

ExxonMobil Pipeline Company

**SCAT Area Transition Report
for B09**

Silvertip Pipeline Incident
Laurel, Montana

October 19, 2011



SCAT Area Transition Report for B09

Silvertip Pipeline Incident
Laurel, Montana

Prepared for:
ExxonMobil Pipeline Company

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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 B09, 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 B09. 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 B09, 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 B09 is 81.0. 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 B09. One possibly oiled mallard (*Anas platyrhynchos*) was observed flying over Area B09. One deceased wild turkey (*Meleagris gallopavo*) with no visible oiling was identified and retained. No Wildlife Priority Cleanup Areas were identified. A great blue heron (*Ardea herodias*) rookery was identified in Area B09, and a $\frac{1}{8}$ -mile buffer zone was established around the nests in the rookery and provided to Operations.

1.3 Summary of Environmental Sampling

Table 1 (below) summarizes samples collected within Area B09. 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 B09 are provided on Figure 3.

Table 1 Environmental Sampling Summary

Agency	Sample Num	Date	Matrix	Location	Latitude	Longitude
EPA	SP50214D01_071311	13-Jul-11	Soil_Surface	SP50214	45.7034107	-108.6021701
EPA	SP50215D01_071311	13-Jul-11	Soil_Surface	SP50215	45.7047354	-108.6015094

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 detections and therefore 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 B09 are included in Appendix B. Figure 4 provides the maximum oiling zones observed by the SCAT team during the initial surveys of Area B09.

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

1.6 Oil Removal Activities

Oil removal activities were conducted within Area B09 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 B09 and developed a Pre-Inspection Survey Transmittal (PIST) associated with the right bank within Area B09, which is presented in Appendix C.

1.8 Post-Inspection Survey Transmittal

SCAT Operations liaisons performed an inspection of the remediated areas of SCAT Area B09 and developed a Post Inspection Survey Transmittal (POST) associated with the right bank within Area B09, which is presented in Appendix D.

1.9 Summary of Final SCAT Surveys

Figure 5 shows the oiling conditions within Area B09 following completion of oil removal activities. The SCAT team performed final surveys of the left and right banks within SCAT Area B09 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 B09, no further treatment is recommended for these segments. SCAT Segment Sign-Off Forms are included as Appendix F.



**SCAT Area Transition
Report for B09**

Silvertip Pipeline Incident
Laurel, Montana

2. Transition Sign-Off Form

SCAT Area Transition Report for B09

Prepared for:

Unified Command

Date

Unified Command – RP



**SCAT Area Transition
Report for B09**

Silvertip Pipeline Incident
Laurel, Montana

SCAT Area Transition Report for B09

Prepared for:

Unified Command

Date

Unified Command – FOSC



**SCAT Area Transition
Report for B09**

Silvertip Pipeline Incident
Laurel, Montana

SCAT Area Transition Report for B09

Prepared for:

Unified Command

Date

Unified Command – MDEQ



Legend

Parcel Access

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

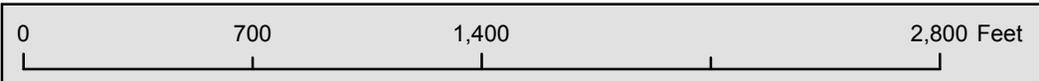
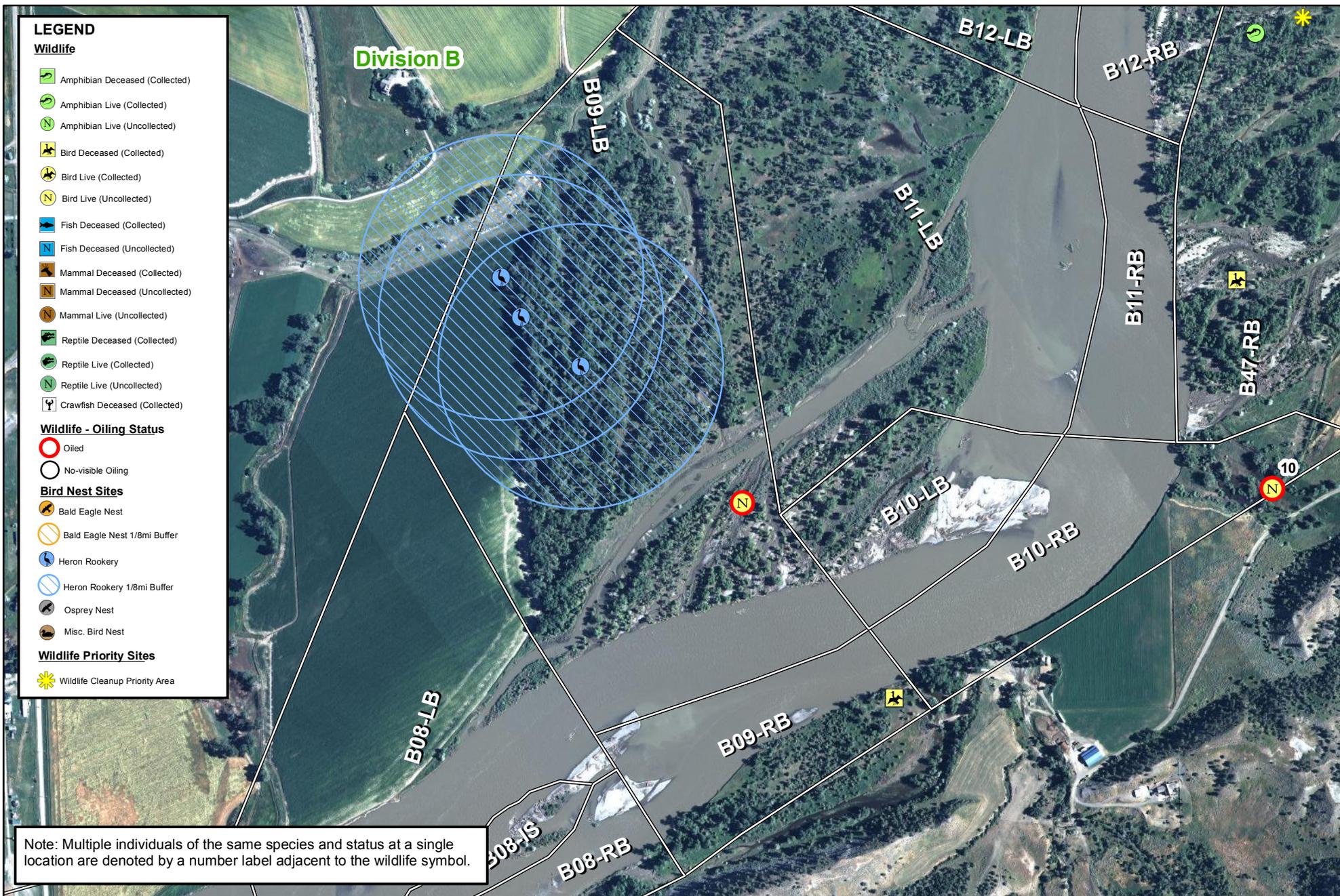


Figure 1



LEGEND

Wildlife

- Amphibian Deceased (Collected)
- Amphibian Live (Collected)
- Amphibian Live (Uncollected)
- Bird Deceased (Collected)
- Bird Live (Collected)
- Bird Live (Uncollected)
- Fish Deceased (Collected)
- Fish Deceased (Uncollected)
- Mammal Deceased (Collected)
- Mammal Deceased (Uncollected)
- Mammal Live (Uncollected)
- Reptile Deceased (Collected)
- Reptile Live (Collected)
- Reptile Live (Uncollected)
- Crawfish Deceased (Collected)

Wildlife - Oiling Status

- Oiled
- No-visible Oiling

Bird Nest Sites

- Bald Eagle Nest
- Bald Eagle Nest 1/8mi Buffer
- Heron Rookery
- Heron Rookery 1/8mi Buffer
- Osprey Nest
- Misc. Bird Nest

Wildlife Priority Sites

- Wildlife Cleanup Priority Area

Note: Multiple individuals of the same species and status at a single location are denoted by a number label adjacent to the wildlife symbol.

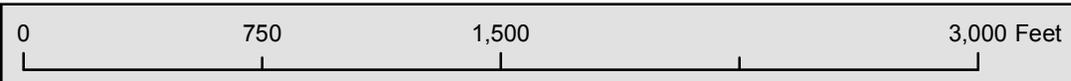
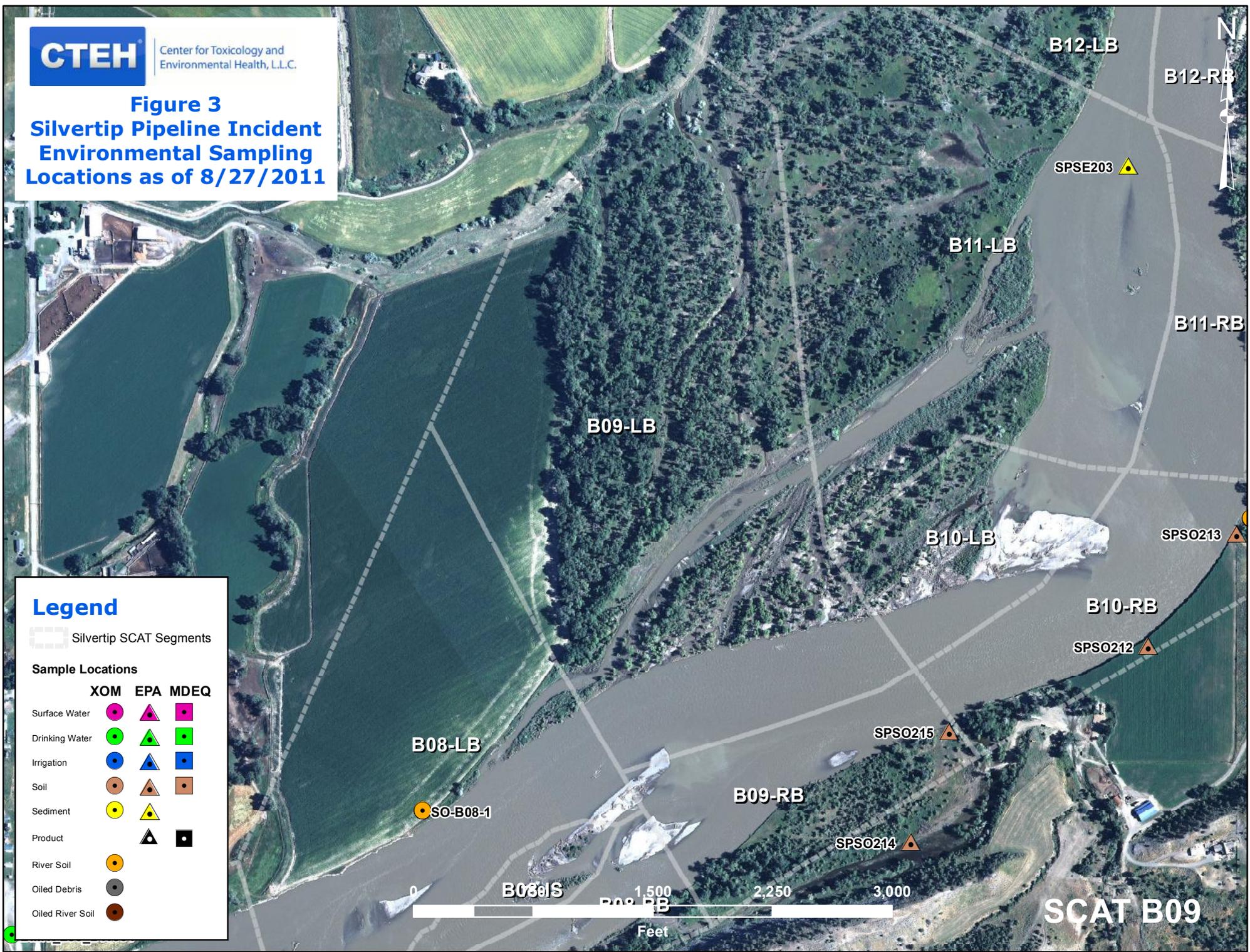


Figure 2
Wildlife Resources

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



Legend

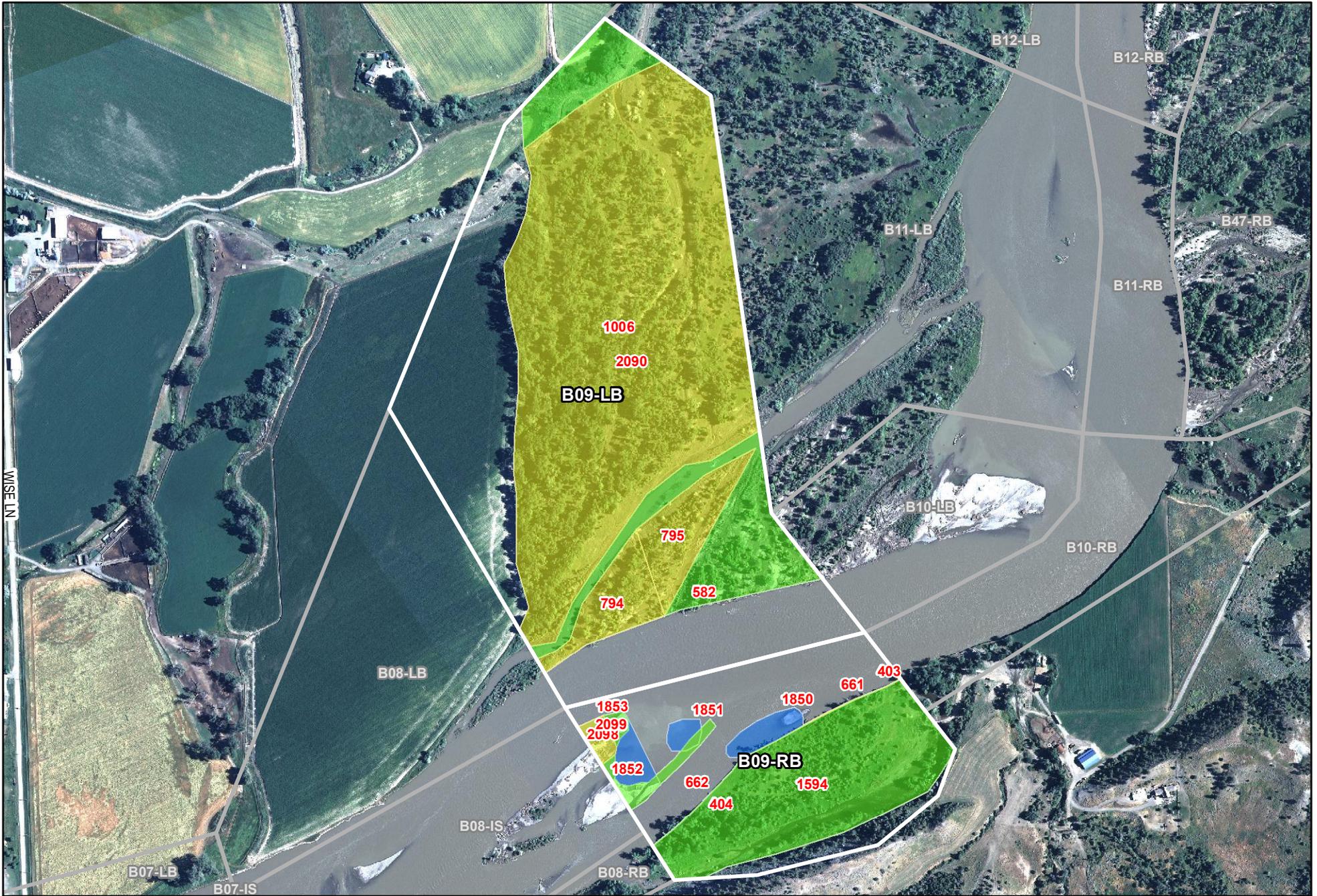
Silvertip SCAT Segments

Sample Locations

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



SCAT B09



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

Figure 4 - Maximum SCAT Observations For SCAT Area: B09





WISE LN

- 9999 Oiling Zone ID
- Heavy Oiling
- Moderate Oiling

- Light Oiling
- Very Light Oiling
- No Oil Observed



Figure 5 - Final SCAT Observations For SCAT Area:





Appendix A

Sample Detection Summary



Detections in Samples Collected in SCAT Area B09

9/10/2011

NA - Not Available

Detected Above Screening Level

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



Appendix B

Initial SCAT Survey Forms
and Sketches

DB/6

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy) 19-Jul-2011	Time (24h): std / daylight 1211 hrs to 1212 hrs	Water Level low - mean - <u>bankfull</u> - overbank falling - steady - rising
Segment/Reach ID: B09 <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	<i>PBL</i>	Polaris	
Larry Alheim		MTDEQ	
Andy Johnson	<i>AUSTIN HAYS</i>	USCG	<i>Andy Johnson</i>

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 410 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 170 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 _____ 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	410	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				

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

1 GENERAL INFORMATION		Date (dd/mm/yy) 19-Jul-2011	Time (24h): std / daylight 1211 1240 hrs to 1219 1241 hrs	Water Level low - mean - <u>bankfull</u> - overbank falling - steady - rising
Segment/Reach ID: <u>B109</u> <u>Left Bank</u> / Right Bank / Island				
Operations Division: B				
Survey by: <u>Foot / ATV / 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	<i>name</i>	<i>organization</i>	<i>contact phone number</i>
Pete Lee		Polaris	
Larry Alheim		MTDEQ	
Andy Johnson		USCG	

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 410 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 440m / 70 est. water depth: <1m 1-3m 3-10m >10m _____ m

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

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

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

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

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

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

OIL ZONE ID	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER							SUBST. TYPE(S)		
	MS	LB	UB	OB	Length m	Width m	Distrib. %	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR	AP		NO	
A				X	334	1															X	Grass, trees, debris
					<u>410</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

Oil band heights: NO

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

Sketch Yes / No Photos Yes / No Frames None



Google

©2010

Eye alt 5046 ft

A

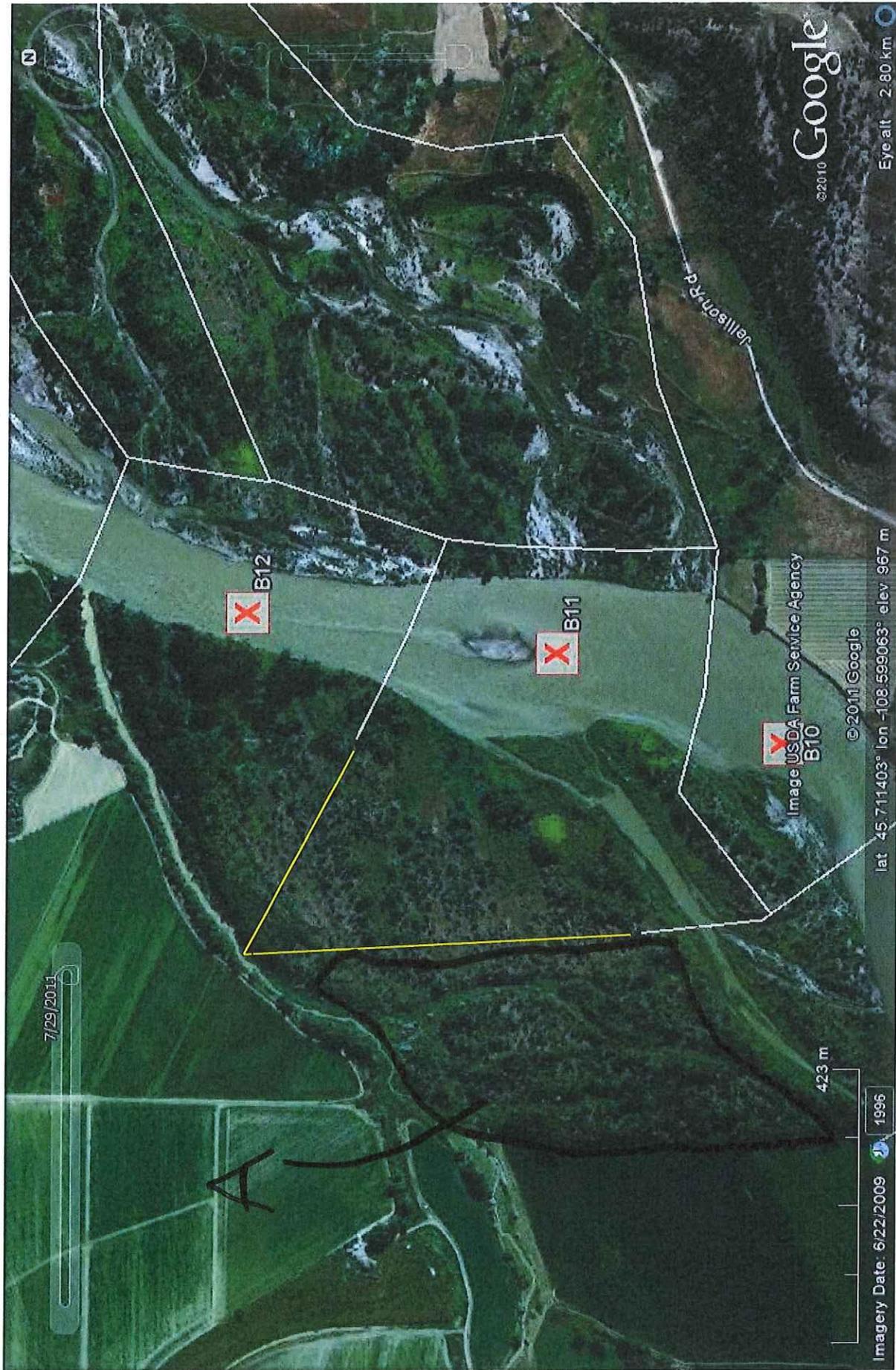
B9

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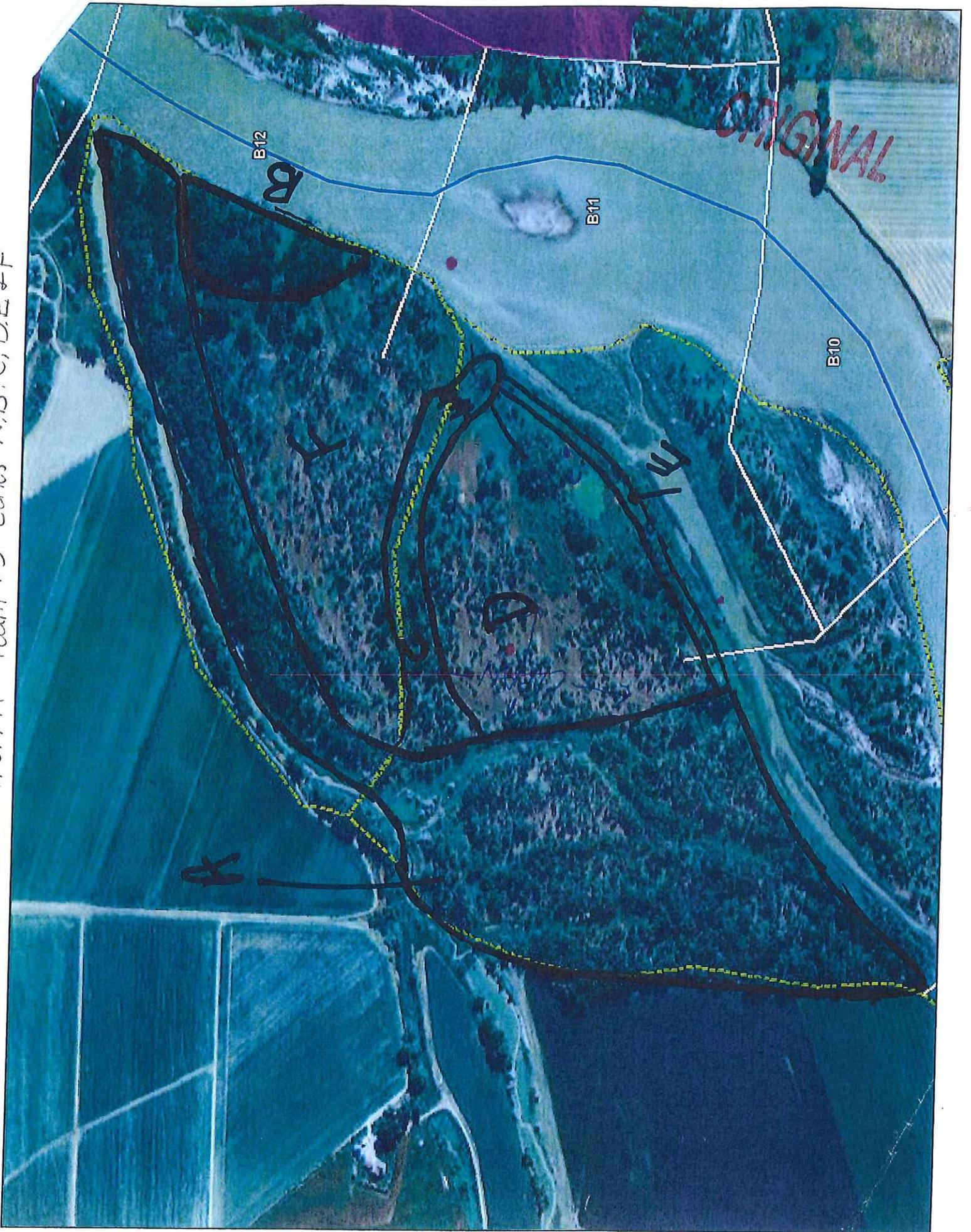
IMG_1269.JPG

Imagery Date: 4/30/2004

Team #5
B9 L JULY 27, 2011 (From BIZL survey. See notes)



Biol 27/07/11 Team #5 Zones A,B,C,D,E & F



ORIGINAL

B12

B11

B10

A

F

D

E

h go h

B9L DB/G/S

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

Page _____ of _____

1 GENERAL INFORMATION		Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: <u>B9</u>	<u>Left Bank</u> / Right Bank / Island	<u>7/27/11</u>		low - mean - bankfull - overbank
Operations Division: <u>Left Bank</u>			hrs to _____ hrs	falling - steady - rising
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook / _____	(Sun) Clouds / Fog / Rain / Snow / Windy / Calm			Air Temp + / - _____ deg C

2 SURVEY TEAM # <u>5</u>	Name	Organization	Signature
<u>Bob Nailon</u>	<u>Cardno Entrix</u>	<u>USCG</u>	<u>[Signature]</u>
<u>Austin West</u>	<u>USCG</u>	<u>MDEQ</u>	<u>[Signature]</u>
<u>Daryl Reed</u>			<u>[Signature]</u>

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed _____ 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 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 circle sand circle gravel circle / cobble circle / boulder / bedrock / debris

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

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

Debris: N oiled N amount 100 bags or _____ trucks access restrictions access from river likely

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

799
795

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	305	90	<1			P	S		X									kg / skid
B				X	235	130	39%			P	S		X									kg / skid

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

Sketch Yes / No Photos Yes / No Frames _____ Photographer DSP - MI DEQ



B10

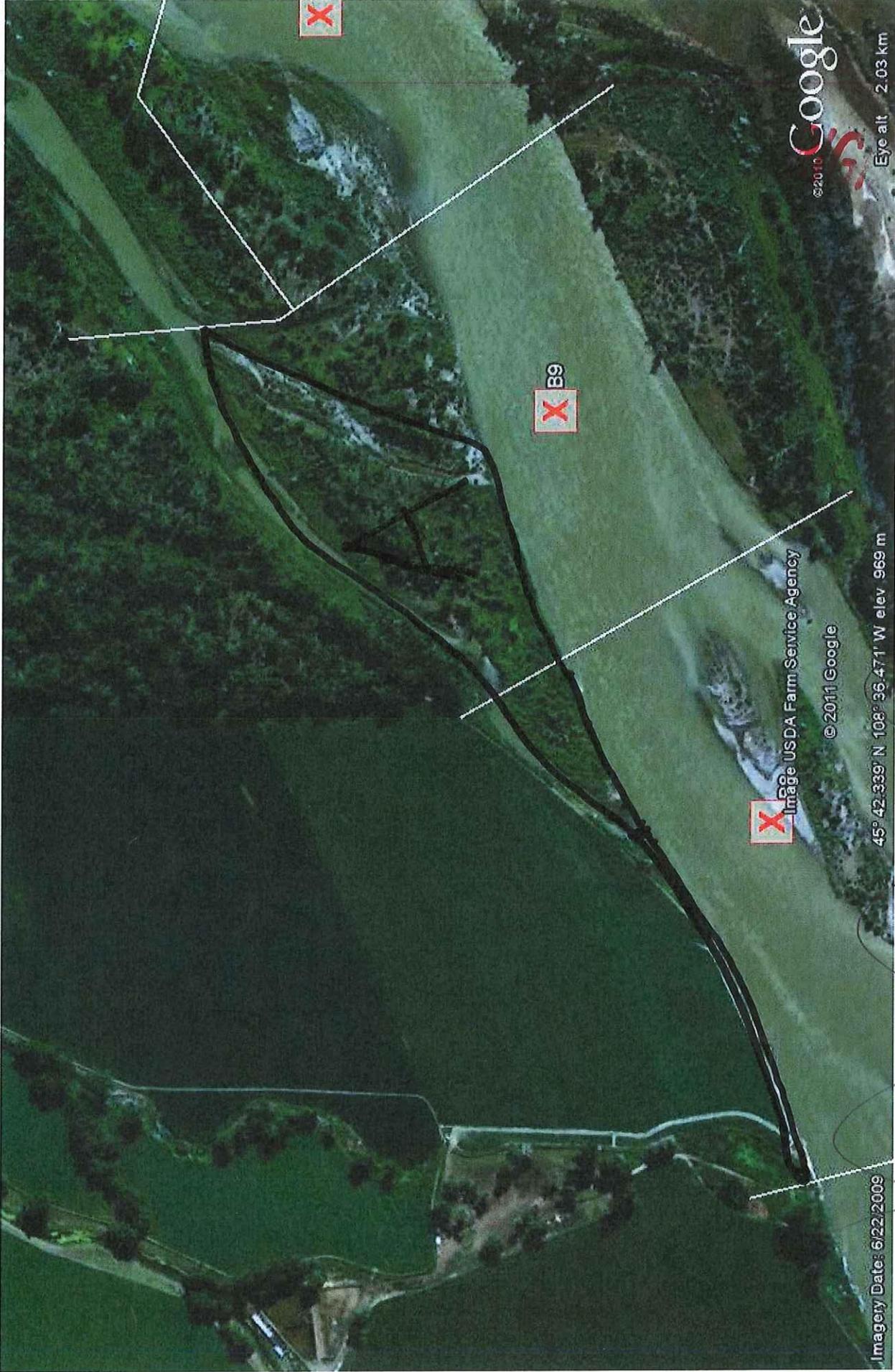
B 39%

B9

A 71%

A
B-8 Seg A

B8



©2010 Google

Eye alt 2.03 km

Image: USDA Farm Service Agency

© 2011 Google

45° 42' 33.9\"/>

Imagery Date: 6/22/2009

Original

BANNER

1 07 2

CTR 27

DB/G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

Page _____ of _____

1 GENERAL INFORMATION		Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: <u>B9</u>	Left Bank / Right Bank / Island	<u>25/08/11</u>	<u>0913</u> hrs to <u>1535</u> hrs	low - mean <u>bankfull</u> - overbank
Operations Division: <u>B</u>	<u>CR 10/13/11</u>			falling <u>steady</u> - rising
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook /	Sun / Clouds / Fog / Rain / Snow / Windy / Calm			Air Temp + / - _____ deg C

2 SURVEY TEAM # <u>2</u>	Name	Organization	Signature
	<u>Joe Boyle</u>	<u>Cardno ENTRIX</u>	<u>[Signature]</u>
	<u>Dave Hergensider</u>	<u>MT FWP</u>	<u>[Signature]</u>
	<u>Nathan Hammond</u>	<u>Cardno ENTRIX</u>	<u>[Signature]</u>

3 SEGMENT Total Segment/Reach Length 410 m Segment/Reach Length Surveyed 260 m

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

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

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

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

Sediment Bank: Clay/Mud _____ Sand _____ Mixed _____ Pebble/Cobble P 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

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

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

Substrate Type: Cobble

Forested / Vegetated / Bare [Circle]

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: <1m 1-10m 10-100m >100m 160m 210 est. water depth: <1m 1-3m 3-10m >10m _____ m

shoal(s) present Y point bar present Y 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

Debris: Y oiled Y amount _____ bags or _____ trucks access restrictions emerging island

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

1850
1851
1852
1853

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	P				130	50	0														P	Cob
B	P				60	45	0														P	Cob
C	P				70	120	0			P											P	Cob
D	P				40	35	1			P	S						P					Cob

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

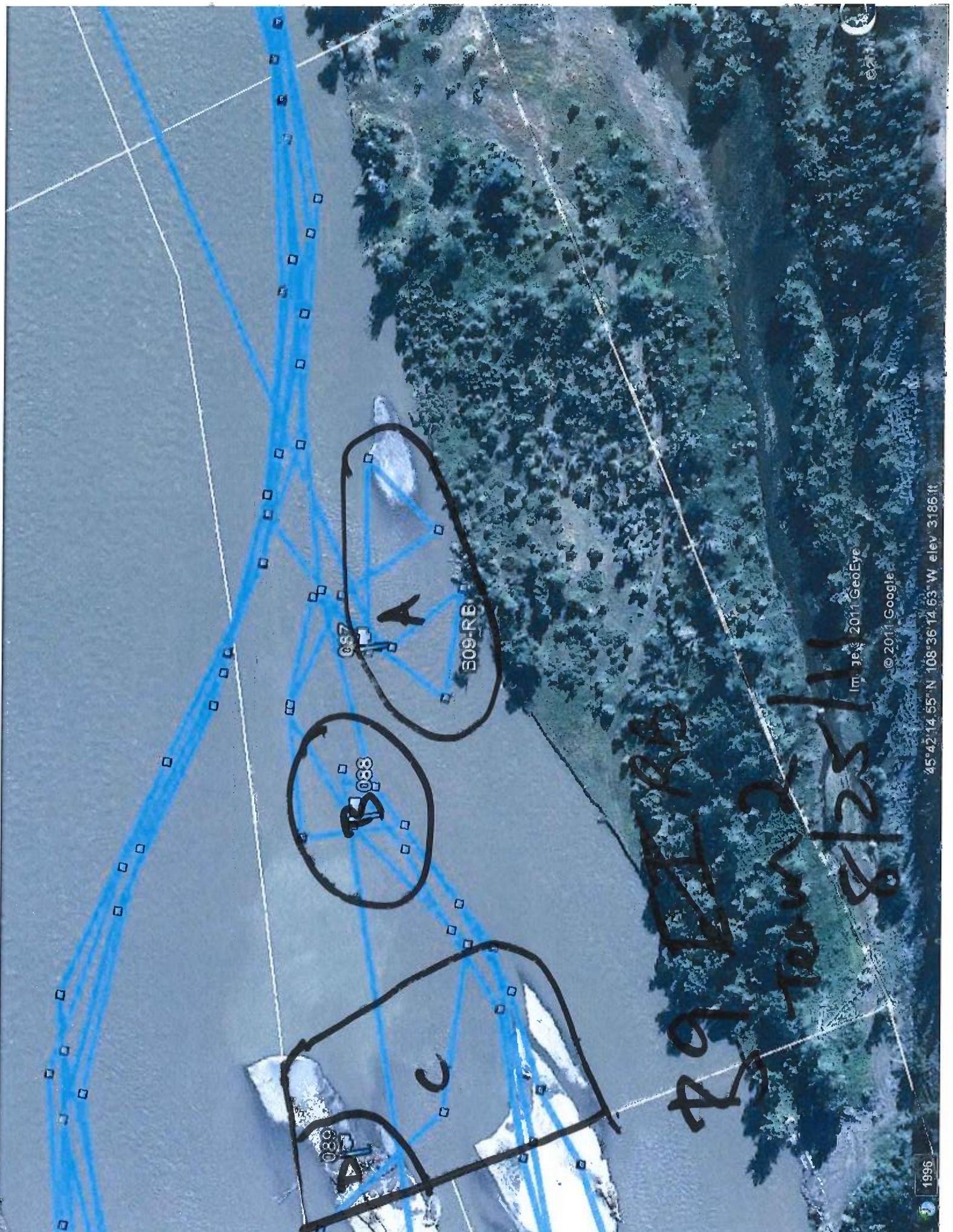
TRENCH or PIT NO.	RIVER BANK ZONE				MAX. PIT DEPTH cm	OILED ZONE cm-cm	SUBSURFACE OIL CHARACTER							WATER TABLE cm	SHEEN COLOUR B, R, S, N	CLEAN BELOW Yes / No	SUBST. TYPE(S)
	MS	LB	UB	OB			SAP	OP	PP	OR	OF	TR	NO				

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: N00 - NFT
 Zone B: N00 - NFT
 Zone C: N00 - NFT
 Zone D: trace distr oil stained located veg - NFT

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



SANDY POINT

Im July 2011 GeoEye

© 2011 Google

45°42'14.55" N 108°36'14.63" W elev 3186ft

1996

DB/6

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

Page _____ of _____

1 GENERAL INFORMATION		Date (dd/mm/yy) 07/20/2011	Time (24h): std / daylight 1325 1400 hrs to hrs	Water Level low - mean <u>bankfull</u> overbank <u>falling</u> steady - rising
Segment/Reach ID: B9 Left Bank / <u>Right Bank</u> / Island		Operations Division: A		
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook / _____		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp + / - _____ deg C

2 SURVEY TEAM #	name	organization	contact phone number
1	Bruce Kvam	Polaris Applied Sciences, LLC	(206)-953-6904
2	Aaron Anderson <u>EK</u>	MTDEQ	(406) 431-2583
3	Patrick Kriske	USCG	(415) 596-6587
4	<u>EDWARD KIEL</u> <u>EK</u>		

3 SEGMENT Total Segment/Reach Length 411 m Segment/Reach Length Surveyed 411 m

Start GPS: LATITUDE 45 deg. 4211 min. LONGITUDE 108 deg. 3622 min. Datum: WGS 84

End GPS: LATITUDE 45 deg. 4218 min. LONGITUDE 108 deg. 3606 min.

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

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

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

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

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

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: <1m 1-10m 10-100m >100m 114 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 10 bags or _____ trucks access restrictions B-10

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	104	0.5	30			X	X		X									Small woody debris, grass, trees
B				X	550	0	0														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

Oil band height: 16 cm

Treatment Recommendations:

Zone A: Cut and remove oil coated vegetation smaller than 1" diameter. Remove oil coated debris smaller than 4" diameter.

(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# _____)

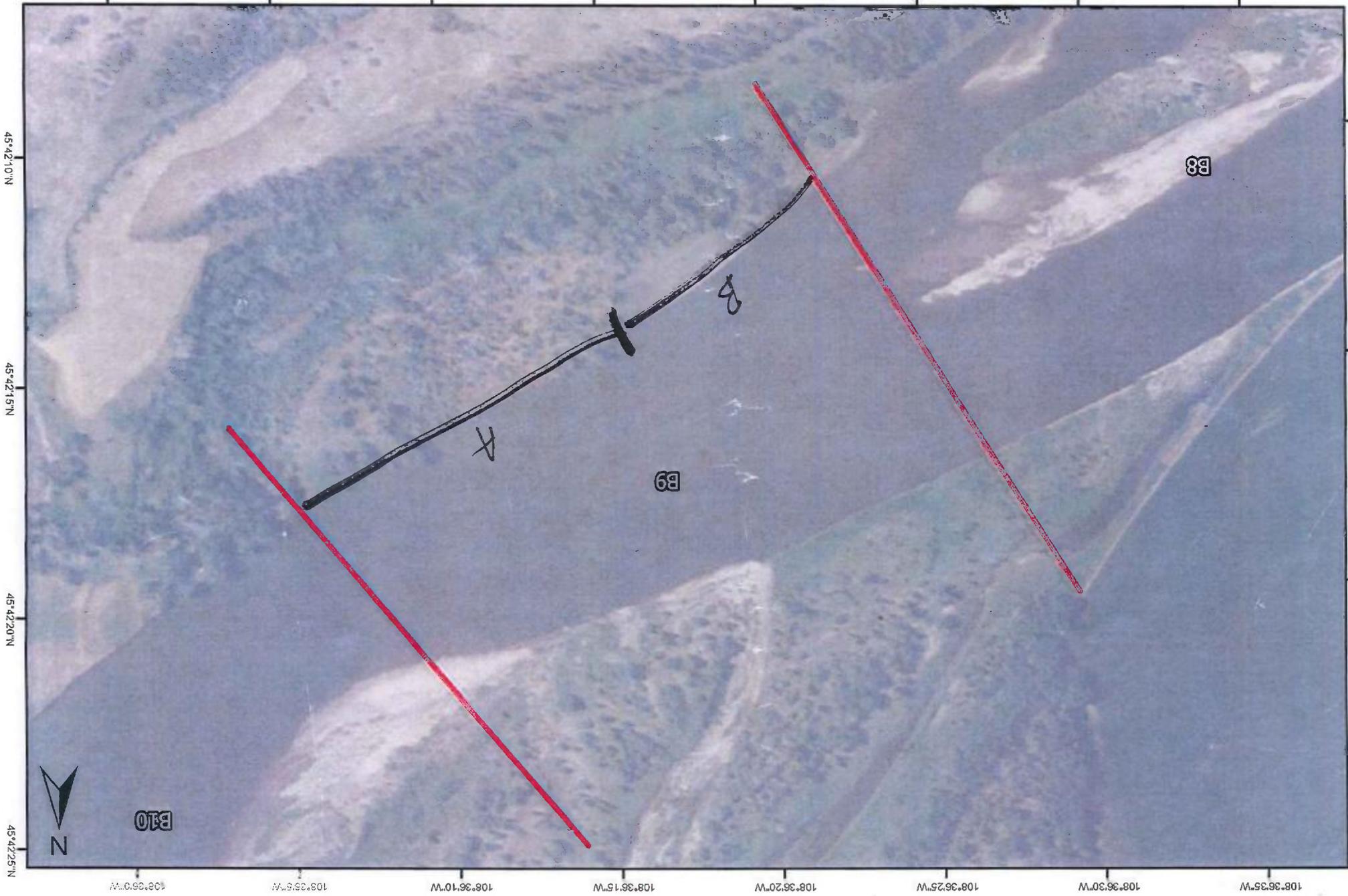
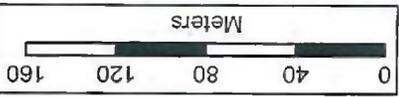


Segment B9, Zone A.

B09 -
(L/R/L)??

DATE: 7/20/2011
TEAM: 2

COMMENTS:



108°36'35"W

108°36'30"W

108°36'25"W

108°36'20"W

108°36'15"W

108°36'10"W

108°36'5"W

108°36'0"W

45°42'25"N
45°42'20"N
45°42'15"N
45°42'10"N



B10

B9

B8

A

B

108°36'35"W

108°36'30"W

108°36'25"W

108°36'20"W

108°36'15"W

108°36'10"W

108°36'5"W

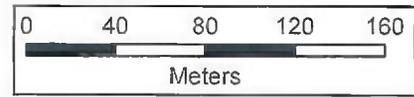
108°36'0"W

B09 -
(L/R/I)??

DATE:

TEAM:

COMMENTS:





Appendix C

Pre-Inspection Survey Transmittal

SCAT – Pre Inspection Survey Transmittal (PIST) Memo

Survey Date: August 16, 2011

Segment: B9RB

Team: SCAT Liaison John Spenik Signed: 

Observer LAUREN GLUSHIK POLARIS Signed: 

USCG Observer TRUMAN SKANG 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: There are two (Reported) dead deer in the segment.



Appendix D

Post-Inspection Survey Transmittal

POST

Post Inspection Survey Transmittal

Segment B-89 Island THF RB ca 9/6/11 *Changed for database zoning*

Date of Survey Sept 2, 2011

SCAT Team Member Tom Freeman Signed: *Tom Freeman*

SCAT Team Member Griff Miller Signed: *Griff Miller*

SCAT Team Member Jeffrey Herrick Signed: *Jeffrey Herrick*

Segment FAILED ReSCAT

Segment Conditionally PASSES ReSCAT



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

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

NO OPERATIONS NEEDED!! The area will be treated by Team 1 "Hot Shot Crew" on morning of Sept 3rd. There is only one small area in a debris pile on the downstream tip that requires treatment to achieve NFT.

Zone Dimensions: Length 5m Width 5m GPS Waypoint: Lat. N45 42.241 Long. W108 36.409
(required) (center of zone)

Estimated Work Effort: Number of People 4 Hours of Work 1 CTR Access Issues? CTR #35
(required)

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

Sign Name _____ Print Name/ Affiliation _____ Date _____

Sign Name _____ Print Name/ Affiliation _____ Date _____



Appendix E

Final SCAT Survey Forms
and Sketches

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

DBIG

1 GENERAL INFORMATION		Date (dd/mm/yy)	Time (24h): std / <u>daylight</u>	Water Level
Segment/Reach ID: B09 <u>Left Bank</u> / Right Bank / Island		02/09/11	10:34 hrs to 13:15 hrs	low - <u>mean</u> - bankfull - overbank
Operations Division: B				falling - <u>steady</u> - rising
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook /		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- <u>24°</u> deg C

2 SURVEY TEAM # 4	Name	Organization	Signature
	Michael Dirks	Cardno ENTRIX	<i>Michael D. Dirks</i>
	Eric Harlow	Cardno ENTRIX	<i>David Harlow</i>
	Brad Olszeski	MTFWP	<i>Brad Olszeski</i>
	Larisa Leonova	USEPA	<i>L. Leonova</i>

3 SEGMENT Total Segment/Reach Length 385 m Segment/Reach Length Surveyed 385 m

Start GPS: LATITUDE _____ deg. _____ min. LONGITUDE _____ deg. _____ min. Datum: WGS84

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

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

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

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

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

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

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

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

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

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

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

Debris: Y / N oiled Y / N amount 1 bags or _____ trucks access restrictions: Undercut bank w/ rock slope needs harness w/ boat support

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	385	780	<1			S	X						X					Vegetated banks, wooded uplands

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

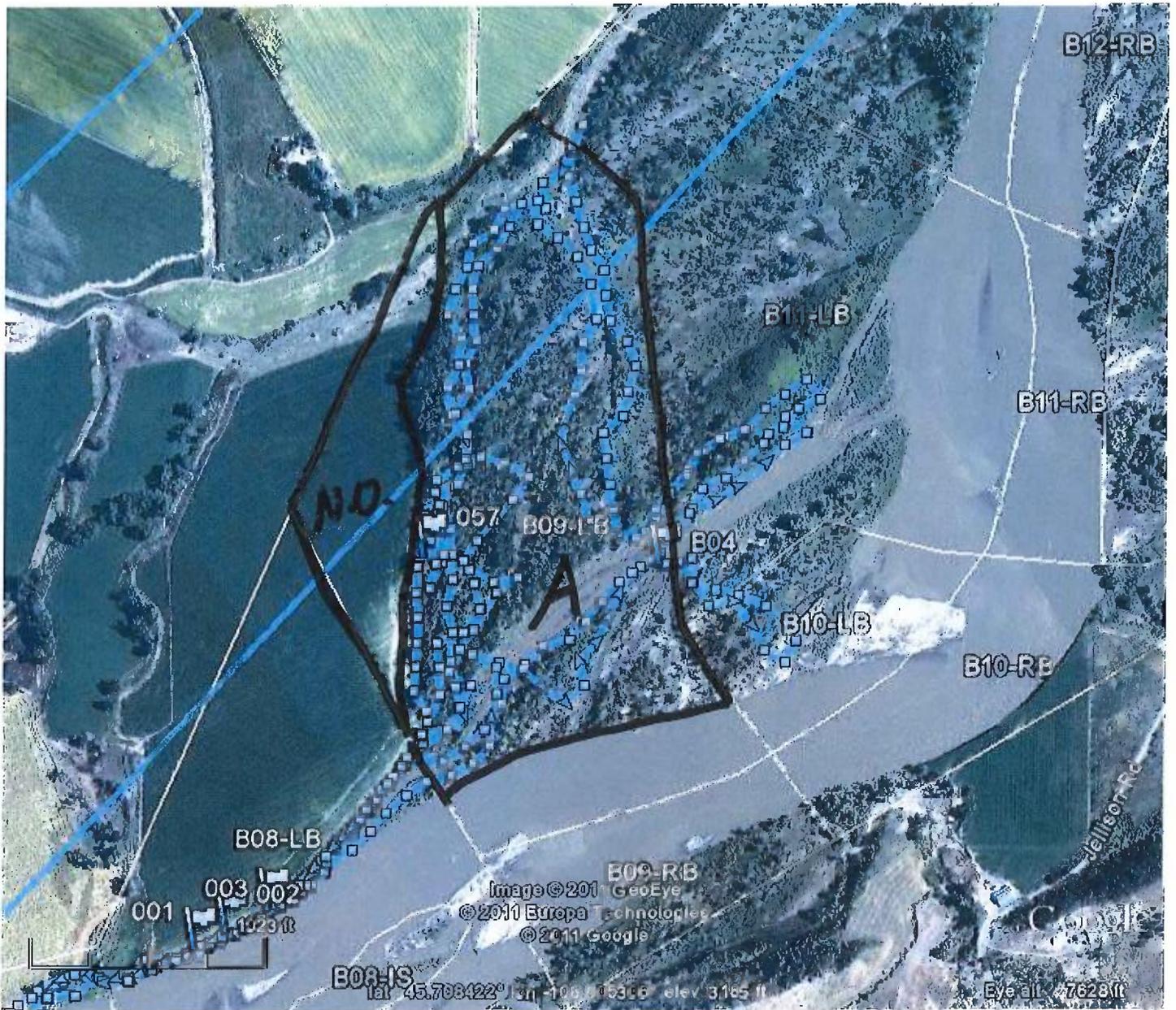
TRENCH or PIT NO.	RIVER BANK ZONE				MAX. PIT DEPTH cm	OILED ZONE cm-cm	SUBSURFACE OIL CHARACTER							WATER TABLE cm	SHEEN COLOUR B, R, S, N	CLEAN BELOW Yes / No	SUBST. TYPE(S)	
	MS	LB	UB	OB			SAP	OP	PP	OR	OF	TR	NO					

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: Followed-up behind the final operations cleaning. Removed remaining flags where no oiling was observed. Collected small debris and vegetation with any remaining coated vegetation that would transfer to gloves. *NFT.*

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



B09LB
9/2/11
Team 4

D/B/Gre

R

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (17/08/11)	Time (24h): std / daylight	Water Level
Segment/Reach ID: B9 Left Bank / Right Bank / Island				low - mean - bankfull - overbank
Operations Division:			9h00 hrs to 11h00 hrs	falling - steady - rising
Survey by: Foot / ATV / Boat / Helicopter / Overlook /		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- 20 deg C

2 SURVEY TEAM # 5	name	organization	contact phone number
Merlo Gauvreau		Polaris	
Betsy Hovda		DEQ	
Cindy Santiago		EPA	

3 SEGMENT Total Segment/Reach Length 400 m Segment/Reach Length Surveyed 400 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: S _____ Wooded Upland: P

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

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

Sloped: (>5°)(15°)(30°) _____ straight S _____ 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 100 m est. water depth: <1m 1-3m 3-10m >10m _____ m

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

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

5 OPERATIONAL FEATURES

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

Debris Y N oiled Y N amount ---bags or ----- trucks access restrictions

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
1594 A				X	400	150	<1				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

A: ReSCAT, Stain on trees and vegetation and larges debris, meet the conditions of the CTR, 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# _____

108°36'35"W 108°36'30"W 108°36'25"W 108°36'20"W 108°36'15"W 108°36'10"W 108°36'5"W 108°36'0"W



B10

B9

B8

A

45°42'25"N

45°42'20"N

45°42'15"N

45°42'10"N

45°42'25"N

45°42'20"N

45°42'15"N

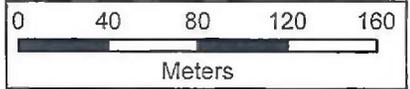
45°42'10"N

108°36'35"W 108°36'30"W 108°36'25"W 108°36'20"W 108°36'15"W 108°36'10"W 108°36'5"W 108°36'0"W

B09 -
(L/R)??

DATE: 17/08/11
TEAM: 5

COMMENTS:



1 GENERAL INFORMATION

Segment/Reach ID: B-09 Left Bank / Right Bank / Island Date (dd/mm/yy) 02/09/11

Operations Division: OK 4/1/11 Time (24h): std / daylight 1530 hrs to 1615 hrs Water Level: low - mean - bankfull - overbank

Survey by: Foot / ATV / Boat / Helicopter / Overlook / Sun / Clouds / Fog / Rain / Snow / Windy / Calm Air Temp +/- 2 deg C

2 SURVEY TEAM # 1

name	organization	contact phone number
<u>Tom Freeman</u>	<u>POLARIS</u>	<u>Tom Freeman</u>
<u>Jeffrey Herrick</u>	<u>MIDEQ</u>	<u>Jeffrey Herrick</u>
<u>Griff Miller</u>	<u>EPA</u>	<u>Griff Miller</u>

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 174 m

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

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

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

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

Sediment Bank: Clay/Mud _____ Sand X Mixed X Pebble/Cobble X Boulder _____ Peat/Organic _____ Vegetated Bank: 1/ 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 X meander _____ confined or leveed _____ Substrate Type: Mixed

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: <1m 1-10m 10-100m >100m _____ m est. water depth: <1m 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	Width	Distrib.	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR	AP		NO	
					m	m	%															
<u>2098</u> A				<u>X</u>	<u>174</u>	<u>50</u>	<u><1</u>			<u>S</u>	<u>P</u>						<u>X</u>					<u>veg/debris</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

Zone A - Debris pile 5x5 meters. Will be treated by team 1 & Hot Shot team on Sept 3rd.

(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# _____)

B-09 Island

Team 1

Sept 2, 2011



B08-IS

112
009

11
008

Debris
Pile
NFT
(Cleared)

B09-RE

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

Page _____ of _____

1 GENERAL INFORMATION

Segment/Reach ID: B89 Left Bank / Right Bank / Island OK 2/6/11 Date (dd/mm/yy) 03/09/11 Time (24h): std / daylight 1000 hrs to 1045 hrs Water Level low (mean - bankfull - overbank) falling (steady - rising)

Operations Division: _____ Survey by: Foot / ATV / Boat / Helicopter / Overlook / (Sun / Clouds / Fog / Rain / Snow / Windy / Calm) Air Temp + / - 26 deg C

2 SURVEY TEAM # 1

name	organization	contact phone number
<u>Tom Freeman</u>	<u>Polaris Applied Sci</u>	<u>Tom Freeman</u>
<u>Jeffrey Herrick</u>	<u>MTDEQ</u>	<u>Jeffrey Herrick</u>
<u>GRIF Miller</u>	<u>EPA</u>	<u>GRIF Miller</u>

3 SEGMENT Total Segment/Reach Length 174 m Segment/Reach Length Surveyed 174 m

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

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

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

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

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

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

4B RIVER VALLEY CHARACTER select as appropriate

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

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: <1m 1-10m 10-100m >100m _____ m est. water depth: <1m 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>2099</u> A				<u>X</u>	<u>174</u>	<u>50</u>	<u><1</u>				<u>P</u>						<u>X</u>				<u>oiled debris</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

Zone A: Meets NFT standards. Hot Shot team able to clear zone / removed 3 bags.

(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# _____)

1 GENERAL INFORMATION		Date (dd/mm/yy) 03/09/11	Time (24h): std / daylight 10:00 hrs to 10:45 hrs	Water Level low - MEAN - bankfull - overbank falling - STEADY - rising
Segment/Reach ID: <u>B-08</u> Left Bank / Right Bank / <u>Island</u>				
Operations Division:				
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook / _____		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- <u>26</u> deg C

2 SURVEY TEAM # <u>1</u>		name	organization	contact phone number
		Tom Freeman	Polaris Applied Sci	<i>[Signature]</i>
		Jeffrey Herrick	MT DSEP	<i>[Signature]</i>
		Griff Miller	EPA	<i>[Signature]</i>

3 SEGMENT Total Segment/Reach Length 250 m Segment/Reach Length Surveyed 250 m

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

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

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

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

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

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

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

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: <1m 1-10m 10-100m >100m _____ m est. water depth: <1m 4.3M 3-10m >10m _____ m

shoal(s) present Y (X) point bar present Y (X) 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 (X) River Current strong Y (X) 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				X	250	75	21				P						X						Veg/Debris
																							Veg/Debris

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

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

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

ZONE A: Meets NFT standards. Hot/Shot Team able to clear zone / removed 3 bags.

(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 # _____)

B-09 Island RB Team 1

Sept 3, 2011





Appendix F

Completed SCAT Segment
Sign-Off Forms

SCAT SEGMENT OPERATIONS COMPLETION SIGN-OFF SHEET

SILVERTIP PIPELINE RELEASE

Segment B09LB Date of Survey 9/2/11

Dates of Initial SCAT Assessments 19 JUL 11 (FL)
(to be filled out by SCAT Data Management)

CTR(s) Associated with SCAT Segment _____

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 9/3/11
Sign Name Print Name/ Affiliation Date
Federal Representative (EPA/USCG)

Brad Olszowski BRAD OLSZOWSKI / ENP 9/2/11
Sign Name Print Name/ Affiliation Date
State Representative (DEQ/FWP)

David Eric Harlow David Eric Harlow Cardno 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 C
SCAT Area Number (i.e. A12): B9/RB
SCAT Segment Number (i.e. A12-LB/IS/RB): _____

Check if
Complete:

1. Completion Date for Initial SCAT Assessment: 10-19-25-27-21-2011

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

List CTRs Applicable to SCAT Segment: 39

3. Clean-Up Operations Conducted:

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

John Spenic _____
RP Representative (SCAT/Ops Liaison Contractor) Date

5. SCAT Reassessment:

Cindy C. Salvo _____
Federal Representative (EPA/USCG) Date

Betsy Honda _____
State Representative (DEQ/FWP) Date

[Signature] _____
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.

SCAT SEGMENT OPERATIONS COMPLETION SIGN-OFF SHEET

SILVERTIP PIPELINE RELEASE

Segment B9 IS RB Date of Survey 03/09/11

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

CTR(s) Associated with SCAT Segment NA

Segment has been treated by Operations or an Operations Hotshot Team YES NO

Segment Assessment Complete¹

Partial Segment Assessment

The undersigned are in agreement that the above segment or partial segment meets the Approved Treatment Methods Target Endpoints.

This Segment is Conditionally Approved
(See attached Post Inspection Survey Transmittal (POST))

The undersigned are in agreement that the above segment meets the Approved Treatment Methods Target Endpoints conditional upon completion of the treatment identified in the attached Post Inspection Survey Transmittal (POST).

[Signature] G. F. Miller / EPA 9-5-11
Sign Name Print Name/ Affiliation Date
Federal Representative (EPA/USCG)

[Signature] J. Corey Frank Herrick 05 Sept. 2011
Sign Name Print Name/ Affiliation Date
State Representative (DEQ/FWP) MT DEQ

[Signature] Tom Freeman Sept 5, 2011
Sign Name Print Name/ Affiliation Date
RP Representative (SCAT RP Representative)

Once all applicable SCAT Segments (i.e. LB, RB, and IS) within a particular SCAT Area (i.e. A21) have been successfully signed-off during a formal SCAT Assessment, the SCAT Area will achieve the Response Endpoints and an Area Transition Report will be completed and submitted to EPA and DEQ.

¹ A Segment Sign-Off Assessment is considered complete when all accessible lands that have not already been signed-off by a claims liaison have been surveyed. If any previous SCAT Assessments were conducted, all lands that were originally recommended for treatment must be re-surveyed in the Sign-Off Assessment. If the conducted survey does not meet these conditions it is considered a Partial Assessment. Multiple Partial Assessments that meet the conditions of a Complete Assessment may together constitute a Complete Sign-Off Assessment.

SCAT SEGMENT OPERATIONS COMPLETION SIGN-OFF SHEET

SILVERTIP PIPELINE RELEASE

Segment B-89 ~~E~~stand ^{ok 9/6/11} Date of Survey Sept 2, 2011
_{RB} *changed for database zoning*

Dates of Initial SCAT Assessments 21 JUL 11 ^{EG}
(to be filled out by SCAT Data Management)

CTR(s) Associated with SCAT Segment ~~DATA~~ NA

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).

x [Signature] Griff Miller / EPA 9-2-11
Sign Name Print Name/ Affiliation Date
Federal Representative (EPA/USCG)

x [Signature] Debra Frank Herrick 02 Sept 2011
Sign Name Print Name/ Affiliation Date
State Representative (DEQ/FWR)

x [Signature] Tom Freeman / Polaris Sept 2, 2011
Sign Name Print Name/ Affiliation Date
RP Representative (SCAT RP Representative)

Once all applicable SCAT Segments (i.e. LB, RB, and IS) within a particular SCAT Area (i.e. A21) have been successfully signed-off during a formal SCAT Assessment, the SCAT Area will achieve the Response Endpoints and an Area Transition Report will be completed and submitted to EPA and DEQ.

¹ A Segment Sign-Off Assessment is considered complete when all accessible lands that have not already been signed-off by a claims liaison have been surveyed. If any previous SCAT Assessments were conducted, all lands that were originally recommended for treatment must be re-surveyed in the Sign-Off Assessment. If the conducted survey does not meet these conditions it is considered a Partial Assessment. Multiple Partial Assessments that meet the conditions of a Complete Assessment may together constitute a Complete Sign-Off Assessment.