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ExxonMobil Pipeline Company

SCAT Area Transition Report for B11

Silvertip Pipeline Incident
Laurel, Montana

October 19, 2011

SCAT Area Transition Report for B11

Silvertip Pipeline Incident
Laurel, Montana

Prepared for:
ExxonMobil Pipeline Company

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Our Ref.:
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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 B11, 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 B11. 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 B11, 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 B11 is 67.3. 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 segment 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 B11. No oiled wildlife was observed or recovered. No Wildlife Priority Cleanup Areas were identified. No active migratory bird nests were identified in Area B11.

1.3 Summary of Environmental Sampling

Table 1 (below) summarizes sample collected within Area B11. 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 the samples collected within Area B11 are provided on Figure 3.

Table 1 Environmental Sampling Summary

Agency	Sample Num	Date	Matrix	Location	Latitude	Longitude
EPA	5P5E203_072811	28-Jul-11	Sediment	5P5E203	45.7115108	-108.5984353

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 B11 are included in Appendix B. Figure 4 provides the maximum oiling zones observed by the SCAT team during the initial surveys of Area B11.

1.5 Applicable Compiled Treatment Recommendations

The SCAT team developed compiled treatment recommendations (CTRs) providing approved treatment methods (ATMs) for each oiling zone identified during the initial SCAT surveys (CTR No. 8 and CTR No. 39).

1.6 Oil Removal Activities

Oil removal activities were conducted within Area B11 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 B11 and developed a Pre-Inspection Survey Transmittal (PIST) associated with the right bank within Area B11, which is presented in Appendix C.

1.8 Post-Inspection Survey Transmittal

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

1.9 Summary of Final SCAT Surveys

Figure 5 shows the oiling conditions within Area B11 following completion of oil removal activities. The SCAT team performed final surveys of the left and right banks within SCAT Area B11 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 B11, no further treatment is recommended for this area. The SCAT Area Sign-Off Forms are included as Appendix F.

2. Transition Sign-Off Form

SCAT Area Transition Report for B11

Prepared for:

Unified Command

_____

Date

_____

Unified Command – RP

SCAT Area Transition Report for B11

Prepared for:

Unified Command

10/10/2011
Date

S. MERRITT
Unified Command – FOSC

SCAT Area Transition Report for B11

Prepared for:

Unified Command

_____

Date

_____

Unified Command – MDEQ

Silvertip Pipeline Incident
Area Transition Report Map - Parcels
Segment - B11

9/27/2011

1:4,500

0 450 900 1,800 Feet

Figure 1

Date: 9/27/2011 Time: 12:08:15 PM

Path: P:\GIS\MXD's\Area_Transition_Figures\A1-Fig1-Parcels.mxd

Silvertip Pipeline Incident
SCAT Area Transition Report Map
Area - B11

ExxonMobil Pipeline

N

1:6,000

9/25/2011

The Response Group

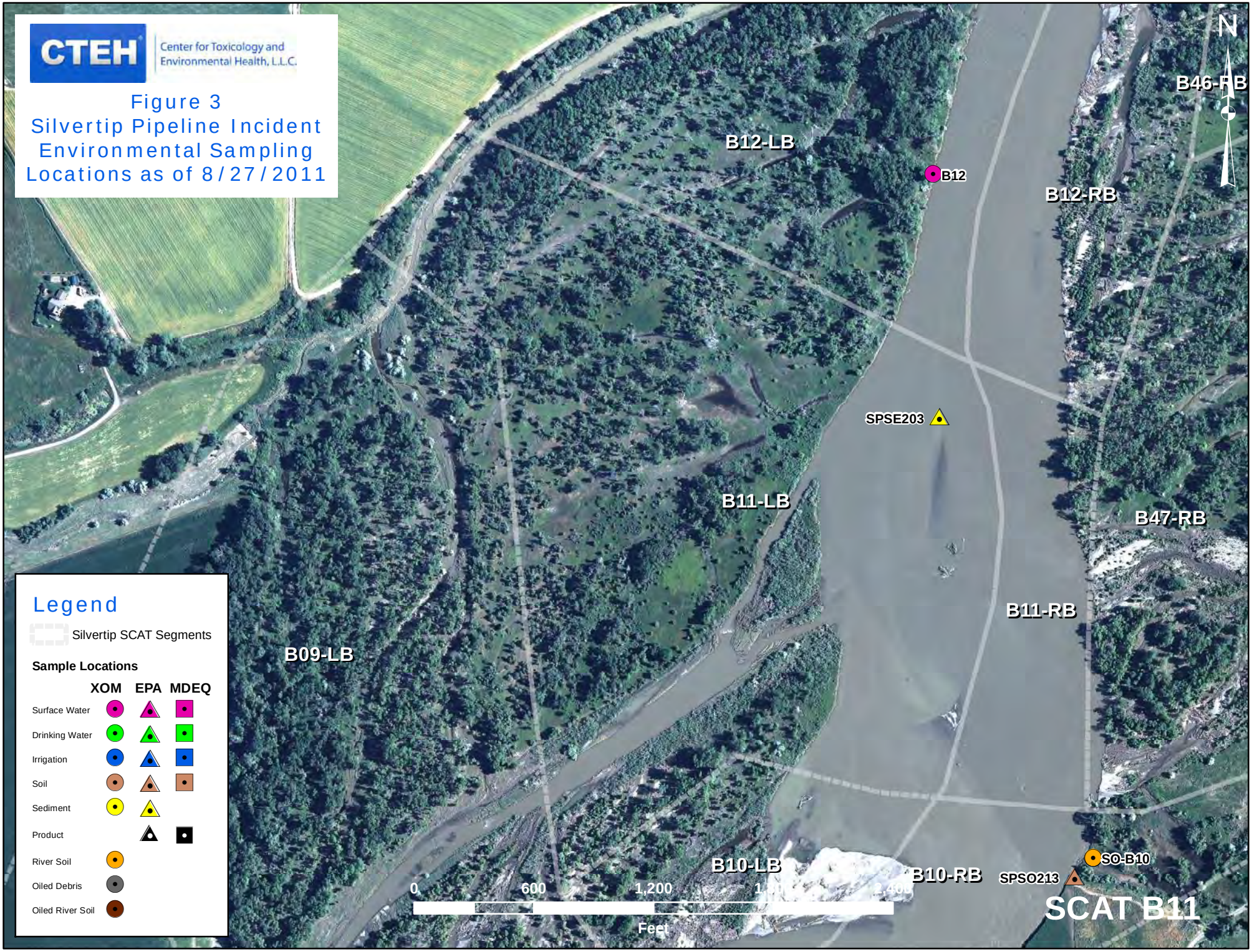
Path: P:\GIS\MXD's\Wildlife\ATR Maps - Figure 2\ATR Map_Div.B_Fig2_09252011.mxd

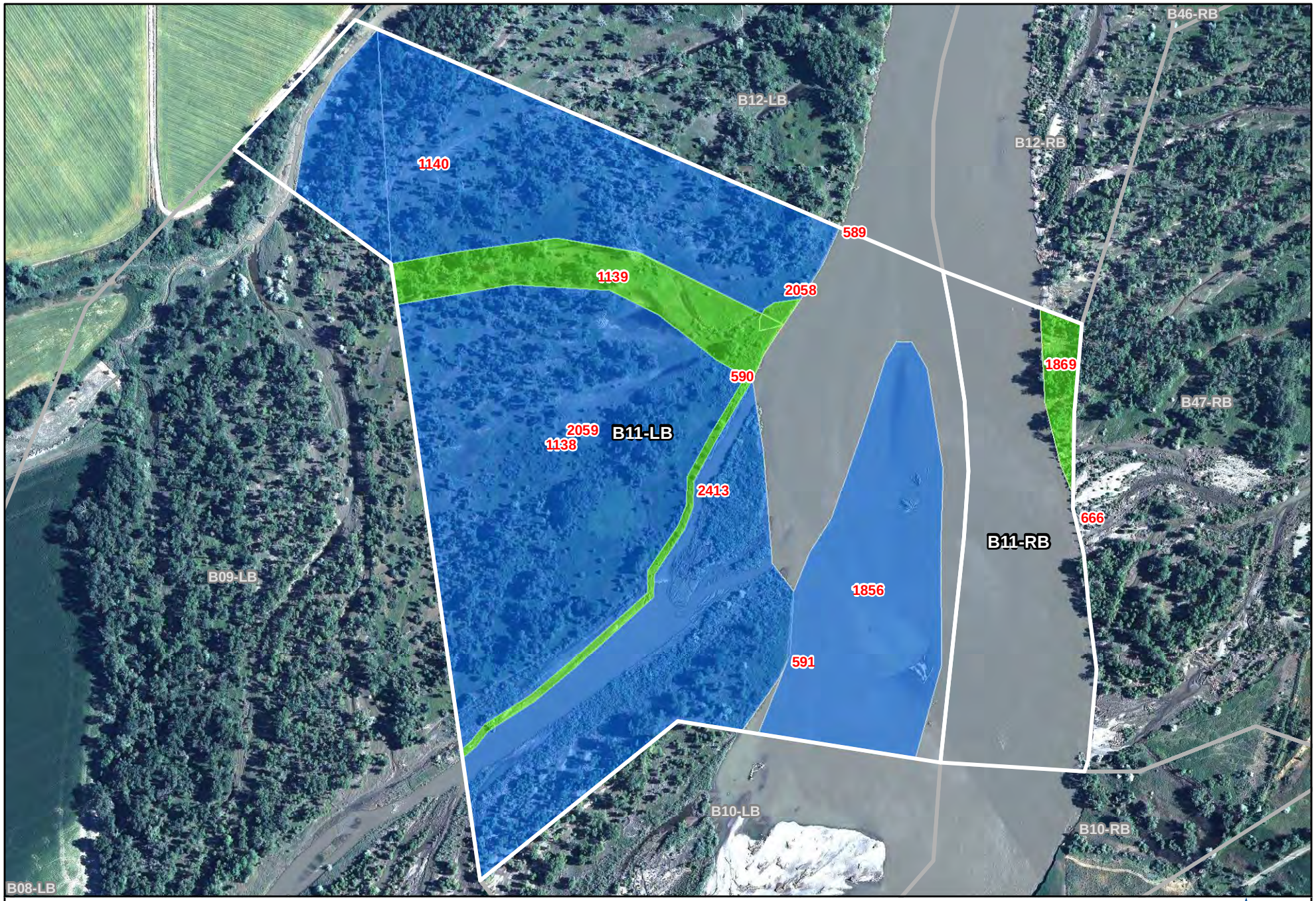
Note: Multiple individuals of the same species and status at a single location are denoted by a number label adjacent to the wildlife symbol.

0 625 1,250 2,500 Feet

Figure 2
Wildlife Resources

Date: 9/25/2011 Time: 12:06:50 PM


CTEH
Center for Toxicology and Environmental Health, L.L.C.
Figure 3
Silvertip Pipeline Incident Environmental Sampling Locations as of 8/27/2011
N
B46-RB
B12-LB
B12
B12-RB
SPSE203
B11-LB
B47-RB
B11-RB
B09-LB
B10-LB
B10-RB
SO-B10
SPSO213
SCAT B11
0
600
1,200
Feet
Legend
Silvertip SCAT Segments
Sample Locations
XOM
EPA
MDEQ
Surface Water
Drinking Water
Irrigation
Soil
Sediment
Product
River Soil
Oiled Debris
Oiled River Soil



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

310 0 310 620 Feet

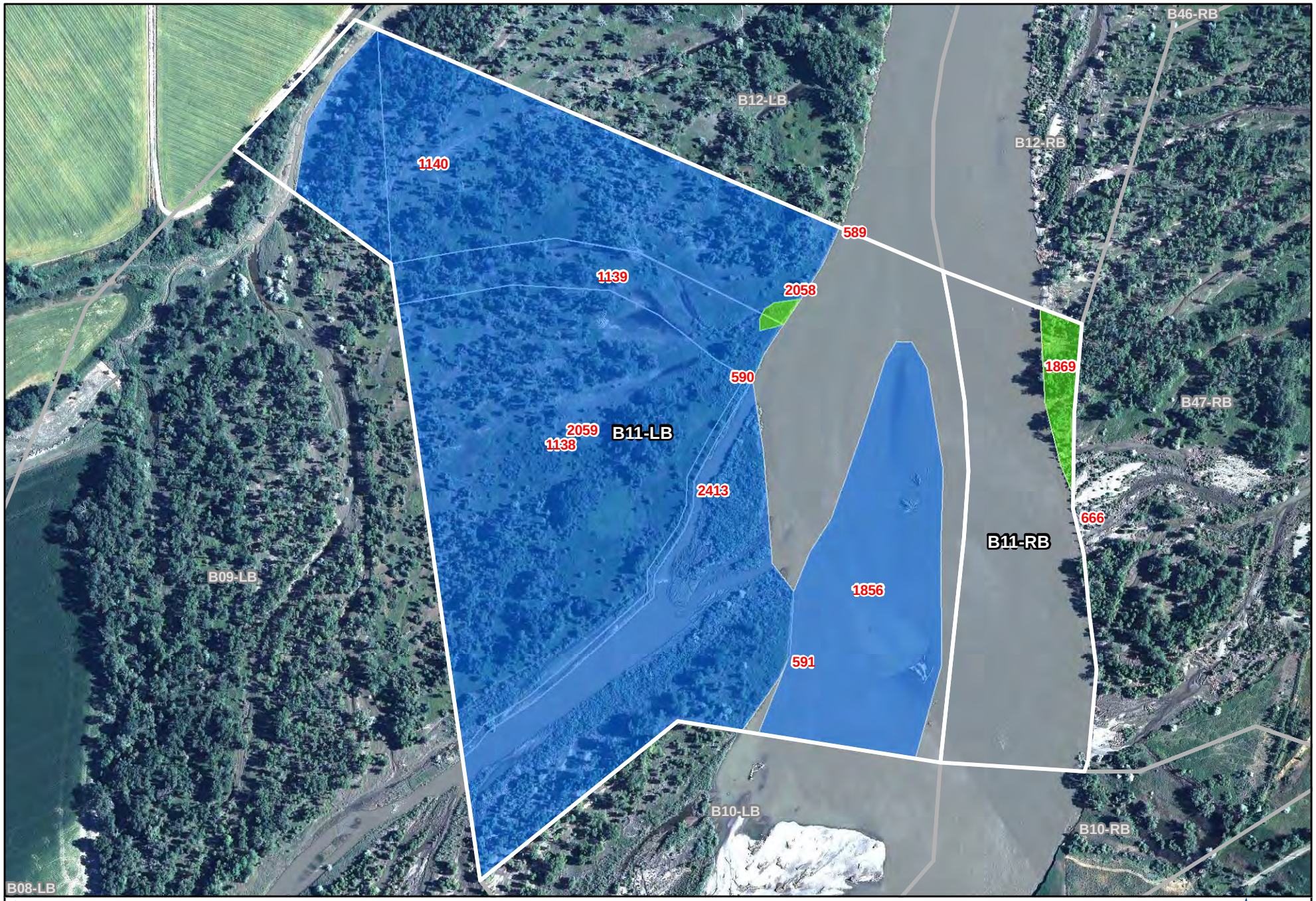
Figure 4 - Maximum SCAT Observations For SCAT Area: B11

POLARIS APPLIED SCIENCES, INC.

Aerial Photography Dated July 20, 2011

O:\GIS\SCAT Mapping\Maps\Area Transition Reports MXD\ATR Fig 4 - Max_SCAT_Observations_DataPages.mxd

Printed: 9/30/2011 6:12:16 PM



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

310 0 310 620 Feet

Figure 5 - Final SCAT Observations For SCAT Area: B11

POLARIS APPLIED SCIENCES, INC.

Aerial Photography Dated July 20, 2011

O:\GIS\SCAT Mapping\Maps\Area Transition Reports MXD\ATR Fig 5 - Final_SCAT_Observations_DataPages.mxd

Printed: 9/30/2011 6:33:01 PM

Appendix A

Sample Detections Summary

Detections in Samples Collected in SCAT Area B11

Printed 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?

No Detections in Field Samples

Appendix B

Initial SCAT Survey Forms and Sketches

DB/G/S

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION

Segment/Reach ID: Bil — Left Bank / Right Bank / Island

Operations Division: B

Date (dd/mm/yy): 19 / 07 / 11

Time (24h): std / daylight — 1210 hrs to 1211 hrs

Water Level: low - mean - bankfull - overbank; falling - steady - rising

Survey by: Foot / ATV / Boat / Helicopter / Overlook / _____ — Sun / Clouds / Fog / Rain / Snow / Windy / Calm

Air Temp + / - 35 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 444 m Segment/Reach Length Surveyed 444 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 P 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 ____ m | canyon ____ manmade ____ meander ____ confined or leveed ____ | Substrate Type: mixed

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: < 1m 1–10 m 10–100 m >100m 150 m | est. water depth: <1 m 1-3 m 3-10 m >10 m ____ 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 Lew 7/26/11

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

Debris: Y / N oiled Y / N amount 200 bags or ____ trucks | access restrictions access from river only

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	
666 A				X	444		1				P		✓								Veg bank
				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	OILED ZONE	SUBSURFACE OIL CHARACTER							WATER TABLE	SHEEN COLOUR	CLEAN BELOW	SUBST. TYPE(S)
	MS	LB	UB	OB	cm	cm-cm	SAP	OP	PP	OR	OF	TR	NO	cm	B, R, S, N	Yes / No	

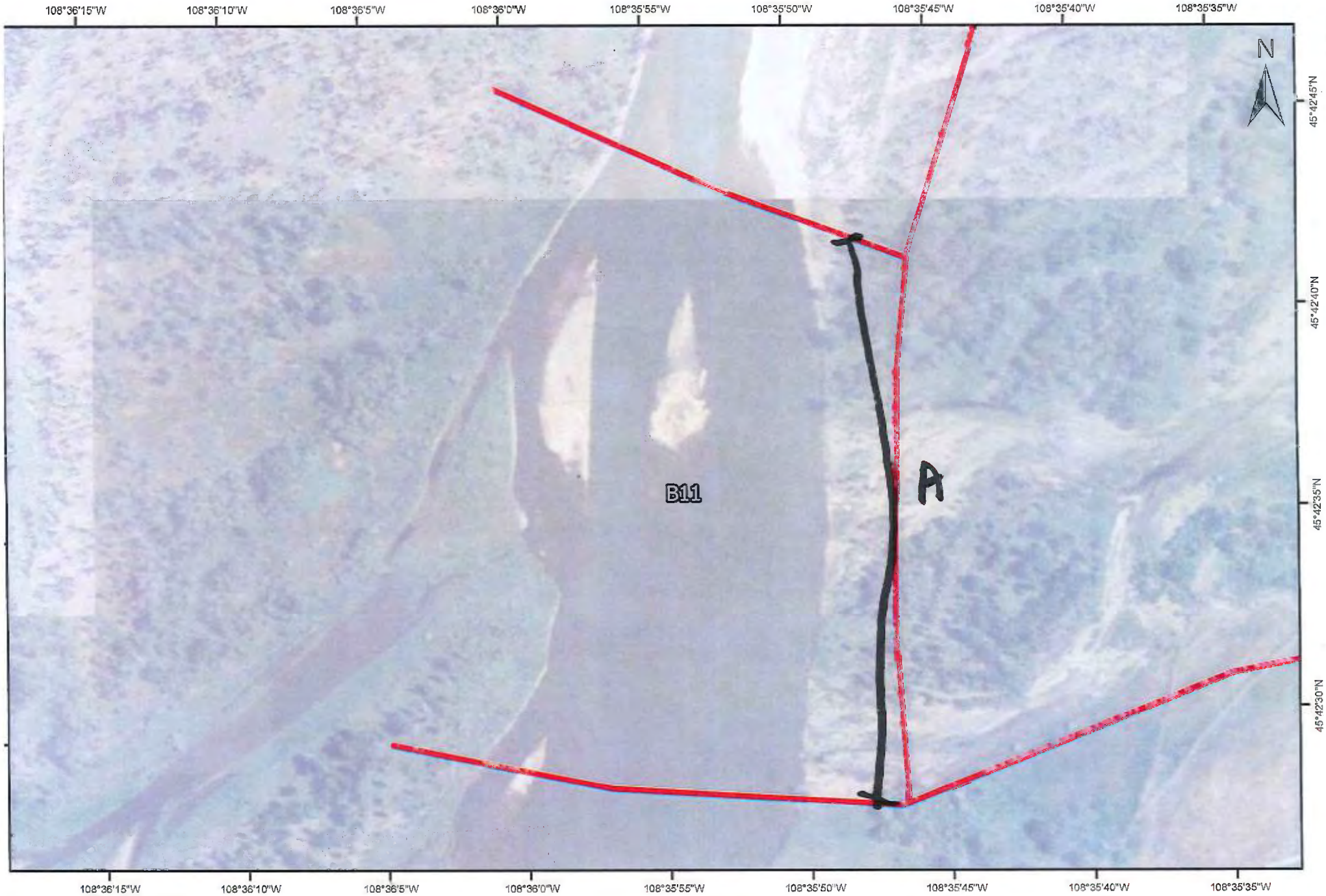
8 COMMENTS ecological/recreational/cultural/economic constraints - shorezone biota and wildlife observations - cleanup recommendations

OSC = 4 OSR = unk SSC = unk

5337-5340

(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# ____



B11 -

(L/R/I)??

DATE:

TEAM:

COMMENTS:

0 40 80 120 160

Meters

06

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident Page 1 of 1

1 GENERAL INFORMATION	Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: B11 **Left Bank** / Right Bank / Island	19-Jul-2011		low - mean - **bankfull** - overbank
Operations Division: B		1206 hrs to 1210 hrs	**falling** - steady – rising
Survey by: Foot / ATV / **Boat** / Helicopter / Overlook / _____	**Sun** / Clouds / Fog / Rain / Snow / **Windy**/ Calm		Air Temp + / - 31 deg C

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

3 SEGMENT *Total Segment/Reach Length* _____ *m* *Segment/Reach Length Surveyed* 495 *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 1–10 m 10–100 m **>100m 1 1 0 m** | **est. water depth :** <1 m 1-3 m **3-10 m** >10 m ____ 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 access restrictions

Debris: Y / N oiled Y / N amount 130 bags or _____ trucks

Oiled trees/shrubs Y / N River Current strong Y / N | Other Features: **Shoal in middle of river**

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	
589 A				X	55	1														X	Grass, trees, debris
590 B				X	390	1	100			X	X		X								Grass, trees, debris
591 C				X	50	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	OILED ZONE	SUBSURFACE OIL CHARACTER							WATER TABLE	SHEEN COLOUR	CLEAN BELOW	SUBST. TYPE(S)
	MS	LB	UB	OB	cm	cm-cm	SAP	OP	PP	OR	OF	TR	NO	cm	B, R, S, N	Yes / No	

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

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

Oil band heights: Zone B: 30 cm

Treatment Recommendations:

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

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

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

Sketch Yes / No Photos Yes / No Frames 1259-1266 (Lee)

11

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident Page 1 of 1

1 GENERAL INFORMATION	Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: B1 ~~B2~~ Left Bank / Right Bank / Island	19-Jul-2011	1206 1210 ~~1065~~ hrs to ~~1089~~ hrs	low - mean - bankfull - overbank
Operations Division: B			falling - steady – rising
Survey by: Foot / ATV / Boat / Helicopter / Overlook / _____	Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp + / - 31 deg C

2 SURVEY TEAM # 1	name	organization	contact phone number
	Pete Lee	Polaris	
	Larry Alheim	MTDEQ	
	Andy Johnson	USCG	
			495

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed ~~491~~ m

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

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

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

Bedrock: Cliff/Ramp____ Shelf____ | Manmade: Solid___ Permeable ~~S~~ (type) ~~Riprap~~ | Wetland: Swamp____ Bog/Fen____ Marsh____

Sediment Bank: Clay/Mud____ Sand____ Mixed S___ Pebble/Cobble____ Boulder____ Peat/Organic____ | Vegetated Bank: P | Wooded Upland: S

Sediment Flat: Clay/Mud____ Sand____ Mixed/Coarse____ | Other: ____ | If snow and ice use Winter River SOS

4B RIVER VALLEY CHARACTER select as appropriate | complete for primary

Cliff or Bluff: ____ Est Height ____ m | canyon____ manmade____ meander ____ confined or leveed ____ | Substrate Type: mixed

Sloped: ___ (>5°)(15°)(30°) | straight P___ braided S___ oxbow____ flood plain valley____ | Forested / Vegetated / Bare

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: < 1m 1–10 m ~~10–100 m~~ (>100m) ~~100 m~~ 110 | est. water depth: <1 m 1-3 m 3-10 m >10 m ____ 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 3 bags or ____ trucks | access restrictions

Oiled trees/shrubs Y / N | River Current strong Y / N | Other Features: ~~Farm/residence adjacent to north~~ Shoal in river

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 MS	LB	UB	OB	OIL COVER Length m	Width m	Distrib. %	OIL THICKNESS TO	CV	CT	ST	FL	OIL CHARACTER FR	MS	TB	PT	TC	SR	AP	NO	SUBST. TYPE(S)
A				X	~~144~~	1														X	Grass, trees, debris, riprap
B		390		X	~~125~~	1	100			X	(X)		X								Grass, trees, debris, riprap
C		50		X	313	1														X	Grass, trees, debris, riprap

55

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

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

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

Oil band heights: Zone B: 30 cm

Treatment Recommendations:

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

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

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

1259 - 1266

Sketch Yes / No Photos Yes / No Frames ~~1230~~ (Lee)

B11
©2010 Google
Imagery Date: 4/30/2004
45°42'36.94" N 108°35'58.58" W elev 3176 ft
Eye alt 6337 ft

DB16

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident Page 1 of 4

1 GENERAL INFORMATION	Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: B11 Left Bank / Right Bank / Island	27/07/11	830 hrs to 1230 hrs	low - mean - bankfull - overbank
Operations Division:			falling - steady – rising
Survey by: Foot / ATV / Boat / Helicopter / Overlook / ____	Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp + / - 30 deg C

2 SURVEY TEAM # 5	Name	Organization	Signature
	BOB NAILON	GARDNO - ENTRIX	See attached and notes
	AUSTIN WEST	USCG	
	DARYL REED	MT DEQ	

3 SEGMENT Total Segment/Reach Length 530 m Segment/Reach Length Surveyed 530 m

Start GPS: LATITUDE 45 deg. 42.503 min. LONGITUDE 108 deg. 36.048 min. Datum: WGS 84

End GPS: LATITUDE 45 deg. 42.748 min. LONGITUDE 108 deg. 35.965 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 1–10 m 10–100 m >100m 160m | est. water depth : <1 m 1-3 m 3-10 m >10 m ____ 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 30 bags or ____trucks | access restrictions LIKELY FROM RIVER

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 MS	LB	UB	OB	OIL COVER Length m	Width m	Distrib. %	OIL THICKNESS TO	CV	CT	ST	FL	OIL CHARACTER FR	MS	TB	PT	TC	SR	AP	NO	SUBST. TYPE(S)
1138	A				X	400	400														X	
1139	B				X	550	40	<1			P	S		X								OCCASIONAL SWALE
1140	C				X	110	350														X	
2413	D				X	410	8	1			S	P		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 MS	LB	UB	OB	MAX. PIT DEPTH cm	OILED ZONE cm-cm	SUBSURFACE OIL CHARACTER SAP	OP	PP	OR	OF	TR	NO	WATER TABLE cm	SHEEN COLOUR B, R, S, N	CLEAN BELOW Yes / No	SUBST. TYPE(S)

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

NOTES: The B12 L survey dated July 27, 2011 (ATTACHED) included segments B9L, B10L, B11L, B12L. This cover sheet breaks out the zones listed on the July 21, 2011 form into their appropriate segment.

Zone A.C No oil observed. No cleanup required.

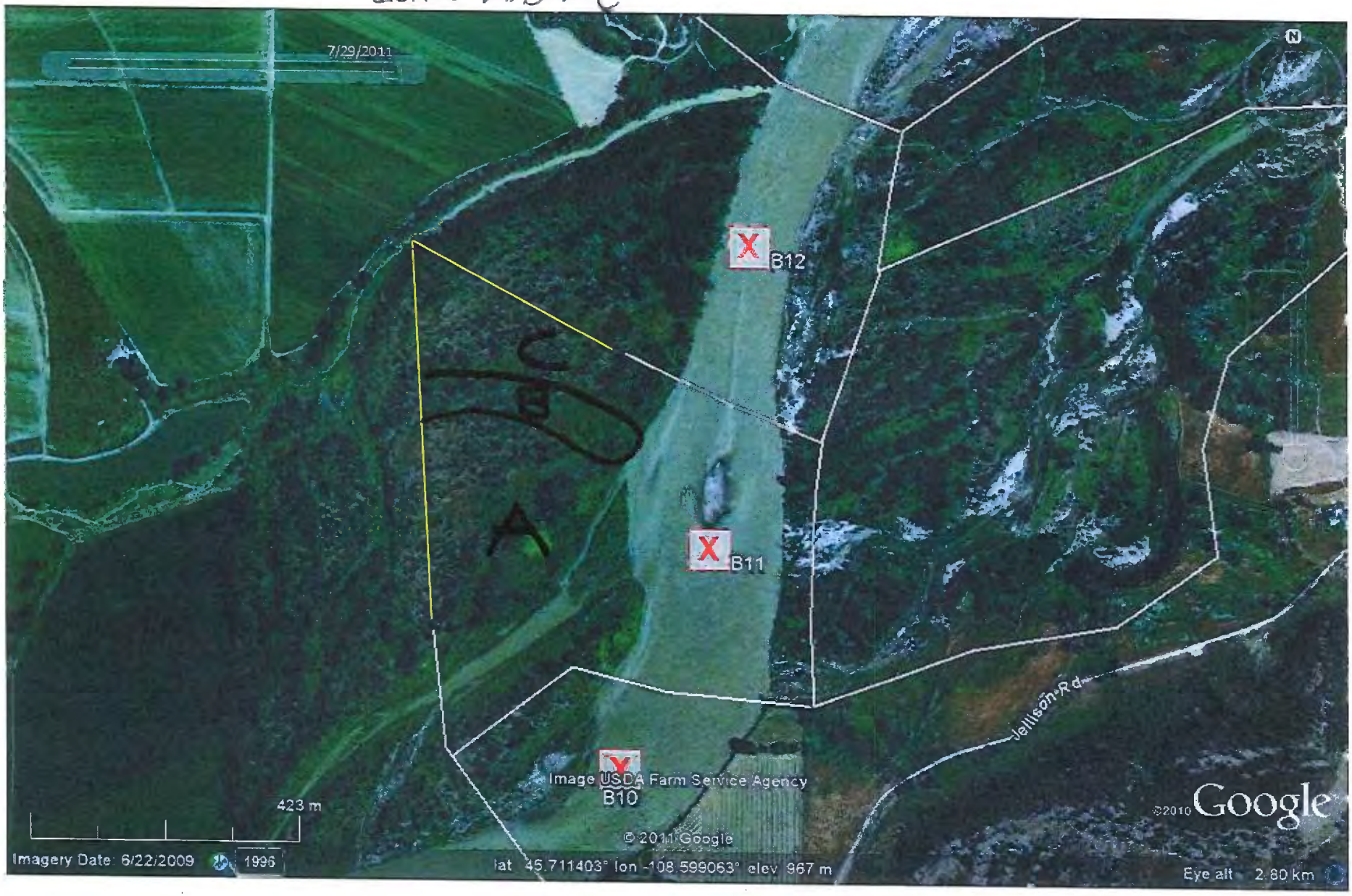
B Cut and remove oiled grass, removed oiled debris, cut + remove oil coated vegetation <1" diameter, wipe larger coated vegetation.

John Bauer July 29, 2011.

Sketch Yes / No Photos Yes / No Frames____ Photographer____

Ver. 04 July 2011

B11 L TEAM 5 July 27.2011
Zones A.B.+C



DB

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION

Segment/Reach ID: B11 / Left Bank / Right Bank / Island
Operations Division: B AA 9/30/11

Date (dd/mm/yy): 25/08/11

Time (24h): std / daylight 0913 hrs to 1535 hrs

Water Level: low / mean / bankfull / overbank; falling / steady / rising

Survey by: Foot / ATV / Boat / Helicopter / Overlook / _____

Sun / Clouds / Fog / Rain / Snow / Windy / Calm

Air Temp + / - 26 deg C

2 SURVEY TEAM # 2

Name	Organization	Signature
Joe Boyle	Cardno Entrix	
Dave Hergenrider	FWP	Dave Hergenrider
Nathan Hammond	Cardno Entrix	Nathan Hammond

3 SEGMENT Total Segment/Reach Length 460 m Segment/Reach Length Surveyed 385 m

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

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

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

Bedrock: Cliff/Ramp____ Shelf____ | Manmade: Solid___ Permeable___ (type)____ | Wetland: Swamp____ Bog/Fen____ Marsh ____

Sediment Bank: Clay/Mud____ Sand____ Mixed X Pebble/Cobble____ Boulder____ Peat/Organic____ | Vegetated Bank:____ | 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 ____

Sloped:___(>5°)(15°)(30°) | straight____ braided X oxbow____ flood plain valley____

complete for primary: Substrate Type: _____ Forested / Vegetated / Bare

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width : < 1m 1–10 m 10–100 m >100m ~~160m~~

est. water depth : <1 m 1-3 m 3-10 m >10 m ____ 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: 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	
1856 A	P				385	130	0													✓	

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

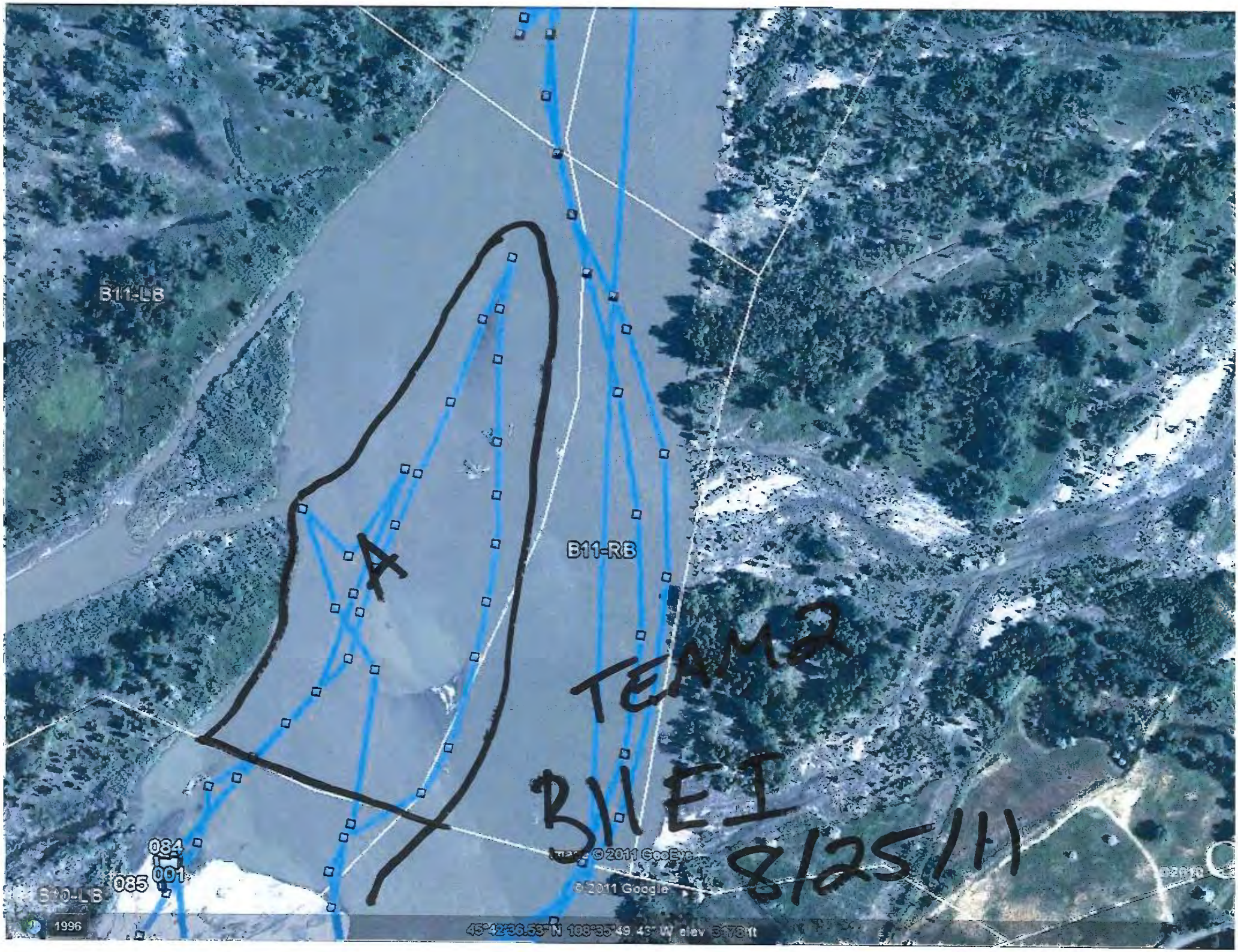
TRENCH or PIT NO.	RIVER BANK ZONE				MAX. PIT DEPTH	OILED ZONE	SUBSURFACE OIL CHARACTER							WATER TABLE	SHEEN COLOUR	CLEAN BELOW	SUBST. TYPE(S)
	MS	LB	UB	OB	cm	cm-cm	SAP	OP	PP	OR	OF	TR	NO	cm	B, R, S, N	Yes / No	

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 - NOO - NFT

Sketch Yes / No Photos Yes / No Frames_____ Photographer_____


B11-LB
B11-RB
A
TEAM 2
B11 EI
8/25/11
084
001
085
B10-LB
© 2011 GeoEye
© 2011 Google
1996

Appendix C

Pre-Inspection Survey Transmittal

SCAT – Pre Inspection Survey Transmittal (PIST) Memo

Survey Date: 23 AUG 2011

Segment: B-11 RB

Team: SCAT Liaison PETE PRITCHARD Signed: [illegible]

Observer _____ Signed: _____

Observer _____ Signed: _____

Observer _____ Signed: _____

X

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:

ZONE MORTELY GONE DUE TO FLOOD WATER SCOURING. SEVERAL TREES + SLIVER OF LAND REMAIN. NO EVIDENCE OF OIL / IMPACT.

P2

Appendix D

Post-Inspection Survey Transmittal

ARCADIS

A Post-Inspection Survey was not conducted for this area

Appendix E

Final SCAT Survey Forms and Sketches

D13 R

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident Page 1 of 3 ~~4~~

1 GENERAL INFORMATION	Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: B 11 Left Bank / Right Bank / Island	25/08/11	0930 hrs to 1030 hrs	(low) mean - bankfull - overbank
Operations Division:			falling - steady – rising
Survey by: Foot / ATV / Boat / Helicopter / Overlook / _____	Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp + / - 32 deg C

2 SURVEY TEAM # 4	Name	Organization	Signature
	Bob Nailon	Cardno ENTRIX	
	Pete Lee	Polaris	
	Josh Hofkes	Cardno ENTRIX	
	Lance Richman	USEPA	
	Betsy Hovda	MTDEQ	

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

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

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

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

Bedrock: Cliff/Ramp____ Shelf____ | Manmade: Solid___ Permeable___ (type)____ | Wetland: Swamp____ Bog/Fen____ Marsh ____

Sediment Bank: Clay/Mud____ Sand____ Mixed S Pebble/Cobble____ Boulder____ Peat/Organic____ | Vegetated Bank: P | Wooded Upland: S

Sediment Flat: Clay/Mud____ Sand____ Mixed/Coarse____ | Other: ____ | If snow and ice use Winter River SOS

4B RIVER VALLEY CHARACTER select as appropriate | complete for primary

Cliff or Bluff: ____ Est Height ____ m | canyon____ manmade____ meander ____ confined or leveed ____ | Substrate Type: _____

Sloped: ___ (>5°)(15°)(30°) | straight____ braided X oxbow____ flood plain valley X | Forested / Vegetated / Bare

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: < 1m 1–10 m 10–100 m (>100m) m | est. water depth: <1 m (1-3 m) m >10 m ____ m

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

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

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

Debris: (Y) / N oiled (Y) / N amount ____ bags or ____ trucks | Access restrictions: Private Landowners

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

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

OIL ZONE ID	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER								SUBST. TYPE(S)
	MS	LB	UB	OB	Length m	Width m	Distrib. %	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR	AP	NO	
A				X	425	50	21				X						X				Grass, trees, debris

1869

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)
	MS	LB	UB	OB	cm	cm-cm	SAP	OP	PP	OR	OF	TR	NO	cm	B, R, S, N	Yes / No	

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

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

Oil height: 30 cm

Treatment recommendations:

Zone A : No treatment required.

Ops Hot Shot Team (Alex Barboza)

Removed 2 bags of CT VG/DB

Previously cleaned (CTR 8)

Sketch Yes / No Photos Yes / No Frames_____ Photographer_____

B11-RB
SCAT 4
25 Aug 2011

DB/6

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION

Segment/Reach ID: B 11 Left Bank / Right Bank / Island

Operations Division: B

Date (dd/mm/yy): 02/09/11

Time (24h): std / daylight 1030 hrs to 1130 hrs

Water Level: low - mean - bankfull - overbank; falling - steady – rising

Survey by: Foot / ATV / Boat / Helicopter / Overlook / _____

Sun / Clouds / Fog / Rain / Snow / Windy / Calm

Air Temp + / - 23 deg C

2 SURVEY TEAM # 2

Name	Organization	Signature
Pete Lee	Polaris	PBLee
Larry Alheim	MTDEQ	L. Alheim
Stephen Ball	USEPA	S.L. Ball

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

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

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

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

Bedrock: Cliff/Ramp____ Shelf____ | Manmade: Solid___ Permeable___ (type)____ | Wetland: Swamp____ Bog/Fen____ Marsh _____

Sediment Bank: Clay/Mud____ Sand____ Mixed X Pebble/Cobble____ Boulder____ Peat/Organic____ | Vegetated Bank: P | Wooded Upland: S

Sediment Flat: Clay/Mud____ Sand____ Mixed/Coarse____ | Other: ____ | If snow and ice use Winter River SOS

4B RIVER VALLEY CHARACTER select as appropriate | complete for primary

Cliff or Bluff: ___ Est Height ____ m | canyon____ manmade____ meander ____ confined or leveed ____ | Substrate Type: _____

Sloped: ___ (>5°)(15°)(30°) | straight____ braided X P oxbow____ flood plain valley X ___ | Forested / Vegetated / Bare

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: < 1m 1–10 m 10–100 m >100m m | est. water depth: <1 m 1-3 m >10 m _____ 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	
2058 A				X	30	20	<1				X						X				Grass, trees, [illegible]
2059 B				X	500	370														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	OILED ZONE	SUBSURFACE OIL CHARACTER							WATER TABLE	SHEEN COLOUR	CLEAN BELOW	SUBST. TYPE(S)
	MS	LB	UB	OB	cm	cm-cm	SAP	OP	PP	OR	OF	TR	NO	cm	B, R, S, N	Yes / No	

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

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

Oil height: 30cm

Treatment recommendations:

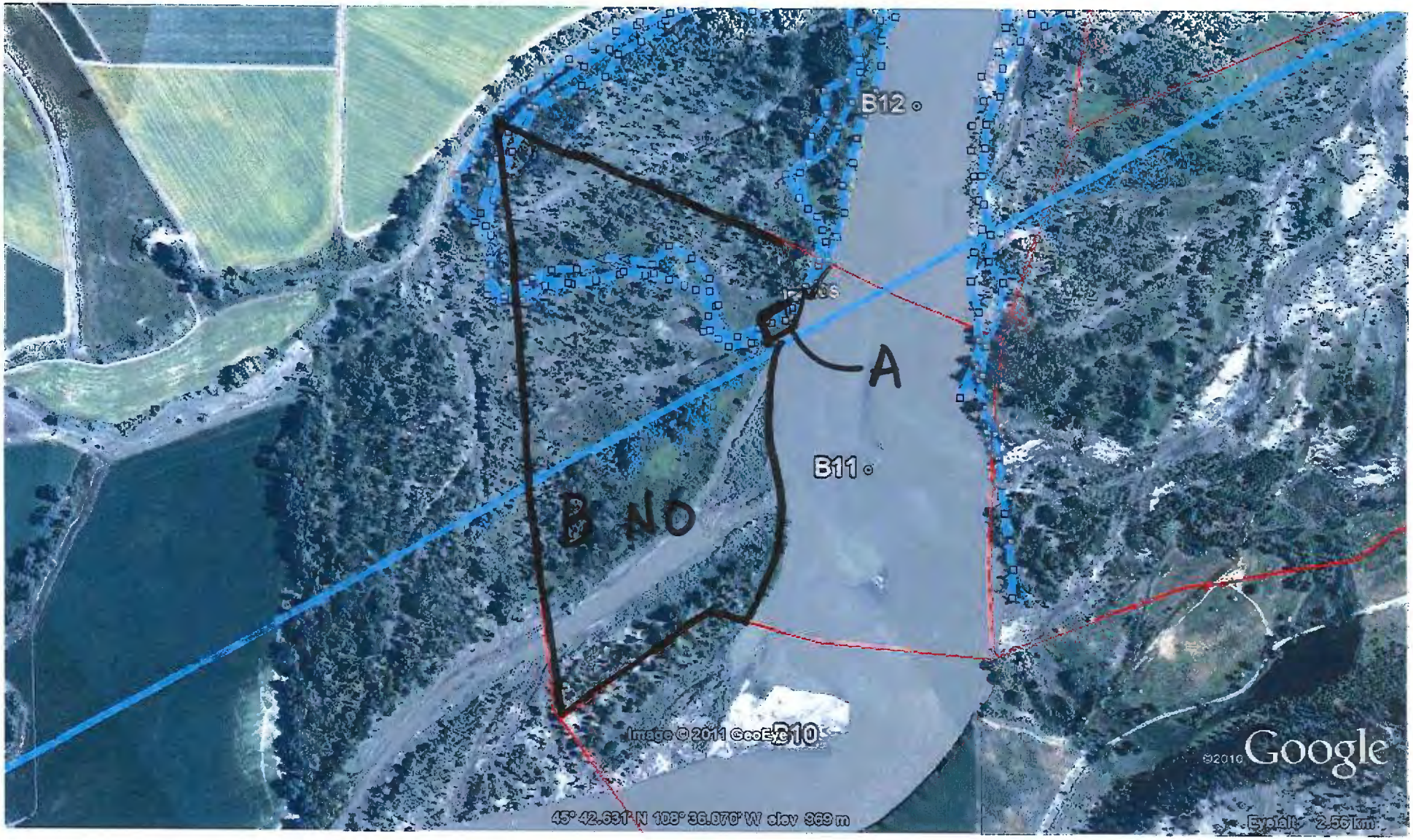
Zone A : No further treatment required.

Zone B : No

Operations had treated segment to endpoint (Zones A and D in CTR 39)

Ops team (Rich Jessup) removed 2 bags of CTVG

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



A = <1% ST

B11 LB
T2 9/2/11

Appendix F

Completed SCAT Segment Sign-Off Forms

Silvertip Pipeline Spill
SCAT Segment Sign-Off Sheet

COMPLETED

Operations Division:	A___	B X	C___
SCAT Area Number (i.e. A12):	B11		
SCAT Segment Number (i.e. A12-LB/IS/RB):	B11 RB		

Complete

Check if Complete:

1. **Completion Date for Initial SCAT Assessment:** 19JUL11 (IL) ☐
2. **Combined Treatment Recommendations (CTRs) Developed/Issued:** (Yes)/No
   List CTRs Applicable to SCAT Segment: 8
3. **Clean-Up Operations Conducted:** ☑
4. **Meets Qualitative Approved Treatment Methods Target Endpoints:** (Yes)/No
5. **SCAT Reassessment:**

Sign Name	Print Name	Date
[signature]	Lance Richman	8/25/11

Federal Representative (EPA/USCG)

Sign Name	Print Name	Date
Betsy Hovda	Betsy Hovda	8/25/2011

State Representative (DEQ/FWP)

Sign Name	Print Name	Date
[signature]	Robert Nulon	8/25/11

RP Representative (SCAT Contractor)

Pete Lee 8/25/11

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 B 11 LB

Date of Survey 9/2/11

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

CTR(s) Associated with SCAT Segment 39

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

Segment Assessment Complete[1] ☒

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).

Sign Name	Print Name/ Affiliation	Date
	Stephen Ball EPA	9/3/11

Federal Representative (EPA/USCG)

Sign Name	Print Name/ Affiliation	Date
	Larry Albrin DEQ	9/2/11

State Representative (DEQ/FWP)

Sign Name	Print Name/ Affiliation	Date
PBLee	Pete Lee / Polaris	9/2/11

RP Representative (SCAT RP Representative)

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

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