

ExxonMobil Pipeline Company

**SCAT Area Transition Report
for B12**

Silvertip Pipeline Incident
Laurel, Montana

October 19, 2011



SCAT Area Transition Report for B12

Silvertip Pipeline Incident
Laurel, Montana

Prepared for:
ExxonMobil Pipeline Company

Prepared by:
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Our Ref.:
B0085883.1103

Date:
October 19, 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 B12, 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 B12. 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 B12, 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 B12 is 42.9. There were no access issues for this area.

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 B12. One lightly oiled male wood duck (*Aix sponsa*) was observed but not captured for cleaning. No Wildlife Priority Cleanup Areas were identified. No active migratory bird nests were identified in Area B12.

1.3 Summary of Environmental Sampling

Table 1 (below) summarizes samples collected within Area B12. 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 B12 are provided on Figure 3.

Table 1 Environmental Sampling Summary

Agency	Sample Num	Date	Matrix	Location	Latitude	Longitude
CTEH	BIMT0725SW607	25-Jul-11	Water Surface	B12	45.713838	-108.598507
EPA	SPSO225D01_071311	13-Jul-11	Soil Surface	SPSO225	45.7166606	-108.5992298

Appendix A contains a summary of sample results with detections for this sample set. Detections with a result above the screening level are highlighted; for this set, there were two exceedances: one for arsenic and one for total extractable hydrocarbons.

1.4 Summary of Initial SCAT Surveys

The SCAT teams used systematic evaluation criteria and treatment method tables approved by the National Oceanic and Atmospheric Administration to provide a standard approach for data collection and conducting field surveys. The forms and sketches from the initial SCAT surveys performed along the river bank (water edge) and floodplain within Area B12 are included in Appendix B. Figure 4 provides the maximum oiling zones observed by the SCAT team during the initial surveys of Area B12.

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. 8](#) and [CTR No. 39](#)).

1.6 Oil Removal Activities

Oil removal activities were conducted within Area B12 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 B12 and developed a Pre-Inspection Survey Transmittal (PIST) associated with the right bank within Area B12, which is presented in Appendix C.

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 B12 following completion of oil removal activities. The SCAT team performed final surveys of the left and right banks within SCAT Area B12 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 left and right banks within Area B12, no further treatment is recommended for these segments. SCAT Segment Sign-Off Forms are included as Appendix F.



**SCAT Area Transition
Report for B12**

Silvertip Pipeline Incident
Laurel, Montana

2. Transition Sign-Off Form

SCAT Area Transition Report for B12

Prepared for:

Unified Command

Date

Unified Command – RP



SCAT Area Transition
Report for B12

Silvertip Pipeline Incident
Laurel, Montana

SCAT Area Transition Report for B12

Prepared for:

Unified Command

10/10/2007
Date

 S. McHART
Unified Command – FOSC



**SCAT Area Transition
Report for B12**

Silvertip Pipeline Incident
Laurel, Montana

SCAT Area Transition Report for B12

Prepared for:

Unified Command

Date

Unified Command – MDEQ

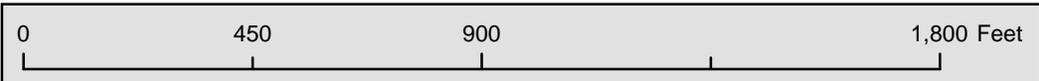
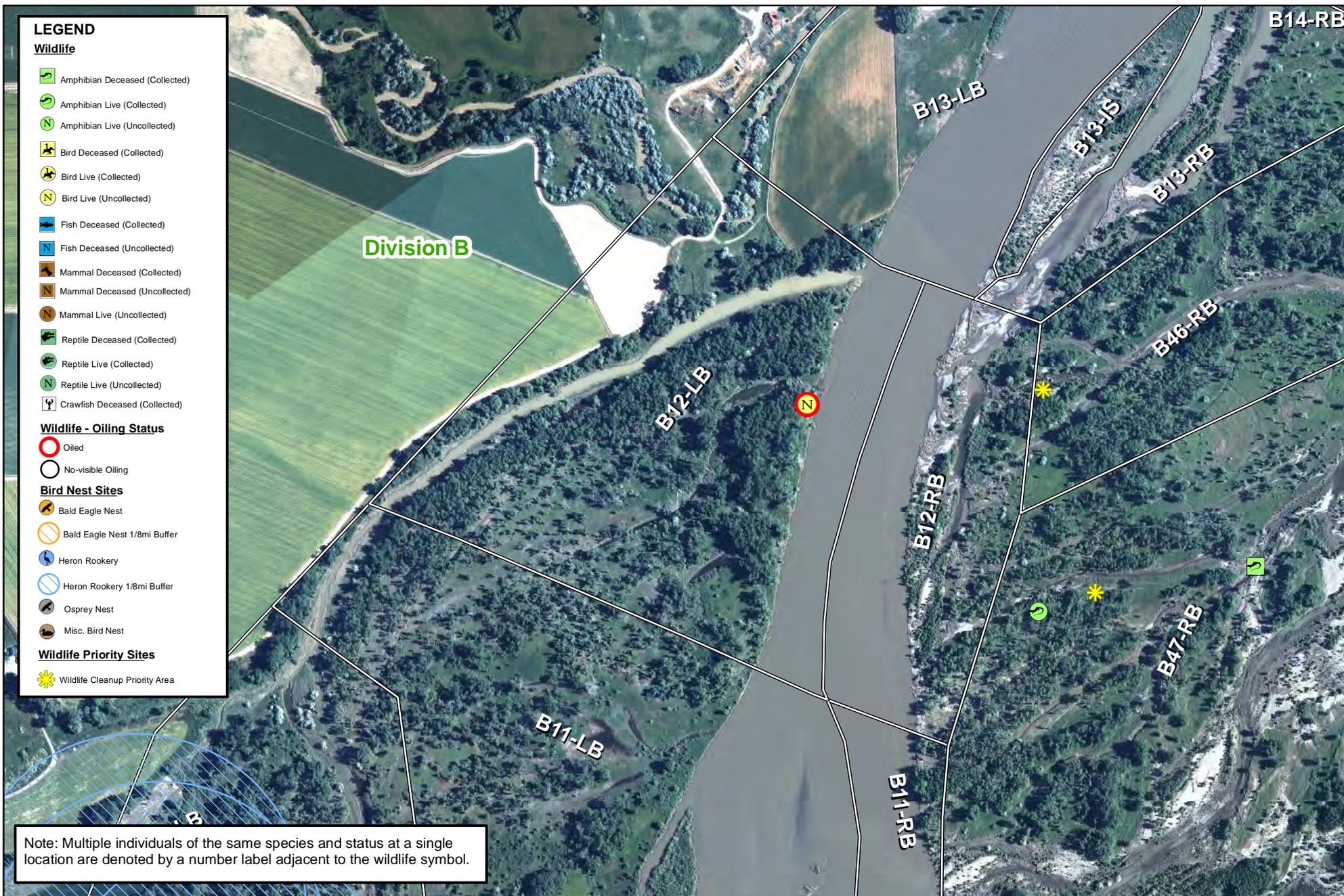


Figure 1





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

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



Legend

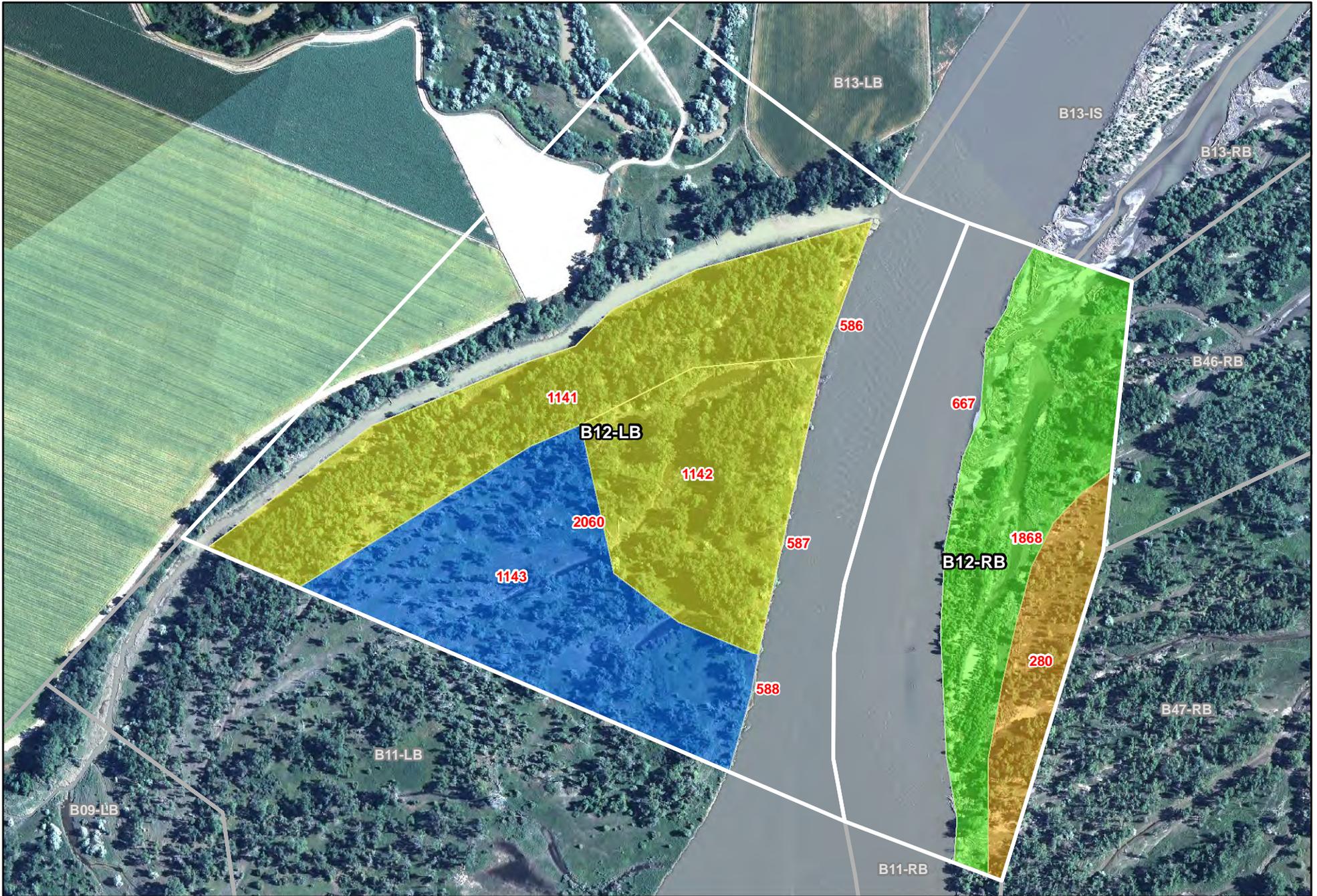
Silvertip SCAT Segments

Sample Locations

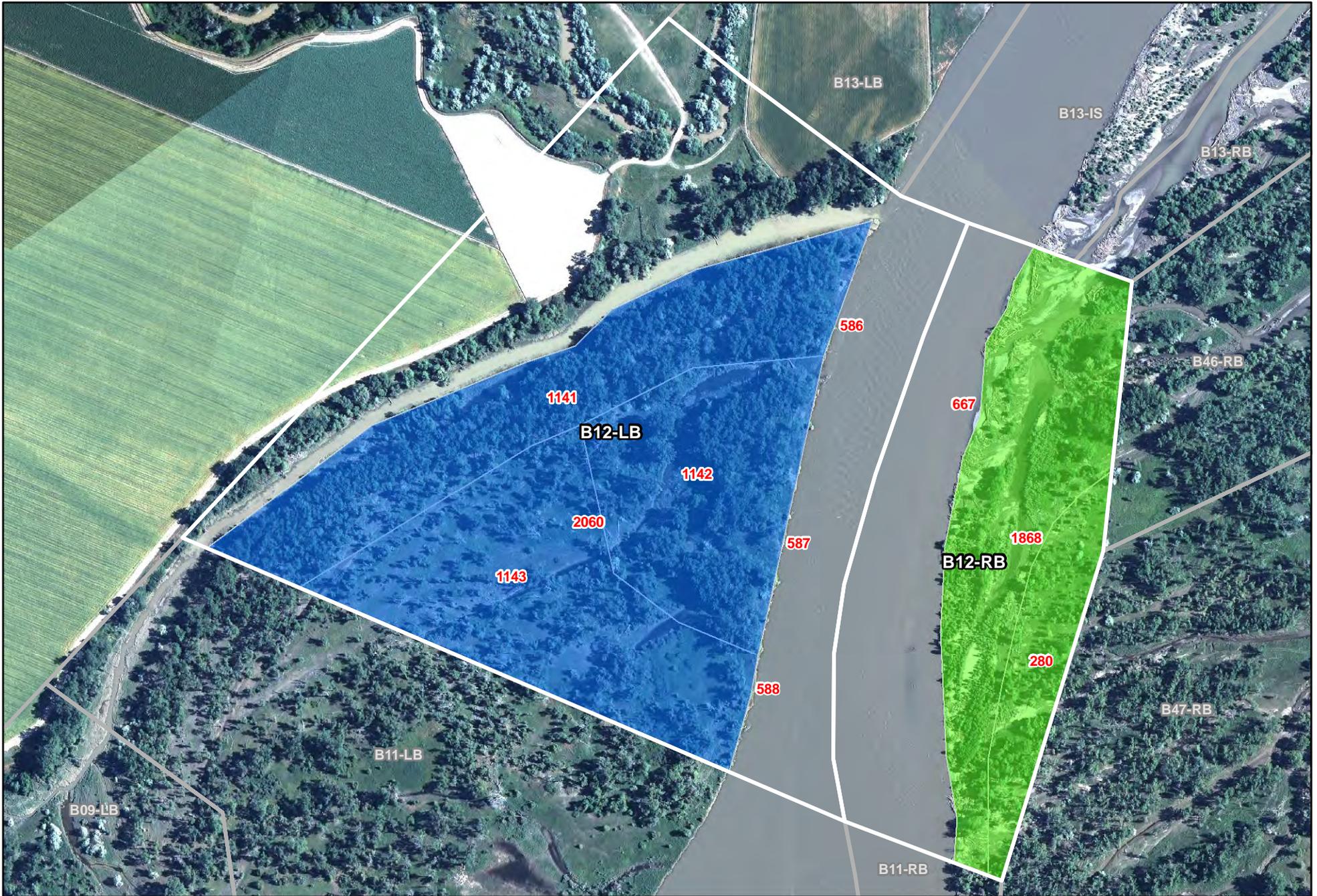
	XOM	EPA	MDEQ
Surface Water			
Drinking Water			
Irrigation			
Soil			
Sediment			
Product			
River Soil			
Oiled Debris			
Oiled River Soil			



SCAT B12



 <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 4 - Maximum SCAT Observations</p> <p>For SCAT Area: B12</p> <p> Feet</p>	
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**Figure 5 - Final SCAT Observations
For SCAT Area: B12**





Appendix A

Sample Detection Summary



Detections in Samples Collected in SCAT Area B12

NA - Not Available

Detected Above Screening Level

Sample Num	Date	Sample Type	Matrix	Analytical Method	Analyte	Detected	Result	Screening Level	Result Qualifier	Units	Above?
BIMT0725SW607	07/25/2011	Field	Water_Surface	EPA 6020	Arsenic	Y	16.3	10		ug/L	YES
BIMT0725SW607	07/25/2011	Field	Water_Surface	EPA 6020	Barium	Y	76.5	1000		ug/L	no
BIMT0725SW607	07/25/2011	Field	Water_Surface	EPA 6020	Calcium	Y	31600	NA		ug/L	no
BIMT0725SW607	07/25/2011	Field	Water_Surface	EPA 6020	Chromium	Y	2.1	100		ug/L	no
BIMT0725SW607	07/25/2011	Field	Water_Surface	EPA 6020	Lead	Y	1.9	15		ug/L	no
BIMT0725SW607	07/25/2011	Field	Water_Surface	EPA 6020	Magnesium	Y	9910	NA		ug/L	no
BIMT0725SW607	07/25/2011	Field	Water_Surface	EPA 1631E	Mercury	Y	0.0000051	0.00005		mg/L	no
BIMT0725SW607	07/25/2011	Field	Water_Surface	EPA 6020	Nickel	Y	3.6	100		ug/L	no
BIMT0725SW607	07/25/2011	Field	Water_Surface	EPA 6020	Potassium	Y	3470	NA		ug/L	no
BIMT0725SW607	07/25/2011	Field	Water_Surface	EPA 6020	Sodium	Y	17000	NA		ug/L	no
BIMT0725SW607	07/25/2011	Field	Water_Surface	SM 2540D	Total Suspended Solids	Y	70.6	NA		mg/L	no
BIMT0725SW607	07/25/2011	Field	Water_Surface	EPA 6020	Vanadium	Y	4.5	180		ug/L	no
SPSO225D01_071311	07/13/2011	Field	Soil_Surface	MADEP EPH	Total Extractable Hydrocarbons	Y	23100	200		mg/kg	YES



Appendix B

Initial SCAT Survey Forms and
Sketches

DB/E

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy) 19-Jul-2011	Time (24h): std / daylight 1205 hrs to 1206 hrs	Water Level low - mean - <u>bankfull</u> - overbank falling - steady - rising
Segment/Reach ID: B12 <u>Left Bank</u> / Right Bank / Island		Operations Division: B		
Survey by: Foot / 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	<u>PDL</u>	Polaris	
Larry Alheim	<u>LA</u>	MTDEQ	
Andy Johnson	<u>ANDREW JOHNSON</u>	USCG	<u>[Signature]</u>

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 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 _____ Shelf _____ Manmade: Solid _____ Permeable _____ (type) Wetland: Swamp _____ Bog/Fen _____ Marsh _____

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

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

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

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: <1m 1-10m 10-100m >100m 90m 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 50 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	250	1																X	Grass, trees, debris
B				X	150	1	100			X	<u>X</u>			X									Grass, trees, debris
C				X	100	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

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

Oil band heights: Zone B: 30 cm

Treatment Recommendations:
 Zone A, C: No oil observed; no treatment required.
 Zone B: Cut & remove oil coated vegetation smaller than 1" 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 1250-1258 (Lee)

586
587
588

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mmm/yy) 19-Jul-2011	Time (24h): std / daylight 1205 1206 1005 hrs to 1000 hrs	Water Level low - mean - bankfull - overbank falling - steady - rising
Segment/Reach ID: B1 <u>12</u> <u>Left Bank</u> / Right Bank / Island				
Operations Division: B				
Survey by: Foot / 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	
			500

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 401 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) Riprap Wetland: Swamp _____ Bog/Fen _____ Marsh _____

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

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

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

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: <1m 1-10m 10-100m >100m 100m 190 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 50 bags or _____ trucks access restrictions

Oiled trees/shrubs Y/N River Current strong Y/N Other Features: Farm/residence adjacent to north

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	%														
A			<u>250</u>	X		<u>153</u>	1														X	Grass, trees, debris, riprap
B			<u>150</u>	X		25	1	100			X	<u>X</u>		X								Grass, trees, debris, riprap
C			<u>100</u>	X		313	1														X	Grass, trees, debris, riprap

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)
							CHARACTER									
	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

Oil band heights: Zone B: 30 cm

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

1250-1259

Sketch Yes / No Photos Yes / No Frames 1236 (Lee)



Google

©2010

Eye alt: 5777 ft

B12

A

B

C

45°42'51.98" N 108°35'49.95" W elev. 3173 ft

Imagery Date: 4/30/2004

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION

Segment/Reach ID: B12 (Left Bank / Right Bank / Island) Date (dd/mm/yy) 27/07/11 Time (24h): std / daylight 830 hrs to 1230 hrs

Operations Division: _____ Water Level: low - mean - bankfull - overbank

Survey by: Foot / ATV / Boat / Helicopter / Overlook / _____ (Sun / Clouds / Fog / Rain / Snow / Windy / Calm) Air Temp: + 30 deg C

2 SURVEY TEAM # 5

Name	Organization	Signature
<u>BOB N. ALLEN</u>	<u>CARDNO ENTER</u>	
<u>AUSTIN WEST</u>	<u>USCG</u>	
<u>BARYL REED</u>	<u>MT DEP</u>	

See attached
See notes

3 SEGMENT Total Segment/Reach Length 500 m Segment/Reach Length Surveyed 480 m

Start GPS: LATITUDE 45 deg. 42.758 min. LONGITUDE 108 deg. 35.982 min. Datum: WGS 84

End GPS: LATITUDE 45 deg. 42.998 min. LONGITUDE 108 deg. 35.836 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 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 _____ 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 /N Alongshore from next segment Y / N

Debris: Y / N oiled /N amount 100 bags or _____ trucks access restrictions LIKELY FROM RIVER

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	100	300	2			P	S		X									veg BANK						
B				X	100	100	20			S	P		X									veg BANK						
C				X	100	300															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 /N Overbank Survey Completed /N Shoreline Survey Completed /N

NOTES: The B12 L survey dated July 27, 2011 (ATTACHED) included segments B9L, B10L, B11L, B12L. This cover sheet breaks out the zones listed on the July 27, 2011 form into their appropriate segment. Joe Bauer, July 29, 2011.

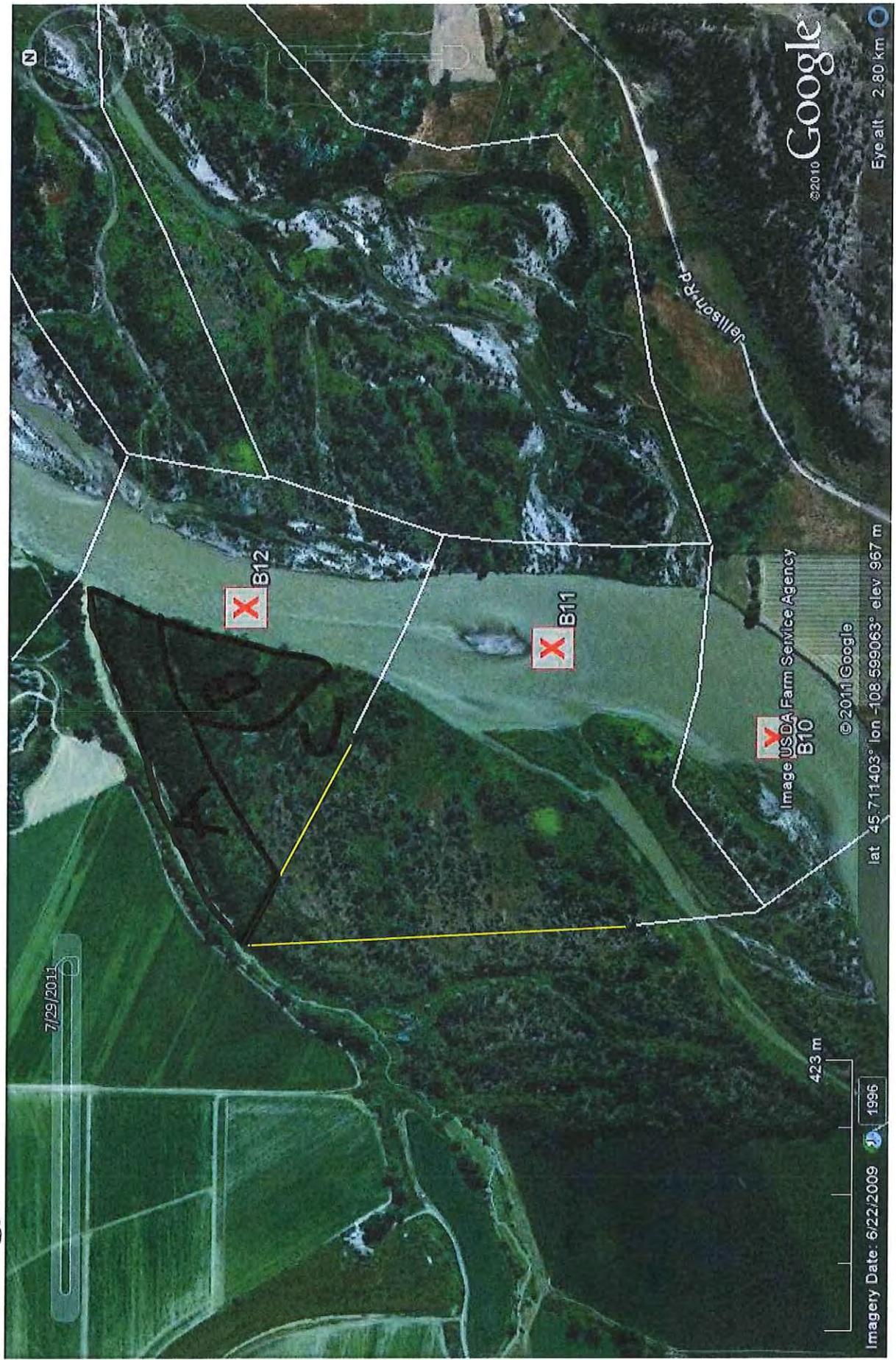
ZONE A, B. Cut and remove oiled grass, ^{debris} and oil coated vegetation smaller than 1" diameter - wipe larger coated vegetation.

C: no oil observed. no treatment required

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

Team 5 July 27, 2011

B12 L
Zones A, B, + C





B12

B11

B10

F

E

D

A

h 30 6

108°36'10"W 108°36'5"W 108°36'0"W 108°35'55"W 108°35'50"W 108°35'45"W 108°35'40"W 108°35'35"W 108°35'30"W

45°43'0"N

45°42'55"N

45°42'50"N

45°42'45"N



B12

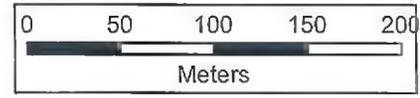
A

108°36'15"W 108°36'10"W 108°36'5"W 108°36'0"W 108°35'55"W 108°35'50"W 108°35'45"W 108°35'40"W 108°35'35"W 108°35'30"W

B12 -
(L/R/I)??

DATE:
TEAM:

COMMENTS:



PS/G/SC

1 GENERAL INFORMATION		Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: <u>B12</u> Left Bank / <u>Right Bank</u> / Island		<u>17107111</u>	<u>9:35</u> hrs to <u>1224</u> hrs	low - mean - <u>bankfull</u> - overbank
Operations Division: <u>B</u>				<u>falling</u> - steady - rising
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook /		<u>Sun</u> / Clouds / Fog / Rain / Snow / Windy / Calm	Air Temp +/- <u>30</u> deg C	

2 SURVEY TEAM #	name	organization	contact phone number
<u>5</u>	<u>Bob Neilson</u>	<u>Cascade ENTRAV</u>	<u>717-817-2469</u>
	<u>Chuck Pons</u>	<u>Cascade ENTRIX</u>	<u>813-927-1194</u>
	<u>Matt Ladd</u>	<u>Montana FWP</u>	<u>406-860-7808</u>
	<u>Josh Rogers</u>	<u>USCG</u>	<u>727-244-8292</u>

3 SEGMENT Total Segment/Reach Length 500 m Segment/Reach Length Surveyed 340 m

Start GPS: LATITUDE 45.7148 deg. min. LONGITUDE 108.5979 deg. min. Datum: WGS84

End GPS: LATITUDE 45.7117 deg. min. LONGITUDE 108.5969 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 P Mixed ___ Pebble/Cobble S Boulder ___ Peat/Organic ___ Vegetated Bank: P Wooded Upland: ___

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

Cliff or Bluff: ___ Est Height ___ m canyon ___ manmade ___ meander ___ confined or leveed ___ Substrate Type: Sand/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 200 m 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 Access: Direct from backshore Y Alongshore from next segment Y N

Debris N oiled N amount ___ 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			<u>P</u>	<u>S</u>	<u>335</u>	<u>80</u>	<u>50</u>	<u>S</u>		<u>P</u>	<u>S</u>											<u>Sand</u>

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

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

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

A- Most of this zone is productly covered with large piles of wooden debris that is coated. There is some strand vegetation, and small areas of pooled oil. Debris will need to cut and removed or surgically burned. Small pools need absorbent pads.

(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 # ___)

45°42'45"N

45°42'50"N

45°42'55"N

45°43'0"N

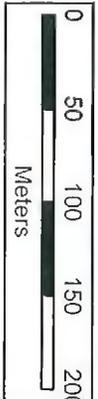
108°36'15"W 108°36'10"W 108°36'5"W 108°36'0"W 108°35'55"W 108°35'50"W 108°35'45"W 108°35'40"W 108°35'35"W 108°35'30"W

108°36'10"W 108°36'5"W 108°36'0"W 108°35'55"W 108°35'50"W 108°35'45"W 108°35'40"W 108°35'35"W 108°35'30"W

B12 -
(L/R/I)??

DATE:
TEAM:

COMMENTS:



45°42'40"N 45°42'45"N 45°42'50"N 45°42'55"N 45°43'0"N



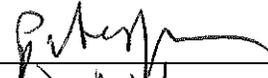
Appendix C

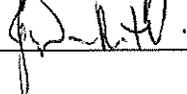
Pre-Inspection Survey Transmittal

SCAT – Pre Inspection Survey Transmittal (PIST) Memo

Survey Date: 23 AUG 2011

Segment: B-12 RB

Team: SCAT Liaison PETE PRITCHARD Signed: 

Observer JUAN PATINO USCG Signed: 

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:



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

1 GENERAL INFORMATION		Date (dd/mm/yy) 02/09/11	Time (24h): std / daylight 1000 hrs to 1130 hrs	Water Level low - <u>mean</u> - bankfull - overbank falling - steady - rising
Segment/Reach ID: B <u>12</u> <u>Left Bank</u> / Right Bank / Island		Operations Division: B		
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook /		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp + / - ___ deg C

2 SURVEY TEAM # 2	Name	Organization	Signature
	Pete Lee	Polaris	<i>[Handwritten signatures]</i>
	Larry Alheim	MTDEQ	
	Stephen Ball	USEPA	

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

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	%	cm	cm	cm	cm	cm	cm	cm	cm	cm	cm	cm	cm	cm		cm	
A				<u>X</u>	500	450															<u>X</u>	Grass, trees, debris

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

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

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

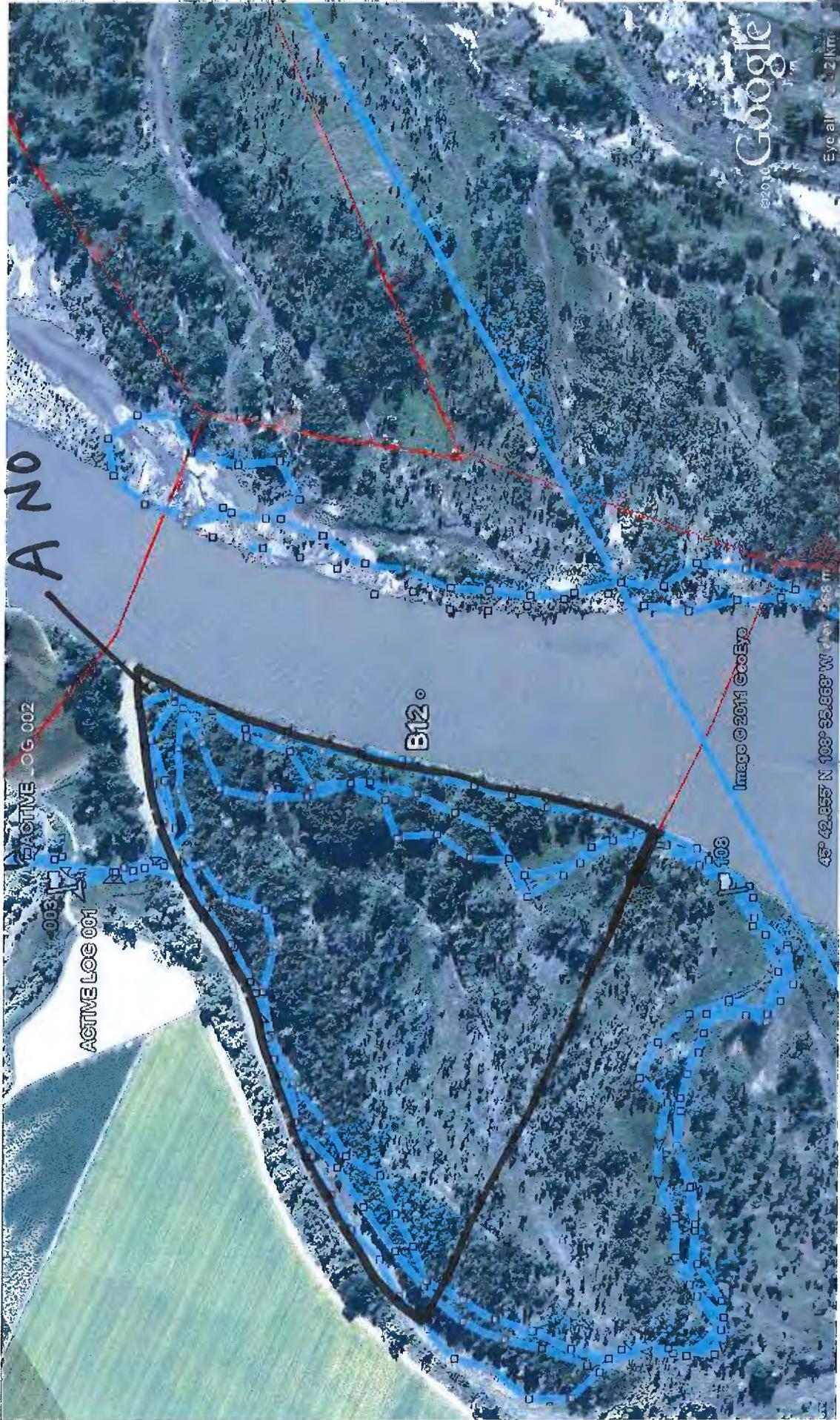
Overbank Survey Required Y / N Overbank Survey Completed Y / N Shoreline Survey Completed Y / N

Oil height: 30 cm

Treatment recommendations:
 Zone A: No further treatment required.
 Zone A: NOO

Operations had treated segment to endpoint (Zones B, C in (TR 39))

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



A No

B12 LB T2 9/2/11

DB16

R

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy) 25/08/11	Time (24h): std / daylight 1330 hrs to 1530 hrs	Water Level low - mean - bankfull - overbank falling - steady - rising
Segment/Reach ID: B 12 Left Bank / Right Bank / Island		Operations Division:		
Survey by: Foot / ATV / Boat / Helicopter / Overlook /		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- deg C

2 SURVEY TEAM # 4	Name	Organization	Signature
Bob Nailon		Cardno ENTRIX	<i>[Signature]</i>
Pete Lee		Polaris	<i>[Signature]</i>
Josh Hofkes		Cardno ENTRIX	<i>[Signature]</i>
Lance Richman		USEPA	<i>[Signature]</i>
Betsy Howda		MTDEQ	<i>[Signature]</i>

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

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 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 _____ 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

1868

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				X	500	125	L			X	X						X					Grass, trees, debris

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

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

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

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

Oil height: 30cm - 90cm

Treatment recommendations:

Zone A : No treatment required.

Ops Hot Shot Team (Alex Barboza)

Removed 3 bags of CT VG/DB

Previously cleaned (CTR 8)

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



B12-RB
SCAT 4
25 Aug 2011



Appendix F

Completed SCAT Segment Sign-Off
Forms

SCAT SEGMENT OPERATIONS COMPLETION SIGN-OFF SHEET

SILVERTIP PIPELINE RELEASE

Segment B12 LB Date of Survey 9/2/11

Dates of Initial SCAT Assessments 19JUL11
(to be filled out by SCAT Data Management)

CTR(s) Associated with SCAT Segment 39

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).

A. L. BUI Stephen Ball EPA 9/3/11
Sign Name Print Name/ Affiliation Date
Federal Representative (EPA/USCG)

L.P. alb Larry Alheim 9/2/11
Sign Name Print Name/ Affiliation Date
State Representative (DEQ/FWP)

P. Lee Pete Lee/Polaris 9/2/11
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.

Silvertip Pipeline Spill SCAT Segment Sign-Off Sheet

COMPLETED

Operations Division: A B X C

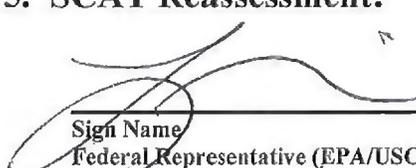
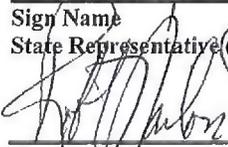
SCAT Area Number (i.e. A12): B12

SCAT Segment Number (i.e. A12-LB/IS/RB): B12 RB

Complete

Check if Complete:

1. **Completion Date for Initial SCAT Assessment:** 17 JUL 11 ^{PL}
2. **Combined Treatment Recommendations (CTRs) Developed/Issued:** Yes/No
 List CTRs Applicable to SCAT Segment: 8
3. **Clean-Up Operations Conducted:**
4. **Meets Qualitative Approved Treatment Methods Target Endpoints:** Yes/No
5. **SCAT Reassessment:**

	<u>Lance Richman</u>	<u>8/25/11</u>
Sign Name Federal Representative (EPA/USCG)	Print Name	Date
<u>Betsy Hovda</u>	<u>Betsy HOVDA</u>	<u>8/25/2011</u>
Sign Name State Representative (DEQ/FWP)	Print Name	Date
	<u>Robert Norton</u>	<u>8/25/11</u>
Sign Name RP Representative (SCAT Contractor)	Print Name	Date
<u>Pete Lee</u>		<u>8/25/11</u>

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.