

ExxonMobil Pipeline Company

**SCAT Area Transition Report
for B41**

Silvertip Pipeline Incident
Laurel, Montana

October 26, 2011



SCAT Area Transition Report for B41

Silvertip Pipeline Incident
Laurel, Montana

Prepared for:

ExxonMobil Pipeline Company

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Our Ref.:

B0085883.1103

Date:

October 26, 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 B41, 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 B41. 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 B41, 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 B41 is 2.5. There was conditional access for a portion of the left bank in Area B41.

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 B41. No oiled wildlife was observed or recovered. No Wildlife Priority Cleanup Areas were identified. No active migratory bird nests were identified in Area B41.

1.3 Summary of Environmental Sampling

Table 1 (below) summarizes samples collected within Area B41. 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 B41 are provided on Figure 3.

Table 1 Environmental Sampling Summary

Agency	Sample Num	Date	Matrix	Location	Latitude	Longitude	Results Validated?
CTEH	BIMT0803DW203	03-Aug-11	Water_Drinking	BIMT_490_DW203	45.770363	-108.482174	Yes
CTEH	BIMT0803SW201	03-Aug-11	Water_Surface	BIMT_490_SW201	45.774071	-108.477901	Yes

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 B41 are included in Appendix B. Figure 4 provides the maximum oiling zones observed by the SCAT team during the initial surveys of Area B41.

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. 32](#) and [CTR No. 33](#)).

1.6 Oil Removal Activities

Oil removal activities were conducted within Area B41 in accordance with the ATMs identified in the CTRs. [Appendix I](#) of the Summary of Assessment and Oil Removal Activities report presents this data including: date range/days worked, average number of people working per day, equipment used, and various types of bags removed: oily debris, personal protective equipment, plastic, trash, super sacks, wood chips, and contaminated wood.

1.7 Pre-Inspection Survey Transmittal

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

1.8 Post-Inspection Survey Transmittal

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

1.9 Summary of Final SCAT Surveys

Figure 5 shows the oiling conditions within Area B41 following completion of oil removal activities. The SCAT team performed final surveys of the left bank within SCAT Area B41 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 boat survey performed on the right bank, an overbank survey is not required and therefore no further treatment is recommended. Based on the final SCAT surveys performed on the left bank within Area B41, no further treatment is recommended for this segment. SCAT Segment Sign-Off Forms are included as Appendix F.



**SCAT Area Transition
Report for B41**

Silvertip Pipeline Incident
Laurel, Montana

2. Transition Sign-Off Form

SCAT Area Transition Report for B41

Prepared for:

Unified Command

Date

Unified Command – RP



**SCAT Area Transition
Report for B41**

Silvertip Pipeline Incident
Laurel, Montana

SCAT Area Transition Report for B41

Prepared for:

Unified Command

Date

Unified Command – FOSC



**SCAT Area Transition
Report for B41**

Silvertip Pipeline Incident
Laurel, Montana

SCAT Area Transition Report for B41

Prepared for:

Unified Command

Date

Unified Command – MDEQ

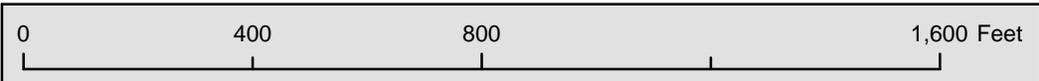
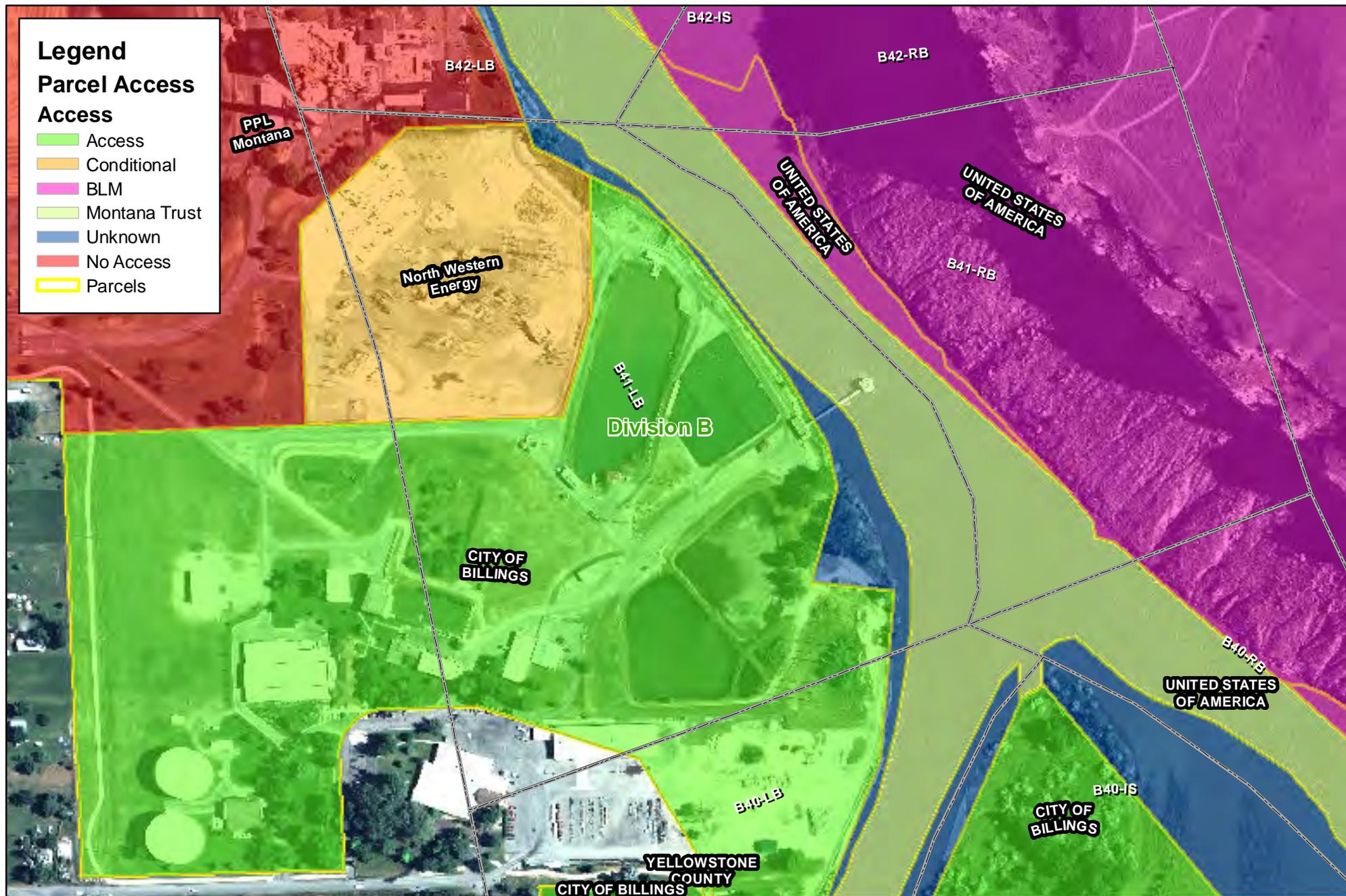
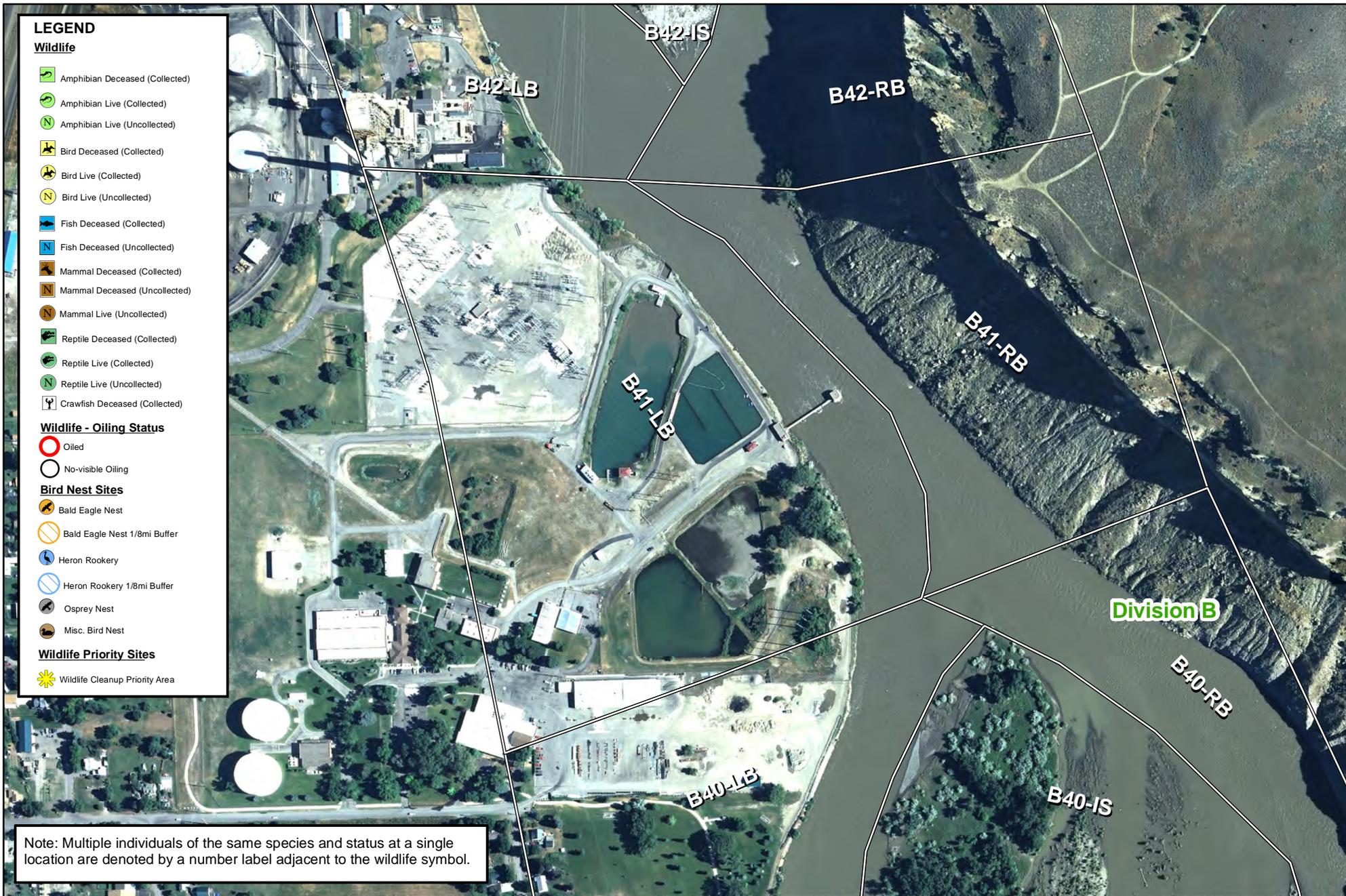


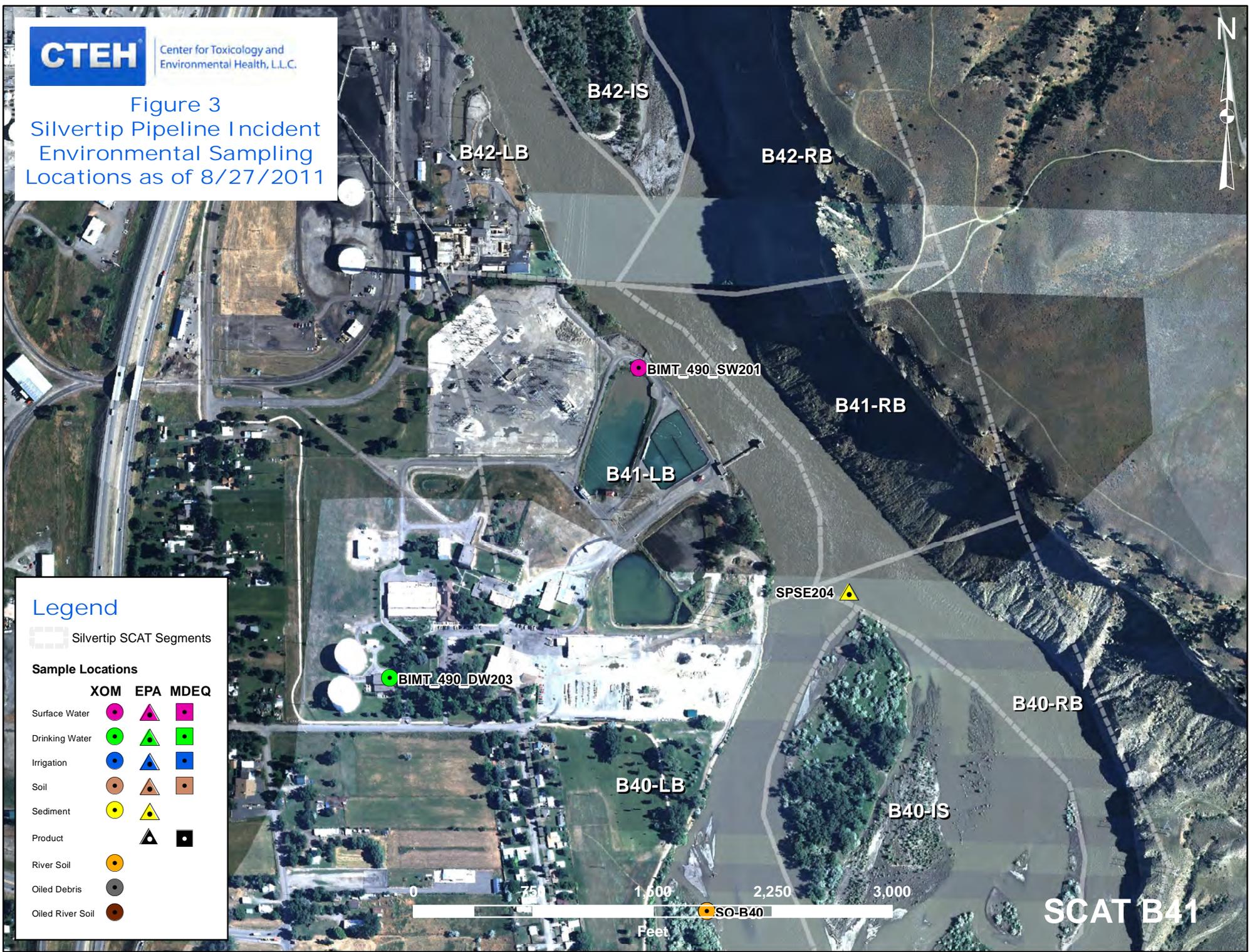
Figure 1





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 B41



 <p>9999 Oiling Zone ID Red Heavy Oiling Orange Moderate Oiling</p>	<p>Yellow Light Oiling Green Very Light Oiling Blue No Oil Observed</p>	<p>Figure 4 - Maximum SCAT Observations For SCAT Area: B41</p> <p>225 0 225 450  Feet</p>	
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 <p>9999 Oiling Zone ID Red Heavy Oiling Orange Moderate Oiling</p>	<p>Yellow Light Oiling Green Very Light Oiling Blue No Oil Observed</p>	<p>Figure 5 - Final SCAT Observations For SCAT Area: B41</p>  <p>225 0 225 450 Feet</p>	
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Appendix A

Sample Detection Summary



Detections in Samples Collected in SCAT Area B41

NA - Not Available

Detected Above Screening Level

Sample Num	Date	Sample Type	Matrix	Analytical Method	Analyte	Detected	Result	Screening Level	Result Qualifier	Units	Above?
BIMT0803DW203	08/03/2011	Field	Water_Drinking	E524.2	Bromodichloromethane	Y	4.2	10	J-	ug/L	no
BIMT0803DW203	08/03/2011	Field	Water_Drinking	E524.2	Chlorodibromomethane	Y	0.69	4	J-	ug/L	no
BIMT0803DW203	08/03/2011	Field	Water_Drinking	E524.2	Chloroform	Y	19	70	J-	ug/L	no
BIMT0803DW203	08/03/2011	Field	Water_Drinking	E524.2	Trihalomethanes, Total	Y	23	100	J-	ug/L	no



Appendix B

Initial SCAT Survey Forms
and Sketches

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>B41</u>	Left Bank / <u>Right Bank</u> / Island	19 / 07 / 11		low - mean / <u>bankfull</u> - overbank
Operations Division: B			<u>0913</u> hrs to <u>0924</u> hrs	<u>falling</u> / steady - rising
Survey by: <u>Foot / ATV / Boat</u> / Helicopter / Overlook /		<u>Sun</u> / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- <u>35</u> deg C

2 SURVEY TEAM # 5	name	organization	contact phone number
	Bob Nailon	Cardno ENTRIX	713 817 2469
	John Beach <u>JB</u>	EPA	707 364 0491
	Ken Frazer	FWP	406 247 2961

3 SEGMENT Total Segment/Reach Length 425 m Segment/Reach Length Surveyed 425 m

Start GPS: LATITUDE N deg. min. LONGITUDE W deg. min. Datum: WGS 84

End GPS: LATITUDE N deg. min. LONGITUDE W 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 S 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 X confined or leveed ___ Substrate Type: mixed

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: <1m 1-10m 10-100m >100m 150 m est. water depth: <1m 1-3m 3-10 m >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 100 bags or ___ trucks access restrictions vertical from river

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

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

717
718

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																X	veg bank
B				X	265		2				P		X									veg bank

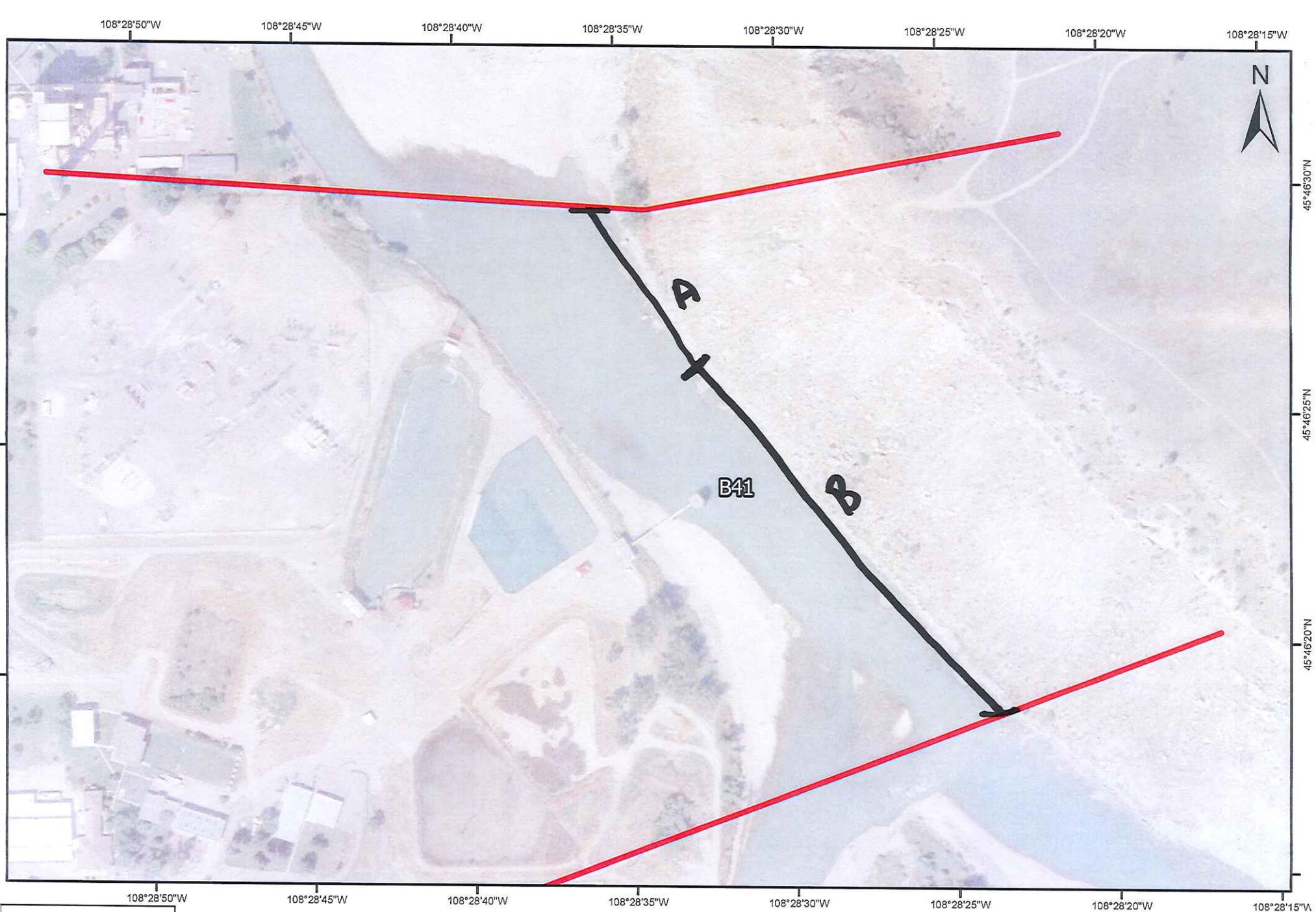
7 SUBSURFACE OILING CONDITIONS use letter for ZONE location plus Number of pit or trench — e.g., "A1"

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

OSR = N

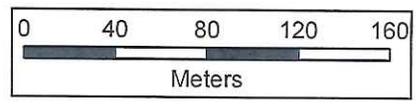
(for ALL sub-segments record: sub-segment ID, length, length surveyed, and GPS start/end fixes)
 Sketch (Yes/No) Photos (Yes/No (Roll # 5027 Frames 5034) Video Tape Yes/No (tape#



B41 -
(L/R/I)??

DATE:
TEAM:

COMMENTS:



DB/G/S

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy) 19-Jul-2011	Time (24h): std / daylight 0925 hrs to 0935 hrs	Water Level low - mean - <u>bankfull</u> - overbank falling - steady - rising
Segment/Reach ID: B41 <u>Left Bank</u> / Right Bank / Island		Operations Division: B		
Survey by: Foot / ATV / <u>Boat</u> / Helicopter / Overlook / _____		<u>Sun</u> / Clouds / Fog / Rain / Snow / <u>Windy</u> / Calm		Air Temp + / - <u>31</u> deg C

2 SURVEY TEAM # 1	name	organization	contact phone number
Pete Lee <u>POL</u>		Polaris	
Larry Alheim <u>LA</u>		MTDEQ	
Andy Johnson <u>ANDY WREST</u>		USCG	<u>[Signature]</u>

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 490 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 S (type) Rip Rap _____ Wetland: Swamp _____ Bog/Fen _____ Marsh _____

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

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

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

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

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

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

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

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

Debris: Y/N oiled Y/N amount 5 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	X	70	1															X	Grass, trees
B			X	X	30	1	<u>AV/100</u>			X	<u>(X)</u>											Grass, trees
C			X	X	390	1															X	Grass, trees

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 band heights: Zone B - 60cm

Treatment Recommendations:
 Zone A: No oil observed; no treatment required.
 Zone B: Cut & remove oil coated vegetation smaller than 1" diameter. Wipe larger oil coated vegetation.
 Zone C: No oil observed; no treatment required.

*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 1077-1079 (Lee)

2315
2316
575
577
578
2317

1 GENERAL INFORMATION		Date (dd/mm/yy) 19-Jul-2011	Time (24h): std / daylight 25 3 0940 hrs to 0945 hrs	Water Level low - mean - <u>bankfull</u> - overbank falling - steady - rising
Segment/Reach ID: B47 / <u>Left Bank</u> / Right Bank / Island		Operations Division: B		
Survey by: <u>Foot</u> / ATV (<u>Boat</u>) / Helicopter / Overlook /		Sun / Clouds / Fog / Rain / Snow / <u>Windy</u> / Calm		Air Temp +/- <u>31</u> deg C

2 SURVEY TEAM # 1	name	organization	contact phone number
Pete Lee		Polaris	
Larry Alheim		MTDEQ	
Andy Johnson		USCG	

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 905 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 X (type) _____ Wetland: Swamp _____ Bog/Fen _____ Marsh _____

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

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

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

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: <1m 1-10m 10-100m >100m 105m 120 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 10 bags or _____ trucks access restrictions

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

6 SURFACE OILING CONDITIONS 10 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	<u>390</u>	1															X	Grass, trees
B				X	<u>135</u>	1	<1			X	<u>X</u>			X								Grass, trees
C				X	<u>105</u>	1															X	Grass, trees

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

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

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

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

Oil band heights: Zone B - 60cm

Treatment Recommendations:
 Zone A: No oil observed; no treatment required.
 Zone B: Cut & remove oil coated vegetation smaller than 1" diameter. Wipe larger oil coated vegetation.
 Zone C: No oil observed; no treatment required.

*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 1046-1058, 1072-1078 (Lee)

C 280 + 111 390



B41 °

Image © 2011 GeoEye

©2010 Google

Imagery Date: 7/31/2009

45°46'22.57" N 108°28'32.58" W elev 3101 ft

Eye alt 5275 ft

DB/G/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>B41</u> <input type="radio"/> Left Bank / <input type="radio"/> Right Bank / <input type="radio"/> Island		<u>24/07/11</u>	<u>13:00</u> hrs to <u>14:30</u> hrs	<input type="radio"/> low - <input checked="" type="radio"/> mean - <input type="radio"/> bankfull - <input type="radio"/> overbank
Operations Division: <u>SCAT</u>				<input checked="" type="radio"/> falling - <input type="radio"/> steady - <input type="radio"/> rising
Survey by: <input checked="" type="radio"/> Foot / <input type="radio"/> ATV / <input type="radio"/> Boat / <input type="radio"/> Helicopter / <input type="radio"/> Overlook /		<input checked="" type="radio"/> Sun / <input type="radio"/> Clouds / <input type="radio"/> Fog / <input type="radio"/> Rain / <input type="radio"/> Snow / <input type="radio"/> Windy / <input type="radio"/> Calm		Air Temp + / - <u>31</u> deg C

2 SURVEY TEAM # <u>4</u>	Name	Organization	Signature
	<u>John Metcalfe</u>	<u>Cardno ENTRIX</u>	<u>[Signature]</u>
	<u>GARY MILLY</u>	<u>USEIA</u>	<u>[Signature]</u>
	<u>Ray Mule</u>	<u>MT FWP</u>	<u>[Signature]</u>

3 SEGMENT Total Segment/Reach Length 500 m Segment/Reach Length Surveyed 500 m

Start GPS: LATITUDE 45 deg. 46.273 min. LONGITUDE 108 deg. 28.561 min. Datum: NAD83

End GPS: LATITUDE 45 deg. 46.507 min. LONGITUDE 108 deg. 28.753 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 m canyon manmade meander confined or leveed Substrate Type: 105

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 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: City water needed for access

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="radio"/> P	<input checked="" type="radio"/> S	500	3	5			<input checked="" type="radio"/> P	<input checked="" type="radio"/> S						<input checked="" type="radio"/> P					veg
B				<input checked="" type="radio"/> P	500	10	0															veg

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

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

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

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

Zone A - recommend removal of affected vegetation and debris piles

Zone B - no oil

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

108°28'50"W

108°28'45"W

108°28'40"W

108°28'35"W

108°28'30"W

108°28'25"W

108°28'20"W

108°28'15"W



45°46'30"N

45°46'30"N

45°46'25"N

45°46'25"N

45°46'20"N

45°46'20"N

108°28'50"W

108°28'45"W

108°28'40"W

108°28'35"W

108°28'30"W

108°28'25"W

108°28'20"W

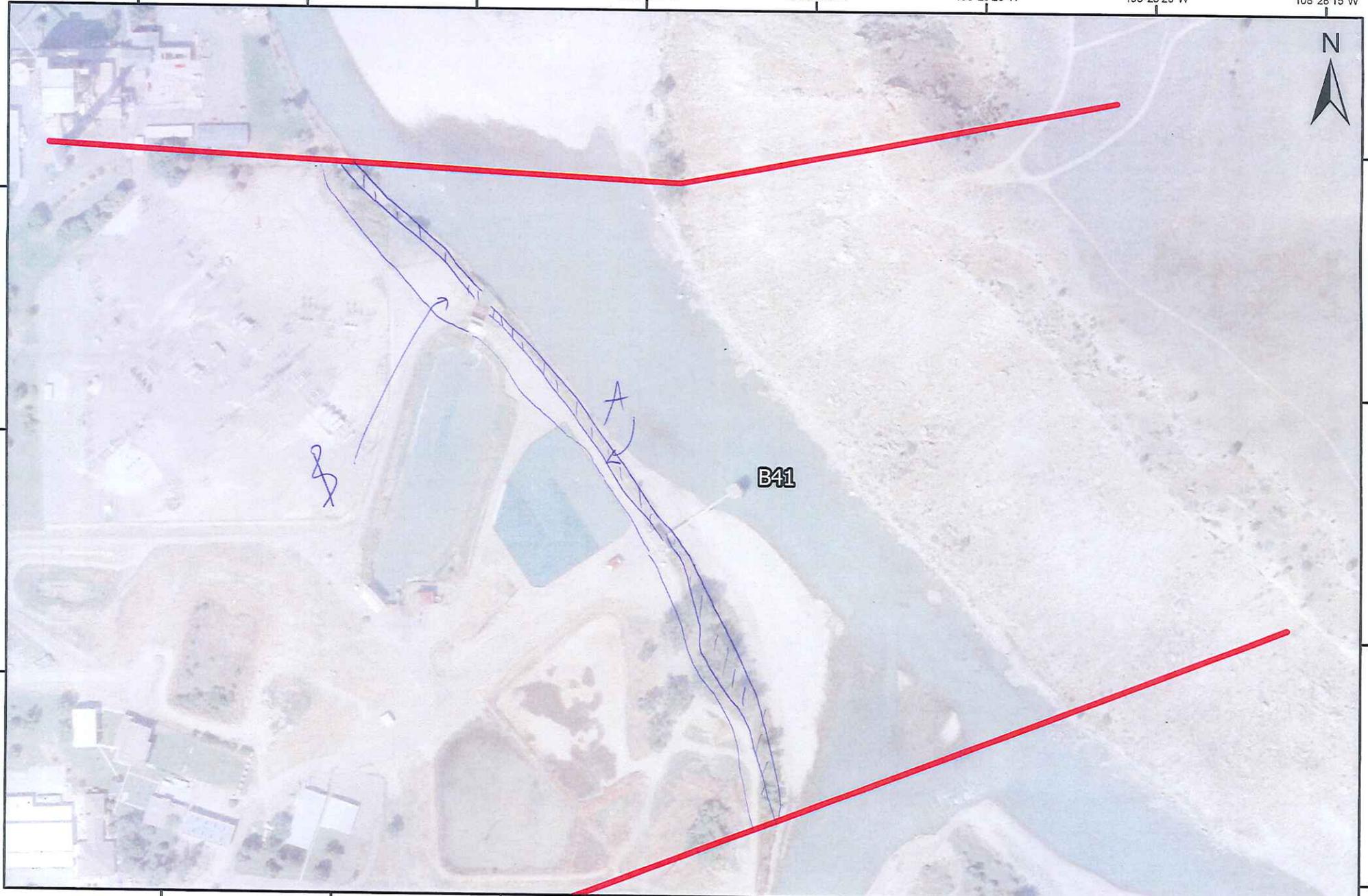
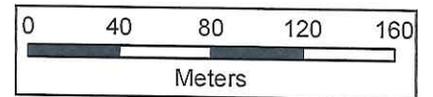
108°28'15"W

B41 -
(L/R/I)??

DATE:

TEAM:

COMMENTS:





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/G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

Page _____ of _____

1 GENERAL INFORMATION		Date (dd/mm/yy) 8-26-11	Time (24h): std / daylight 12:00 hrs to 1330 hrs	Water Level low - <u>mean</u> - bankfull - overbank falling - steady - rising
Segment/Reach ID: <u>91341</u> <u>Left Bank / Right Bank / Island</u>				
Operations Division: <u>B</u>				
Survey by: <u>Foot / ATV / Boat / Helicopter / Overlook /</u>		<u>Sun</u> / Clouds / Fog / Rain / Snow / Windy / Calm	Air Temp +/- <u>30</u> deg C	

2 SURVEY TEAM # <u>1</u>	name	organization	contact phone number
	<u>Charles Poni</u>	<u>Calo ENTRIX</u>	<u>Charles Poni</u>
	<u>Justin Hankaluk</u>	<u>MFWP</u>	<u>Justin Hankaluk</u>
	<u>Robert Ashton</u>	<u>MOEA</u>	<u>Robert Ashton</u>
	<u>Linda R. Watson</u>	<u>EPA</u>	<u>Linda R. Watson</u>

3 SEGMENT Total Segment/Reach Length 570 m Segment/Reach Length Surveyed 520 m

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

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

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

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

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

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

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

Sloped: (>5°)(15°)(30°) straight X 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 120 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 1 bags or _____ trucks access restrictions

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

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

OIL ZONE ID	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER					SUBST. TYPE(S)				
	MS	LB	UB	OB	Length	Width	Distrib.	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC		SR	AP	NO	
1899	A			X	200	10	0														X	Silt
1900	B			X	170	10	CI			S	P						P					f
1901	C			X	180	10	0														X	f
1902	D			Y	25	10	CI			S	P						P					

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

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

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

Zone A+C No oil ~~observed~~ Observed

Zone B+D had sporadic silt + coral veg (shrubs)

Coral material was cut + removed by hot shot crew

No further treatment

(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# _____)



Imagery Date: 7/31/2009 1996 45° 46' 21.19" N 108° 28' 37.02" W elev 3106 ft Eye alt 6244 ft

8-26-11 B41C B41-LB



Appendix F

Completed SCAT Segment
Sign-Off Forms

COMPLETED

Silvertip Pipeline Spill SCAT Segment Sign-Off Sheet

Operations Division: A B X C
 SCAT Area Number (i.e. A12): ~~0900~~ B41
 SCAT Segment Number (i.e. A12-LB/IS/RB): ~~10000~~ B41LB

- Check if Complete:
1. Completion Date for Initial SCAT Assessment: 24 JUL 11 ^(DL)
 2. Combined Treatment Recommendations (CTRs) Developed/Issued: Yes/No
 List CTRs Applicable to SCAT Segment: 33
 3. Clean-Up Operations Conducted:
 4. Meets Qualitative Approved Treatment Methods Target Endpoints: Yes/No

5. SCAT Reassessment:

<u>Linda R Blat</u> Sign Name Federal Representative (EPA/USCG)	<u>Linda R. Watson</u> Print Name	<u>8/26/11</u> Date
<u>Justin Hawkelek</u> Sign Name State Representative (DEQ/FWP)	<u>Justin Hawkelek</u> Print Name	<u>8/26/11</u> Date
<u>Charles Pans</u> Sign Name RP Representative (SCAT Contractor)	<u>Charles Pans</u> Print Name	<u>8-26-11</u> 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 Reassessment, the SCAT area will achieve the response endpoints and an Area Transition Report will be completed and submitted to EPA and DEQ upon completion.