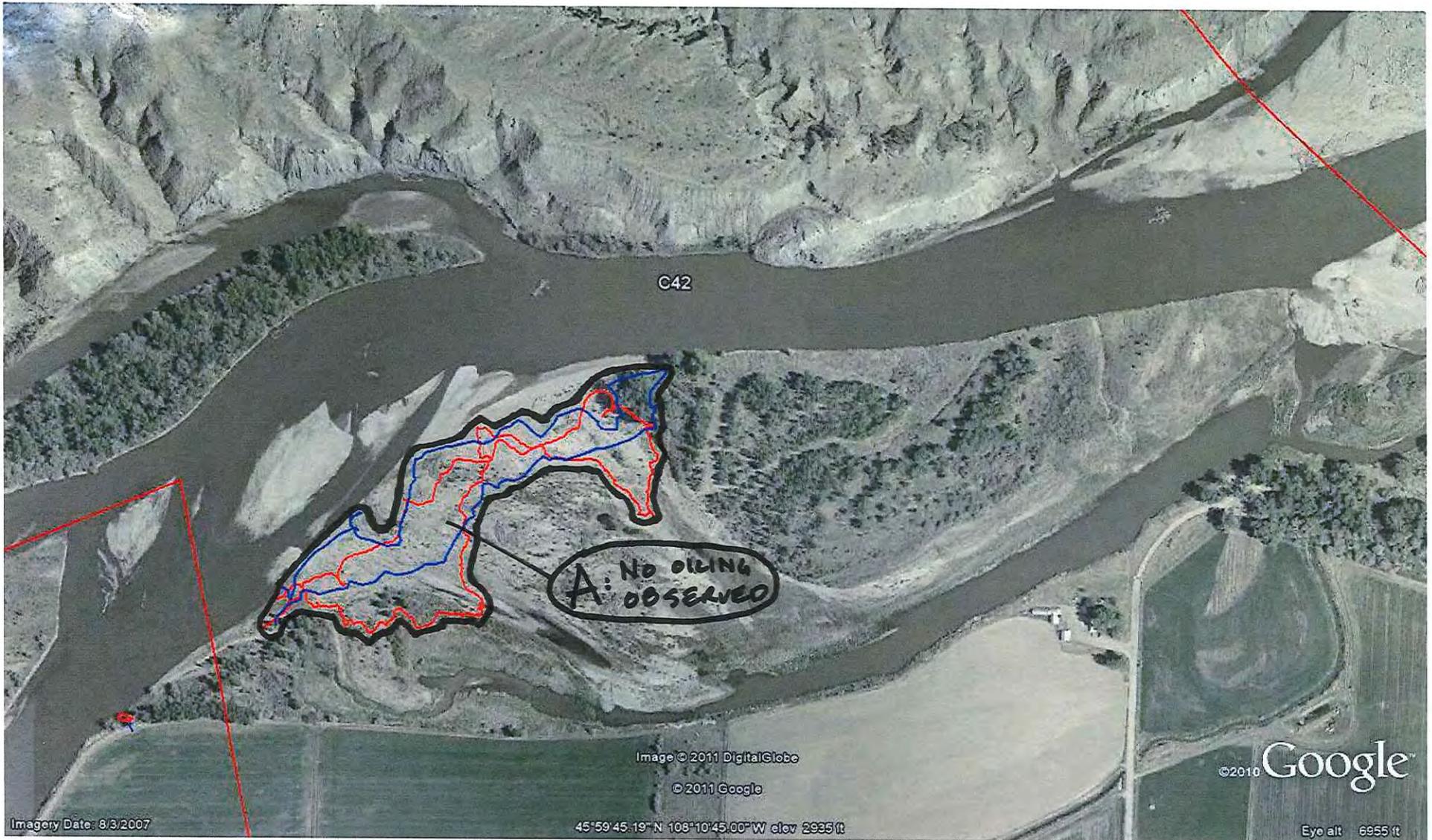


○ C42

Imagery Date: 6/22/2009

© 2011 Google
Image USDA Farm Service Agency
45° 59.697' N 108° 10.654' W elev 893m

©2010 Google
Eye alt 2.55 km



SCAT TEAM 5 08.09.2011
C42RB

DB/6/5

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

Page 1 of 1

1 GENERAL INFORMATION		Date (dd/mm/yy) 26/07/11	Time (24h): std / daylight 1215 hrs to 1218 hrs	Water Level low - mean - bankfull - overbank falling - steady - rising
Segment/Reach ID: <u>C42</u> Left Bank / Right Bank / Island		Operations Division:		
Survey by: Foot / ATV / Boat / Helicopter / Overlook /		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- <u>28</u> deg C

2 SURVEY TEAM # 1	Name	Organization	Signature
Pete Lee	<i>PL</i>	Polaris	225.892.6459
John Beach	<i>JB</i>	US EPA	415.972.3347
Larry Alheim		MT DEQ	406.461.7516

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 1615 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: 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 20 m canyon manmade _____ meander _____ confined or leveed _____ Substrate Type: _____

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: <1m 1-10m 10-100m >100m ~~100m~~ 80m est. water depth: <1m 1-3m 3-10m >10m _____ m

shoal(s) present point bar present 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 200 bags or _____ trucks access restrictions Boat only

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	804	1															X	cliff, trees
B		X			616	1	100			X	X		X									"
C		X			195	1															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				

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

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

Oil height: 90 cm

Island needs surveying

Treatment recommendations:

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

Zone B : Cut & remove oil coated vegetation smaller than 1" diameter. Remove debris smaller than 4" diameter. Wipe larger oil coated vegetation.

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

Sketch Yes / No Photos Yes / No Frames 0172-0176 (tee) Photographer Beach

0032-0039 0041



B is from WP 119-111

DB 16

1 GENERAL INFORMATION		Date (dd/mm/yy) 10/08/11	Time (24h): std / daylight 11:17 hrs to 13:10 hrs	Water Level low - mean - bankfull - overbank falling - steady - rising
Segment/Reach ID: C42 <u>Left Bank / Right Bank</u>		Operations Division: C		
Survey by: <u>Foot</u> / ATV / <u>Boat</u> / Helicopter / Overlook /		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp + / - 30 deg C

2 SURVEY TEAM # 1,2	Name	Organization	Signature
	Joe Busalacchi	Cardno Entrix	<i>[Signature]</i>
	John Davis	USCG	<i>[Signature]</i>
	Jessica Ross	DEQ	<i>[Signature]</i>
	Ernest McKenzie	BLM	<i>[Signature]</i>
	Adam Bausch	Cardno Entrix	<i>[Signature]</i>
	Larkin Chandler	Cultural Resources	<i>[Signature]</i>
	Jack Smith	USCG	<i>[Signature]</i>
	Lisa Gerencher	Cardno Entrix	<i>[Signature]</i>
	Earl Radonski	FWP	<i>[Signature]</i>

3 SEGMENT Total Segment/Reach Length 1,515 m Segment/Reach Length Surveyed 1,500 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 RP 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: S

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 50 m canyon _____ manmade _____ meander _____ confined or leveed _____ Substrate Type: _____

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: <1m 1-10m 10-100m 100m 160m est. water depth: <1m 1.3m 3-10m >10m _____ m

shoal(s) present Y N point bar present Y N bar-shoal substrate: cliff / 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 N oiled N amount _____ bags or _____ trucks access restrictions BOAT ACCESS LIMITED ALONG

Oiled trees/shrubs Y / N River Current strong Y / N Other Features: CLIFF BY WATER LEVEL.

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

OIL ZONE ID	RIVER BANK ZONE				OIL COVER			OIL THICKNESS							OIL CHARACTER							SUBST. TYPE(S)
	MS	LB	UB	OB	Length	Width	Distrib.	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR	AP	NO		
	m	m	%	m	m	%																
A					100	110	<1			X							X					vegetation
B			X	X	1500	10	<1				X		X									grass

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

1421

Overbank Survey Required (Y) / N

Overbank Survey Completed (Y) / N

Shoreline Survey Completed (Y) / N

~~Zone A - several small packets/patches of sporadic ~~leaved~~ woody vegetation
@ 12" - 18" from ground widely dispersed, some debris w/ small patches of soil,
NTR - light to very light~~

Zone B - Some areas of 1m x 30+ m grass stain^{very light} adjacent to shoreline
NTR

Sketch (Yes) / No

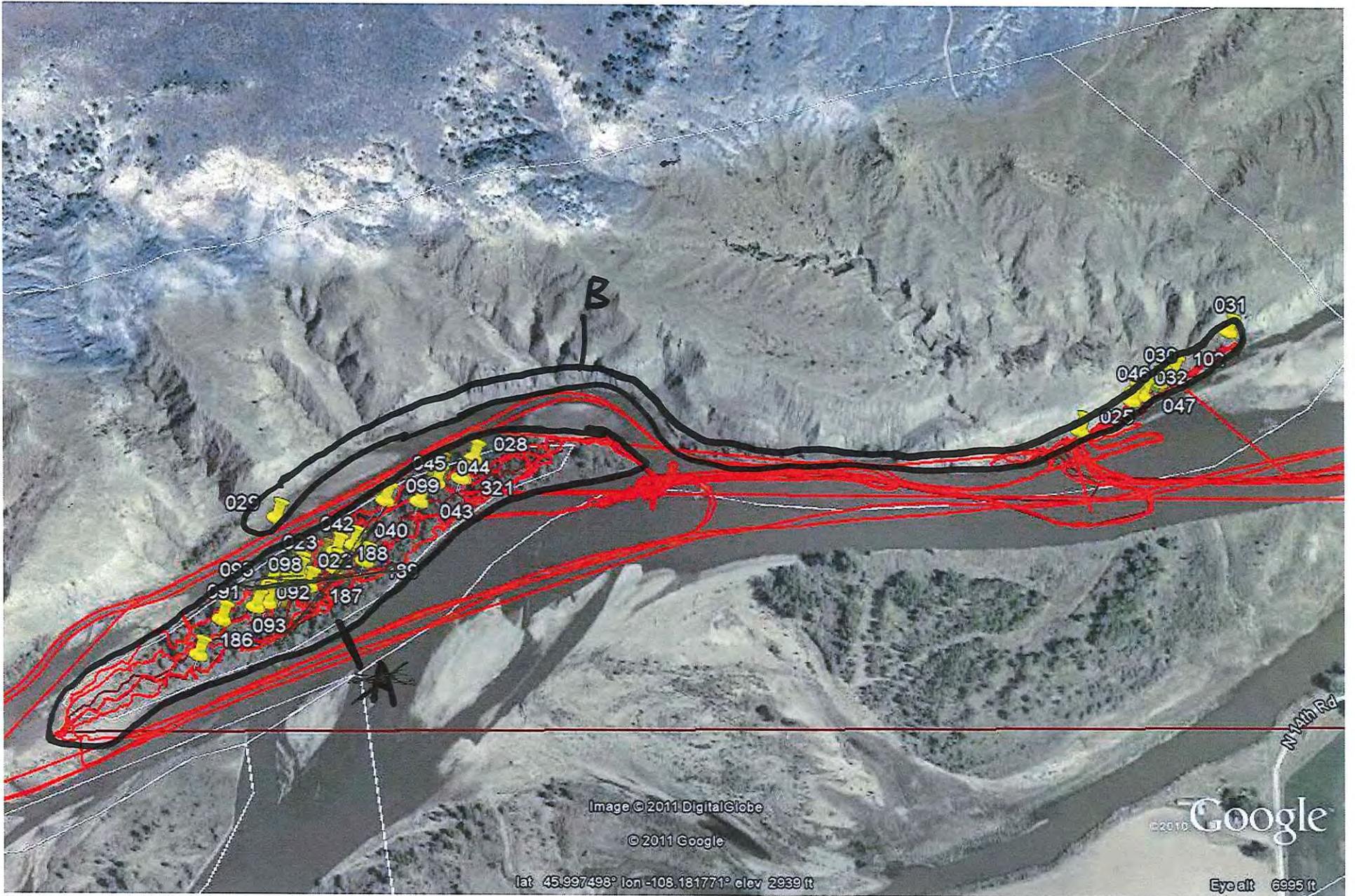
Photos (Yes) / No

Frames _____

Photographer _____

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

Page 2 of 2



C42RB LB
Teams 1+2
10/08/11

DB/G

1 GENERAL INFORMATION		Date (dd/mm/yy) 10/08/11	Time (24h): std / daylight 11:17 hrs to 13:10 hrs	Water Level low - mean - bankfull - overbank falling steady - rising
Segment/Reach ID: C42 Left Bank / Right Bank / Island		Operations Division: C		
Survey by: Foot / ATV / ATV / Helicopter / Overlook /		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		
Air Temp +/- 30 deg C				

2 SURVEY TEAM # 1,2	Name	Organization	Signature
Joe Busalacchi	Cardno Entrix		<i>[Signature]</i>
John Davis	USCG		<i>[Signature]</i>
Jessica Ross	DEQ		<i>[Signature]</i>
Ernest McKenzie	BLM		<i>[Signature]</i>
Adam Bausch	Cardno Entrix		<i>[Signature]</i>
Larkin Chandler	Cultural Resources		<i>[Signature]</i>
Jack Smith	USCG		<i>[Signature]</i>
Lisa Gerencher	Cardno Entrix		<i>[Signature]</i>
Earl Radonski	FWP		<i>[Signature]</i>

3 SEGMENT Total Segment/Reach Length 1575 m Segment/Reach Length Surveyed ~~1575~~ m 700 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

Bluff: Est Height 17 m canyon _____ manmade _____ meander _____ confined or leveed _____ Substrate Type: _____

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: <1m 1-10m 10-100m 100m 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 Y / N Access: Direct from backshore Y (N) Alongshore from next segment Y / (N)

Debris: N oiled N amount 2 bags or _____ trucks access restrictions BOAT ACCESS LIMITED ALONG

Oiled trees/shrubs N River Current strong N Other Features: CLIFF BY WATER LEVEL.

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

OIL ZONE ID	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER							SUBST. TYPE(S)		
	MS	LB	UB	OB	Length	Width	Distrib.	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR	AP		NO	
	m	m	%																			
A				<input checked="" type="checkbox"/>	100	110	<1			<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>					veg/debris
B			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1500	10	<1				<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>									grass

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

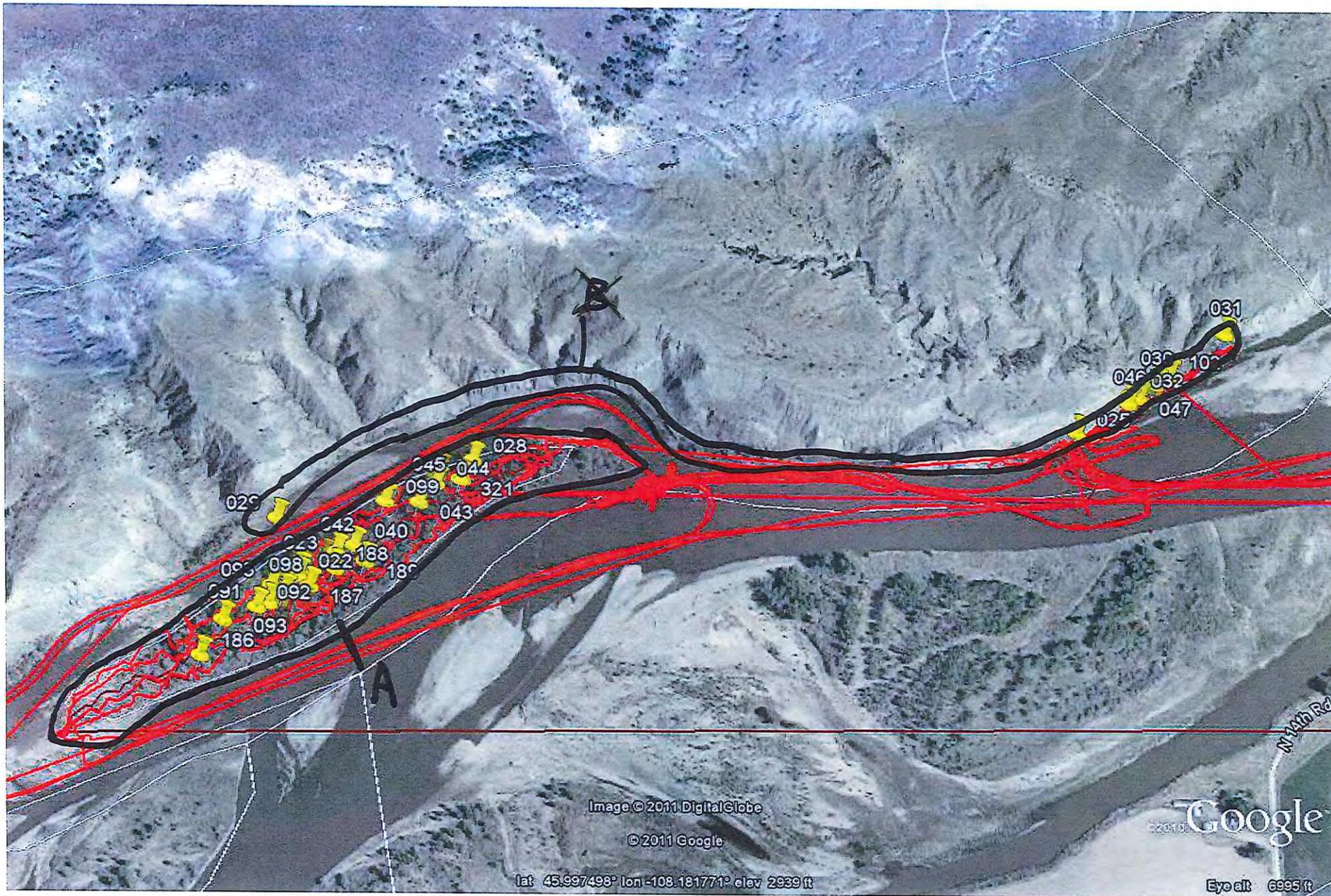
8 COMMENTS ecological/recreational/cultural/economic constraints - shorezone biota and wildlife observations - cleanup recommendations

Zone A - Several small pockets/patches of sporadic coated ~~was~~ woody vegetation
② 12"-18" from ground widely dispersed, some debris w/ small patches of coat,
NTR - light to very light

~~Zone B - Some areas of 1m x 30+ m grass stain adjacent to gravel line~~
NTR

Very light

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



~~CH2RB I~~
Teams 1+2
10/08/11



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/O

1 GENERAL INFORMATION		Date (dd/mm/yy) 25/09/11	Time (24h): std / daylight 1200 hrs to 1400 hrs	Water Level low - <u>mean</u> - bankfull - overbank falling - steady - rising
Segment/Reach ID: <u>C42</u> Left Bank (Right Bank) / Island				
Operations Division: C				
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 # 3		Name	Organization	Signature
Pete Lee		Polaris		
Jeffrey Frank Herrick		MTDEQ		<i>Jeffrey Frank Herrick</i>

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 1,020 m

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

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

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

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

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

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

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

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

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

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

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

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

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

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

2394

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	1,020	200	<1			S	P						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

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

Oil height: 30-90 cm

Treatment recommendations:

Zone A : Treated by Hot Shot Ops crew; removed oil-coated woody debris and shrubs; dusted oil-coated trees; No further Treatment (NFT)

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



C42 RB Fill-in
T3 9/25/11



Appendix F

Completed SCAT Segment Sign-Off
Forms

SCAT SEGMENT OPERATIONS COMPLETION SIGN-OFF SHEET

SILVERTIP PIPELINE RELEASE

Segment C42 RB Date of Survey 9/25/11

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

CTR(s) Associated with SCAT Segment 42

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)

Sign Name Jeffrey Frank Herrick Print Name/ Affiliation Jeffrey Frank Herrick w/ Spd. 2011 Date _____
State Representative (DEQ/FWP) DEQ

Sign Name P. Lee Print Name/ Affiliation Pete Lee / Polaris Date 9/25/11
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.