

ExxonMobil Pipeline Company

**SCAT Area Transition Report for
B33**

Silvertip Pipeline Incident
Laurel, Montana

October 26, 2011



SCAT Area Transition Report for B33

Silvertip Pipeline Incident
Laurel, Montana

Prepared for:
ExxonMobil Pipeline Company

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Our Ref.:
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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 B33, 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 B33. 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 B33, 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 B33 is 90.3. There were no access issues for B33.

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 B33. No oiled wildlife was observed or recovered. No Wildlife Priority Cleanup Areas were identified. No active migratory bird nests were identified in Area B33.

1.3 Summary of Environmental Sampling

Table 1 (below) summarizes samples collected within Area B33. 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 B33 are provided on Figure 3.

Table 1 Environmental Sampling Summary

Agency	Sample Num	Date	Matrix	Location	Latitude	Longitude	Results Validated?
CTEH	BIMT0817SO512	17-Aug-11	Soil_River	SO-B33	45.7486	-108.509214	No

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 was one exceedance for vanadium.

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 B33 are included in Appendix B. Figure 4 provides the maximum oiling zones observed by the SCAT team during the initial surveys of Area B33.

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. 19](#) and [CTR No. 27](#)).

1.6 Oil Removal Activities

Oil removal activities were conducted within Area B33 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 B33 following completion of oil removal activities. The SCAT team performed final surveys of the right and left banks within SCAT Area B33 to confirm the agreed-upon cleanup endpoints identified in the applicable CTRs had been achieved. The final SCAT survey documentation is presented in Appendix E.

1.10 SCAT Area Conclusions

Based on the final SCAT surveys performed on the right and left banks within Area B33, no further treatment is recommended for these segments. SCAT Segment Sign-Off Forms are included as Appendix F.



**SCAT Area Transition
Report for B33**

Silvertip Pipeline Incident
Laurel, Montana

2. Transition Sign-Off Form

SCAT Area Transition Report for B33

Prepared for:

Unified Command

Date

Unified Command – RP



**SCAT Area Transition
Report for B33**

Silvertip Pipeline Incident
Laurel, Montana

SCAT Area Transition Report for B33

Prepared for:

Unified Command

Date

Unified Command – FOSC



**SCAT Area Transition
Report for B33**

Silvertip Pipeline Incident
Laurel, Montana

SCAT Area Transition Report for B33

Prepared for:

Unified Command

Date

Unified Command – MDEQ

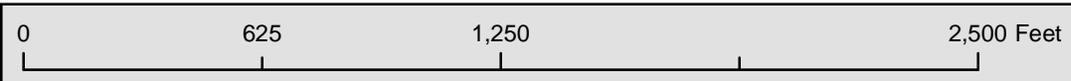
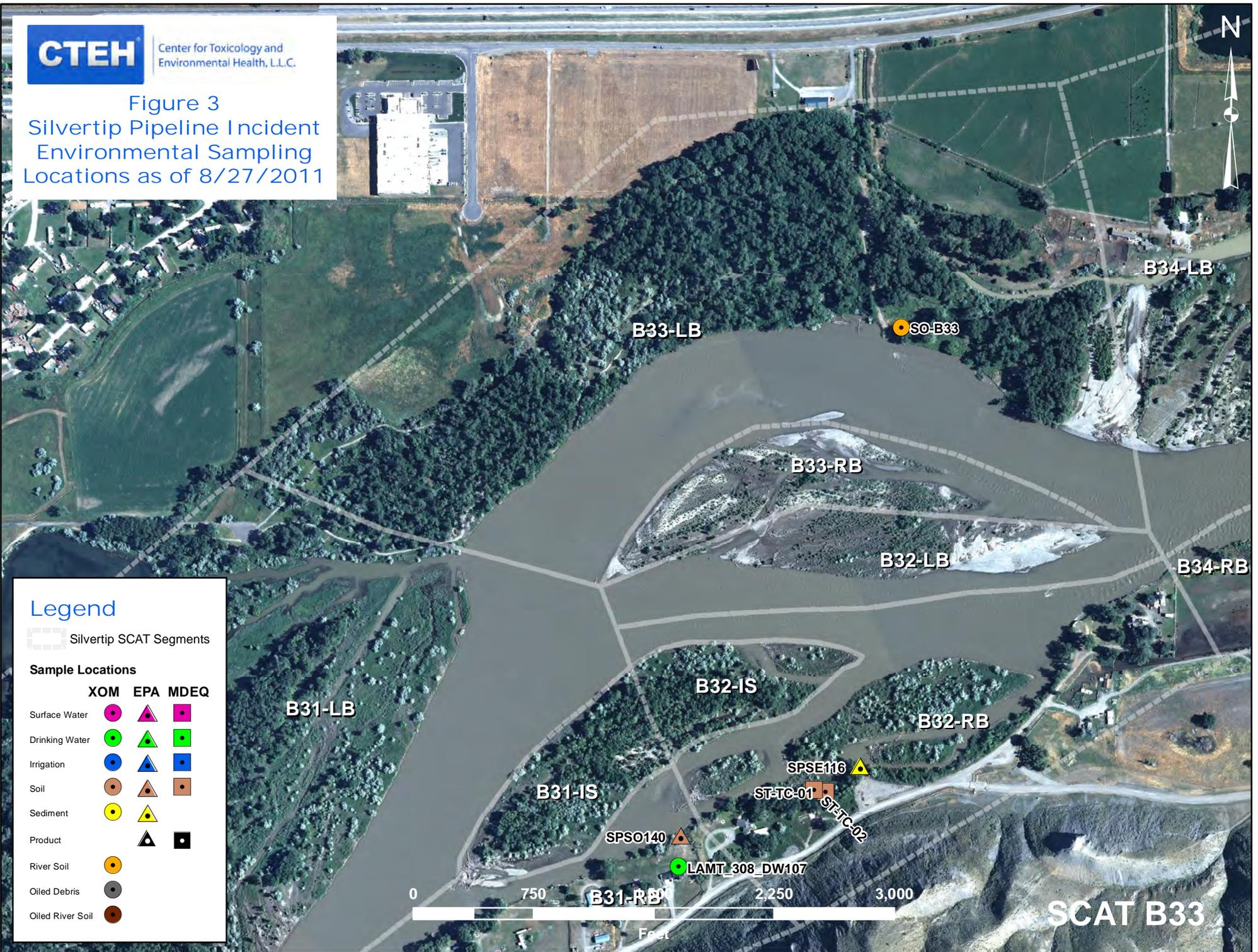


Figure 2
Wildlife Resources

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 B33

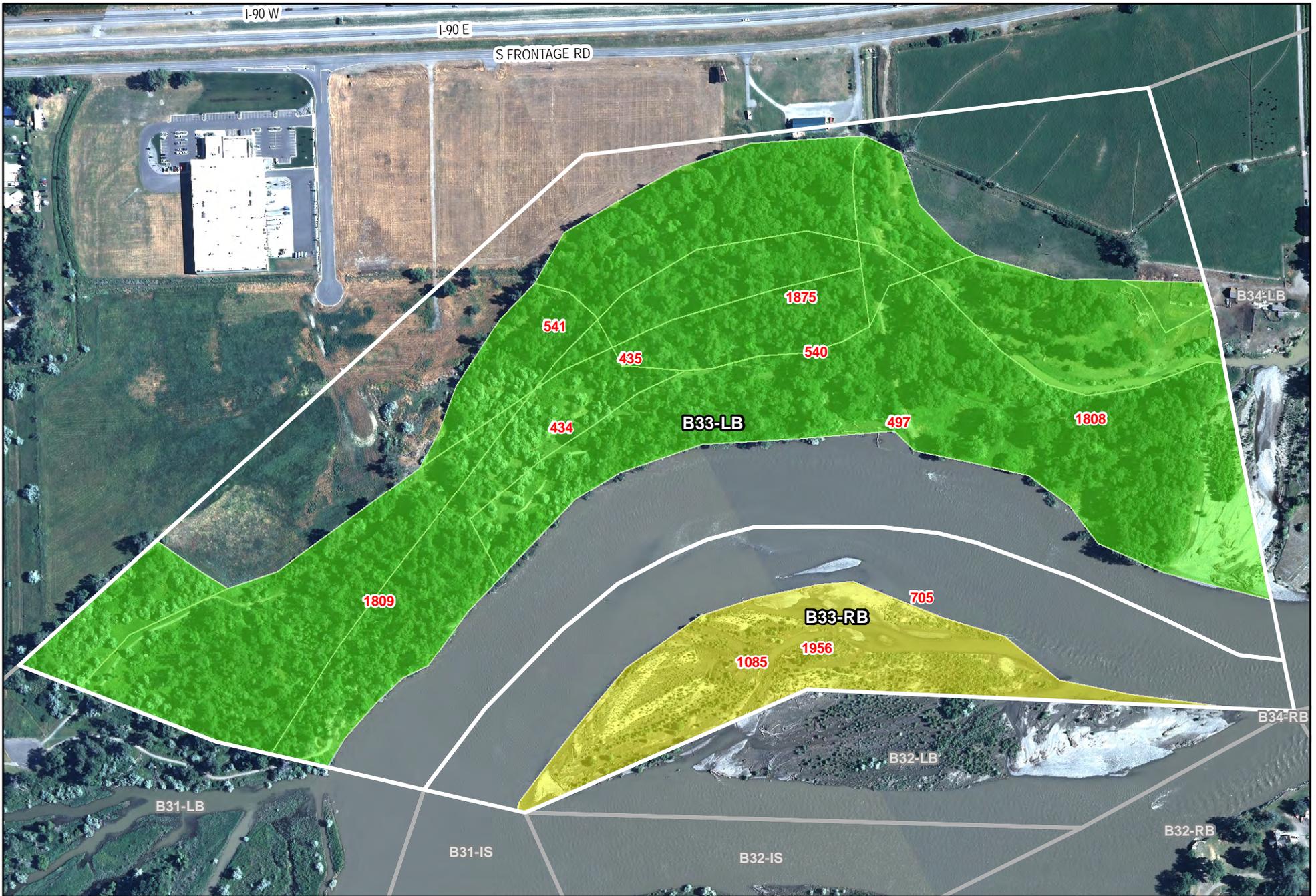
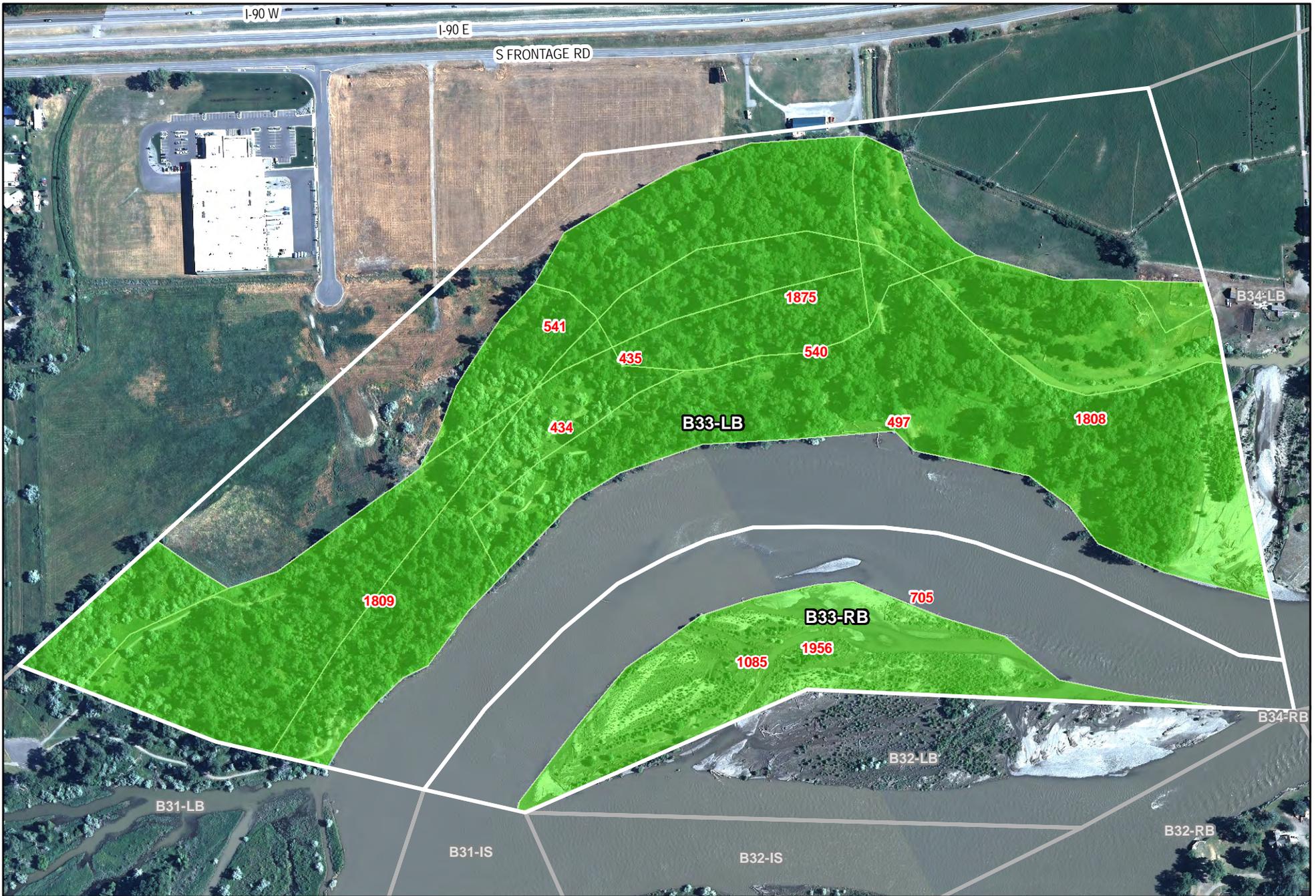


Figure 4 - Maximum SCAT Observations For SCAT Area:





**Figure 5 - Final SCAT Observations
For SCAT Area:**





Appendix A

Sample Detection Summary



Detections in Samples Collected in SCAT Area B33

NA - Not Available

Detected Above Screening Level

Sample Num	Date	Sample Type	Matrix	Analytical Method	Analyte	Detected	Result	Screening Level	Result Qualifier	Units	Above?
BIMT0817SO512	08/17/2011	Field	Soil_River	EPA 6010	Arsenic	Y	39	40		mg/kg	no
BIMT0817SO512	08/17/2011	Field	Soil_River	EPA 6010	Barium	Y	166	820		mg/kg	no
BIMT0817SO512	08/17/2011	Field	Soil_River	EPA 8270 by SIM	Benzo(a)pyrene	Y	13.4	20		ug/kg	no
BIMT0817SO512	08/17/2011	Field	Soil_River	EPA 8270 by SIM	Benzo(b)fluoranthene	Y	17.9	200		ug/kg	no
BIMT0817SO512	08/17/2011	Field	Soil_River	EPA 6010	Cadmium	Y	1.4	3.8		mg/kg	no
BIMT0817SO512	08/17/2011	Field	Soil_River	EPA 6010	Chromium	Y	26.9	280		mg/kg	no
BIMT0817SO512	08/17/2011	Field	Soil_River	EPA 8270 by SIM	Chrysene	Y	14.9	20000		ug/kg	no
BIMT0817SO512	08/17/2011	Field	Soil_River	EPA 8270 by SIM	Fluoranthene	Y	18.5	300000		ug/kg	no
BIMT0817SO512	08/17/2011	Field	Soil_River	EPA 6010	Lead	Y	61.3	400		mg/kg	no
BIMT0817SO512	08/17/2011	Field	Soil_River	EPA 9060	Mean Total Organic Carbon	Y	29900	NA		mg/kg	no
BIMT0817SO512	08/17/2011	Field	Soil_River	EPA 7471	Mercury	Y	0.033	1		mg/kg	no
BIMT0817SO512	08/17/2011	Field	Soil_River	EPA 6010	Nickel	Y	20.3	150		mg/kg	no
BIMT0817SO512	08/17/2011	Field	Soil_River	EPA 8270 by SIM	Pyrene	Y	17.9	200000		ug/kg	no
BIMT0817SO512	08/17/2011	Field	Soil_River	EPA 9060	RSD%	Y	33.8	NA		%	no
BIMT0817SO512	08/17/2011	Field	Soil_River	MADEP EPH	Total Extractable Hydrocarbons	Y	41.2	200		mg/kg	no
BIMT0817SO512	08/17/2011	Field	Soil_River	EPA 9060	Total Organic Carbon	Y	42000	NA		mg/kg	no
BIMT0817SO512	08/17/2011	Field	Soil_River	EPA 6010	Vanadium	Y	44.9	39		mg/kg	YES



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>B33</u>	Left Bank / <u>Right Bank</u> / Island	<u>19 / 07 / 11</u>		low - mean / <u>bankfull</u> / overbank
Operations Division: <u>B</u>			<u>1010</u> hrs to <u>1012</u> hrs	<u>falling</u> / steady - rising
Survey by: <u>Foot / ATV / Boat / Helicopter / Overlook /</u>		<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	EPA	707 364 0491
	Ken Frazer	FWP	406 247 2961

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 936 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 5 Pebble/Cobble 5 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 X 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 150 m low / high 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: house in this zone

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

OIL ZONE	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER						SUBST. TYPE(S)		
					Length	Width	Distrib.	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR		AP	NO
ID	MS	LB	UB	OB	m	m	%														
<u>705</u> A				<u>X</u>	<u>936</u>		<u>1</u>					<u>P</u>		<u>X</u>							<u>veg bank</u>

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

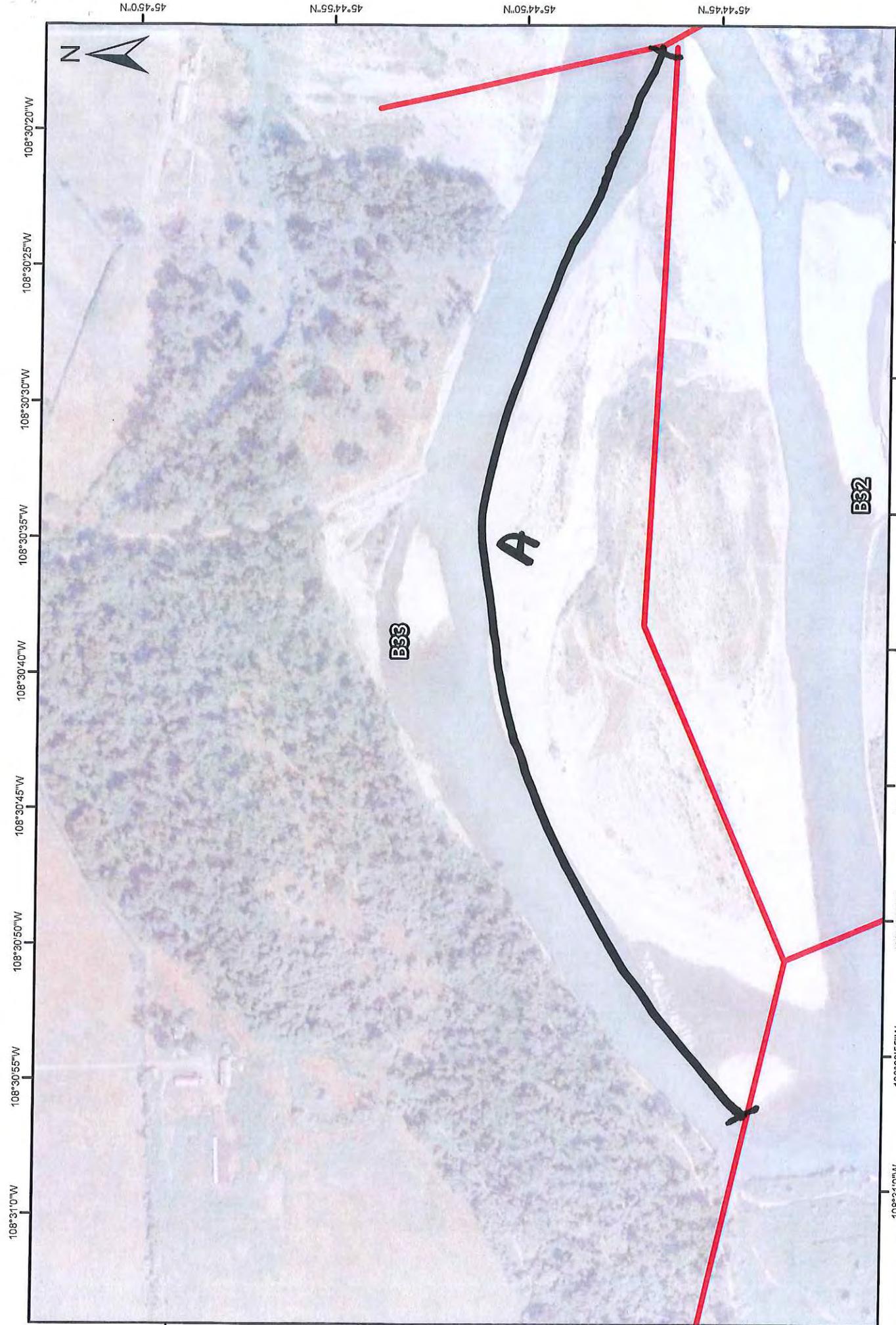
TRENCH or PIT NO.	RIVER BANK ZONE				MAX. PIT DEPTH	OILED ZONE	SUBSURFACE OIL CHARACTER						WATER TABLE	SHEEN COLOUR	CLEAN BELOW	SUBST. TYPE(S)	
							SAP	OP	PP	OR	OF	TR					NO
					cm	cm-cm											

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

OSR = Y OSC = unk SSC = unk

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

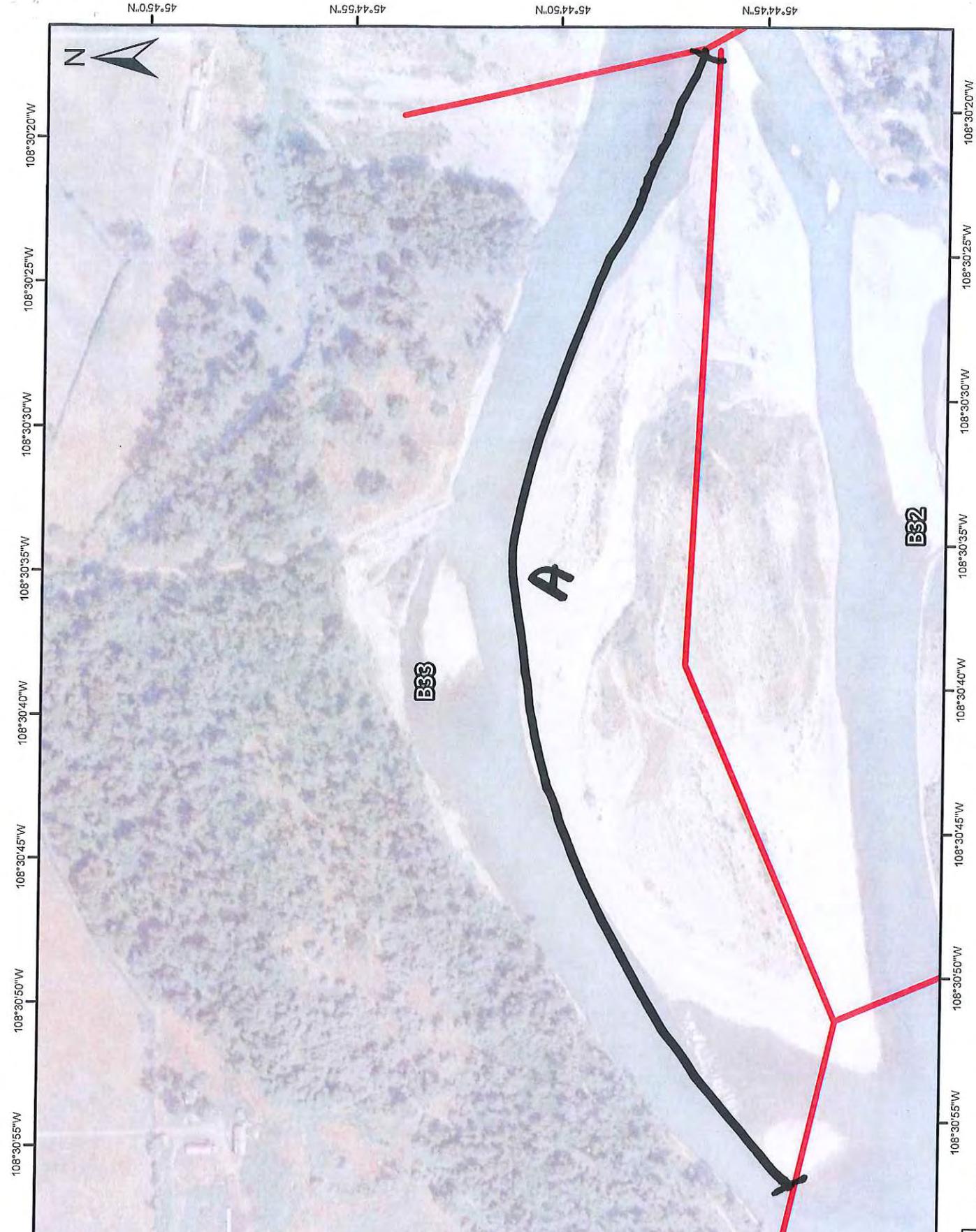
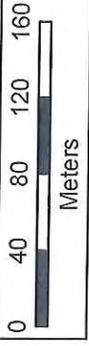
Sketch Yes/No Photos Yes/No (Roll # 5115 Frames 5118) Video Tape Yes/No (Tape # _____)



B33 -
(L/R/I)??

DATE:
TEAM:

COMMENTS:



RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

D/B

1 GENERAL INFORMATION		Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: <u>Seg 33</u> Left Bank / <u>Right Bank</u> / <u>Island</u>		<u>28/07/11</u>	<u>1124</u> hrs to <u>1150</u> hrs	low - mean <u>bankfull</u> overbank
Operations Division: <u>SCAT #2</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>27</u> deg C

2 SURVEY TEAM # <u>2</u>	Name <u>SAK</u>	Organization <u>Cardno Entry</u>	Signature <u>Steve Kennedy</u>
<u>Steve Kennedy</u>		<u>Cardno Entry</u>	<u>Steve Kennedy</u>
<u>Gary Riley</u>		<u>USADA</u>	<u>Gary Riley</u>
<u>Courtney Tyree</u>			

3 SEGMENT Total Segment/Reach Length 120 m Segment/Reach Length Surveyed 720 m

Start GPS: LATITUDE 45° 44.748 deg. --- min. LONGITUDE 108° 30.837 deg. --- min. Datum: WGS84

End GPS: LATITUDE 45° 44.762 deg. --- min. LONGITUDE 108° 30.345 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 N/A Manmade: Solid --- Permeable --- (type) N/A Wetland: Swamp --- Bog/Fen --- Marsh N/A

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

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

Cliff or Bluff: --- Est Height 3 m canyon --- manmade --- meander S confined or leveed --- Substrate Type: ---

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

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

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

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

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

Debris (Y)N oiled (Y)N amount --- bags or --- trucks access restrictions none

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	%																			
A			<u>P</u>	<u>S</u>	<u>720</u>	<u><3</u>	<u>S</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"

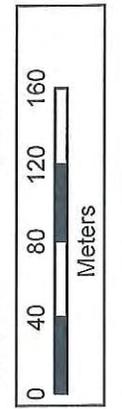
TRENCH or PIT NO.	RIVER BANK ZONE				MAX. PIT DEPTH cm	OILED ZONE cm-cm	SUBSURFACE OIL CHARACTER						WATER TABLE cm	SHEEN COLOUR B, R, S, N	CLEAN BELOW Yes / No	SUBST. TYPE(S)						
	MS	LB	UB	OB			SAP	OP	PP	OR	OF	TR					NO					

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

Seg 33, Zone A, Sporadic ST & CT. mainly stain on veg. nearshore, CT on trees & small debris piles inland. 2 hotspots flagged & photo'd & remove hotspots

Sketch Yes (No) Photos (Yes) / No Frames --- Photographer C Tyree



DATE: 28/07/11
TEAM: 2
Zone A
COMMENTS:

B33 - I
(L/R/I)??

DB/G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy) 19-Jul-2011	Time (24h): std / daylight 1008 hrs to 1012 hrs	Water Level low - mean - <u>bankfull</u> - overbank falling - steady - rising
Segment/Reach ID: B33 <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>POL</u>	Polaris	
Larry Alheim		MTDEQ	
Andy Johnson	<u>Andrew HART</u>	USCG	<u>[Signature]</u>

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 1015 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 130m 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 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	1015	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				

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: NO

Treatment Recommendations:
Zone A: No oil observed; no treatment required.

Sketch Yes/No Photos Yes/No Frames None



B33

B32

B34

Google

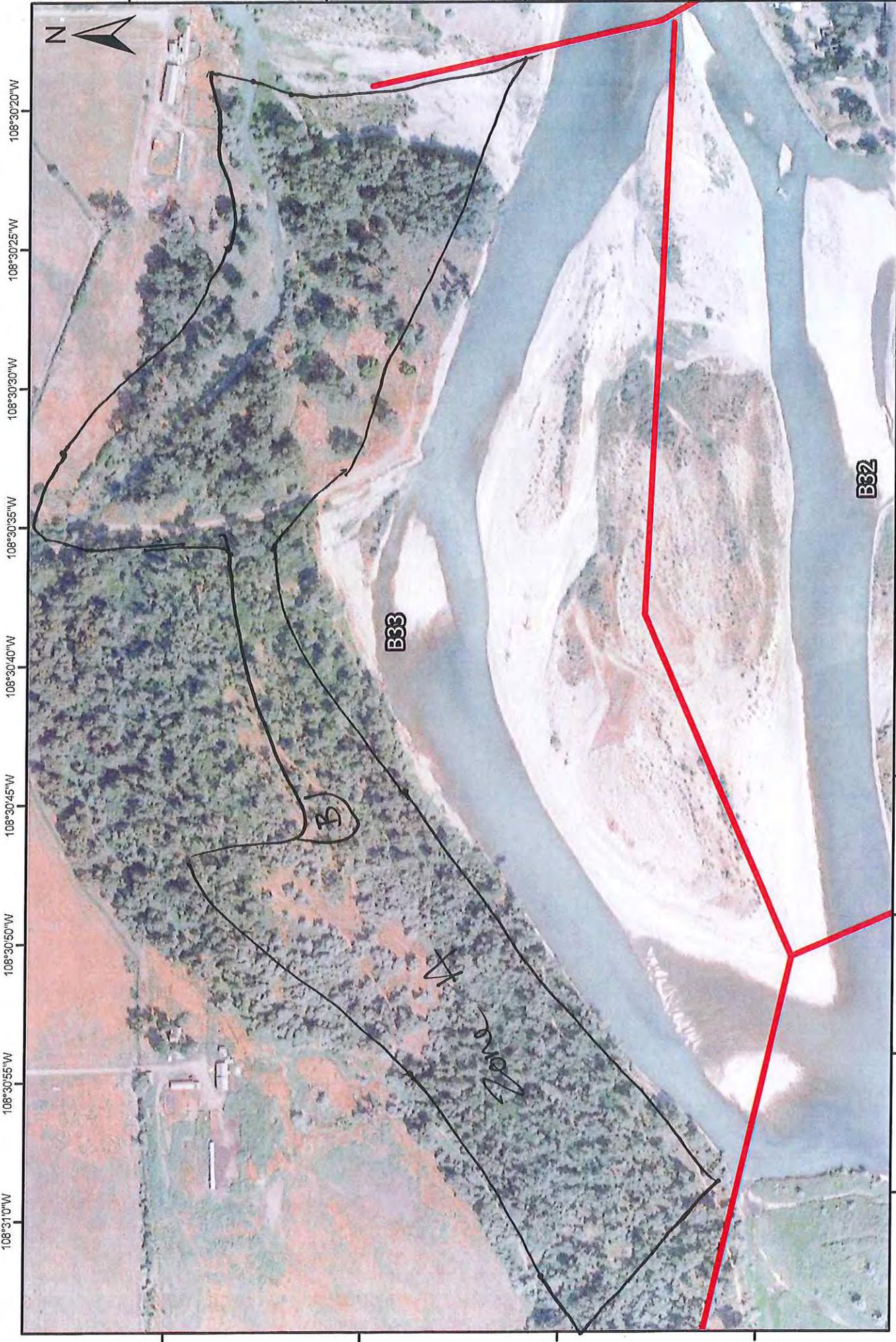
©2010

Eye alt: 6544 ft

Image © 2011 GeoEye

45°44'50.99" N 108°30'36.10" W elev 3133 ft

Imagery Date: 8/5/2009



B33 - (L/R/I)??

DATE: 07/22/11

TEAM: 6

COMMENTS:

108°31'0"W 108°30'55"W 108°30'50"W 108°30'45"W 108°30'40"W 108°30'35"W 108°30'30"W 108°30'25"W 108°30'20"W

45°44'45"N 45°44'50"N 45°44'55"N 45°45'0"N

108°31'0"W 108°30'55"W 108°30'50"W 108°30'45"W 108°30'40"W 108°30'35"W 108°30'30"W 108°30'25"W 108°30'20"W

45°44'45"N 45°44'50"N 45°44'55"N 45°45'0"N

108°31'0"W 108°30'55"W 108°30'50"W 108°30'45"W 108°30'40"W 108°30'35"W 108°30'30"W 108°30'25"W 108°30'20"W

45°44'45"N 45°44'50"N 45°44'55"N 45°45'0"N

108°31'0"W 108°30'55"W 108°30'50"W 108°30'45"W 108°30'40"W 108°30'35"W 108°30'30"W 108°30'25"W 108°30'20"W

45°44'45"N 45°44'50"N 45°44'55"N 45°45'0"N

108°31'0"W 108°30'55"W 108°30'50"W 108°30'45"W 108°30'40"W 108°30'35"W 108°30'30"W 108°30'25"W 108°30'20"W

45°44'45"N 45°44'50"N 45°44'55"N 45°45'0"N

108°31'0"W 108°30'55"W 108°30'50"W 108°30'45"W 108°30'40"W 108°30'35"W 108°30'30"W 108°30'25"W 108°30'20"W

45°44'45"N 45°44'50"N 45°44'55"N 45°45'0"N

108°31'0"W 108°30'55"W 108°30'50"W 108°30'45"W 108°30'40"W 108°30'35"W 108°30'30"W 108°30'25"W 108°30'20"W

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>B33</u> (Left Bank) Right Bank / Island		<u>23/07/11</u>	<u>8:30</u> hrs to <u>12:30</u> hrs	low - <u>mean</u> bankfull - overbank
Operations Division: <u>SEAT</u>				(falling) - steady - rising
Survey by: <u>(Foot) / ATV / Boat / Helicopter / Overlook /</u>		<u>(Sun)</u> Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- <u>30</u> deg C

2 SURVEY TEAM # <u>4</u>	Name	Organization	Signature
	<u>John Mahyueh</u>	<u>Coastal Entry</u>	<u>[Signature]</u>
	<u>Caroline Pyrell</u>	<u>MT FWP</u>	<u>[Signature]</u>
	<u>GARY MILAY</u>	<u>US EPA</u>	<u>[Signature]</u>

3 SEGMENT Total Segment/Reach Length 1176 m Segment/Reach Length Surveyed 1076 m

Start GPS: LATITUDE 45 deg. 44.771 min. LONGITUDE 108 31.092 deg. 31.092 min. Datum: WGS 84

End GPS: LATITUDE 45 deg. 271 min. LONGITUDE 108 deg. 30.324 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 P 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 S confined or leveed ___ Substrate Type: veg

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

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

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

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

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

Debris: Y/N oiled Y/N amount ✓ 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		
<u>A</u>				<u>P</u>	<u>1070</u>	<u>155</u>	<u><1</u>			<u>P</u>	<u>S</u>						<u>P</u>						<u>veg</u>
<u>B</u>				<u>P</u>	<u>1070</u>	<u>60</u>	<u>0</u>														<u>NO</u>		<u>veg</u>

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

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

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

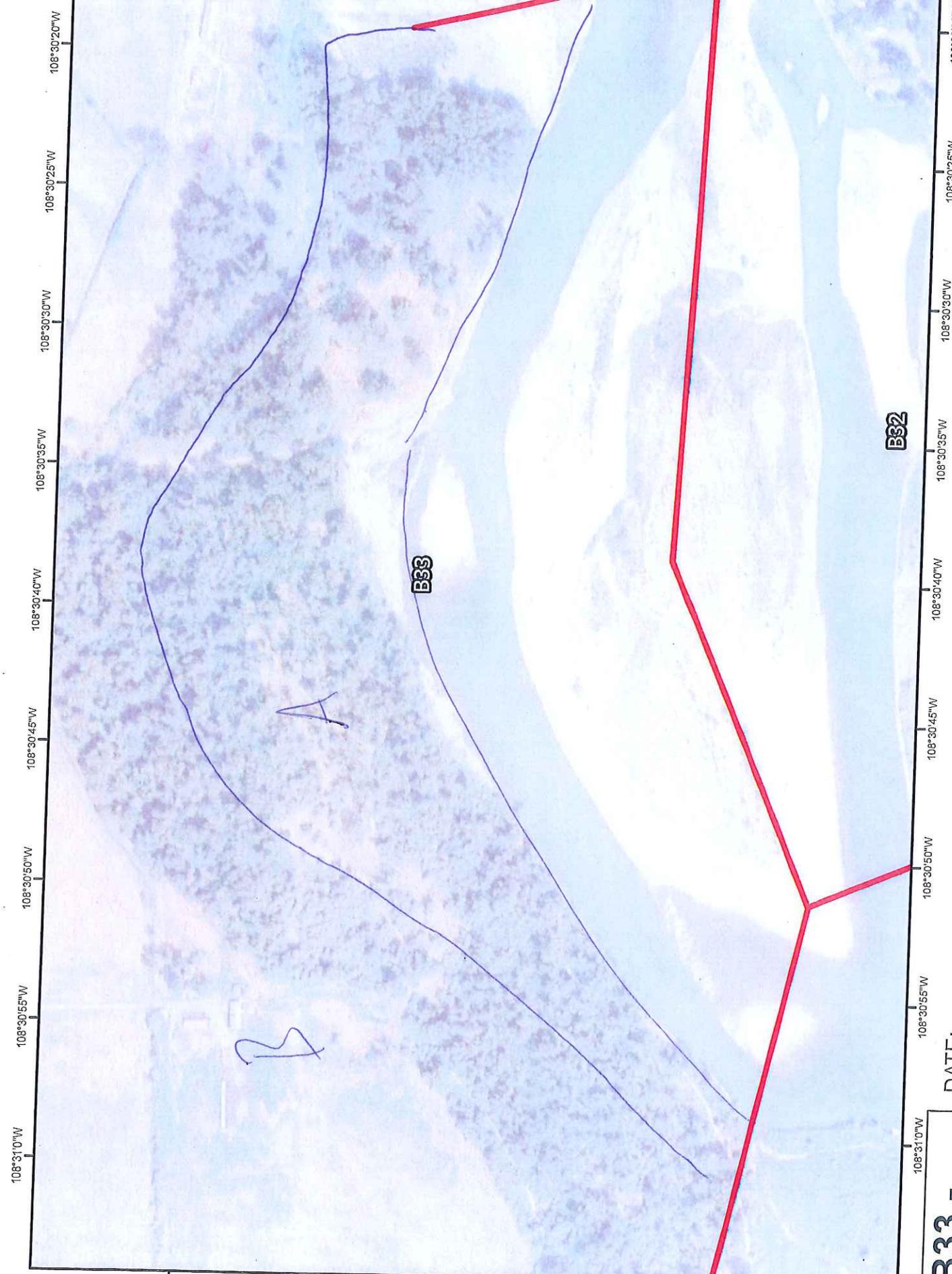
Overbank Survey Required Y/N Overbank Survey Completed Y/N Shoreline Survey Completed Y/N

Zone A - Very Light, no recommendations

Zone B - No oil

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

45°44'50"N 45°44'55"N 45°44'50"N 45°44'45"N



108°31'0"W 108°30'55"W 108°30'50"W 108°30'45"W 108°30'40"W 108°30'35"W 108°30'30"W 108°30'25"W 108°30'20"W

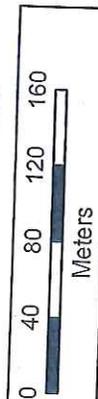
108°31'0"W 108°30'55"W 108°30'50"W 108°30'45"W 108°30'40"W 108°30'35"W 108°30'30"W 108°30'25"W 108°30'20"W

B32

B33

A

B



B33 - (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

R

1 GENERAL INFORMATION		Date (dd/mm/yy) 29/AUG/2011	Time (24h): std / daylight 11:00 hrs to 13:00 hrs	Water Level low - mean - bankfull - overbank falling - steady - rising
Segment/Reach ID: B 33 Left Bank / Right Bank / Island				
Operations Division: B 33 RB				
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	contact phone number
Ariel Blanc		Polaris	
Daniel Elefant		Cardno ENTRIX	
Earl Radonski		DEQ MFWP	
Larisa Leonova		EPA	

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 484 m

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

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

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

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

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

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

Cliff or Bluff: Est Height 2-3 m canyon _____ manmade _____ meander P confined or leveed _____ Substrate Type: sand/sed

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: <1m 1-10m 10-100m >100m _____ 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 8 bags or _____ trucks access restrictions

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

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	484	104	<1			X	X						X					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

ReSCAT

Zone A: Trace oiled vegetation and natural debris. Hotshot crew accompanied ReSCAT Team. Remaining transferable oil removed during ReSCAT. Zone A meets operational endpoints. NFT.

(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#)



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>B333</u>	(Left Bank / Right Bank / Island)	<u>23/08/11</u>	<u>1230</u> hrs to <u>1600</u> hrs	low - mean - bankfull - overbank
Operations Division: <u>B</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>34</u> deg C

2 SURVEY TEAM # <u>132</u>	Name	Organization	Signature
	<u>Joe Boyle</u>	<u>Cardno ENTRIX</u>	<u>[Signature]</u>
	<u>Chuck Ash</u>	<u>Cardno ENTRIX</u>	<u>[Signature]</u>
	<u>John Brown</u>	<u>MDEC</u>	<u>[Signature]</u>
	<u>Nathan Hammond</u>	<u>Cardno ENTRIX</u>	<u>[Signature]</u>
	<u>Robert Ashton</u>	<u>MDEC</u>	<u>[Signature]</u>
	<u>Lance Richman</u>	<u>US EPA</u>	<u>[Signature]</u>
	<u>Linda Watson</u>	<u>EPA</u>	<u>[Signature]</u>

3 SEGMENT Total Segment/Reach Length 1050 m Segment/Reach Length Surveyed 1050 m

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

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

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

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

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

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

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

Sloped: (25°) (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 85m 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 9 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 m	Width m	Distrib. %	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC		SR	AP	NO	
<u>1808</u> <u>1809</u> A			<u>S</u>	<u>P</u>	<u>700</u>	<u>100</u>	<u>41</u>			<u>P</u>	<u>S</u>						<u>P</u>					<u>veg</u>
B			<u>S</u>	<u>P</u>	<u>1050</u>	<u>125</u>	<u>0</u>														<u>0</u>	<u>veg</u>

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

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

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: trace destr oil coated / stained veg & debris. hotshot crew cleaned -> NFT

Zone B: ~~trace destr oil coated / stained~~
NO oil observed - NFT

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

8/23/2011 3:42:24 PM

23-AUG-11 03:22:24 PM

ACTIVE LOG 001

ACTIVE LOG 004

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M05

B33-LB

M04

M02

M01

M02

B33-RB

B32-LB

B33 LB
SCAT M2
23 Aug 2011

Image © 2011 GeoEye
© 2011 Google

45°44'53.61" N 108°30'42.61" W elev 3135 ft

©2010

1996

25 August ReSCAT
Team # 3
Seg. B33/LB



2/2

Handwritten scribble



Appendix F

Completed SCAT Segment Sign-Off
Forms

COMPLETE

Silvertip Pipeline Spill SCAT Segment Sign-Off Sheet

Operations Division: A B X C
 SCAT Area Number (i.e. A12): B 33
 SCAT Segment Number (i.e. A12-LB/IS/RB): B 33LB

Complete

Check if Complete:

1. Completion Date for Initial SCAT Assessment: 8-23-11

2. Combined Treatment Recommendations (CTRs) Developed/Issued:

Yes/No

List CTRs Applicable to SCAT Segment: 19

3. Clean-Up Operations Conducted:

4. Inspection (CTR Objectives and CTR Addendums Complete):

RP Representative (SCAT/Ops Liaison Contractor) Date

5. SCAT Reassessment:

Yes/No

[Signature] 8/23/11
Federal Representative (EPA/USCG) Date

[Signature] 8/23/11
State Representative (DEQ/FWP) Date

[Signature] 8-23-11
RP Representative (SCAT Contractor) 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.

COMPLETED

Silvertip Pipeline Spill SCAT Segment Sign-Off Sheet

Operations Division: A B/33 C
 SCAT Area Number (i.e. A12): B33
 SCAT Segment Number (i.e. A12-LB/IS/RB): B33/LB

Complete

Check if Complete:

1. Completion Date for Initial SCAT Assessment: 22-8-2011

Yes/No

2. Combined Treatment Recommendations (CTRs) Developed/Issued:
List CTRs Applicable to SCAT Segment: 19

3. Clean-Up Operations Conducted:

Yes/No

4. Meets Qualitative Approved Treatment Methods Target Endpoints:

5. SCAT Reassessment:

Rachelle Thompson Rachelle Thompson 25/08/2011
 Sign Name Print Name Date
 Federal Representative (EPA/USCG)

Donnie McCurry Donnie McCurry 8/25/11
 Sign Name Print Name Date
 State Representative (DEQ/FWP)

[Signature] Helo Gauvreau 25/08/2011
 Sign Name Print Name Date
 RP Representative (SCAT Contractor)

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.

SCAT SEGMENT OPERATIONS COMPLETION SIGN-OFF SHEET

SILVERTIP PIPELINE RELEASE

Segment B33-RB Date of Survey 8/29/11

Dates of Initial SCAT Assessments 7/28/11
(to be filled out by SCAT Data Management)

CTR(s) Associated with SCAT Segment CTR 27

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).

Larisa Leonova LARISA LEONOVA 8/29/11
Sign Name Print Name/ Affiliation Date
Federal Representative (EPA/USCG)

Earl Radonski EARL RADONSKI 8/29/11
Sign Name Print Name/ Affiliation Date
State Representative (DEQ/FWP)

Daniel Elefant DANIEL ELEFANT / CARDNO ENTRIX 8/29/11
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.