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ExxonMobil Pipeline Company

SCAT Area Transition Report for B40

Silvertip Pipeline Incident
Laurel, Montana

October 27, 2011

SCAT Area Transition Report for B40

Silvertip Pipeline Incident
Laurel, Montana

Prepared for:
ExxonMobil Pipeline Company

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Our Ref.:
B0085883.1103

Date:
October 27, 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.

ARCADIS

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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 B40, 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 B40. 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 B40, 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 B40 is 81.7. 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 B40. No oiled wildlife was observed or recovered. No Wildlife Priority Cleanup Areas were identified. A spotted sandpiper (*Actitis macularius*) nest was identified on the B40 Island.

1.3 Summary of Environmental Sampling

Table 1 (below) summarizes samples collected within Area B40. 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 B40 are provided on Figure 3.

Table 1 Environmental Sampling Summary

Agency	Sample Num	Date	Matrix	Location	Latitude	Longitude	Results Validated?
CTEH	BIMT0824SO502	24-Aug-11	Soil_River	SO-B40	45.767573	-108.476731	No
EPA	SPSE204_072811	28-Jul-11	Sediment	SPSE204	45.7713995	-108.4743047	Yes

Appendix A contains a summary of sample results with detections for this sample set. Detections with a result above the screening level are highlighted; for this set, there were no exceedances in this area.

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 B40 are included in Appendix B. Figure 4 provides the maximum oiling zones observed by the SCAT team during the initial surveys of Area B40.

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. 28, CTR No. 32, CTR No. 35).

1.6 Oil Removal Activities

Oil removal activities were conducted within Area B40 in accordance with the ATMs identified in the CTRs. Appendix I of the Summary of Assessment and Oil Removal Activities report presents this data including: date range/days worked, average number of people working per day, equipment used, and various types of bags removed: oily debris, personal protective equipment, plastic, trash, super sacks, wood chips, and contaminated wood.

1.7 Pre-Inspection Survey Transmittal

SCAT Operations liaisons performed an inspection of the remediated areas of SCAT Area B40 and developed a Pre-Inspection Survey Transmittal (PIST) associated with the island within Area B40, 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 B40 and developed a Post-Inspection Survey Transmittal (POST) associated with the island within Area B40, which is presented in Appendix D.

1.9 Summary of Final SCAT Surveys

Figure 5 shows the oiling conditions within Area B40 following completion of oil removal activities. The SCAT team performed final surveys of the right bank, left bank, and island within SCAT Area B40 to confirm the agreed-upon cleanup endpoints identified in the applicable CTRs had been achieved. The final SCAT survey documentation is presented in Appendix E.

1.10 SCAT Area Conclusions

Based on the final SCAT surveys performed on the right bank, left bank, and island within Area B40, no further treatment is recommended for these segments. SCAT Segment Sign-Off Forms are included as Appendix F.

2. Transition Sign-Off Form

SCAT Area Transition Report for B40

Prepared for:

Unified Command

_____

Date

_____

Unified Command – RP

SCAT Area Transition Report for B40

Prepared for:

Unified Command

_____
Date

_____
Unified Command – FOSC

SCAT Area Transition Report for B40

Prepared for:

Unified Command

_____

Date

_____

Unified Command – MDEQ

Silvertip Pipeline Incident
Area Transition Report Map - Parcels
Segment - B40

9/27/2011

1:6,500

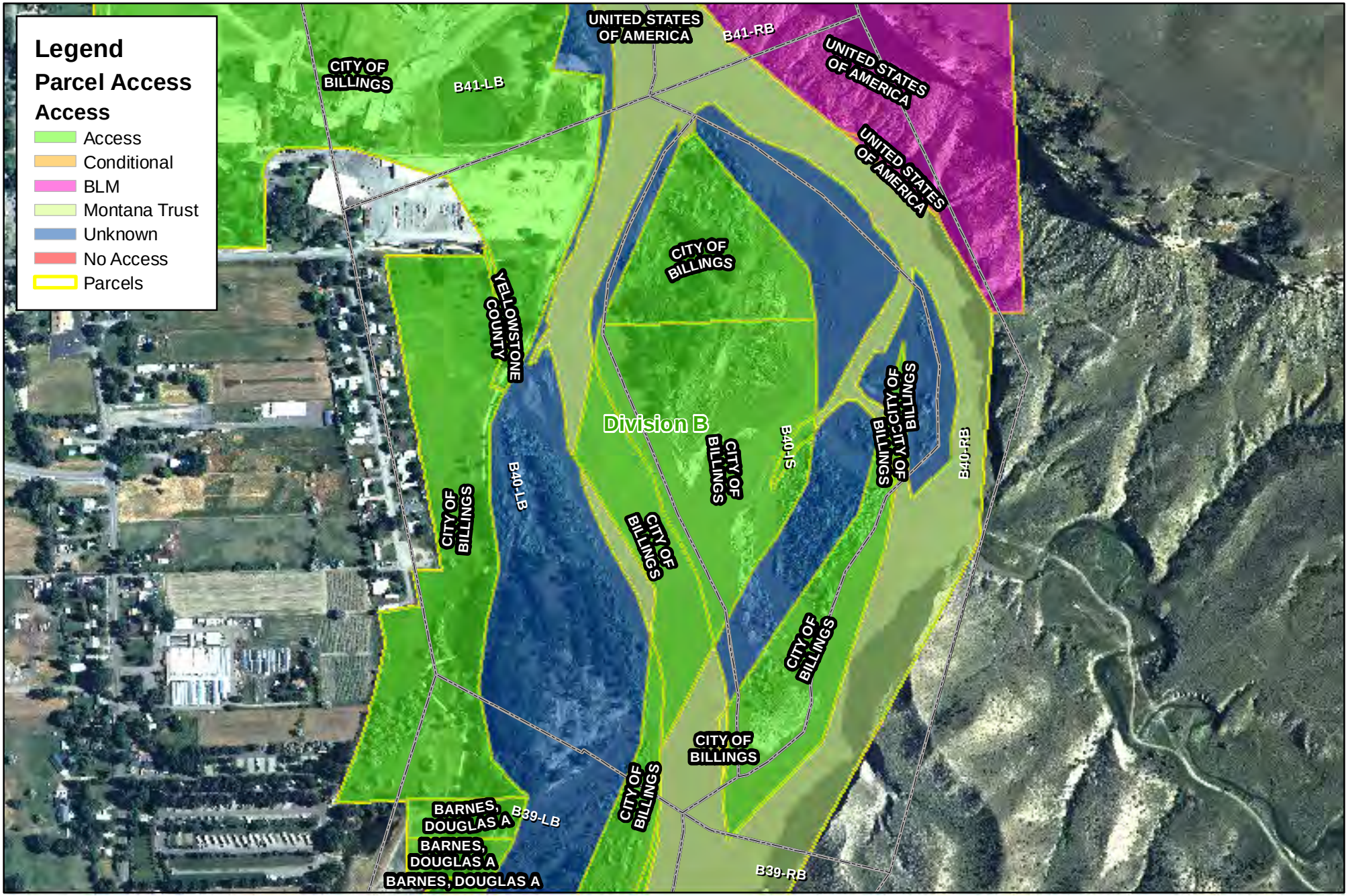


Figure 1

Date: 9/27/2011 Time: 2:54:25 PM

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

Silvertip Pipeline Incident
SCAT Area Transition Report Map
Area - B40

ExxonMobil Pipeline

N

1:7,200

9/25/2011

The Response Group

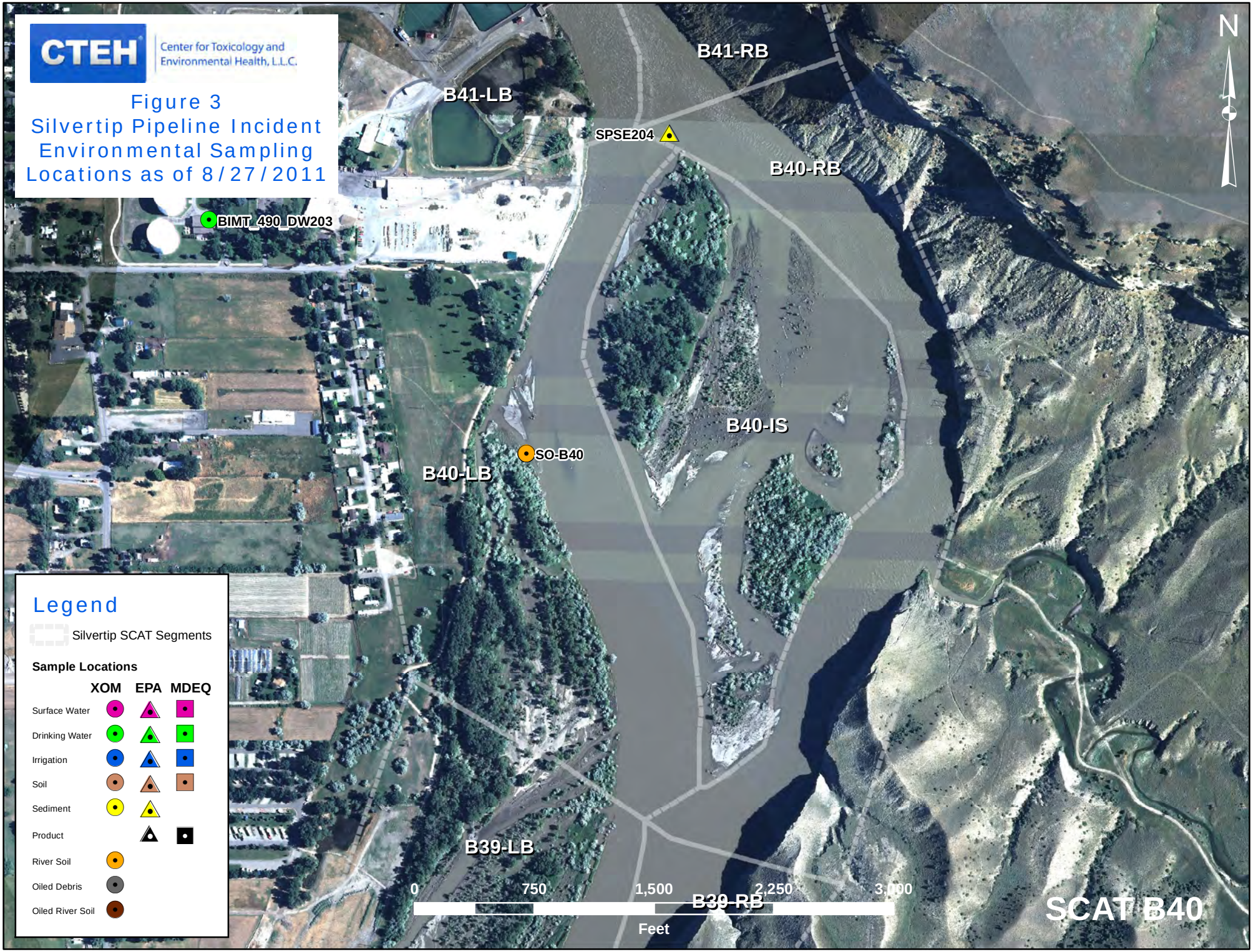
Path: P:\GIS\MXD's\Wildlife\ATR Maps - Figure 2\ATR Map_Div.B_Fig2_09252011.mxd

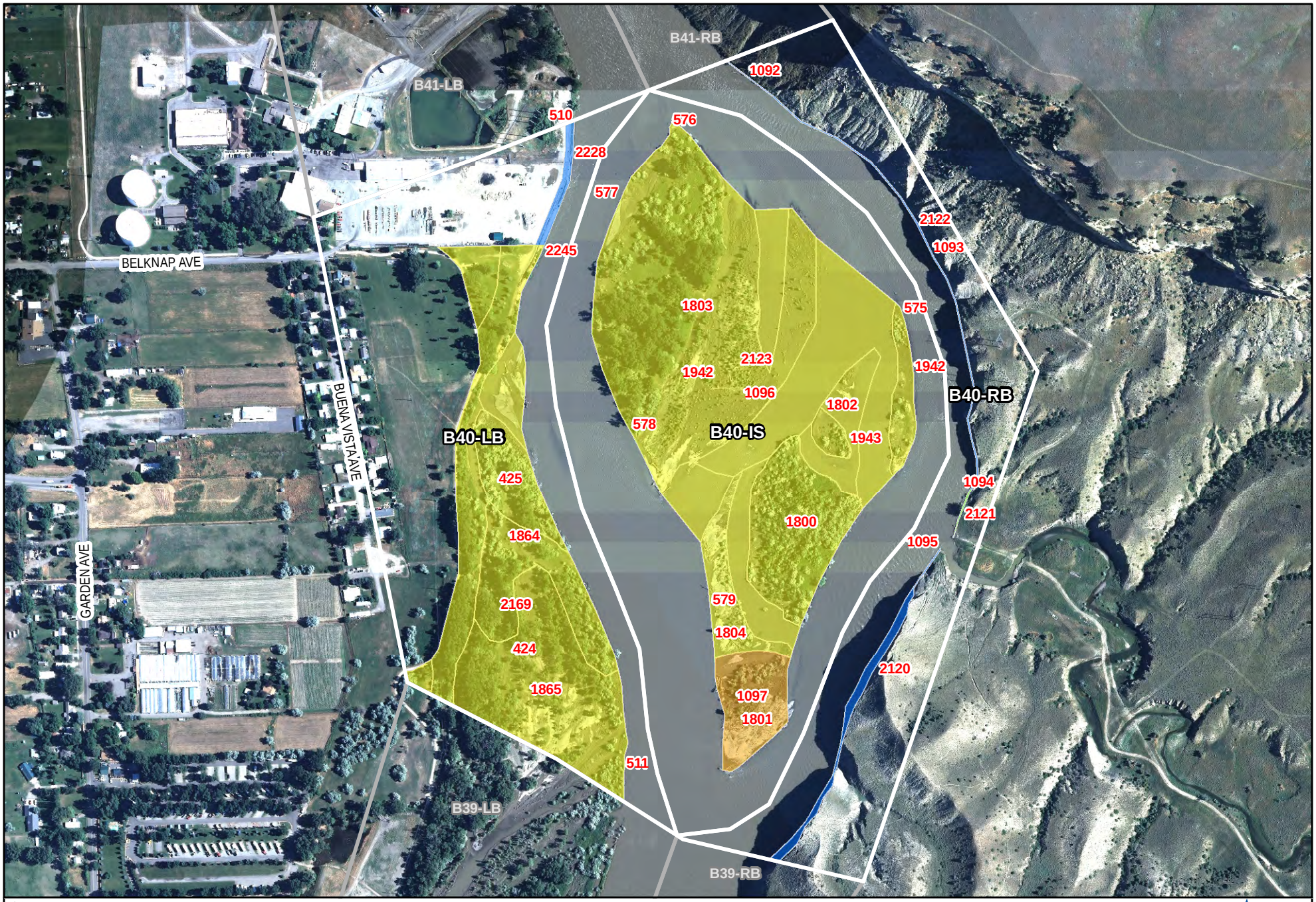
Note: Multiple individuals of the same species and status at a single location are denoted by a number label adjacent to the wildlife symbol.

0 750 1,500 3,000 Feet

Figure 2
Wildlife Resources

Date: 9/25/2011 Time: 3:19:46 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
B41-RB
B41-LB
SPSE204
B40-RB
BIMT_490_DW203
B40-IS
SO-B40
B40-LB
B39-LB
B39-RB
0
750
1,500
2,250
3,000
Feet
SCAT B40
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

420 0 420 840 Feet

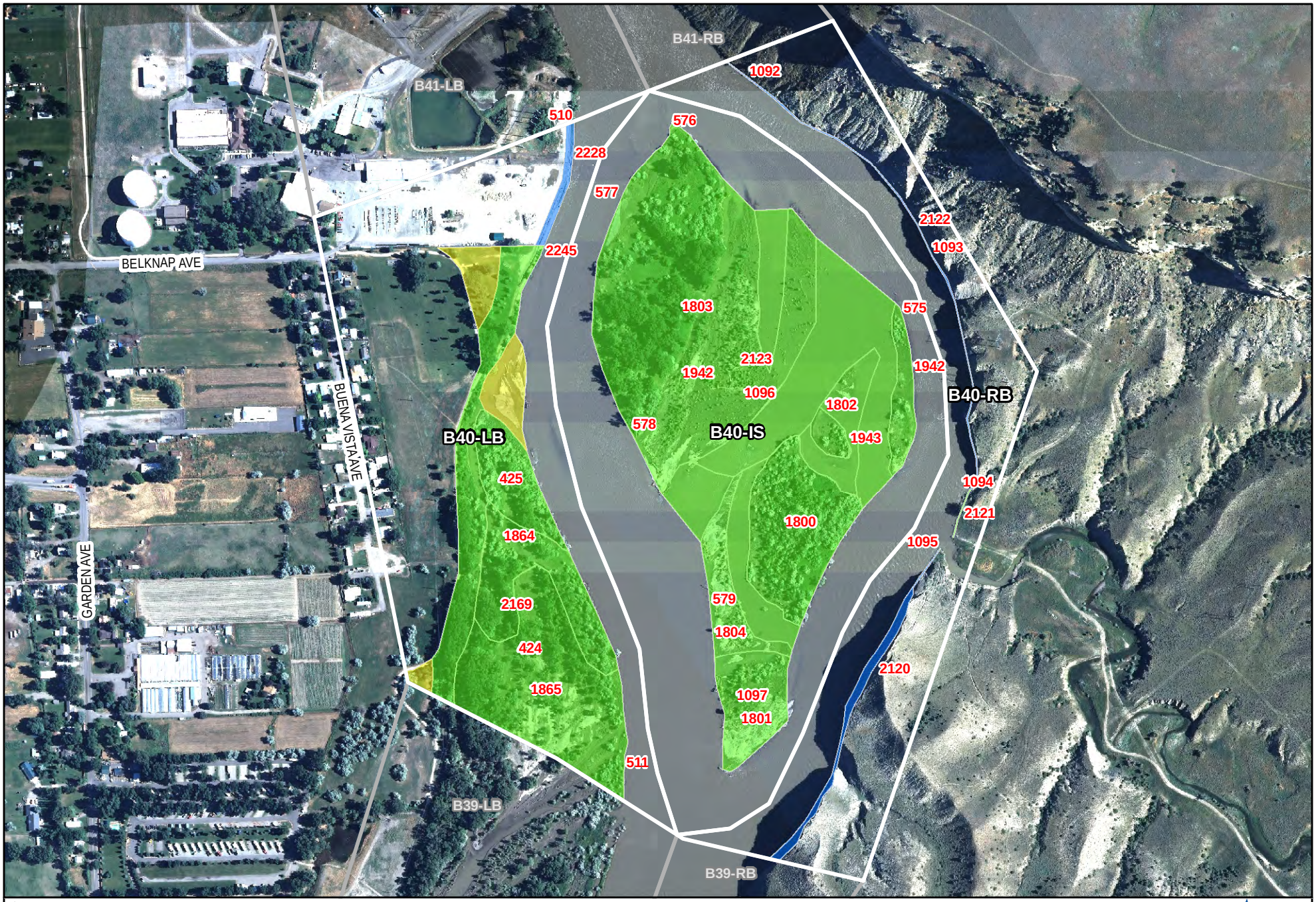
Figure 4 - Maximum SCAT Observations For SCAT Area: B40

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: 10/22/2011 5:24:21 PM



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

420 0 420 840 Feet

Figure 5 - Final SCAT Observations For SCAT Area: B40

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

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Appendix A

Sample Detection Summary

Sample Results For
SCAT Area B40

Printed 9/20/2011

NA - Not Available

Detected Above Screening Level

Sample Num	Date	Sample Type	Matrix	Analytical Method	Analyte	Detected	Result	Screening Level	Result Qualifier	Units	Above?
BIMT0824SO502	24-Aug-11	Field	Soil_River	EPA 6010	Arsenic	Y	18.5	40		mg/kg	no
BIMT0824SO502	24-Aug-11	Field	Soil_River	EPA 6010	Barium	Y	130	820		mg/kg	no
BIMT0824SO502	24-Aug-11	Field	Soil_River	EPA 6010	Cadmium	Y	1.1	3.8		mg/kg	no
BIMT0824SO502	24-Aug-11	Field	Soil_River	EPA 6010	Chromium	Y	16.1	280		mg/kg	no
BIMT0824SO502	24-Aug-11	Field	Soil_River	EPA 6010	Lead	Y	7.6	400		mg/kg	no
BIMT0824SO502	24-Aug-11	Field	Soil_River	EPA 6010	Nickel	Y	12.7	150		mg/kg	no
BIMT0824SO502	24-Aug-11	Field	Soil_River	EPA 6010	Vanadium	Y	37.7	39		mg/kg	no
BIMT0824SO502	24-Aug-11	Field	Soil_River	EPA 9060	Mean Total Organic Carbon	Y	2880	NA		mg/kg	no
BIMT0824SO502	24-Aug-11	Field	Soil_River	EPA 9060	RSD%	Y	6.4	NA		%	no
BIMT0824SO502	24-Aug-11	Field	Soil_River	EPA 9060	Total Organic Carbon	Y	3130	NA		mg/kg	no

Appendix B

Initial SCAT Survey Forms and Sketches

D3/6/5

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION	Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: BH10 Left Bank / (Right Bank) / Island	19 / 07 / 11	0926 hrs to 0928 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 + / - 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 1200 m Segment/Reach Length Surveyed 1200 m

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

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

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

Bedrock: Cliff/Ramp_____ Shelf_____ | Manmade: Solid___ Permeable___ (type)_____ | Wetland: Swamp_____ Bog/Fen_____ Marsh _____

Sediment Bank: Clay/Mud_____ Sand_____ Mixed_____ 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: _____

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 _____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

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	
1092	A	NF				X	70		5			P	S		X								Veg bank
1093	B	MG				X	600															X	Veg bank
1094	C	MH				X	85		100			P	-		X								Veg bank
1095	D	MI				X	445															X	Veg bank

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

TRENCH or PIT NO.	RIVER BANK ZONE				MAX. PIT DEPTH	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

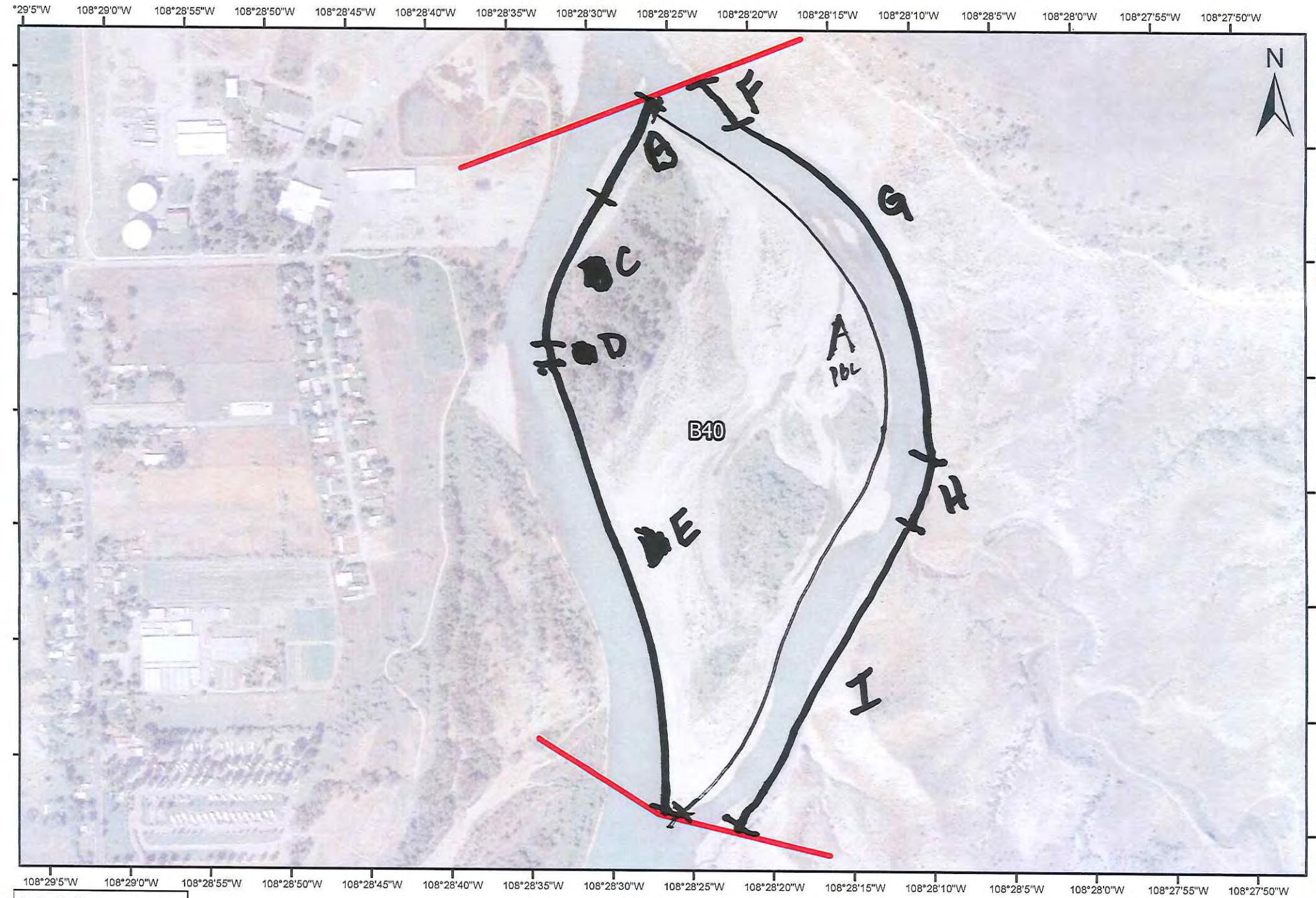
OSR = Y OSC = unk SSC = unk

OSR in Zone C only

Replacement form by John Beach

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

Sketch Yes/No Photos Yes/No (Roll # 5035 Frames 5040) Video Tape Yes/No (tape 5035 5039



B40 - (L/R/I)??

DATE:

TEAM:

COMMENTS:

5

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: B-40 Left Bank / (Right Bank) / Island	09/07/11	9:26 hrs to 9:29 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 + / - 35 deg C

2 SURVEY TEAM #	Name	Organization	Signature
	Bob Nailon	~~US EPA~~ Cardno ENTRIX	
	John Beach	US EPA	John Beach
	Ken Frazer	MT FWP	

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 P Shelf _____ | Manmade: Solid ___ Permeable ___ (type) _____ | Wetland: Swamp ___ Bog/Fen ___ (Marsh)

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

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

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

Cliff or Bluff: X Est Height 150 m	canyon ___	manmade ___	meander ___	confined or leveed ___	Substrate Type: _____
Sloped: ___ (>5°)(15°)(30°) 760°	straight ___	braided ___	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 ~~160m~~ 525m | 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:

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	X	600															X	
B				X	100	1	100%				X		X								
C			X	X	400															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 (unk) Shoreline Survey Completed Y / N (unk)

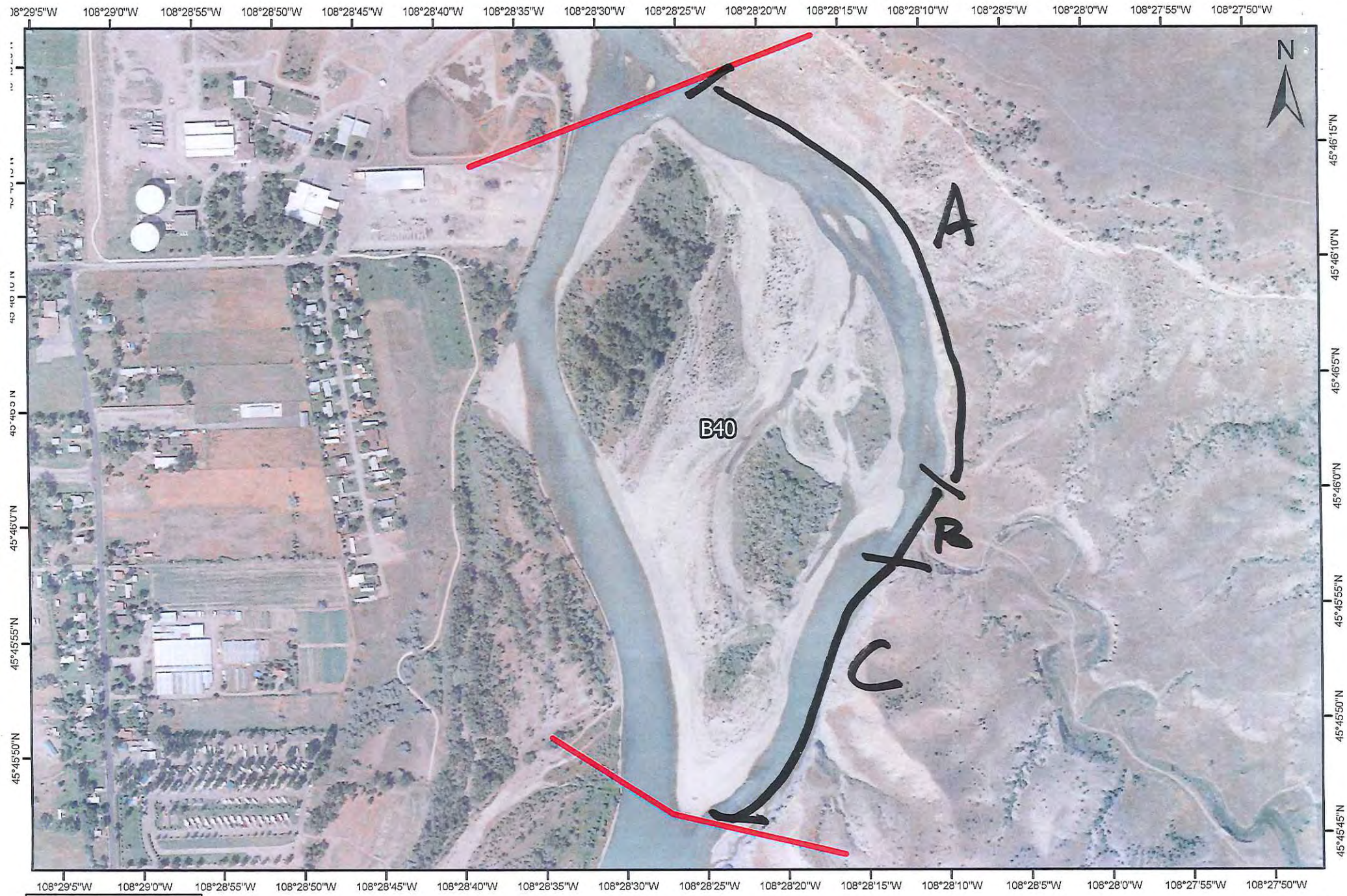
Zone A+C – no oil observed

Zone C – hand removal of grass (Stained)

VOID

See replacement form

Sketch (Yes) / No Photos (Yes) / No Frames 5004 9 – 5055 Photographer Nailon



B40 - (L/R/I)??

DATE:

TEAM:

COMMENTS:

0 80 160 240 320
Meters

DB/6

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: 40 B Left Bank / Right Bank / Island	22/07/11	8:24 hrs to 10:30 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 + / - 30 deg C

2 SURVEY TEAM # 2	name	organization	contact phone number
Chuck Pow		Cardno ENTRIX	813-927-1194
Ed Kiely		MDEQ	406-461-3386
Patrick Krisko		USCG	415-320-5348

3 SEGMENT Total Segment/Reach Length 640 m Segment/Reach Length Surveyed 640 m

Start GPS: LATITUDE 45 deg. 46.184 min. LONGITUDE 108 deg. 28.585 min. Datum: WGS 84

End GPS: LATITUDE 45 deg. 45.910 min. LONGITUDE 108 deg. 28.604 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: X | 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: Sand / S.IF

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 1–10 m 10–100 m >100m 210 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

Debris Y / N oiled Y / N amount 100 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 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)
424 A				X	640	200	1			P	S		X								Sand
425 B				X	150	80	10	S		P	S		X								Sand

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

Both Zones A + B had Coated and stained debris and vegetation. Zone B had a few small pockets of pooled oil in standing water.

Use Absorbants on the pools. Debris needs to be bagged and removed

Veg. needs cut and or trimmed and removed

Survey Complete

(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# _____)

B40 -

(L/R/I)??

DATE:

TEAM:

COMMENTS:

0 80 160 240 320

Meters

DB/G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION

Segment/Reach ID: B40 **Left Bank** / Right Bank / Island

Operations Division: B

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

Date (dd/mm/yy): 19-Jul-2011

Time (24h): std / daylight: 0915 hrs to 0925 hrs

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

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 WEBB	USCG	

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 890 m

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

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

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

Bedrock: Cliff/Ramp_____ Shelf_____ | Manmade: Solid___ Permeable S (type) Rip Rap | Wetland: Swamp_____ Bog/Fen_____ Marsh _____

Sediment Bank: Clay/Mud_____ Sand_____ Mixed S___ Pebble/Cobble _____ Boulder_____ Peat/Organic_____ | Vegetated Bank: P | Wooded Upland: 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 110m** | 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

Debris: Y / **N** oiled Y / N amount 5 bags or _____ trucks | Suitable backshore staging **Y** / N | Access: Direct from backshore **Y** / N Alongshore from next segment **Y** / N

Oiled trees/shrubs **Y** / N | River Current strong **Y** / N | access restrictions | 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	
510 A				X	830	1														X	Grass, trees
511 B				X	60	1	<1			X	(X)		X								Grass, trees

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

TRENCH or PIT NO.	RIVER BANK ZONE				MAX. PIT DEPTH	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 – 60cm

Treatment Recommendations:

Zone A: No oil observed; no treatment required.

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

*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 1070-1071 (Lee)

B40
Image © 2011 GeoEye
©2010 Google
Imagery Date: 7/31/2009
45°46'03.24" N 108°28'19.22" W elev 3117 ft
Eye alt 7877 ft

DB/6

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident Page 1 of 2

1 GENERAL INFORMATION	Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: 40 (Left Bank / Right Bank / Island)	8/23/11	1415 hrs to 1515 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 + / - 29 deg C

2 SURVEY TEAM # 5	Name	Organization	Signature
	Daniel Elefant	Cardno - Entrix	
	Ariel Blane	POLARIS	
	Darrick Turner	DEQ	
	Mike Iterman	FWP	

3 SEGMENT Total Segment/Reach Length 507 m Segment/Reach Length Surveyed 507 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 DE 8/25/11 Mixed_____ Pebble/Cobble S DE 8/25/11 Boulder_____ Peat/Organic_____ | Vegetated Bank: ✓ | Wooded Upland: ___

Sediment Flat: Clay/Mud_____ Sand P Mixed/Coarse 5 | Other: _____ | If snow and ice use Winter River SOS

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

Cliff or Bluff: ___ Est Height ____m | canyon____ manmade____ meander S confined or leveed ____ | Substrate Type: VEG.

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: < 1m 1–10 m 10–100 m >100m 160m 270m | est. water depth: <1 m 1-3 m 3-10 m >10 m ____ m

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

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

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

Debris Y/N oiled Y/N amount 10 bags or ~ trucks | access restrictions

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

6 SURFACE OILING CONDITIONS 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. %	8/24/11 DE OIL THICKNESS TO	CV	CT	ST	FL	OIL CHARACTER FR	MS	TB	PT	TC	SR	AP	NO	SUBST. TYPE(S)
1864 A				✓	362	150	1 DE		✓	✓							✓				VEG
1865 B				✓	217	150	~~2~~ 1 DE		✓	✓							✓			DE	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 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

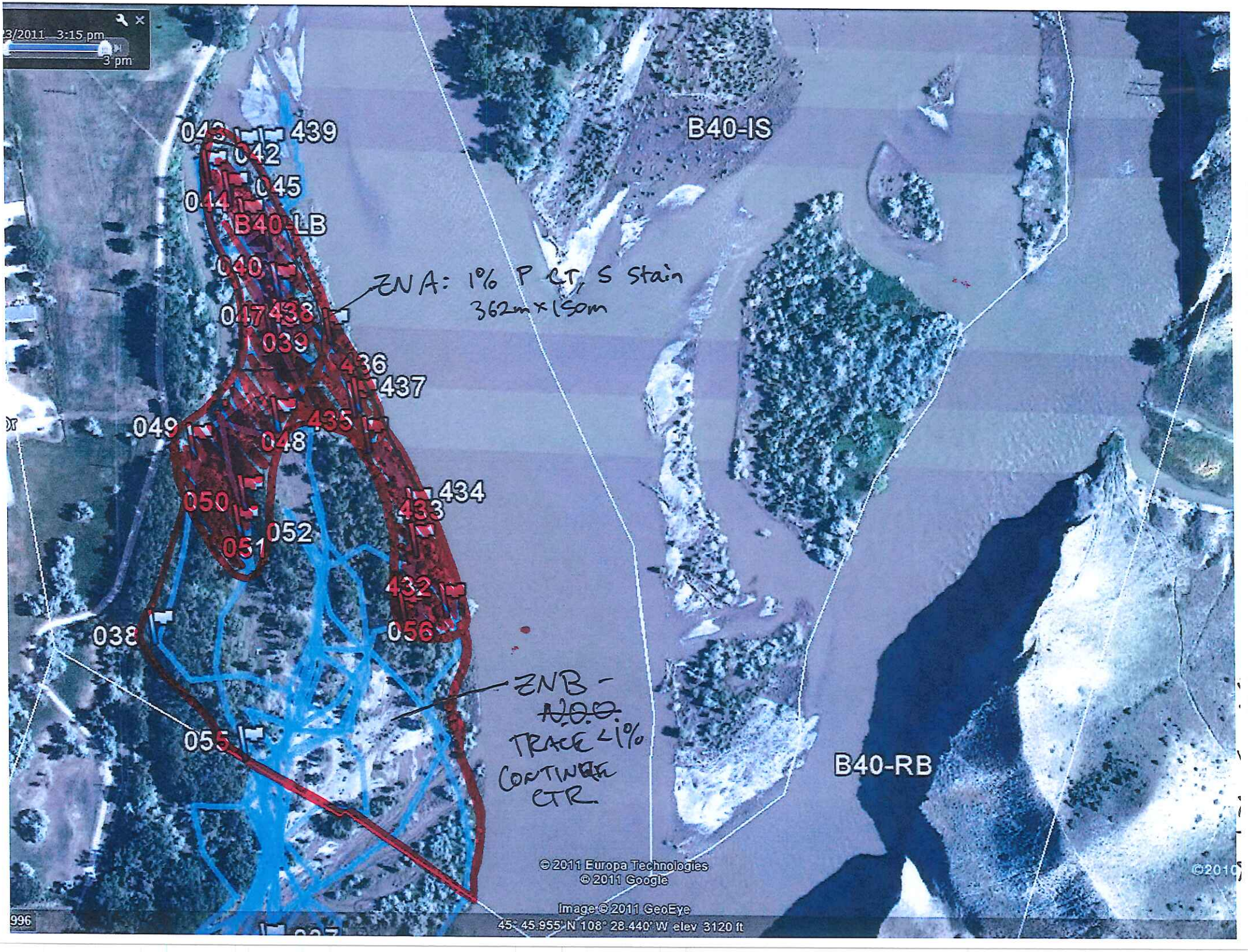
3N A: 1% CT. TREAT AS PER CTR. 5 MAN CREW (1 TRUCK)

3N B: TRACE < 1% CT/ST, CONTINUE CTR.

RESCAT W/ ~~HOTSHOT~~ CREW (15 FOLKS) B38, 39, 40 LB
8/25/11 DE

~~Island comprised of C38, C39, C40 LB → Hotshot crew, 1 day for treatment of Island~~ 8/25/11 DE

Sketch (Yes) / No Photos (Yes) / No Frames_____ Photographer_____


3/2011 3:15 pm
3 pm
B40-IS
B40-LB
B40-RB
439
042
045
044
040
438
039
436
437
049
435
048
434
050
433
052
051
432
038
056
055
ENA: 1% P CT, S Stain
362m x 150m
ENB -
N.D.
TRACE <1%
CONTINUE
CTR
© 2011 Europa Technologies
© 2011 Google
Image © 2011 GeoEye
45° 45.955' N 108° 28.440' W elev 3120 ft

DB / G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

Page _____ of _____

1 GENERAL INFORMATION

Segment/Reach ID: B40 Left Bank / Right Bank / Island

Operations Division:

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

Time (24h): std / daylight 0926 hrs to 0928 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 + / - ____ deg C

2 SURVEY TEAM # 1/5

Name	Organization	Signature
Bob Nailon	Cadno ENTRIX	
John Beach	US EPA	
Pete Lee PBL	Polaris	
Larry Alheim	MT DEQ	
Andy Johnson / Austin West	USCG	[signature]
	1898	1898

3 SEGMENT Total Segment/Reach Length ~~955~~ m Segment/Reach Length Surveyed ~~955~~ m

Start GPS: LATITUDE 45 deg. 46.277 min. LONGITUDE 108 deg. 28.436 min. Datum: WGS84

End GPS: LATITUDE 45 deg. 45.794 min. LONGITUDE 108 deg. 28.441 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: 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 P 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~~ 50 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 300 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 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)
575	A				X	958	1	100			X	X		X								Trees, shrubs,
576	B				X	100	3	30				X		X								Grass, debris
577	C				X	170	1														X	
578	D				X	20	1	100				X		X								Trees, shrubs
579	E				X	650	1														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

Treatment # 1, 2, 3 (22/07/11)

Length surveyed = island circumference

Sketch Yes / No Photos Yes / No Frames_____ Photographer_____

A = 295 + 261 + 402

Ver. 04 July 2011

B
A
C
D
E
B40
Image USDA Farm Service Agency
©2016 Google
Imagery Date: 6/20/2006
45°46'04.45" N 108°28'18.46" W elev 3118 ft
Eye alt 9010 ft

B40 Island

DB/6/5

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: B-40 Left Bank / Right Bank / (Island)	28/07/11	1300 hrs to 1345 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 + / - 28 deg C

2 SURVEY TEAM # 2	Name SAK	Organization Cardno Entrix	Signature Steve Kennedy
Steve Kennedy			
Gary Riley		US EPA	
Courtney Tyree			

3 SEGMENT Total Segment/Reach Length 900 m Segment/Reach Length Surveyed 900 m

Start GPS: LATITUDE 45° 45.872 deg. — min. LONGITUDE 108° 28.345 deg. — min. Datum: WGS84

End GPS: LATITUDE 45° 45.950 deg. — min. LONGITUDE 108° 28.404 deg. — min.

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

Bedrock: Cliff/Ramp ____ Shelf N/A | Manmade: Solid ____ Permeable ____ (type) N/A | Wetland: Swamp ____ Bog/Fen ____ Marsh N/A

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

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

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

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

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width : <1m 1–10 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 none

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

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

	OIL ZONE ID	RIVER BANK ZONE 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)
1096	A			P	S	800	5	10			P	S		P								
1097	B			P	S	100	30	50			P	S		P								

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

TRENCH or PIT NO.	RIVER BANK ZONE 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

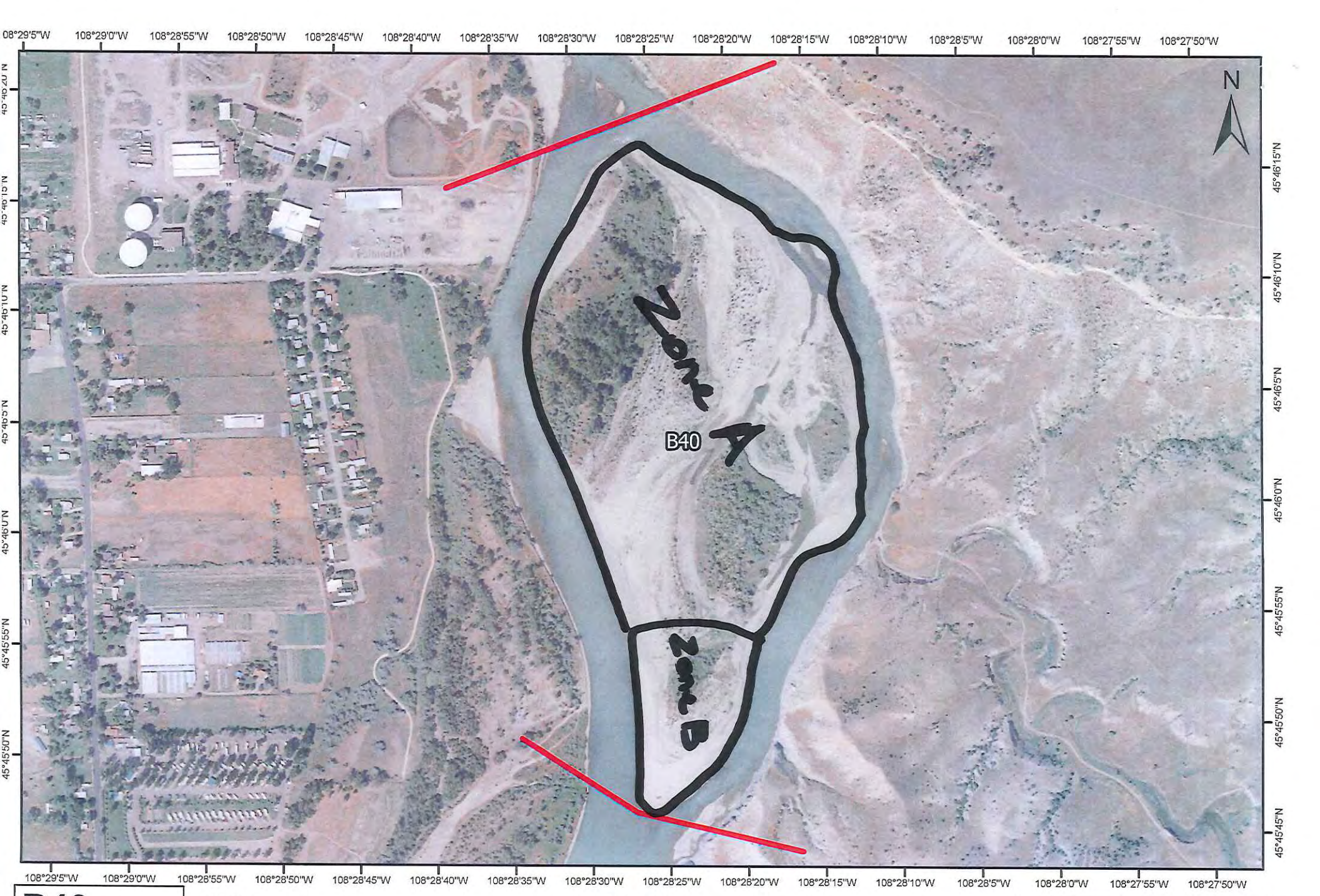
Seg. B-40, Zone A; V. sporadic ST & CT w/ primarily ST on veg. grasses

* remove hot-spots along shore and CT on shrubs inland and several small Hotspots of debris flagged & photo'd

① N 45° 45.950 W 108° 28.404 ② N 45° 46.252 W 108° 28.446

Zone B eastern most tip of island complete oil ring, veg. impacted by 50% cut, brag, remove "B" zones.

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



B40 -
(L/R/I)??

DATE:

TEAM:

COMMENTS:

0 80 160 240 320
Meters

DB / 6

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION

Segment/Reach ID: B40 Left Bank / Right Bank / (Island)
Operations Division: B
Survey by: (Foot) / ATV / Boat / Helicopter / Overlook / _____

Date (dd/mm/yy): 23/08/2011

Time (24h): std / daylight: 13:30 hrs to 16:15 hrs

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

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

Air Temp + / - 35 deg C

2 SURVEY TEAM # 3-4

Name	Organization	Signature
Todd FARRAR	POLARIS	
Merlo GAUVREAU	POLARIS	
Rachelle Thompson	EPA	
Cindy Santiago	EPA	Cindy Santiago
Mark Ewanic	DEC	
Dave Fuller	FWP	Dave Fuller
Tom Freeman	POLARIS	Tom Freeman

3 SEGMENT Total Segment/Reach Length 830 m Segment/Reach Length Surveyed 830 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 S 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 S braided P 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 50 bags or _____ trucks | access restrictions

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

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

	OIL ZONE ID	RIVER BANK ZONE 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)
1800	A				X	346	110	[redacted]	<1		P	S						P	S			VG, DB
1801	B		X			61	83														X	
1802	C			X		78	36	5			P	S						P	S			VG
1803	D			X		439	292	<1			S	P						S	P			VG, DB
1804	E		X	[redacted]		279	43	<1			S	P						S	P			VG

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

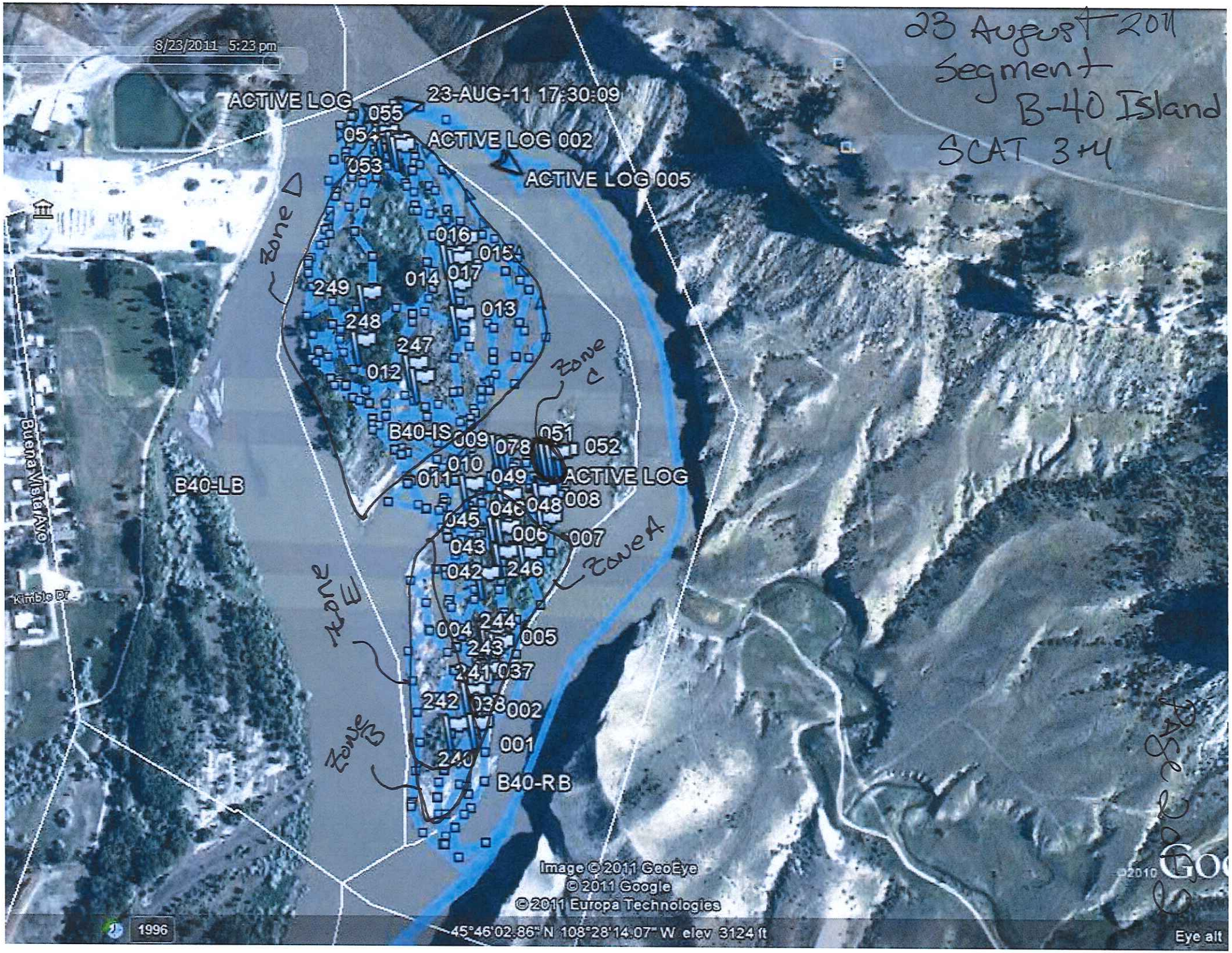
Zone A; Coating on vegetation and debris continue CTR

Zone B; NOO

Zone C; Coating on vegetation and debris, continue CTR

Zone D, E; Ops Hot Shot team with SCAT, removed vegetation and debris, NFT

Sketch (Yes) / No Photos (Yes) / No Frames_____ Photographer_____


23 August 2011
Segment
B-40 Island
SCAT 3+4
8/23/2011 5:23 pm
ACTIVE LOG
23-AUG-11 17:30:09
ACTIVE LOG 002
ACTIVE LOG 005
ACTIVE LOG
Zone D
Zone C
Zone A
Zone E
Zone B
B40-IS
B40-LB
B40-RB
Buena Vista Ave
Kimble Dr
Image © 2011 GeoEye
© 2011 Google
© 2011 Europa Technologies
1996
45°46'02.86" N 108°28'14.07" W elev 3124 ft
Eye alt

RESCAT / PARTIAL DB/G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION

Segment/Reach ID: B40 — Left Bank / Right Bank / **Island**

Operations Division:

Date (dd/mm/yy): 27/08/2011

Time (24h): std / daylight — 1600 — 0800 hrs to 1600 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 + / - 37 deg C

2 SURVEY TEAM # 3

name	organization	contact phone number
Tom Freeman	Polaris	Tom Freeman
Merlo Gauvreau	Polaris	
Rachelle Thompson	EPA	
Donnie McCurry	DEQ	Donnie McCurry

3 SEGMENT

Total Segment/Reach Length 776 meters m — Segment/Reach Length Surveyed 776 meters 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/P 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

Cliff or Bluff:____ Est Height ____m

Sloped:___(>5°)(15°)(30°)

canyon_____ manmade_____ meander ____ confined or leveed _____

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 _____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

Debris: Y N oiled Y / N amount ZO 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)
					Length	Width	Distrib.														
	MS	LB	UB	OB	m	m	%	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR	AP	NO	
1942 A				X	776	350	<1			S	P						X				VG,DB
1943 B				X	51	37	5			P	S						X				VG,DB

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

Zone A: This zone had some very rare (widely spaced) small patches of oiled debris and oiled vegetation. Hot Shot team was able to remove or treat all. This zone is now NFT.

Zone B: This ZONE will require additional attention by the Hot Shot Team to remove oiled shrubs that have transferable oil. Continue treatment under CTR guidelines.

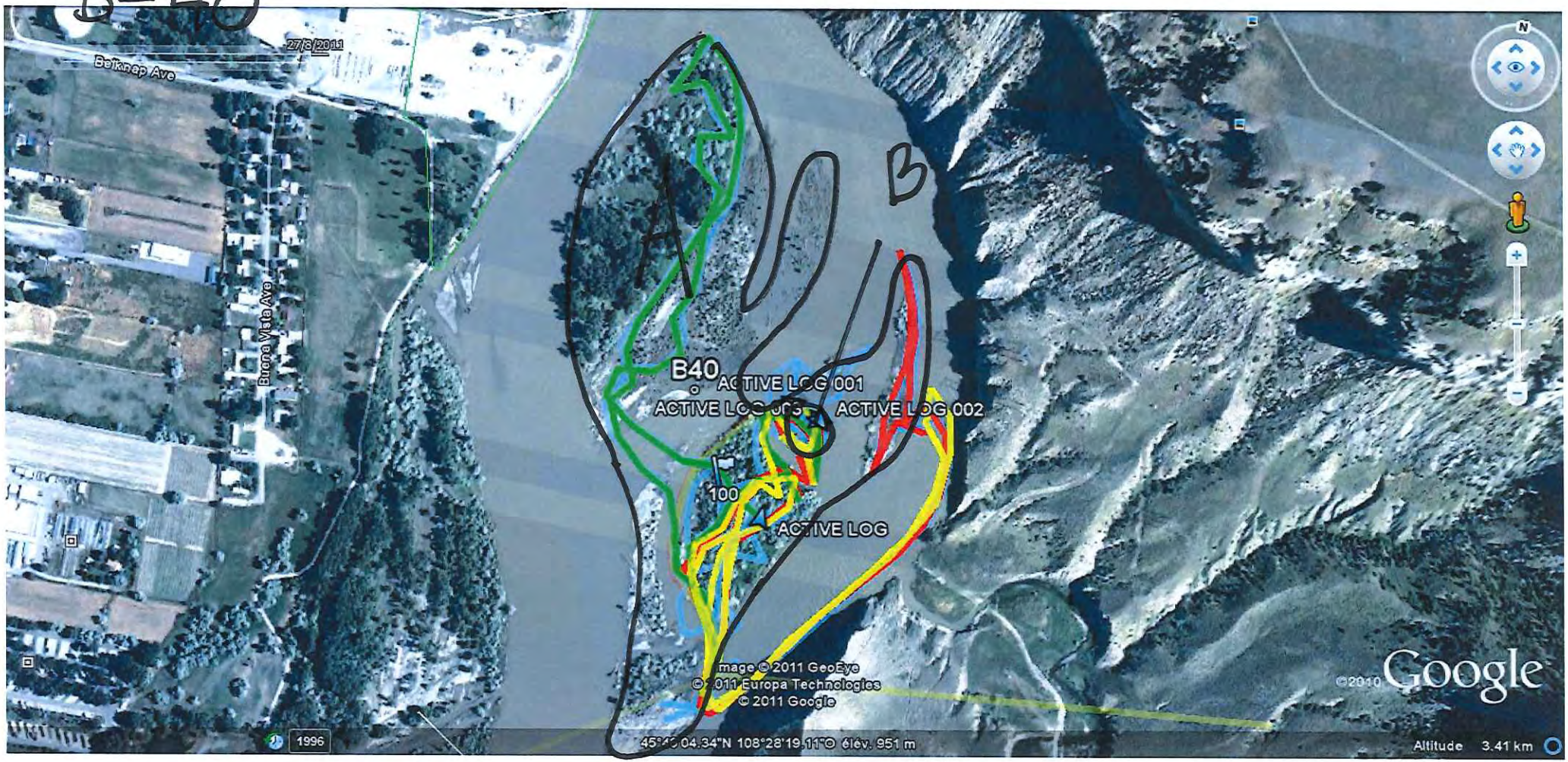
(for ALL sub-segments record: sub-segment ID, length, length surveyed, and GPS start/end fixes)

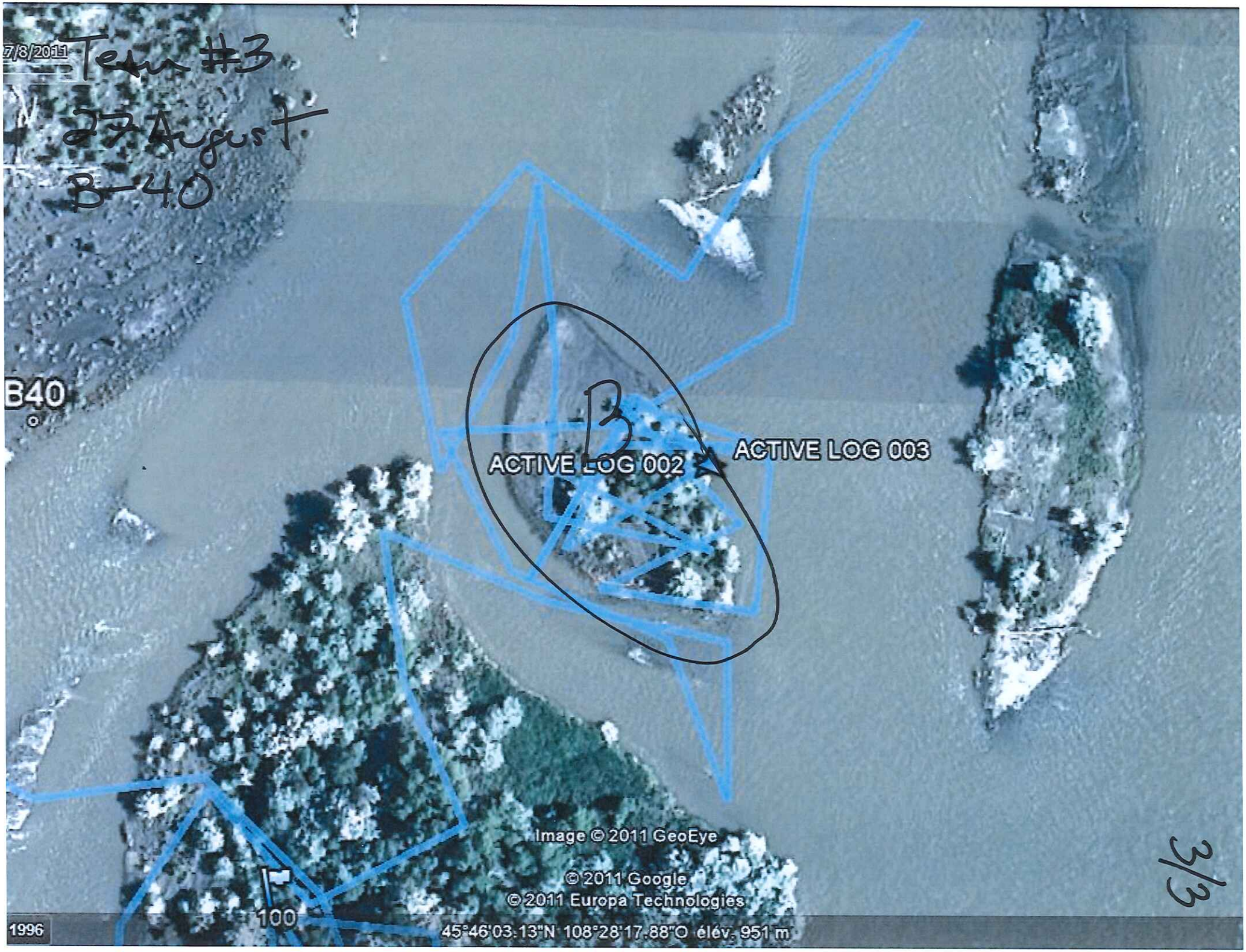
Sketch (Yes/No) **Photos** Yes/No (Roll # _____ Frames_____) **Video Tape** Yes/No (tape#_____)

Team #3

27 August

B-40




7/8/2011
Team #3
27 August
B-40
B40
B
ACTIVE LOG 002
ACTIVE LOG 003
Image © 2011 GeoEye
© 2011 Google
© 2011 Europa Technologies
100
1996
45°46'03.13"N 108°28'17.88"O élév. 951 m

3/3

ARCADIS

Appendix C

Pre-Inspection Survey Transmittal

SCAT – Pre Inspection Survey Transmittal (PIST) Memo

Survey Date: 23/08/2011

Segment: B40 IS

Team:

RP Team Leader Herb Gaudreau Signed: [signature]

Federal Rep Cindy Santiago Signed: Cindy C. Santiago

State Rep Dave Fuller Signed: Dave Fuller

Other trustee _____ Signed: _____

Segment meets criteria? YES ____ NO X

RBOS attached? YES X NO ____

If NO:

Location Sketch attached? YES ____ NO ____

CTR continue? YES X NO ____

Comments:

ARCADIS

Appendix D

Post-Inspection Survey Transmittal

POST

Post Inspection Survey Transmittal

Created by Connor Kobeski/Cardno ENTRIX 8/30/11 QA/QC

Segment B40-IS

Date of Survey 08/27/2011

SCAT Team Member Merlo Gauvreau Signed: (see attached Sign Off)

SCAT Team Member Rachelle Thompson Signed: (see attached Sign Off)

SCAT Team Member Donnie McCurry Signed: (see attached Sign Off)

Segment FAILED ReSCAT ☐

Segment Conditionally PASSES ReSCAT ☒

→ **Referred to Ops For Further Treatment**

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.

Zone B on attached map requires additional removal of oiled shrubs or use of dusting on transferable oil. Continue treatment for area as per CTR 35.

Zone Dimensions: Length 51m Width 37m (required) **GPS Waypoint**: Lat. — Long. — (center of zone)

Estimated Work Effort: Number of People _____ Hours of Work _____ ~~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

ARCADIS

Appendix E

Final SCAT Survey Forms and Sketches

DBIG

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident Page 1 of 2

1 GENERAL INFORMATION	Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: B40 Left Bank / (Right Bank) / Island	05/09/11	1230 hrs to 1335 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 + / - 25 deg C

2 SURVEY TEAM # 6	Name	Organization	Signature
	Nathan Hammond	Cardno Entrix	Nathan Hammond
	Austin West	USCG	Austin West
	Betsy Hovda	Betsy Hovda	Betsy Hovda

3 SEGMENT Total Segment/Reach Length 1030 m Segment/Reach Length Surveyed 1030 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: ____

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 80 m | canyon_____ manmade_____ meander _____ confined or leveed _____ | Substrate Type: _____

Sloped: (<5°)(>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 1–10 m (10–100 m) >100m | 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 Cliff

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				P	418	10	0													✓	
B			S	P	95	10	<1				P						X				Grass
C				P	651	10	0													✓	

2120 2121 2122

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 & C - NCO; No Treatment Required

Zone B - Trace oiling; No Further Treatment.

Spoke with Ernie of BLM, authorized SCAT operations without BLM presence.

ReSCAT

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

1 pm
9/5/2011 5:11 pm
6 pm
B40-LB
001
002
003
004
005
006
007
B40-IS
B40-RB
ZONE A
NOO
ZONE B
Track
ZONE C
NOO
Team 6
B40 RB
9/5/11
Image © 2011 GeoEye
© 2011 Europa Technologies
© 2011 Google
©2010
1996
45°46'02.82" N 108°28'19.72" W elev 3121 ft

D3/6

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION

Segment/Reach ID: B40 (Left Bank) / Right Bank / Island
Operations Division: B
Survey by: (Foot) / ATV / Boat / Helicopter / Overlook / _____
Date (dd/mm/yy): 07/09/11
Time (24h): std / daylight: 0830 hrs to 1025 hrs
(Sun) / Clouds / Fog / Rain / Snow / Windy / (Calm)
Water Level: low / (mean) / bankfull / overbank
(falling) / steady / rising
Air Temp + / - 25 deg C

2 SURVEY TEAM # 546

name	organization	~~contact phone number~~	signature
Damien Korte	Cardno Entrix		
Nathan Hammond	Cardno Entrix		
Juan Patino	USCG		
Betsy Hovda	DEQ		

3 SEGMENT

Total Segment/Reach Length 820 m Segment/Reach Length Surveyed 660 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: ____
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
Sloped: ___ (>5°)(15°)(30°)
canyon____ manmade____ meander ____ confined or leveed ____
straight____ braided X oxbow____ flood plain valley____
Substrate Type: Grass
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) 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 2 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 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)
2169 A			X		660	170	<1			P	S						✓				Treesgrass

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

Zone A - very light oil distribution, primarily coat with stain on tree branches and grass. Hot shot crew removed 2 bags of oiled branches, grass, and, debris utilizing ATM 1, 2, and 9. NFT recommended.

(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# _____

9/7/2011
2011
SCAT
Teams 5+6
9/7/11
B40-LB
A-vest light
B40-LP
Image USDA Farm Service Agency
©2010
© 2011 Google
1996
45°46'01.10" N 108°28'38.01" W elev 3117 ft

D13 / 16

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION	Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: B40 **Left Bank** / Right Bank / Island	09/09/2011	1515 hrs to 1520 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 + / - **28** deg C

2 SURVEY TEAM # NA	Name	Organization	Signature
	Jay Parks	Bureau of Land Management	Jay Parks
	Shawn Briggs	Montana FWP	
	Richard Marty	Polaris	Richard Marty

3 SEGMENT Total Segment/Reach Length 1000 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 S___ Sand_____ Mixed_____ Pebble/Cobble_____ Boulder_____ Peat/Organic_____ | Vegetated Bank:_____ | Wooded Upland: ____

Sediment Flat: Clay/Mud_____ Sand_____ Mixed/Coarse_____ | Other: Rip Rap_____ | 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 p___	confined or leveed _____
Sloped:___(>5°)(15°)(30°)	straight_____	braided s___	oxbow_____	flood plain valley_____

Substrate Type: mud/sand/grvl

Forested / **Vegetated** / Bare

4C RIVER CHANNEL CHARACTER circle51 or select as appropriate

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

Debris: Y / N oiled Y / N amount _____bags or _____trucks

access restrictions: Best accessed by boat

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)
					Length	Width	Distrib.														
	MS	LB	UB	OB	m	m	%	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR	AP	NO	
2228 A				X	1000	10	0													x	All

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	
None																	

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

Area was surveyed by boat. The zone was NOO.

Sketch **Yes** / No Photos Yes / **No** Frames None Photographer _____

B40LB (Rip rap)
9 Sept. 2011

A = N00

D/B/G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident Page 1 of 2

1 GENERAL INFORMATION	Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: B40 (Left Bank) / Right Bank / Island	10/09/11 ~~09/10/11~~ DK	0930 hrs to ~~1040~~ 0940 hrs DK	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 + / - 25 deg C

2 SURVEY TEAM # 5	Name	Organization	Signature
	Damien Korte	Cardno Entrix	[signature]
	Matthew Kent	DEQ	[signature]

3 SEGMENT Total Segment/Reach Length 850 m Segment/Reach Length Surveyed 200 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 P Shelf____ *Manmade:* Solid___ Permeable___ (type)____ *Wetland:* Swamp____ Bog/Fen____ Marsh _____

Sediment Bank: Clay/Mud____ Sand____ Mixed____ Pebble/Cobble____ Boulder____ Peat/Organic____ *Vegetated Bank:*____ *Wooded Upland:* ____

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

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

Cliff or Bluff: X Est Height 5 m canyon____ manmade____ meander ____ confined or leveed ____ Substrate Type: Rip-rap

Sloped: 45 (>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 1–10 m (10–100 m) >100m **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:

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)
2245 A			X		200	5	0													✓	Rip-rap

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

Zone A- NOO

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

9/10/2011 12:28 pm
9/10/2011
SCAT
09/10/11
Team 5
B40-LB
A
B41-LB
B40-LB
B41
B40
B40-IS
B40-RB
Image © 2011 GeoEye
© 2011 Google
1996
45°46'06.97" N 108°28'32.48" W elev 3117 ft
©2010

DB/G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident Page 1 of 2

1 GENERAL INFORMATION	Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: B40 Left Bank / Right Bank (Island)	05/09/11	1020 hrs to 1220 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 + / - 25 deg C

2 SURVEY TEAM # 6	Name	Organization	Signature
	Nathan Hammond	Cardno Entrix	Nathan Hammond
	Austin West	USCG	Austin West
	Betsy Hovda	DEQ	Betsy Hovda

3 SEGMENT Total Segment/Reach Length 850 m Segment/Reach Length Surveyed 850 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: (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: _____

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 1–10 m (10–100 m) >100m | 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: 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	
2123 A			S	P	850	410	<1			S	P						X				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	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 - Hot shot Crew utilized ATM 1, ATM 2, ATM 9 in the collection of 3 bags of transferable oil. SCAT team confident ATM 7 is adequate to cover any remaining oil that may be present. No Further Treatment.

ReSCAT

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

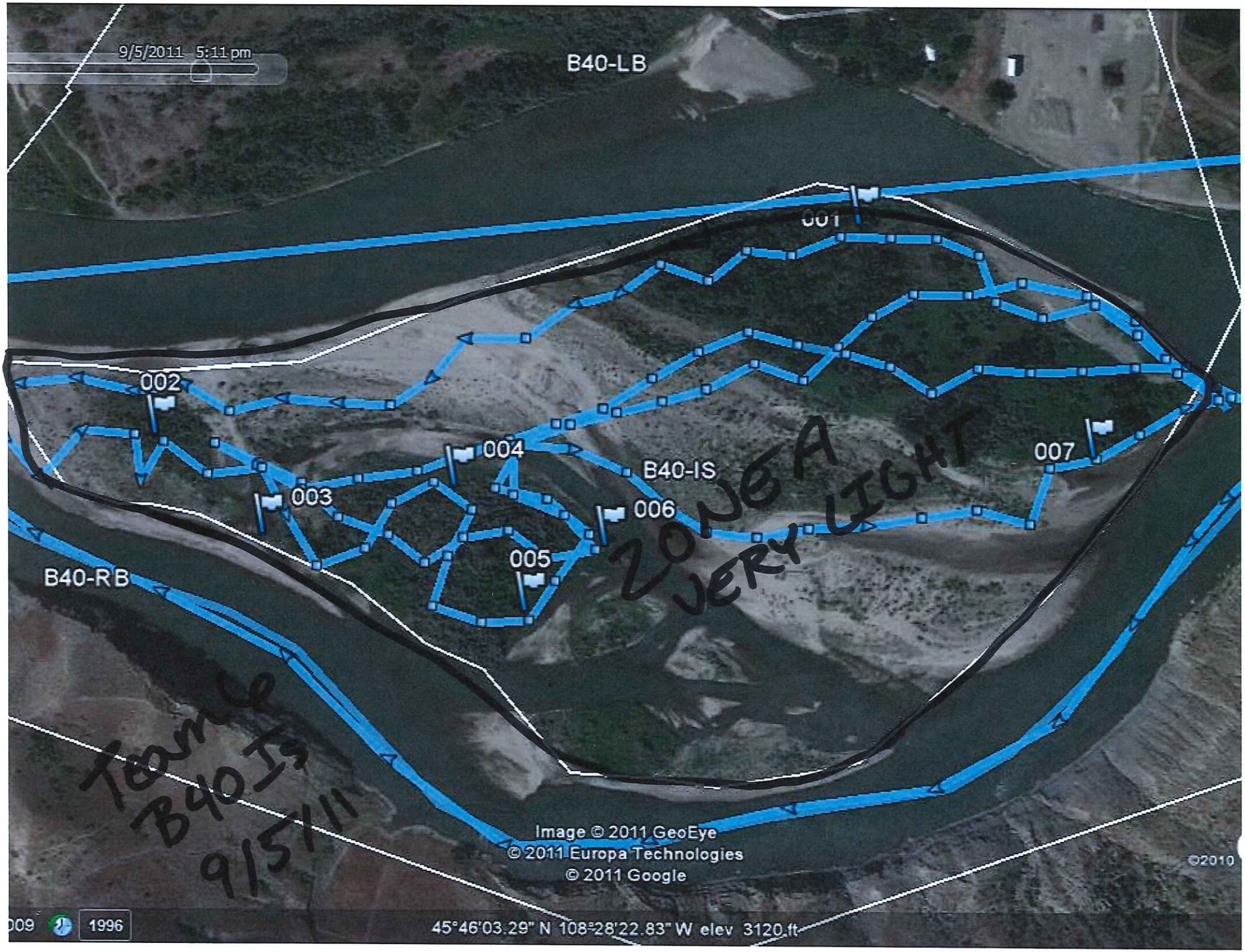

9/5/2011 5:11 pm
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Image © 2011 GeoEye
© 2011 Europa Technologies
© 2011 Google
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ARCADIS

Appendix F

Completed SCAT Segment Sign-Off Forms

SCAT Segment Operations Completion Sign-Off Sheet

Silvertip Pipeline Release

Segment B40 RB Date of Survey 9/5/11

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

CTR(s) Associated with SCAT Segment 32

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).

Austin West | Austin West USCG | 9/5/11
Sign Name | Print Name/ Affiliation | Date
Federal Representative (EPA/USCG)

Betsy Hovda | Betsy Hovda DEQ | 9/5/11
Sign Name | Print Name/ Affiliation | Date
State Representative (DEQ/FWP)

Nathan Hammond | Nathan Hammond Cardno Entrix | 9/5/11
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.

SCAT Segment Operations Completion Sign-Off Sheet

Silvertip Pipeline Release

Segment B40 Left Bank Date of Survey 09/07/2011

Dates of Initial SCAT Assessments 19JUL11 IC
(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 Complete[1] ☒ DK 9/7/11

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
	JUAN PATINO	07SEP11

Federal Representative (EPA/USCG)

Sign Name	Print Name/ Affiliation	Date
Betsy Hovda	Betsy Hovda DEQ	9/7/11

State Representative (DEQ/FWP)

Sign Name	Print Name/ Affiliation	Date
	Damien Korte/ Cardno Entrix	9/7/11

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.

SCAT SEGMENT OPERATIONS COMPLETION SIGN-OFF SHEET

SILVERTIP PIPELINE RELEASE

Segment _B40L___ Date of Survey ____9 Sept. 2011_____

Dates of Initial SCAT Assessments __19 July 2011 _____
(to be filled out by SCAT Data Management)

CTR(s) Associated with SCAT Segment _CTR-28_____

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).

Jay Parks — Jay Parks/US Bureau of Land Management — 9/12/11
Sign Name — Print Name/ Affiliation — Date
Federal Representative (USBLM)

Shawn Briggs/Montana Fish, Wildlife, and Parks — 9/10/2011
Sign Name — Print Name/ Affiliation — Date
State Representative (DEQ/FWP)

Richard Marty — Richard Marty/Polaris (for Exxon-Mobile) — 10 Sept 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 B40-LB

Date of Survey 09/10/11

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

CTR(s) Associated with SCAT Segment 28

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
	No federal rep.	

Federal Representative (EPA/USCG)

Sign Name	Print Name/ Affiliation	Date
	MATTHEW KLINT / DEQ	9/15/11

State Representative (DEQ/FWP)

Sign Name	Print Name/ Affiliation	Date
	Damien Korte/Cardno Entrix	09/10/11

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.

SCAT Segment Operations Completion Sign-Off Sheet

Silvertip Pipeline Release

Segment B40 Island Date of Survey 9/5/11

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

CTR(s) Associated with SCAT Segment 35

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
	Austin West USCG	9/5/11

Federal Representative (EPA/USCG)

Sign Name	Print Name/ Affiliation	Date
Betsy Hovda	Betsy Hovda DEQ	9/5/11

State Representative (DEQ/FWP)

Sign Name	Print Name/ Affiliation	Date
	Nathan Hammond / Cardno Entrix	9/5/11

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.

Silvertip Pipeline Spill
SCAT Segment Sign-Off Sheet

Operations Division: A (B) C

SCAT Area Number (i.e. A12): B40

SCAT Segment Number (i.e. A12-LB/IS/RB): B40/IS

Partial (see sketch) Only Zone A

Check if Complete:

1. **Completion Date for Initial SCAT Assessment:** 19-21-28-29 July 2011 ☑
2. **Combined Treatment Recommendations (CTRs) Developed/Issued:** (Yes)/No
   List CTRs Applicable to SCAT Segment: 35
3. **Clean-Up Operations Conducted:** ☑
4. **Meets Qualitative Approved Treatment Methods Target Endpoints:** (Yes)/No

5. **SCAT Reassessment:**

Sign Name	Print Name	Date
	Rachelle Thompson	27/08/2011

Federal Representative (EPA/USCG)

Sign Name	Print Name	Date
Donnie McCurry	Donnie McCurry	27/08/2011

State Representative (DEQ/FWP)

Sign Name	Print Name	Date
Polaris	Gerlo Gauvreau	27/08/2011

RP Representative (SCAT Contractor)

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