

ExxonMobil Pipeline Company

**SCAT Area Transition Report
for C01**

Silvertip Pipeline Incident
Laurel, Montana

October 21, 2011



SCAT Area Transition Report for C01

Silvertip Pipeline Incident
Laurel, Montana

Prepared for:
ExxonMobil Pipeline Company

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Our Ref.:
B0085883.1103

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.

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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 C01, 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 C01. 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 C01, 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 C01 is 29.2. 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 limited inspections of Area C01 due to the low level of oiling in Division C. No oiled wildlife was observed or recovered. No Wildlife Priority Cleanup Areas were identified. An Osprey (*Pandion haliaetus*) nest was identified on the boundary between Area C01 and Area C02.

1.3 Summary of Environmental Sampling

Table 1 (below) summarizes samples collected within Area C01. 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 C01 are provided on Figure 3.

Table 1 Environmental Sampling Summary

Agency	Sample Num	Date	Matrix	Location	Latitude	Longitude
CTEH	BIMT0711DW303	7/11/2011	Water_Drinking	BIMT_344_DW303	45.801480	-108.464400
CTEH	BIMT07205W302	7/20/2011	Water_Surface	BIMT_391_5W302	45.801550	-108.465080
CTEH	LOMT0805DW201	8/5/2011	Water_Drinking	LOMT_503_DW201	45.797277	-108.466864
CTEH	LOMT08055W202	8/5/2011	Water_Surface	LOMT_503_5W202	45.797325	-108.466801
EPA	SPDW104_071111	7/11/2011	Water_Drinking	SPDW104	45.801788	-108.464680
MDEQ	B11070821-065	7/11/2011	Soil_Surface	ST-RB-01	45.801170	-108.465570
MDEQ	B11070821-065	7/19/2011	Soil_Surface	ST-RB-01	45.801170	-108.465570
MDEQ	B11070821-066	7/11/2011	Soil_Surface	ST-RB-01	45.801170	-108.465570
MDEQ	B11070821-066	7/19/2011	Soil_Surface	ST-RB-01	45.801170	-108.465570
MDEQ	B11070821-067	7/13/2011	Soil_Surface	ST-HF-01	45.801480	-108.464400
MDEQ	ST-071911-RB1	7/11/2011	Soil_Surface	ST-RB-01	45.801170	-108.465570
MDEQ	ST-071911-RB1	7/19/2011	Soil_Surface	ST-RB-01	45.801170	-108.465570
MDEQ	ST-071911-RB-5W	7/19/2011	Water_Surface	ST-RB-02	45.801150	-108.465570

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.

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 C01 are included in Appendix B. Figure 4 provides the maximum oiling zones observed by the SCAT team during the initial surveys of Area C01.

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. 30](#) and [CTR No. 57](#)).

1.6 Oil Removal Activities

Oil removal activities were conducted within Area C01 in accordance with the ATMs identified in the CTRs. [Appendix I](#) of the Summary of Assessment and Oil Removal Activities report presents this data including: date range/days worked, average number of people working per day, equipment used, and various types of bags removed: oily debris, personal protective equipment (PPE), plastic, trash, super sacks, wood chips, and contaminated wood.

1.7 Pre-Inspection Survey Transmittal

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 C01 following completion of oil removal activities. The SCAT team performed final surveys of the left and right banks within SCAT Area C01 to confirm the agreed-upon cleanup endpoints identified in the applicable CTRs had been achieved. The final SCAT survey documentation is presented in Appendix E.

1.10 SCAT Area Conclusions

Based on the final SCAT surveys performed on the left and right banks within Area C01, 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 C01

Prepared for:

Unified Command

Date

Unified Command – RP

SCAT Area Transition Report for C01

Prepared for:

Unified Command

Date

Unified Command – FOSC



**SCAT Area Transition
Report for C01**

Silvertip Pipeline Incident
Laurel, Montana

SCAT Area Transition Report for C01

Prepared for:

Unified Command

Date

Unified Command – MDEQ

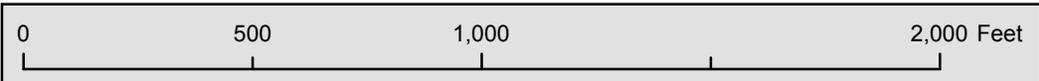


Figure 1



LEGEND

Wildlife

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

Wildlife - Oiling Status

- Oiled
- No-visible Oiling

Bird Nest Sites

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

Wildlife Priority Sites

- Wildlife Cleanup Priority Area

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

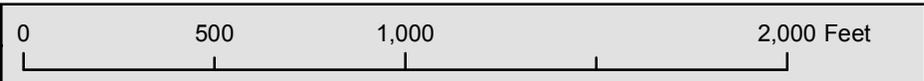
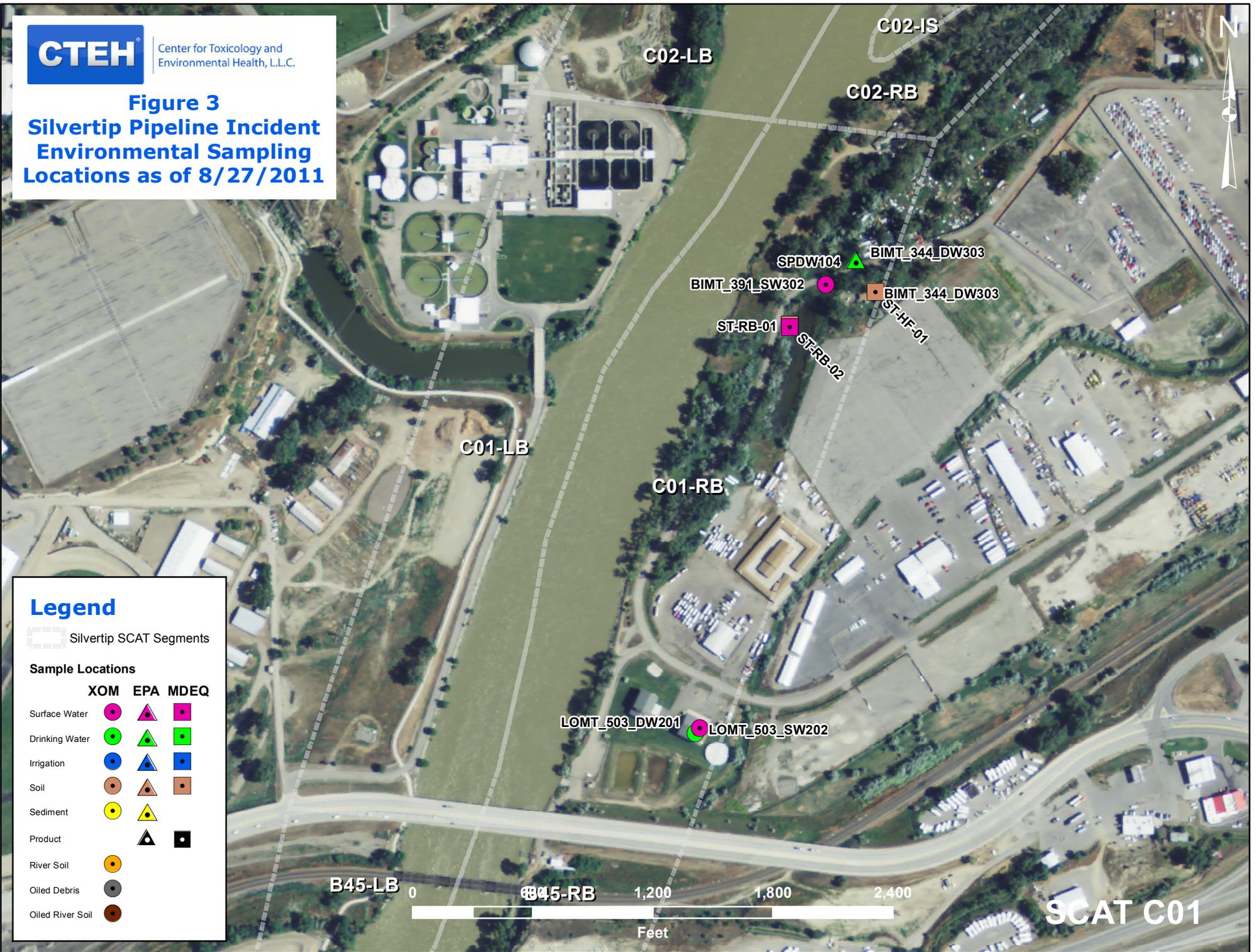


Figure 2
Wildlife Resources

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



Legend

Silvertip SCAT Segments

Sample Locations

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

B45-LB 0 600 1,200 1,800 2,400
 Feet

SCAT C01



Figure 4 - Maximum SCAT Observations For SCAT Area: C01





 <p>9999 Oiling Zone ID</p> <p> Heavy Oiling</p> <p> Moderate Oiling</p>	<p> Light Oiling</p> <p> Very Light Oiling</p> <p> No Oil Observed</p>	<p>Figure 5 - Final SCAT Observations</p> <p>For SCAT Area: C01</p>	
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Appendix A

Sample Detection Summary



Detections in Samples Collected in SCAT Area C01

NA - Not Available

Detected Above Screening Level

Sample Num	Date	Sample Type	Matrix	Analytical Method	Analyte	Detected	Result	Screening Level	Result Qualifier	Units	Above?
BIMT0711DW303	07/11/2011	Field	Water_Drinking	E524.2	cis-1,2-Dichloroethene	Y	1	70		ug/L	no
BIMT0711DW303	07/11/2011	Field	Water_Drinking	E524.2	Trichloroethene	Y	1.8	5		ug/L	no
LOMT0805DW201	08/05/2011	Field	Water_Drinking	E524.2	Bromodichloromethane	Y	4.8	10		ug/L	no
LOMT0805DW201	08/05/2011	Field	Water_Drinking	E524.2	Chlorodibromomethane	Y	0.77	4		ug/L	no
LOMT0805DW201	08/05/2011	Field	Water_Drinking	E524.2	Chloroform	Y	20	70		ug/L	no
LOMT0805DW201	08/05/2011	Field	Water_Drinking	E524.2	Trihalomethanes, Total	Y	26	100		ug/L	no
SPDW104_071111	07/11/2011	Field	Water_Drinking	EPA 524.2	cis-1,2-Dichloroethene	Y	0.96	70		ug/L	no
SPDW104_071111	07/11/2011	Field	Water_Drinking	EPA 524.2	Trichloroethene	Y	1.9	5		ug/L	no
ST-071911-RB1		Field	Soil_Surface	8260B	1,2-Dichloroethane-d4	Y	70	NA		%	no
ST-071911-RB1		Field	Soil_Surface	8270C	2,4,6-Tribromophenol	Y	95	NA		%	no
ST-071911-RB1		Field	Soil_Surface	8270C	2-Fluorobiphenyl	Y	89	NA		%	no
ST-071911-RB1		Field	Soil_Surface	8260B	Dibromofluoromethane	Y	80	NA		%	no
ST-071911-RB1		Field	Soil_Surface	8270C	Nitrobenzene-D5	Y	82	NA		%	no
ST-071911-RB1		Field	Soil_Surface	8270C	o-Fluorophenol	Y	74	NA		%	no
ST-071911-RB1		Field	Soil_Surface	8015M-MDEQ-REM	o-Terphenyl	Y	85	NA		%	no
ST-071911-RB1		Field	Soil_Surface	8260B	p-Bromofluorobenzene	Y	81	NA		%	no
ST-071911-RB1		Field	Soil_Surface	8270C	Phenol-d5	Y	84	NA		%	no
ST-071911-RB1		Field	Soil_Surface	8270C	Terphenyl-d14	Y	88	NA		%	no
ST-071911-RB1		Field	Soil_Surface	8260B	Toluene-d8	Y	77	NA		%	no
ST-071911-RB1		Field	Soil_Surface	8015M-MDEQ-REM	Total Extractable Hydrocarbons	Y	171	200		mg/kg	no
ST-071911-RB-SW		Field	Water_Surface	524.2	1,2-Dichloroethane-d4	Y	96	NA		%	no
ST-071911-RB-SW		Field	Water_Surface	525.2	2-Nitro-M-Xylene	Y	91	NA		%	no
ST-071911-RB-SW		Field	Water_Surface	524.2	cis-1,2-Dichloroethylene	Y	0.25	70	J	ug/l	no
ST-071911-RB-SW		Field	Water_Surface	8015M-MDEQ-REM	o-Terphenyl	Y	85	NA		%	no
ST-071911-RB-SW		Field	Water_Surface	524.2	p-Bromofluorobenzene	Y	114	NA		%	no
ST-071911-RB-SW		Field	Water_Surface	525.2	Perylene-d12	Y	83	NA		%	no
ST-071911-RB-SW		Field	Water_Surface	525.2	Pyrene-d10	Y	111	NA		%	no
ST-071911-RB-SW		Field	Water_Surface	524.2	Toluene-d8	Y	99	NA		%	no
ST-071911-RB-SW		Field	Water_Surface	525.2	Triphenyl phosphate	Y	90	NA		%	no



Detections in Samples Collected in SCAT Area C01

NA - Not Available

Detected Above Screening Level

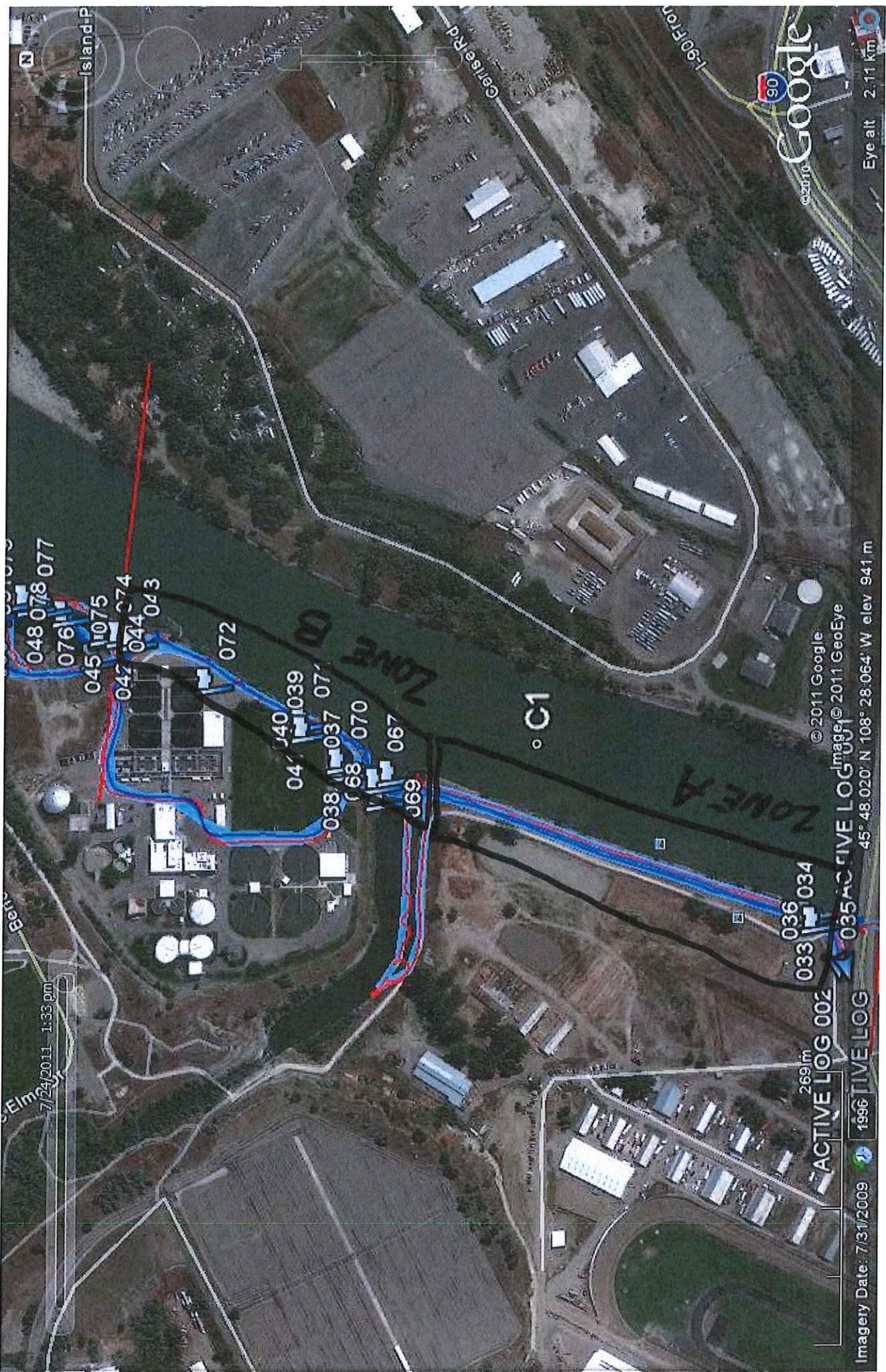
Sample Num	Date	Sample Type	Matrix	Analytical Method	Analyte	Detected	Result	Screening Level	Result Qualifier	Units	Above?
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Appendix B

Initial SCAT Survey Forms and
Sketches

2 of 2. C1 L 24 Jul 2011 TEAM 1



DBJ

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

Page of

1 GENERAL INFORMATION		Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: <u>C1</u>	<u>Left Bank / Right Bank / Island</u>	<u>27/10/11</u>	<u>949</u> hrs to <u>950</u> hrs	low - mean - bankfull - overbank
Operations Division: <u>C</u>				<u>falling - steady - rising</u>
Survey by: <u>Foot / ATV / Boat / Helicopter / Overlook /</u>	<u>Sun / Clouds / Fog / Rain / Snow / Windy / Calm</u>			Air Temp +/- <u>30</u> deg C

2 SURVEY TEAM # <u>1</u>	Name	Organization	Signature
	<u>Chuck Pans</u>	<u>Cardno ENTRIX</u>	<u>[Signature]</u>
	<u>Jay Watson</u>	<u>MFWP</u>	
	<u>Ernie McKenzie</u>	<u>US BLM</u>	

3 SEGMENT Total Segment/Reach Length 770 m Segment/Reach Length Surveyed 770 m

Start GPS: LATITUDE 45 deg. 48'21.45 min. LONGITUDE 108 deg. 22'55.0 min. Datum: NAD83

End GPS: LATITUDE 45 deg. 47'47.11 min. LONGITUDE 108 deg. 28'13.12 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 ___ Pebble/Cobble S Boulder ___ Peat/Organic ___ Vegetated Bank: [X] Wooded Upland: [X]

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: Silt/Clay

Sloped: (>5°)(15°)(30°) straight ___ braided [X] oxbow ___ flood plain valley ___ Forested / [X] / Bare

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: <1m 1-10m 10-100m 100m 100m 110 est. water depth: <1m 1-3m 3-10m >10m ___ m

shoal(s) present [X] / N point bar present [X] / N bar-shoal substrate: silt / [X] 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 [X] / N Access: Direct from backshore [X] / N Alongshore from next segment [X] / N

Debris: Y / [X] oiled Y / N amount ___ bags or ___ trucks access restrictions

Oiled trees/shrubs [X] / N River Current strong [X] / 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

878
879
880
881
882

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			<u>[X]</u>	<u>[X]</u>	95	2	0														<u>[X]</u>	<u>Silt/Clay</u>		
B			<u>[X]</u>	<u>[X]</u>	300	2	60			<u>[S]</u>	<u>[P]</u>		<u>[X]</u>								<u>[X]</u>	<u>[X]</u>		
C			<u>[X]</u>	<u>[X]</u>	80	2	0														<u>[X]</u>			
D			<u>[X]</u>	<u>[X]</u>	130	2	60			<u>[S]</u>	<u>[P]</u>		<u>[X]</u>								<u>[X]</u>			
E			<u>[X]</u>	<u>[X]</u>	165	2	0														<u>[X]</u>			

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

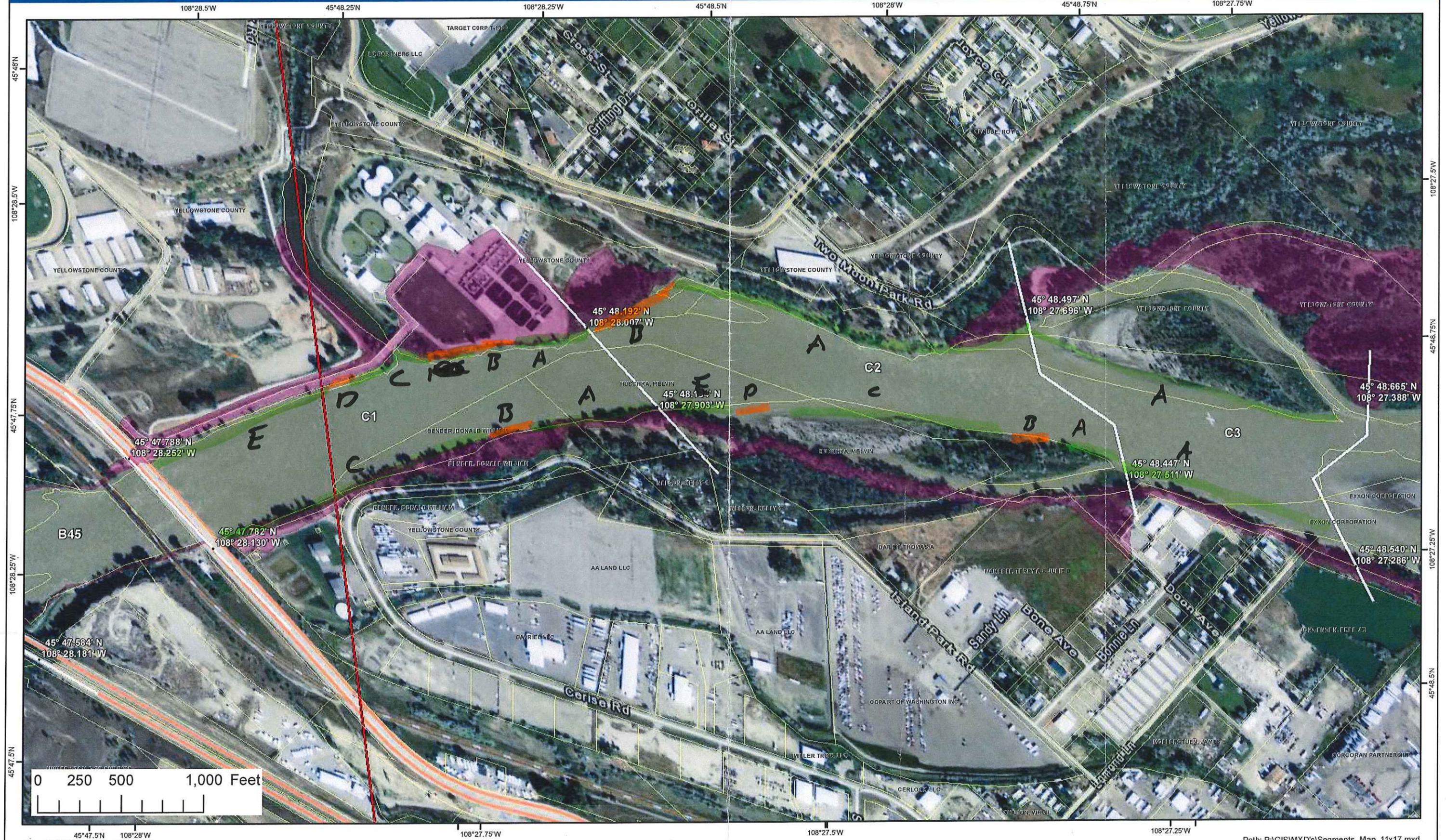
TRENCH or PIT NO.	RIVER BANK ZONE				MAX. PIT DEPTH cm	OILED ZONE cm-cm	SUBSURFACE OIL CHARACTER						WATER TABLE cm	SHEEN COLOUR B, R, S, N	CLEAN BELOW Yes / No	SUBST. TYPE(S)
	MS	LB	UB	OB			SAP	OP	PP	OR	OF	TR				

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

Overbank Survey Required [X] / N Overbank Survey Completed Y / N ? Shoreline Survey Completed [X] / N

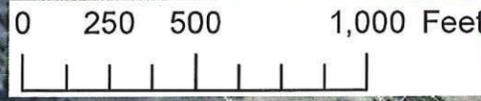
Zone B+D have staid + cont'd veg (primarily grass)
 Veg needs to be cut under trial and removed.

Sketch [X] / No Photos [X] / No Frames _____ Photographer _____



45°48'N
108°28.5'W
45°47.75'N
108°28.25'W
45°47.5'N
108°28'W
45°47.25'N
108°27.75'W

108°27.5'W
45°48.75'N
108°27.25'W
45°48.5'N



DB 16

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: <u>C-1</u>	Left Bank / <u>(Right Bank)</u> / Island	<u>24/07/11</u>	<u>0935</u> <u>1025</u>	low - mean <u>(bankfull)</u> - overbank
Operations Division: <u>C</u>			hrs to hrs	<u>(falling)</u> - steady - rising
Survey by: <u>(Foot)</u> / <u>(DATV)</u> / Boat / Helicopter / Overlook /	<u>(Sun)</u> / Clouds / Fog / Rain / Snow / Windy / Calm			Air Temp +/- <u>23</u> deg C

2 SURVEY TEAM # <u>6</u>	Name	Organization	Signature
	Steve Kennedy	Cardno Entry	Steve Kennedy
	Chelsea Murphy	Cardno Entry	Chelsea Murphy
	John Brown		duplicate - see below
	Ron Lynn, JR	USCG	
	JOHN DROWN	NOEC	

3 SEGMENT Total Segment/Reach Length 753 m Segment/Reach Length Surveyed 753 m

Start GPS: LATITUDE 45° 74.6755 deg. _____ min. LONGITUDE 108° 46.551 deg. _____ min. Datum: WGS-84

End GPS: LATITUDE 45° 303.09 deg. _____ min. LONGITUDE 108° 46.4719 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 (P) 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 (P) Substrate Type: Cobble

Sloped: 75 (>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 1-10m 10-100m (>100m) 160m est. water depth: <1m 1-3m (3-10m) >10m _____ m

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

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

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

Debris: (Y/N) oiled (Y/N) amount _____ bags or _____ trucks access restrictions Private Property

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

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

OIL ZONE	RIVER BANK ZONE				OIL COVER			OIL THICKNESS										SUBST. TYPE(S)					
					Length	Width	Distrib.	OIL CHARACTER															
	ID	MS	LB	UB	OB	m	m	%	TO	CV	CT	ST	FL	FR	MS	TB	PT		TC	SR	AP	NO	
A			P	S	160	>1	1			P	S			P									Veg
B			P	S	67	>1	1			P	S			P									Cobble / Veg
C			P	S	520	>1	1			P	S			P									Veg

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

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

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

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

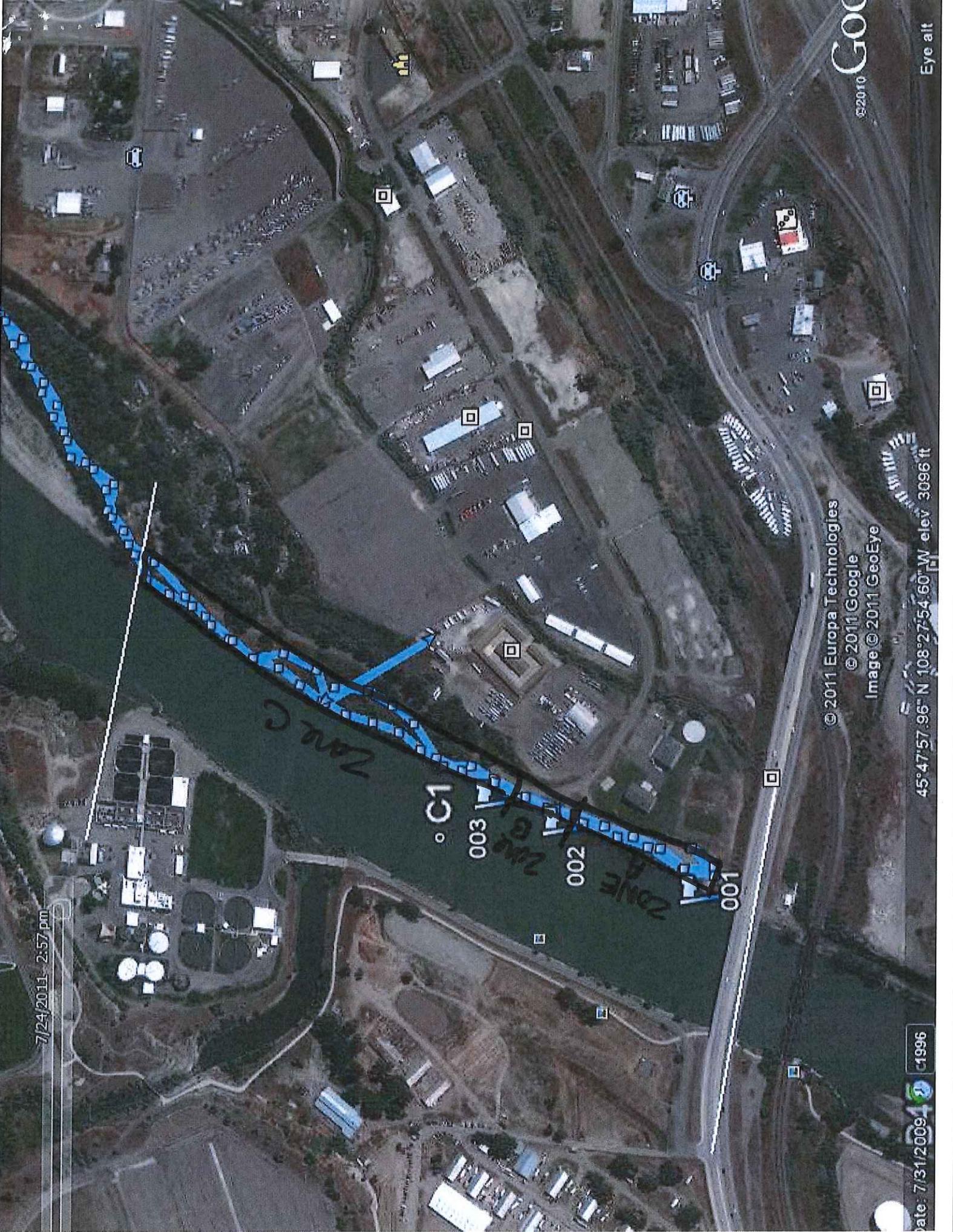
Notes A: hand removal w/ hand tools; veg piles of stained veg.

B Same

C Same

Sketch (Yes/No) Photos (Yes/No) Frames 142 Photographer Skennedy

7/24/2011 2:57 pm



Zone
Map
C1

© 2011 Europa Technologies
© 2011 Google
Image © 2011 GeoEye

Date: 7/31/2009 11:41 AM C1996

45°47'57.96" N 108°27'54.60" W elev 3096 ft

© 2010 Google

Eye alt

DB/G/S

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

Page _____ of _____

1 GENERAL INFORMATION		Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: <u>C1</u>	Left Bank / Right Bank / Island	<u>27/07/11</u>	<u>1223</u> hrs to <u>1225</u> hrs	low - mean - bankfull - overbank
Operations Division: <u>C</u>				falling - steady - rising
Survey by: Foot / ATV / Boat / Helicopter / Overlook /	<u>Boat</u>	<u>Sun</u>	Clouds / Fog / Rain / Snow / Windy / Calm	Air Temp +/- <u>30</u> deg C

2 SURVEY TEAM #1	Name	Organization	Signature
<u>Chuck Pons</u>	<u>Chuck Pons</u>	<u>Cardno ENTRIX</u>	<u>[Signature]</u>
<u>Jay Watson</u>	<u>Jay Watson</u>	<u>MFWP</u>	
<u>Ernie McKenzie</u>	<u>Ernie McKenzie</u>	<u>US BLM</u>	

3 SEGMENT Total Segment/Reach Length 770 m Segment/Reach Length Surveyed 770 m

Start GPS: LATITUDE _____ deg. _____ min. LONGITUDE _____ deg. _____ min. Datum: WGS 87

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 P Mixed _____ Pebble/Cobble S Boulder _____ Peat/Organic _____ Vegetated Bank: [X] Wooded Upland: [X]

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: Gravel

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: <1m 1-10m 10-100m 100m 169m 110 est. water depth: <1m 1-3m 3-10m >10m _____ m

shoal(s) present [X] / N point bar present [X] / 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 [X] / N Access: Direct from backshore [X] / N Alongshore from next segment [X] / N

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

Oiled trees/shrubs [X] / N River Current strong [X] / N Other Features:

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

OIL ZONE	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER						SUBST. TYPE(S)			
	MS	LB	UB	OB	Length	Width	Distrib.	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR		AP	NO	
<u>875</u> A			<u>[X]</u>	<u>[X]</u>	<u>110</u>	<u>2</u>	<u>0</u>														<u>[X]</u>	<u>Gravel</u>
<u>876</u> B			<u>[X]</u>	<u>[X]</u>	<u>50</u>	<u>2</u>	<u>60</u>			<u>S</u>	<u>P</u>			<u>[X]</u>							<u>[X]</u>	<u>[X]</u>
<u>877</u> C			<u>[X]</u>	<u>[X]</u>	<u>610</u>	<u>2</u>	<u>0</u>														<u>[X]</u>	<u>[X]</u>

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

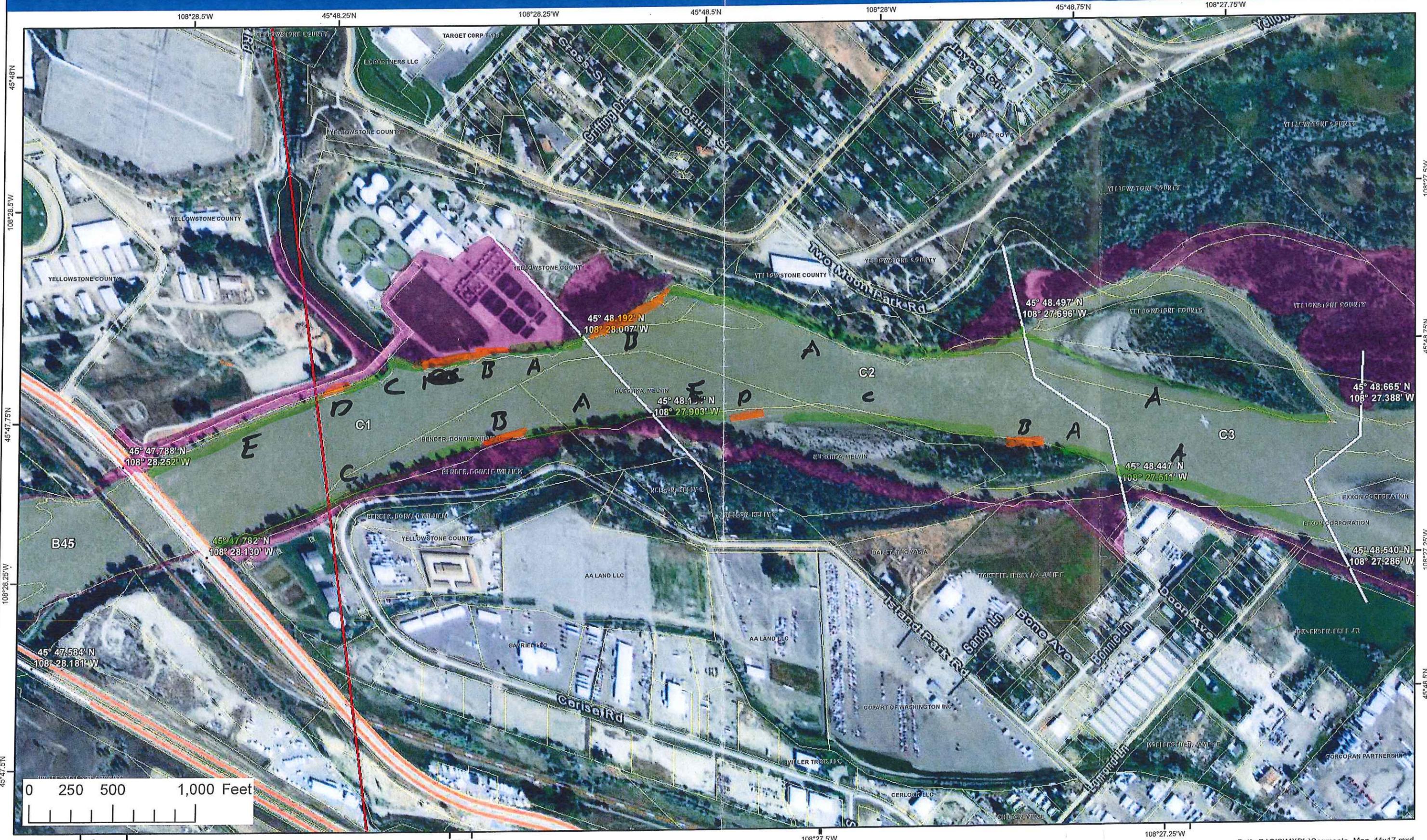
TRENCH or PIT NO.	RIVER BANK ZONE				MAX. PIT DEPTH	OILED ZONE	SUBSURFACE OIL CHARACTER						WATER TABLE	SHEEN COLOUR	CLEAN BELOW	SUBST. TYPE(S)							
	MS	LB	UB	OB			cm	cm-cm	SAP	OP	PP	OR					OF	TR	NO	cm	B, R, S, N	Yes / No	

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

Overbank Survey Required [X] / N Overbank Survey Completed Y / [X] / N Shoreline Survey Completed [X] / N

Zone B has stand + creek veg

Vegetation needs to be cut and/or treated and removed





Appendix C

Pre-Inspection Survey Transmittal

**A Pre-Inspection Survey was
not conducted for this area**



Appendix D

Post-Inspection Survey Transmittal

**A Post-Inspection Survey
was not conducted for this area**



Appendix E

Final SCAT Survey Forms and
Sketches

DB/6

1 GENERAL INFORMATION		Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: C01 <u>Left Bank / Right Bank / Island</u>		06/09/11	0845 hrs to 1000 hrs	low - <u>mean</u> - bankfull - overbank
Operations Division: C				falling - steady - rising
Survey by: <u>Foot / ATV / Boat / Helicopter / Overlook /</u>		<u>Sun / Clouds / Fog / Rain / Snow / Windy / Calm</u>		Air Temp +/- <u>8.5</u> ° F
2 SURVEY TEAM # 4	Name	Organization	Signature	
	Michael Dirks	Cardno ENTRIX	<i>[Signature]</i>	
	Earl Radonski	MTFWP	<i>[Signature]</i>	
	Jamel Dallas	USCG	<i>[Signature]</i>	

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 804 m

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

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

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

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

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

Sediment Flat: Clay/Mud _____ Sand x 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 x Substrate Type: soil/riprap

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

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

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

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

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

Debris: Y / N oiled Y / N amount 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

2143
2144
2145
2146
2147

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	S		60	48	1			S	P						P						Sand, shrubs, grass, trees, debris piles
B		P	S		35	35	1			S	P						P						Sand, shrubs, grass, trees, debris piles
C			P		10	10	1				P						P						Riprap, trees, grass
D		S	P		242	12															X		Riprap, trees, grass
E		S	P		457	12															X		Riprap, trees, grass

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

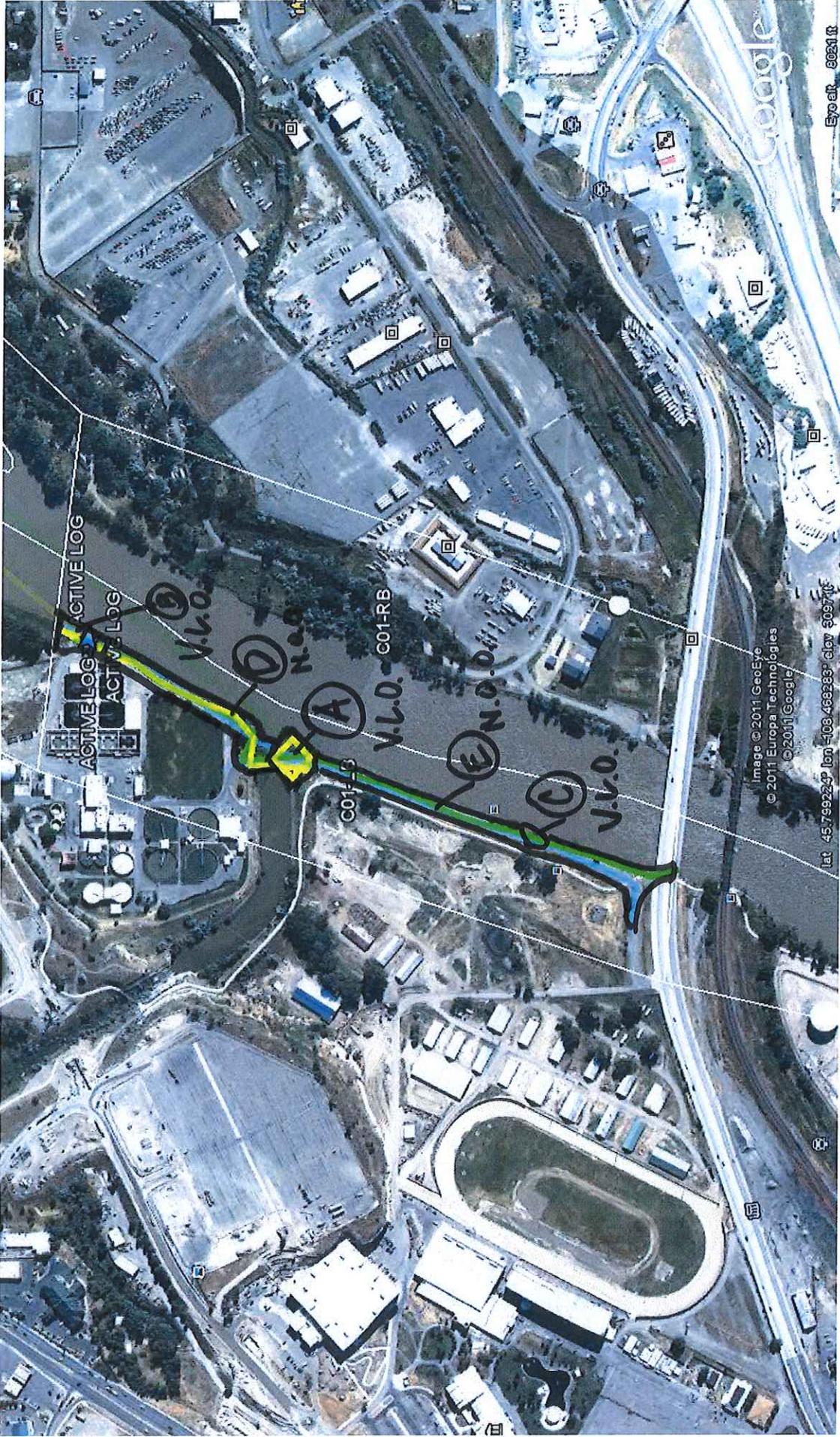
Overbank Survey Required Y / N Overbank Survey Completed Y / N Shoreline Survey Completed Y / N

RESCAT

Zones A, B & C: Light treatment by previous teams. Flags observed in zone B from previous SCAT review. Flags were removed. Vegetation with stain and light coat trimmed (ATM#1). No further treatment recommended by consensus.

Zones D & E: No oil observed. No further treatment recommended by consensus.

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



09/06/11 SCAT TEAM 4 & HOT SHOTS

ZONES A, B, & C: VERY LIGHT OIL, ATM#1. N.F.T.

ZONES D & E: NO OIL OBSERVED. N.F.T.

DB/G

R

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy) 27/AUG/2011	Time (24h): std / daylight 09:54 hrs to 11:20 hrs	Water Level pe low - mean - bankfull - overbank falling - steady - rising
Segment/Reach ID: C01 Left Bank / Right Bank / Island				
Operations Division: C01 RB				
Survey by: Foot / ATV / Boat / Helicopter / Overlook /		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp + / - 30 deg C

2 SURVEY TEAM # <u>5</u>	name	organization	contact phone number
	Ariel Blanc	Polaris	<i>[Signature]</i>
	Daniel Elefant	Cardno ENTRIX	<i>[Signature]</i>
	Earl Radonski	DEQ	<i>[Signature]</i>
	Darrick Turner	DEQ	<i>[Signature]</i>
	Larisa Leonova	EPA	<i>[Signature]</i>
	Stephen Ball	EPA	<i>[Signature]</i>

3 SEGMENT Total Segment/Reach Length **786** m Segment/Reach Length Surveyed **1560** 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 **P** (type) **rip-rap** Wetland: Swamp _____ Bog/Fen _____ Marsh _____

Sediment Bank: Clay/Mud _____ Sand _____ Mixed **S** 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: _____ Est Height **2-3** m canyon _____ manmade _____ meander **S** confined or leveed **P** Substrate Type: **cement**

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

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

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

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

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

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

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

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

OIL ZONE	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER						SUBST. TYPE(S)				
	ID	MS	LB	UB	OB	Length m	Width m	Distrib. %	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC		SR	AP	NO	
A					<input checked="" type="checkbox"/>	786	67	<1			<input checked="" type="checkbox"/>								<input checked="" type="checkbox"/>				VEG
B					<input checked="" type="checkbox"/>	784	2	<1			<input checked="" type="checkbox"/>								<input checked="" type="checkbox"/>				VEG

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

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

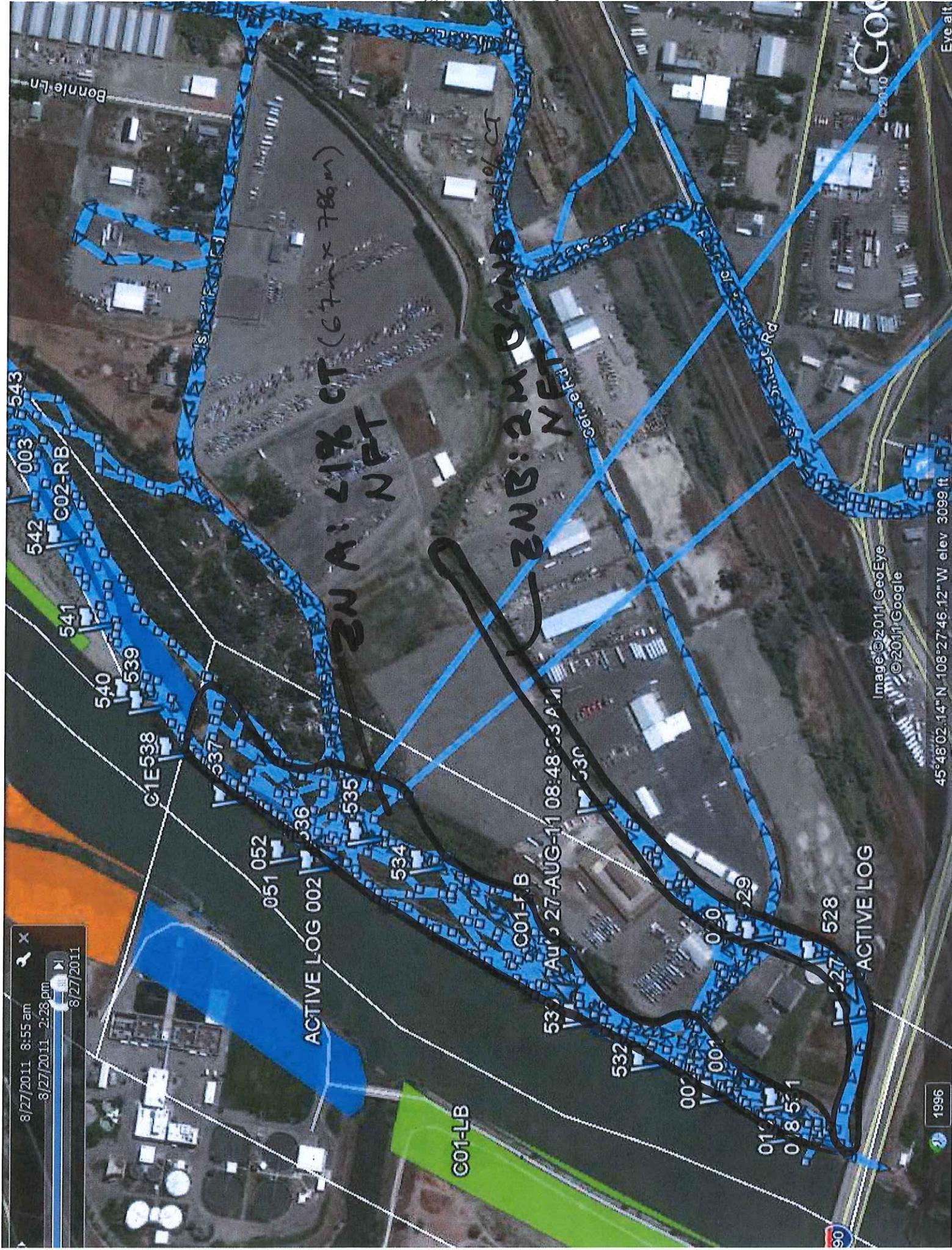
8 COMMENTS ecological/recreational/cultural/economic constraints - shorezone biota and wildlife observations - cleanup recommendations

ReSCAT (PASS)
 ZN A: NFT, <1%, 786m Along RIVER, CT.

ZN B: DITCH (784m), <1% CT, NFT
 TREATED & REMOVED TRANSFERABLE CT w/ HOT SHOTS.
 (REACH LENGTH SURVEYED INCLUDES LENGTH OF SEGMENT + DITCH (ZONE B))

(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# _____)



8/27/2011 8:55 am
 8/27/2011 2:23 pm
 8/27/2011

ACTIVE LOG 002

ACTIVE LOG

C01-LB

C01-F-B

Bonnie Ln

Eye alt

Image © 2011 GeoEye © 2011 Google

45°48'02.14"N -108°27'46.12"W elev 3099 ft

1996

90



Appendix F

Completed SCAT Segment Sign-Off
Forms

SCAT SEGMENT OPERATIONS COMPLETION SIGN-OFF SHEET

SILVERTIP PIPELINE RELEASE

Segment CO1 LB Date of Survey 09/06/11

Dates of Initial SCAT Assessments

24 JUL 11 (EL)
(to be filled out by SCAT Data Management)

CTR(s) Associated with SCAT Segment

57

Segment has been treated by
Operations or an Operations Hotshot Team

YES

NO

Segment Assessment Complete¹

Partial Segment Assessment

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

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

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

Jamel H. Dallas JAMEL H. DALLAS 9/7/11
Sign Name Print Name/ Affiliation Date
Federal Representative (EPA/USCG)

Earl Radonski Earl Radonski: FWP 9/2/11
Sign Name Print Name/ Affiliation Date
State Representative (DEQ/FWP)

Michael D. Dirks MIKE DIRKS / Cardno ENTRIX 09/06/11
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.

