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ExxonMobil Pipeline Company

SCAT Area Transition Report for C25

Silvertip Pipeline Incident
Laurel, Montana

October 21, 2011

SCAT Area Transition Report for C25

Silvertip Pipeline Incident
Laurel, Montana

Prepared for:
ExxonMobil Pipeline Company

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Our Ref.:
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Date:
October 21, 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

Table of Contents

1. Executive Summary of Oil Removal Activities 1

1.1 Land Ownership and Access Issues 1

1.2 Cultural, Historic, and Natural Resource Constraints 1

1.3 Summary of Environmental Sampling 1

1.4 Summary of Initial SCAT Surveys 2

1.5 Applicable Compiled Treatment Recommendations 2

1.6 Oil Removal Activities 2

1.7 Pre-Inspection Survey Transmittal 2

1.8 Post-Inspection Survey Transmittal 3

1.9 Summary of Final SCAT Surveys 3

1.10 SCAT Area Conclusions 3

2. Transition Sign-Off Form 4

Tables

Table 1 Environmental Sampling Summary 2

Figures

Figure 1 Aerial Map with Parcel Boundaries

Figure 2 Wildlife Resources

Figure 3 Sample Location Map

Figure 4 Maximum SCAT Observations

Figure 5 Final SCAT Observations

Appendices

A Sample Detection Summary

B Initial SCAT Survey Forms and Sketches

C Pre-Inspection Survey Transmittal

D Post-Inspection Survey Transmittal

E Final SCAT Survey Forms and Sketches

F Completed SCAT Segment Sign-Off Forms

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 C25, 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 C25. 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 C25, 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 C25 is 188.9. There were no access issues for this area.

1.2 Cultural, Historic, and Natural Resource Constraints

No historic properties or cultural resources were observed or recorded due to limited inspections of Area C25 because of low levels of oiling in Division C.

Figure 2 summarizes the natural resources identified in this segment. International Bird Rescue and Resource Advisors from U.S. Fish and Wildlife Service conducted limited inspections of Area C25 due to the low level of oiling in Division C. No oiled wildlife was observed or recovered. No Wildlife Priority Cleanup Areas were identified. No active migratory bird nests were identified in Area C25.

1.3 Summary of Environmental Sampling

Table 1 (below) summarizes samples collected within Area C25. 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 C25 are provided on Figure 3.

Table 1 Environmental Sampling Summary

Agency	Sample Num	Date	Matrix	Location	Latitude	Longitude
CTEH	SHM07215W102	7/21/2011	Water_Surface	SHMT_393_SW102	45.917330	-108.320491
CTEH	SHMT07215W102DUP	7/21/2011	Water_Surface	SHMT_393_SW102	45.917330	-108.320491
CTEH	SHMT07215W103	7/21/2011	Water_Surface	SHMT_393_SW103	45.914743	-108.319149
CTEH	SHMT07215W305	7/21/2011	Water_Surface	SHMT_393_SW305	45.918338	-108.319434
CTEH	SHMT08175O101	8/17/2011	Soil_Surface	SHMT_414_SO101	45.921498	-108.319352
CTEH	SHMT08175O102	8/17/2011	Soil_Surface	SHMT_414_SO102	45.920850	-108.320811

Appendix A contains a summary of sample results with detections for this sample set. Detections with a result above the screening level are highlighted; for this set, there was one exceedance for vanadium.

1.4 Summary of Initial SCAT Surveys

The SCAT teams used systematic evaluation criteria and treatment method tables approved by the National Oceanic and Atmospheric Administration to provide a standard approach for data collection and conducting field surveys. The forms and sketches from the initial SCAT surveys performed along the river bank (water edge) and floodplain within Area C25 are included in Appendix B. Figure 4 provides the maximum oiling zones observed by the SCAT team during the initial surveys of Area C25.

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. 61).

1.6 Oil Removal Activities

Oil removal activities were conducted within Area C25 in accordance with the ATMs identified in the CTRs. Appendix I of the Summary of Assessment and Oil Removal Activities report presents this data including: date range/days worked, average number of people working per day, equipment used, and various types of bags removed: oily debris, personal protective equipment, plastic, trash, super sacks, wood chips, and contaminated wood.

1.7 Pre-Inspection Survey Transmittal

A Pre-Inspection Survey Transmittal (PIST) was not conducted for this area.

1.8 Post-Inspection Survey Transmittal

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

1.9 Summary of Final SCAT Surveys

Figure 5 shows the oiling conditions within Area C25 following completion of oil removal activities. The SCAT team performed final surveys of the island and right bank within SCAT Area C25 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 initial SCAT surveys performed within Area C25, no treatment was recommended for the left bank. Based on the final SCAT surveys performed on the island and right bank, 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 C25

Prepared for:

Unified Command

_____

Date

_____

Unified Command – RP

SCAT Area Transition Report for C25

Prepared for:

Unified Command

_____

Date

_____

Unified Command – FOSC

SCAT Area Transition Report for C25

Prepared for:

Unified Command

_____

Date

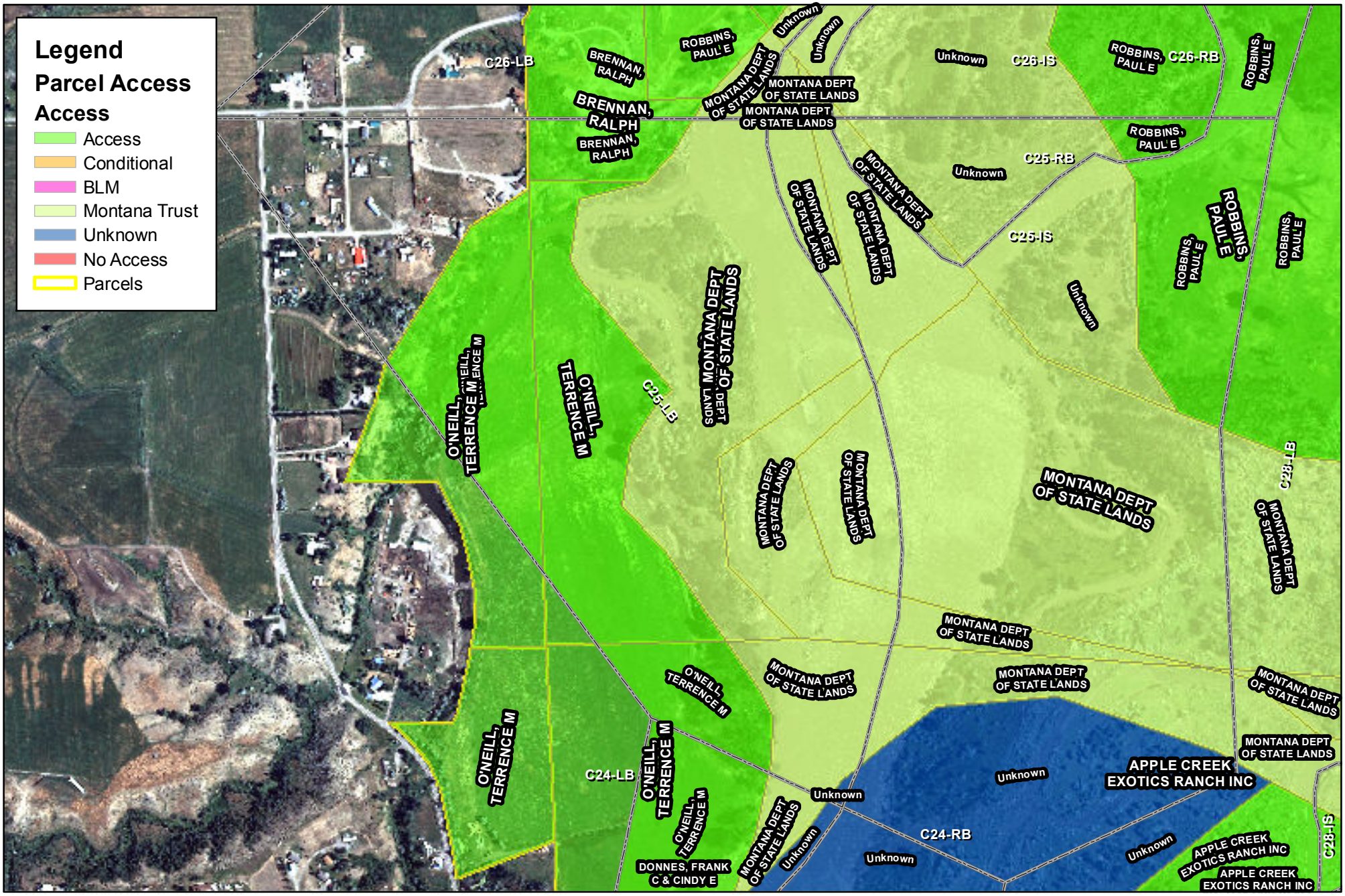
_____

Unified Command – MDEQ

Silvertip Pipeline Incident
Area Transition Report Map - Parcels
Segment - C25

9/27/2011

1:7,500



0 750 1,500 3,000 Feet

Figure 1

Date: 9/27/2011 Time: 4:49:29 PM

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

Silvertip Pipeline Incident
SCAT Area Transition Report Map
Area - C25

ExxonMobil Pipeline

N

1:9,600

9/26/2011

The Response Group

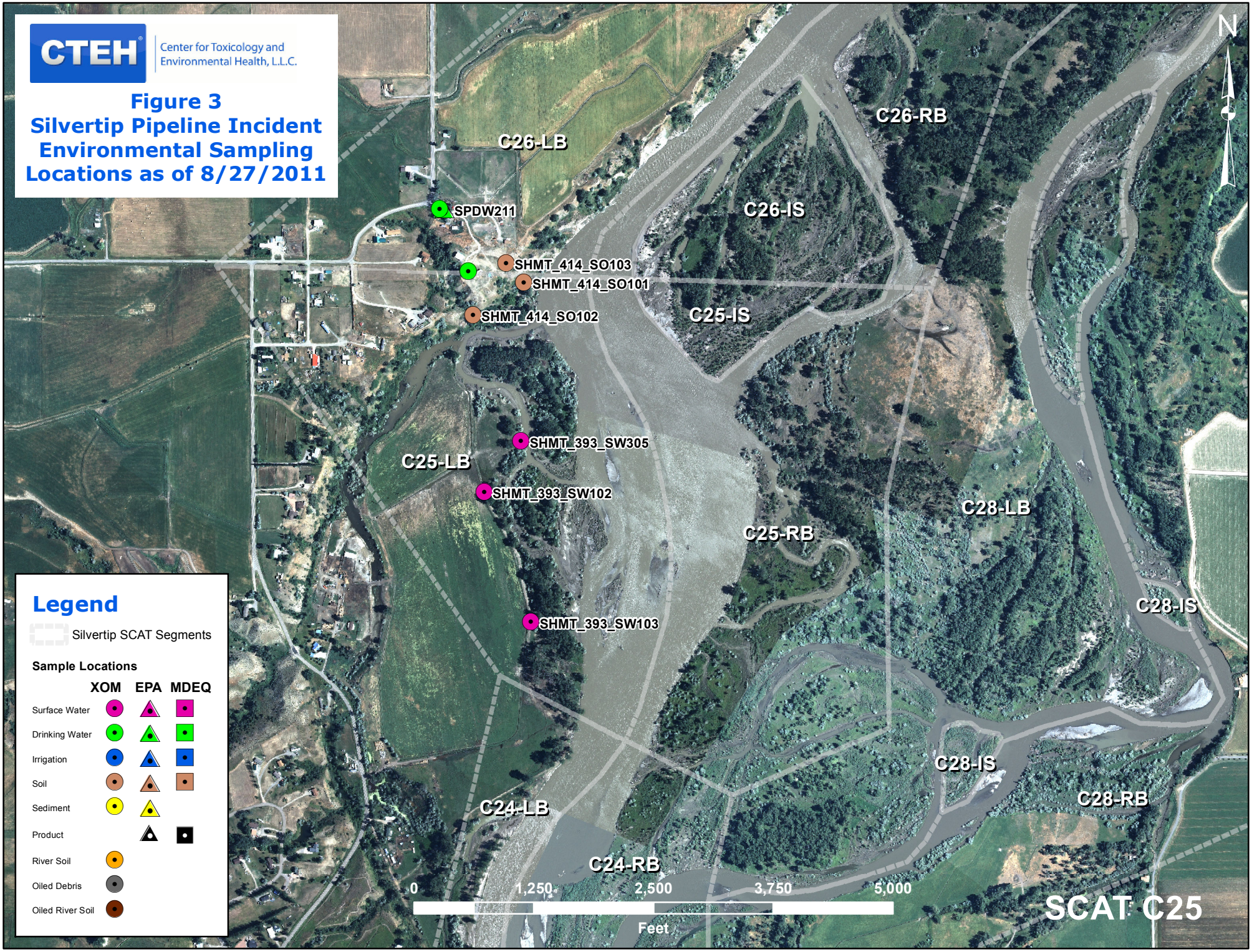
Path: P:\GIS\MXD's\Wildlife\ATR Maps - Figure 2\ATR Map_Div.C_Fig2_09262011.mxd

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 1,000 2,000 4,000 Feet

Figure 2
Wildlife Resources

Date: 9/26/2011 Time: 4:24:16 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
C26-LB
C26-RB
C26-IS
SPDW211
SHMT_414_SO103
SHMT_414_SO101
SHMT_414_SO102
C25-IS
SHMT_393_SW305
C25-LB
SHMT_393_SW102
C28-LB
C25-RB
C28-IS
SHMT_393_SW103
C28-IS
C28-RB
C24-LB
C24-RB
0
1,250
2,500
3,750
5,000
Feet
SCAT C25
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

430 0 430 860 Feet

Figure 4 - Maximum SCAT Observations For SCAT Area: C25

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

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

430 0 430 860 Feet

Figure 5 - Final SCAT Observations For SCAT Area: C25

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

Detections in Samples Collected in SCAT Area C25

NA - Not Available

Detected Above Screening Level

Sample Num	Date	Sample Type	Matrix	Analytical Method	Analyte	Detected	Result	Screening Level	Result Qualifier	Units	Above?
SHMT0721SW102DUP	07/21/2011	Field	Water_Surface	EPA 8270 by SIM	Naphthalene	Y	0.056	100		ug/L	no
SHMT0721SW103	07/21/2011	Field	Water_Surface	MADEP VPH	Aliphatic (C05-C08), Adjusted	Y	57.3	700	J-	ug/L	no
SHMT0721SW103	07/21/2011	Field	Water_Surface	MADEP VPH	Aliphatic (C05-C08).Unadjusted	Y	57.9	700	J-	ug/L	no
SHMT0721SW103	07/21/2011	Field	Water_Surface	EPA 8260	Toluene	Y	6.3	1000		ug/L	no
SHMT0721SW103	07/21/2011	Field	Water_Surface	MADEP VPH	Toluene	Y	0.57	1000	J-	ug/L	no
SHMT0721SW103	07/21/2011	Field	Water_Surface	MADEP VPH	Total Purgeable Hydro Carbons	Y	63.2	1000	J-	ug/L	no
SHMT0817SO101	08/17/2011	Field	Soil_Surface	EPA 6010	Arsenic	Y	20.6	40		mg/kg	no
SHMT0817SO101	08/17/2011	Field	Soil_Surface	EPA 6010	Barium	Y	158	820		mg/kg	no
SHMT0817SO101	08/17/2011	Field	Soil_Surface	EPA 6010	Cadmium	Y	1.4	3.8		mg/kg	no
SHMT0817SO101	08/17/2011	Field	Soil_Surface	EPA 6010	Chromium	Y	20.7	280		mg/kg	no
SHMT0817SO101	08/17/2011	Field	Soil_Surface	EPA 6010	Lead	Y	21.8	400		mg/kg	no
SHMT0817SO101	08/17/2011	Field	Soil_Surface	EPA 7471	Mercury	Y	0.026	1		mg/kg	no
SHMT0817SO101	08/17/2011	Field	Soil_Surface	EPA 6010	Nickel	Y	19.9	150		mg/kg	no
SHMT0817SO101	08/17/2011	Field	Soil_Surface	MADEP EPH	Total Extractable Hydrocarbons	Y	39.2	200		mg/kg	no
SHMT0817SO101	08/17/2011	Field	Soil_Surface	EPA 6010	Vanadium	Y	37.3	39		mg/kg	no
SHMT0817SO102	08/17/2011	Field	Soil_Surface	EPA 6010	Arsenic	Y	24	40		mg/kg	no
SHMT0817SO102	08/17/2011	Field	Soil_Surface	EPA 6010	Barium	Y	222	820		mg/kg	no
SHMT0817SO102	08/17/2011	Field	Soil_Surface	EPA 8270 by SIM	Benzo(b)fluoranthene	Y	13.5	200		ug/kg	no
SHMT0817SO102	08/17/2011	Field	Soil_Surface	EPA 6010	Cadmium	Y	1.8	3.8		mg/kg	no
SHMT0817SO102	08/17/2011	Field	Soil_Surface	EPA 6010	Chromium	Y	25.4	280		mg/kg	no
SHMT0817SO102	08/17/2011	Field	Soil_Surface	EPA 8270 by SIM	Fluoranthene	Y	13.1	300000		ug/kg	no
SHMT0817SO102	08/17/2011	Field	Soil_Surface	EPA 6010	Lead	Y	40.8	400		mg/kg	no
SHMT0817SO102	08/17/2011	Field	Soil_Surface	EPA 7471	Mercury	Y	0.033	1		mg/kg	no
SHMT0817SO102	08/17/2011	Field	Soil_Surface	EPA 6010	Nickel	Y	22.4	150		mg/kg	no
SHMT0817SO102	08/17/2011	Field	Soil_Surface	MADEP EPH	Total Extractable Hydrocarbons	Y	50.7	200		mg/kg	no
SHMT0817SO102	08/17/2011	Field	Soil_Surface	EPA 6010	Vanadium	Y	**41.6**	39		mg/kg	YES

Appendix B

Initial SCAT Survey Forms and Sketches

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

1 GENERAL INFORMATION

Segment/Reach ID: C25 Left Bank / Right Bank / Island

Operations Division:

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

Time (24h): std / daylight 1045 hrs to 1145 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 + / - 27 deg C

2 SURVEY TEAM # 1 + 2

Name	Organization	Signature
Nathan Hammond	Cardno Entrix	See attached
Lisa Gerencher	Cardno Entrix	
Peter Reich	EPA	
Betsy Horda	DEQ	
Adam Bausch	Cardno Entrix	
Earl Radonski	FWP	
Jack Smith	USCG	

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 227 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 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: Boat access

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	
2421 A		X	X	X	227	410	—													✓	

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

A - NTR

Sketch Yes / No Photos Yes / No Frames_____ Photographer_____

Ver. 04 July 2011

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

430 0 430 860 Feet

Figure 4 - Maximum SCAT Observations For SCAT Area: C25

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

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D13/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: C-25 Left Bank / Right Bank / Island	08/08/11	1045 hrs to 1145 hrs	low - mean - bankfull - overbank
Operations Division: C			falling - steady – rising
Survey by: Foot / ATV / Boat / Helicopter / Overlook / _____		Sun / Clouds / Fog / Rain / Snow / Windy / Calm	Air Temp + / - 27 deg C

2 SURVEY TEAM # 12	Name	Organization	Signature
	Nathan Hammond	Cardno Entrix	
	Lisa Grencher	Cardno Entrix	
	Peter Reich	EPA	
	Betsy Horda	DEQ	
	Adam Bausch	Cardno Entrix	
	Jack Smith	USCG	
	Earl Radonski	F&WP	

3 SEGMENT Total Segment/Reach Length 1,070 m Segment/Reach Length Surveyed 750 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: 5 | 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: ~~Fine~~

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) 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: Boat Access

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)
1269	A			X		1	1	<1			(X)	X		X								Debris
1270	B			X		1	1	<1			X	(X)		X								Grass
1271	C		X	X	(X)	750	230	(O)													✓	

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, B - NTR

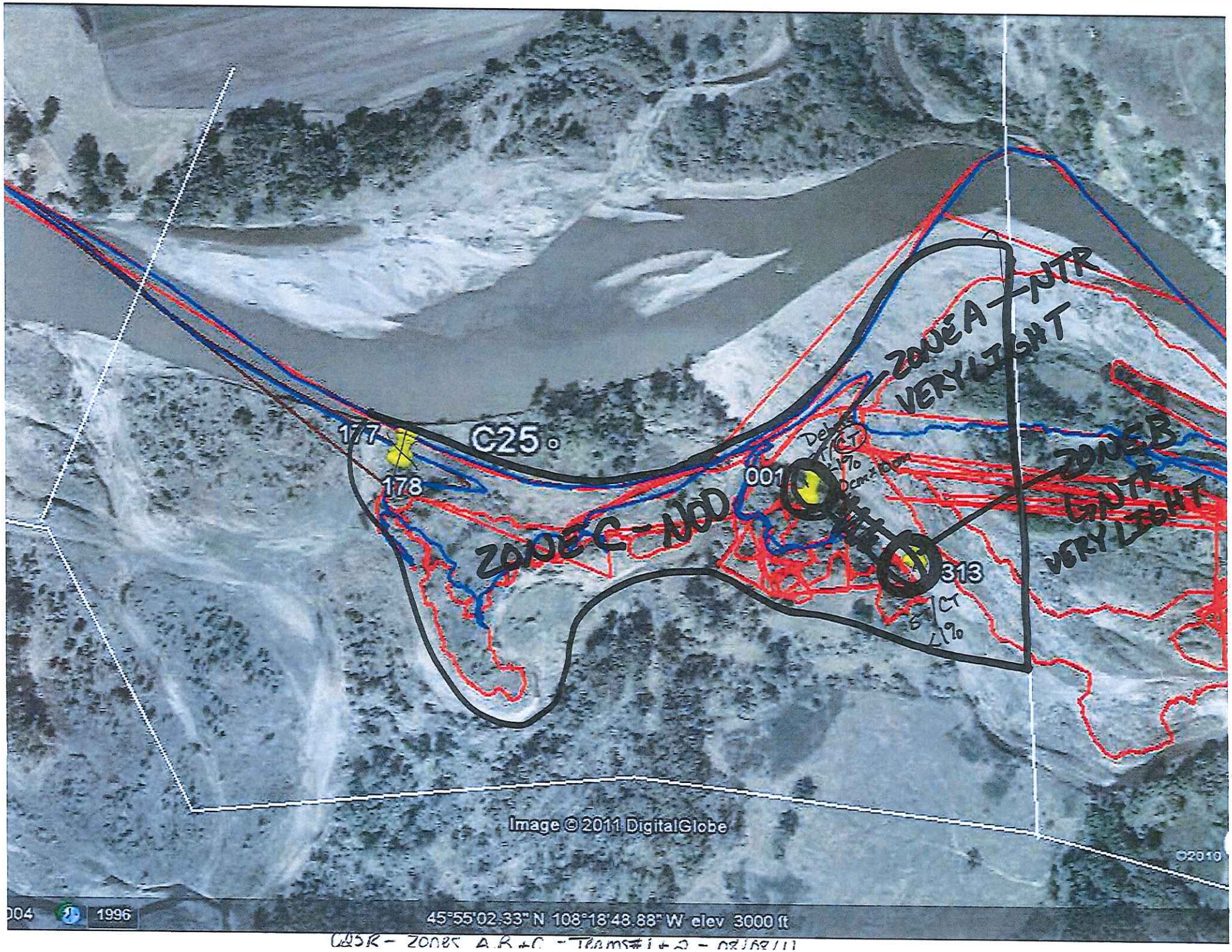
Zone C - NOC

VOID

Split to be RB + IS

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

Ver. 04 July 2011



CASR - ZONES A, B + C - TRANS#1 + 2 - 02/08/11

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: C25 Left Bank / Right Bank / Island	22/08/11	1100 hrs to 1530 hrs	low / mean - bankfull - overbank
Operations Division: C			falling - steady – rising
Survey by: Foot / ATV / Boat / Helicopter / Overlook / _____	Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp + / - 34 deg C

2 SURVEY TEAM # 1, 2

Name	Organization	Signature
Joe Boyle	Cond NO ENTRY	
John Brown	MOEP	
Robert Ashton	MOEP	R. Ashton
Charlie Pan	Contractor	
Linda Watson	EPA	Linda R Watson
Lance Richman	US EPA	

3 SEGMENT Total Segment/Reach Length 210 m Segment/Reach Length Surveyed 210 m

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

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

4A RIVER BANK TYPE CK 8/23/11 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 P Bog/Fen____ Marsh _____

Sediment Bank: Clay/Mud S Sand____ Mixed____ Pebble/Cobble____ Boulder____ Peat/Organic____ | Vegetated Bank: S | Wooded Upland: S

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

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

Cliff or Bluff:___Est Height ____m | canyon____ manmade____ meander S confined or leveed ____ | Substrate Type: _____

Sloped:___(>5°)(15°)(30°) | straight____ braided D 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 90 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 <1 bags or ____trucks | access restrictions channels soft mud

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)
1745 A		S	S	P	210	500	0													P	mud/veg
1746 B		S	S	P	1	1	1			P							P				mud/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

Zone A: NO oil observed — NFT

Zone B: very small area, trace dist. oil coated debris — NFT

Sketch Yes / No Photos Yes / No Frames_____ Photographer_____

Ver. 04 July 2011

C25-IS
SCAT 1+2
22 Aug 2011
41:06 am
2 pm
A
B
C25-IS
001
Spraklin Island
C25-LB
015
C25-RB
002
L12
C28-LB
014
001 012
013
010
011
L07
L08
L09
L10
L11
ACTIVE LOG 001
L04
L02
009
L03
L05
L06
C28-IS
©2011 Google
© 2011 Europa Technologies
©2010
1996
45°54'59.42" N 108°18'35.97" W elev 3001 ft

DB/G/S

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: C-25 Left Bank / Right Bank / Island	26/07/11	1050 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 + / - 27 deg C

2 SURVEY TEAM # 3

Name	Organization	Signature
Steve Kennedy	Cardno Entrix	Steve Kennedy
Gary Riley	Cardno Entrix	Steve Kennedy
John Brown	MDEL	[illegible]

3 SEGMENT Total Segment/Reach Length 920 m Segment/Reach Length Surveyed 920 m

Start GPS: LATITUDE 45° 54.795 deg. — min. LONGITUDE 108° 19.077 deg. — min. Datum: WGS84

End GPS: LATITUDE 45.55.312 deg. — min. LONGITUDE 108.19.151 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 S | Manmade: Solid___ Permeable___ (type)___ | Wetland: Swamp___ Bog/Fen___ Marsh___

Sediment Bank: Clay/Mud P Sand___ Mixed___ Pebble/Cobble S Boulder___ Peat/Organic___ | Vegetated Bank: P | Wooded Upland: ___

Sediment Flat: Clay/Mud P Sand___ Mixed/Coarse___ | Other: Hay field | If snow and ice use Winter River SOS

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

Cliff or Bluff: P Est Height 50 m | canyon P manmade___ meander___ confined or leveed___ | Substrate Type: ___

Sloped: ___(>5°)(15°)(30°) | straight S 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 ___ bags or ___ trucks | access restrictions Steep bank

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	
757 A			S	P	920	>100	0		1											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				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

C-25, zone A; no impact observed. SK over ~~upper~~ bank only; due to ~~* bank~~ steep slope; upper bank not accessible.

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

DB/G/S

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

1 GENERAL INFORMATION

Segment/Reach ID: C-25 (Left Bank) / Right Bank / Island

Operations Division:

Date (dd/mm/yy): 26/07/11

Time (24h): std / daylight 1050 hrs to 1230 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 + / - 27 deg C

2 SURVEY TEAM # 3

Name	Organization	Signature
Steve Kennedy	Cardno Entrix	Steve Kennedy
Gary Riley	Cardno Entrix	Steve Kennedy
John Brown	MDBLX	[illegible]

3 SEGMENT Total Segment/Reach Length 920 m Segment/Reach Length Surveyed 920 m

Start GPS: LATITUDE 45° 54.795 deg. — min. LONGITUDE 108° 11.077 deg. — min. Datum: WGS84

End GPS: LATITUDE 45, 55. 312 deg. — min. LONGITUDE 108. 11.151 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 S | Manmade: Solid___ Permeable___ (type)___ | Wetland: Swamp___ Bog/Fen___ Marsh___

Sediment Bank: Clay/Mud P Sand___ Mixed___ Pebble/Cobble S Boulder___ Peat/Organic___ | Vegetated Bank: P | Wooded Upland: ___

Sediment Flat: Clay/Mud P Sand___ Mixed/Coarse___ | Other: Hayfield | If snow and ice use Winter River SOS

4B RIVER VALLEY CHARACTER select as appropriate

Cliff or Bluff: P Est Height 50 m | canyon P manmade___ meander___ confined or leveed___

Sloped: ___ (>5°)(15°)(30°) | straight S braided___ oxbow___ flood plain valley___

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: <1 m 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 Steep bank

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	
757 A			S	P	920	>100	0		1											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				MAX. PIT DEPTH cm	OILED ZONE cm-cm	SUBSURFACE OIL CHARACTER							WATER TABLE cm	SHEEN COLOUR B, R, S, N	CLEAN BELOW Yes / No	SUBST. TYPE(S)
	MS	LB	UB	OB			SAP	OP	PP	OR	OF	TR	NO				

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

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

C-25, zone A; no impact observed. ~~upper~~ lower bank only; due to ~~at Pers~~ steep slope; upper bank not accessible.

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

Ver. 04 July 2011

ExxonMobil Pipeline

N

SILVERTIP PIPELINE INCIDENT
Yellowstone River
Map 37

The Response Group

Date: 7/22/2011 Time: 8:35:54 PM

Path: P:\GIS\MXD's\Segments_Map_11x17.mxd

DB/G

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: C25 **Left Bank** / Right Bank / Island	08/06/2011		low - mean - **bankfull** - overbank
Operations Division:		1120 hrs to 1230 hrs	**falling** - steady – rising
Survey by: **Foot** / ATV / Boat / Helicopter / Overlook / _____	**Sun** / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp + / - 3 2 deg C

2 SURVEY TEAM # 6	Name	Organization	Signature
	Chris Arredondo	CardnoENTRIX	
	Dominick Ventura	EPA	
	Jeremiah Wood	FWP	

3 SEGMENT Total Segment/Reach Length 943 m Segment/Reach Length Surveyed 843 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 MS Pebble/Cobble S ___ Boulder____ Peat/Organic____ | **Vegetated Bank:** S ___ | **Wooded Upland:** (P)

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

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

Cliff or Bluff:____ Est Height ____m | canyon____ manmade____ meander ____ confined or leveed ____ | Substrate Type: Mixed

Sloped:___(>5°)(15°)(30°) | straight____ 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 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 0 bags or 0 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~~	~~641~~	~~165~~														~~X~~	
~~B~~				~~X~~	~~199~~	~~112~~	~~<1~~		~~X~~	~~X~~	~~(X)~~					~~X~~	~~(X)~~				~~Shrubs, grass, woody debris~~
1246 A				X	106	128	<1			(X)	X										grass
1247 B				X	249	206	~~<1~~													X	
1248 C				X	55	102	<1		(X)		X					(X)	X				grass, debris
1249 D				X	306	95														X	
1250 E				X	342	95														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)
NO.	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: No treatment required.

Zone B: No treatment recommended.

Zone A: No treatment recommended.
Zone B: No treatment required
Zone C: No treatment recommended
Zone D: No treatment required
Zone E: No treatment required

Note: The summation of Zone A-E lengths is greater than the segment length surveyed b/c the zones parallell each other. Refer to map.

Sketch Yes / No **Photos** Yes / No **Frames**_____ **Photographer** Chris Arredondo

C25-

(LR/I)??

08/06/11

Team 6

0 335 670 1,340

Feet

D13/G

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: C-25 Left Bank / Right Bank / Island	08/08/11	1045 hrs to 1145 hrs	low - mean - bankfull - overbank
Operations Division: C			falling - steady – rising
Survey by: Foot / ATV / Boat / Helicopter / Overlook / _____	Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp + / - 21 deg C

2 SURVEY TEAM # 12

Name	Organization	Signature
Nathan Hammond	Cardno Entrix	
Lisa Gerencher	Cardno Entrix	
Peter Reich	EPA	
Betsy Horda	DEQ	
Adam Bausch	Cardno Entrix	
Jack Smith	USCG	
Earl Radonski	FWP	

3 SEGMENT Total Segment/Reach Length 1,070 m Segment/Reach Length Surveyed ~~550~~ 585 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:** 5 | **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: ~~Fresh~~

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 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: Boat Access

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	
1269 A			X		1	1	<1			X	X		X								Debris
1270 B			X		1	1	<1			X	X		X								Grass
1271 C		X	X	X	~~550~~	~~250~~														✓	
					585	250															

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, B - NTR

Zone C - NOC

Sketch Yes / No Photos Yes / No Frames_____ Photographer_____

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

430 0 430 860 Feet

Figure 4 - Maximum SCAT Observations For SCAT Area: C25

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: 10/6/2011 2:57:21 PM

D13/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: C25 Left Bank / Right Bank / Island	08/08/11	1045 hrs to 1145 hrs	low - mean - bankfull - overbank
Operations Division: C			falling - steady – rising
Survey by: Foot / ATV / Boat / Helicopter / Overlook / _____	Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp + / - 27 deg C

2 SURVEY TEAM # 12

Name	Organization	Signature
Nathan Hammond	Cardno Entrix	
Lisa Grenecher	Cardno Entrix	
Peter Reich	EPA	
Betsy Horda	DEQ	
Adam Bausch	Cardno Entrix	
Jack Smith	USCG	
Earl Radanski	FWP	

3 SEGMENT Total Segment/Reach Length 1070 m Segment/Reach Length Surveyed 750 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: 5 | 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: ~~Fine~~

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 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: Boat Access

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)
1269 A			X		1	1	<1			X	X		X								Debris
1270 B			X		1	1	<1			X	X		X								Grass
1271 C		X	X	X	750	230														✓	

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

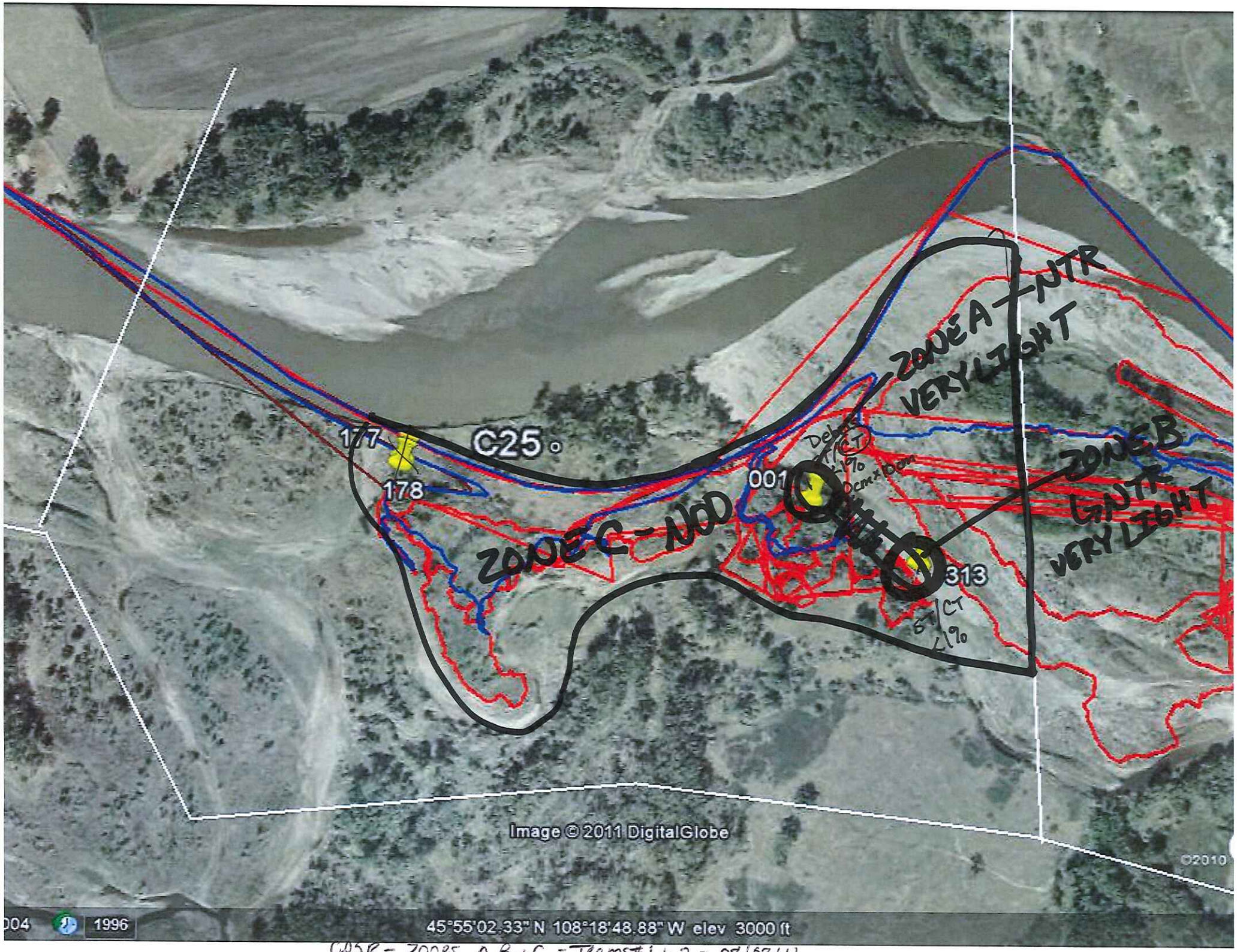
Zone A, B - NTR

Zone C - NOC

VOID

Split to be RB + IS

Sketch Yes / No Photos Yes / No Frames_____ Photographer_____



CQSR – Zones A.B.+C – Teams#1+2 – 08/08/11

DB/n

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: C25 Left Bank / Right Bank / Island	18/08/11	1500 1615	low - mean - bankfull - overbank
Operations Division: C		[redacted] hrs to [redacted] hrs	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 & 2

Name	Organization	Signature
Todd Farrar	Polaris	
Bob Nailon	Entrix	
Ariel Blanc	Polaris	
Jay Watson	Mt FWP	
Jessica Ross	MDEQ	
Alicia Taylor	USCG	
John Davis	USCG	

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 1395 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 P S Sand____ Mixed____ Pebble/Cobble S Boulder____ Peat/Organic____ | Vegetated Bank: P | Wooded Upland: ____

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

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

Cliff or Bluff: Y Est Height 1 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 | 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 1 bags or ____ trucks | access restrictions Island - Boat Access

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	
1619 A				X	845	1.0	0.1				X						X				V, WD
1620 B				X	150	1.0	0.1				X						X				Veg, WD
1621 C				X	300	5.0														X	

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

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

Light Stain on vegetation with a few spots on woody Debris - Zones A & B

No Further Treatment Required - NFT

Zone C - No oiling Observed - NFT

Sketch Yes / No Photos Yes / No Frames_____ Photographer_____

D3/n

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: C25 Left Bank / Right Bank / Island	18/08/11	1500 1615 hrs to hrs	low - mean - bankfull - overbank
Operations Division: C			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 & 2	Name	Organization	Signature
	Todd Farrar	Polaris	
	Bob Nailon	Entrix	
	Ariel Blanc	Polaris	
	Jay Watson	Mt FWP	
	Jessica Ross	MDEQ	
	Alicia Taylor	USCG	
	John Davis	USCG	

3 SEGMENT Total Segment/Reach Length ___ m Segment/Reach Length Surveyed 1395 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 P S Sand ___ Mixed ___ Pebble/Cobble S Boulder ___ Peat/Organic ___ | Vegetated Bank: P | Wooded Upland: ___

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

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

Cliff or Bluff Y Est Height 1 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 | 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 1 bags or ___ trucks | access restrictions Island - Boat Access

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)
19 A				X	845	1.0	0.1				X						X				V, WD
20 B				X	150	1.0	0.1				X						X				Veg, WD
21 C				X	300	5.0														X	

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

TRENCH or PIT NO.	RIVER BANK ZONE 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

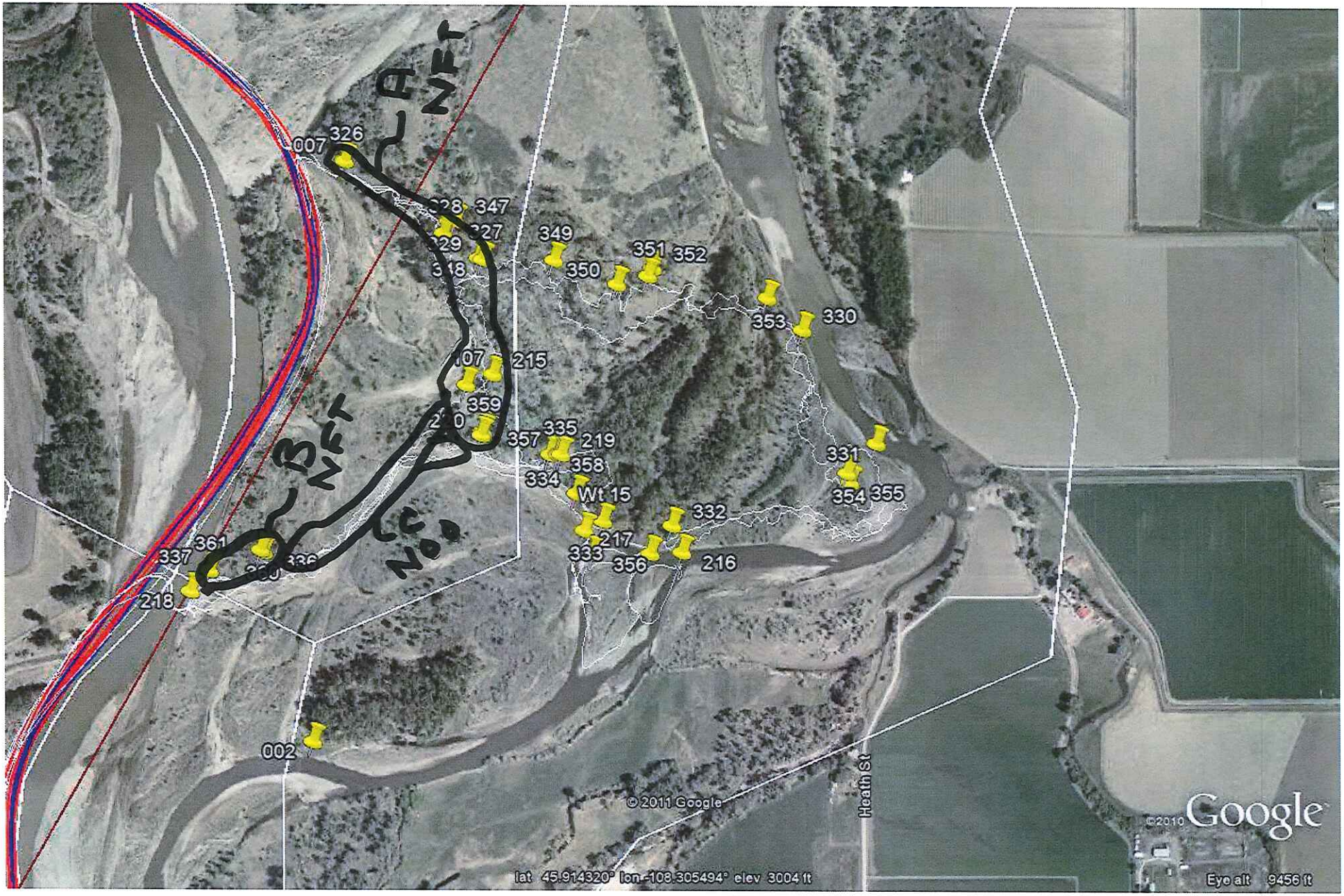
Overbank Survey Required Y / N | Overbank Survey Completed Y / N | Shoreline Survey Completed Y

Light Stain on vegetation with a few spots on woody Debris - Zones A & B

No Further Treatment Required - NFT

Zone C - No Oiling Observed - NFT

Sketch Yes / No Photos Yes / No Frames ___ Photographer ___


A NFT
B NFT
C NOD
326
347
349
350
351
352
353
330
215
359
335
219
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358
334
Wt 15
331
354
355
332
217
333
356
216
361
337
218
002
Heath St
© 2011 Google
©2010 Google
lat 45.914320° lon -108.305494° elev 3004 ft
Eye alt 9456 ft

DB / G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

Page 1 of ~~2~~ 3 (JB)

1 GENERAL INFORMATION

Segment/Reach ID: C25 Left Bank / Right Bank / Island

Operations Division: C

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

Date (dd/mm/yy): 22/08/11

Time (24h): std / daylight 1100 hrs to 1530 hrs

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

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

Air Temp + / - 37 deg C

2 SURVEY TEAM # 1 & 2

Name	Organization	Signature
Joe Boyle	Cardno ENTRIX	[illegible]
Lance Richman	US EPA	[illegible]
John Brown	MDEQ	[illegible]
Robert Ashton	MDEQ	R. Ashton
Chris Pan	Cardno ENTRIX	[illegible]
Linda Watson	EPA	Linda R Watson

3 SEGMENT

Total Segment/Reach Length 1,080 m Segment/Reach Length Surveyed 1080 m

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

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

4A RIVER BANK TYPE

CK 9/23/11 — 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 P Bog/Fen ____ Marsh ____

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

Vegetated Bank (S) Wooded Upland: (S)

Sediment Flat: Clay/Mud S Sand S 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 S confined or leveed ____

straight ____ braided P oxbow ____ flood plain valley ____

complete for primary

Substrate Type: mud

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 1 bags or ____ trucks

access restrictions several channels, soft mud

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)
1748	A				P	10	200	5			P	S						P				mud / veg
1749	B				P	60	60	45		S	P	S						P				mud / veg
1750	C				P	20	20	5			P	S						P				mud / veg
1751	D			P		2	2	5		S	P	S						P				mud / veg
1752	E			P	S	10	10	5			P							P				mud / veg
1753	F				P	80	10	5		S	P	S						P				mud / veg
	~~G~~				~~P~~	~~3~~	~~3~~	~~1~~			~~P~~							~~P~~				~~mud / 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

Zone A: low distribution oil coated/stained veg - hotshot crew cleaned - NFT

Zone B: low dist oil coated/stained/covered veg. hotshot crew cleaned - NFT

Zone C: small area low dist oil coated/stained ~~veg~~ Russian olives flagged hotshot cleaned NFT

Zone D: 1 russian olive with oil cover, coat & stain. hotshot crew cleaned - NFT

Zone E: small area oil coated debris hotshot crew cleaned. NFT

Zone F: oil coated/stained/covered veg. hotshot crew cleaned - NFT

~~Zone G: oil coated debris - NFT~~ JB 8/22/11

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

DB

CK 8/23/11

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION

Segment/Reach ID: C25 Left Bank / Right Bank / Island

Operations Division: C

Date (dd/mm/yy): 22/08/11

Time (24h): std / daylight 1100 hrs to 1530 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 + / - 34 deg C

2 SURVEY TEAM # 132

Name	Organization	Signature
Lance Richman	US EPA	

3 SEGMENT Total Segment/Reach Length 1080 m Segment/Reach Length Surveyed 1080 m

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

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

4A RIVER BANK TYPE CK 8/23/11 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 P Bog/Fen____ Marsh _____

Sediment Bank: Clay/Mud P Sand____ Mixed____ Pebble/Cobble S Boulder____ Peat/Organic____ | Vegetated Bank: S | Wooded Upland: S

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

4B RIVER VALLEY CHARACTER select as appropriate

Cliff or Bluff:____ Est Height ____m | canyon____ manmade____ meander S confined or leveed ____

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

complete for primary: Substrate Type: mud ____ 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 several channels, soft mud

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																					
1755 ~~A~~ E		S	P	S	1080	420	0													P	mud/veg

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

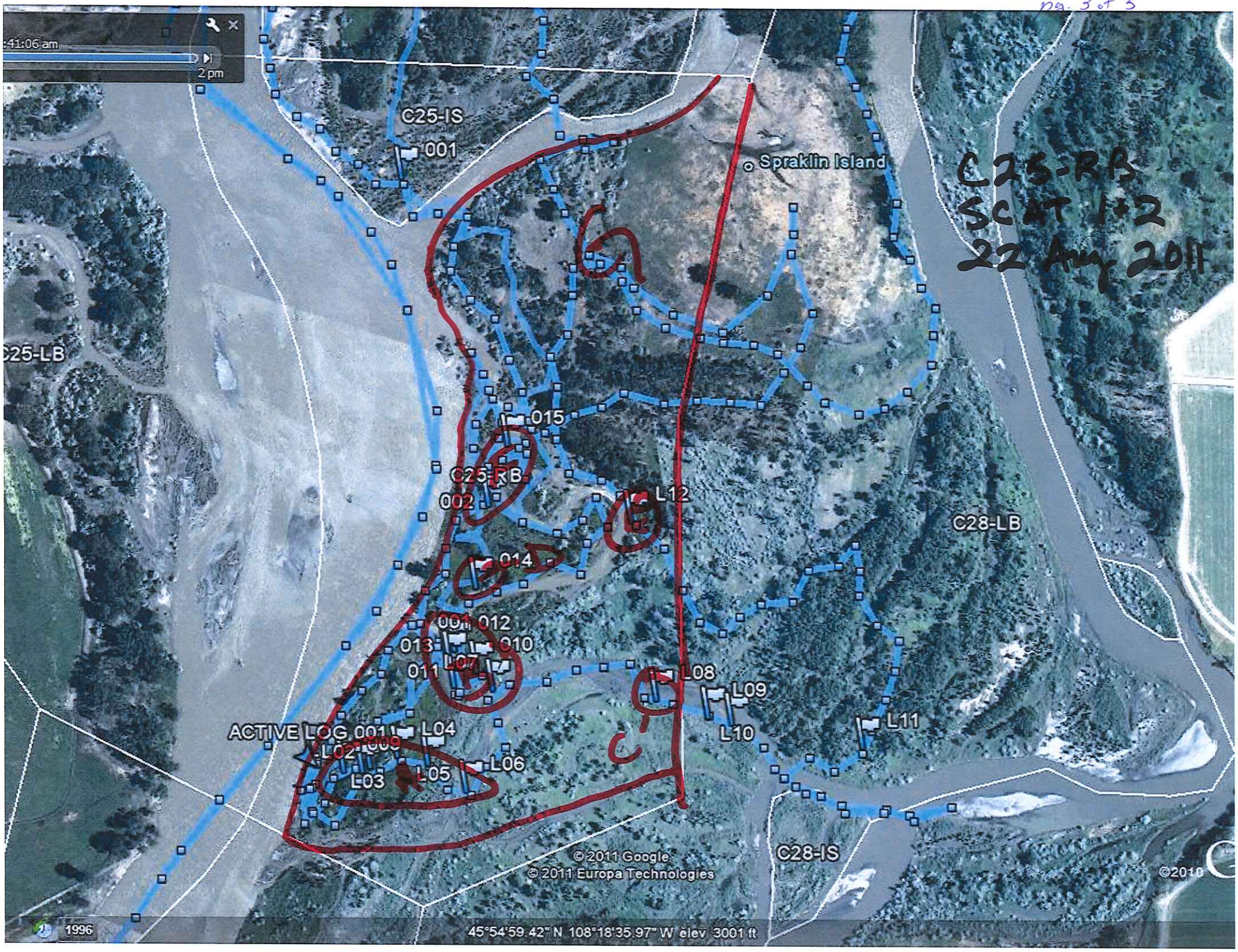
TRENCH or PIT NO.	RIVER BANK ZONE				MAX. PIT DEPTH	OILED ZONE	SUBSURFACE OIL CHARACTER							WATER TABLE	SHEEN COLOUR	CLEAN BELOW	SUBST. TYPE(S)
	MS	LB	UB	OB	cm	cm-cm	SAP	OP	PP	OR	OF	TR	NO	cm	B, R, S, N	Yes / No	

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 ~~G~~: no oil observed NFT

Sketch Yes / No Photos Yes / No Frames_____ Photographer_____


C25-RB
SCAT 1+2
22 Aug 2011
C25-IS
001
Spraklin Island
C25-LB
015
C25-RB
002
L12
C28-LB
014
001 012
013
010
011
L07
L08
L09
L10
L11
ACTIVE LOG 001
L04
L02
L03
L05
L06
C28-IS
© 2011 Google
© 2011 Europa Technologies
©2010
1996
45°54'59.42" N 108°18'35.97" W elev 3001 ft

Appendix C

Pre-Inspection Survey Transmittal

ARCADIS

A Pre-Inspection Survey was not conducted for this area

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

DB/G

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

1 GENERAL INFORMATION

Segment/Reach ID: C25 Left Bank / Right Bank / Island

Operations Division: C

Date (dd/mm/yy): 15/09/2011

Time (24h): std / daylight 13:30 hrs to 14:00 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 + / - 30 deg C

2 SURVEY TEAM # 2

Name	Organization	Signature
Merlo Gauvreau	Polaris	
Damien Korte	Entrix	
Daryl Reed	DEQ	Daryl Reed

3 SEGMENT Total Segment/Reach Length ~~850~~ 203 m Segment/Reach Length Surveyed ~~230~~ 300 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 S Mixed____ Pebble/Cobble____ Boulder____ Peat/Organic____ | Vegetated Bank: S | Wooded Upland: P

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

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

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

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 | 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	~~[illegible]~~	~~[illegible]~~	<1				X							X			Vg, Dd
2308					203	300															

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	

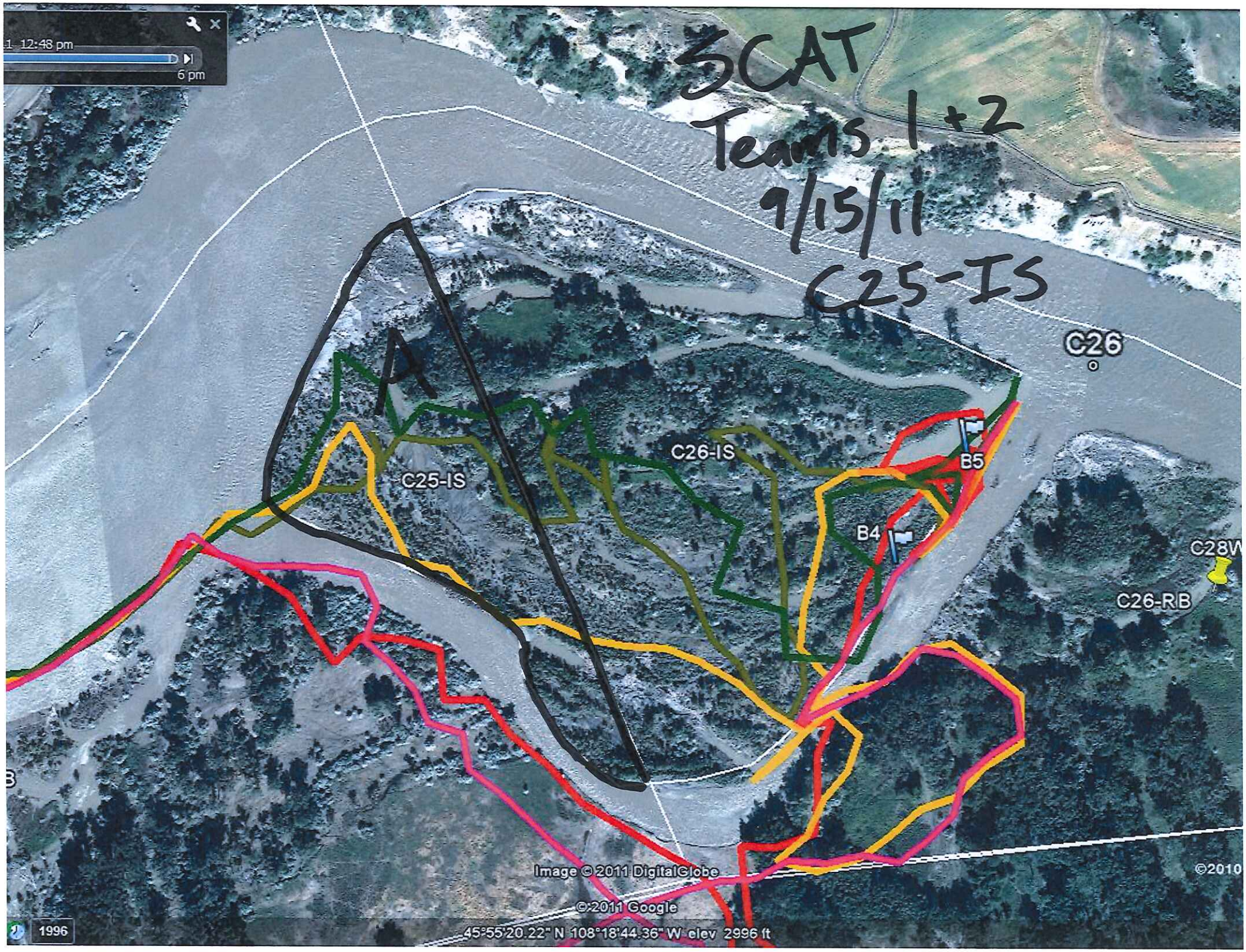
8 COMMENTS ecological/recreational/cultural/economic constraints - shorezone biota and wildlife observations - cleanup recommendations

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

Zone A: ReSCAT ~~for follow~~ with Ops Hot Shot team.
Stain on trees and vegetation and larges debris, meet the CTR, NFT

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

Ver. 31 July 2011


SCAT
Teams 1+2
9/15/11
C25-IS
C26
C26-IS
C25-IS
B5
B4
C28W
C26-RB
Image © 2011 DigitalGlobe
©2011 Google
45°55'20.22" N 108°18'44.36" W elev 2996 ft
1996
12:48 pm
6 pm

DB | G

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

1 GENERAL INFORMATION	Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: C25 Left Bank / Right Bank / Island	15/09/11	11:00 hrs to 13:00 hrs	low - mean - bankfull - overbank
Operations Division: C			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 # 142

Name	Organization	Signature
Todd Farrar	Polaris	
Jessica Ross	DEQ	
Merle Gauvreau	Polaris	
Damian Korte	Entrix	
Daryl Reed	DEQ	

3 SEGMENT Total Segment/Reach Length 673 m Segment/Reach Length Surveyed 673 m

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

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

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

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

Sediment Bank: Clay/Mud____ Sand____ Mixed____ Pebble/Cobble 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: S Est Height 5 m | canyon____ manmade____ meander ____ confined or leveed ____ | Substrate Type: Silt

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width : < 1m 1–10 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 2 bags or ____ trucks | access restrictions [redacted] Water access 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	
2309 A				X	523	268	<1			S	P						P				WV
2310 B				X	150	350														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	

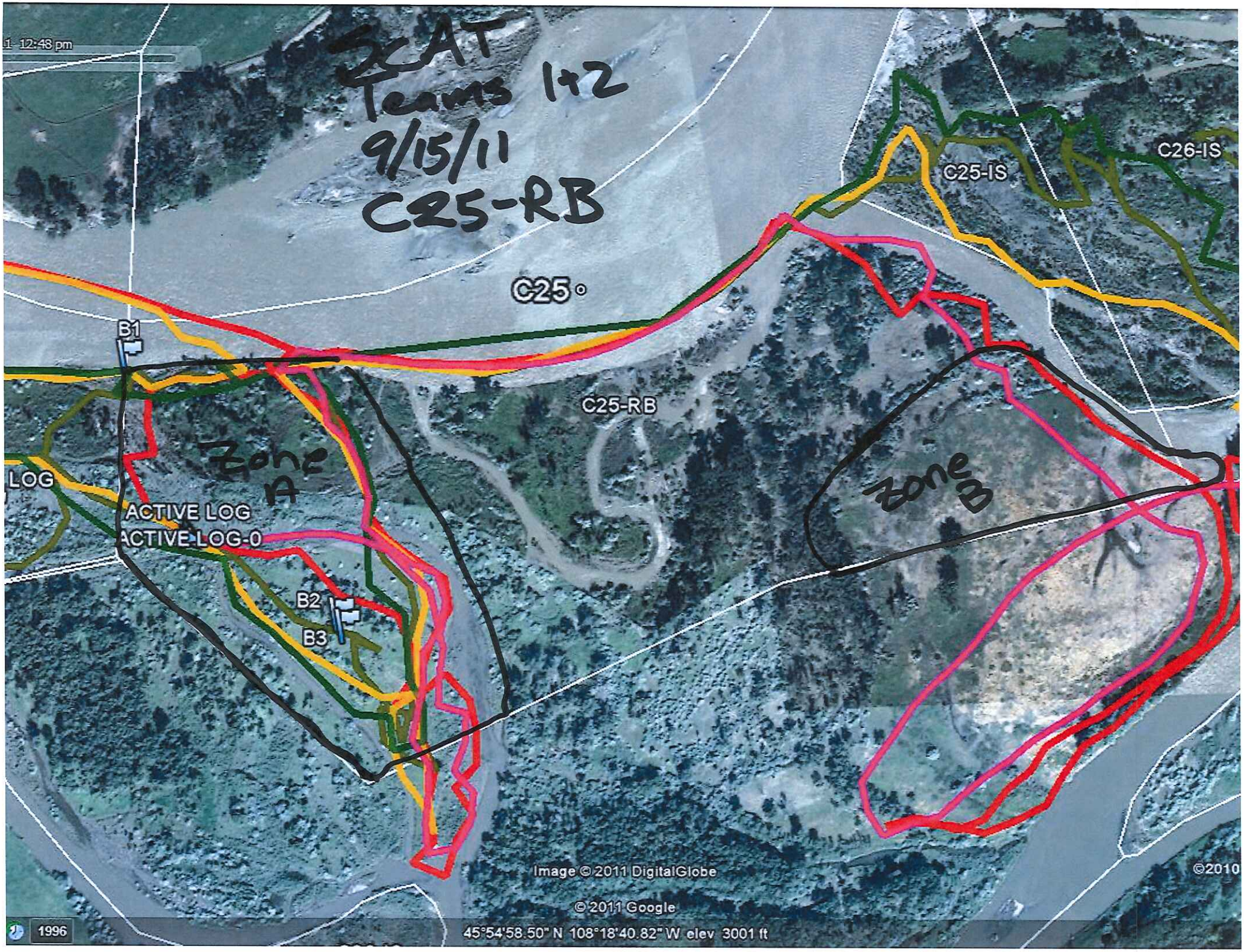
8 COMMENTS ecological/recreational/cultural/economic constraints - shorezone biota and wildlife observations - cleanup recommendations

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

This survey completes, a portion of the segment which was not previously surveyed.
Zone A - had coat & stain sporadically distributed throughout a braided slough area. We had two hot shot crews that removed or treated the oiled vegetation - No Further Treatment (NFT)
Zone B - Had No Oil Observed (NOO)

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

Ver. 31 July 2011


1 12:48 pm
SCAT
Teams 1+2
9/15/11
C25-RB
C25
C25-IS
C26-IS
B1
C25-RB
Zone A
LOG
ACTIVE LOG
ACTIVE LOG-0
B2
B3
Zone B
Image © 2011 DigitalGlobe
©2010
© 2011 Google
1996
45°54'58.50" N 108°18'40.82" W elev 3001 ft

Appendix F

Completed SCAT Segment Sign-Off Forms

SCAT Segment Operations Completion Sign-Off Sheet

Silvertip Pipeline Release

Segment C25 IS

Date of Survey 15/09/2011

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

CTR(s) Associated with SCAT Segment 61

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
Daryl Reed	Daryl Reed, DEQ	9/15/11

State Representative (DEQ/FWP)

Sign Name	Print Name/ Affiliation	Date
	Pierlo Gauvreau, Polaris	15/09/2011

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 C25RB

Date of Survey 15/09/2011

Dates of Initial SCAT Assessments 08 Aug 2011 (B)
(to be filled out by SCAT Data Management)

CTR(s) Associated with SCAT Segment 61

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

Segment Assessment Complete[1] [X]

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
Federal Representative (EPA/USCG)		
	Jessica Ross	9/15/11
State Representative (DEQ/FWP)		
	Todd Farrar / Polaris	Sept 15, 2011
RP Representative (SCAT RP Representative)		

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