

ExxonMobil Pipeline Company

**SCAT Area Transition Report
for C17**

Silvertip Pipeline Incident
Laurel, Montana

October 29, 2011



SCAT Area Transition Report for C17

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Laurel, Montana

Prepared for:
ExxonMobil Pipeline Company

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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 C17, 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 C17. 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 C17, 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 C17 is 89.3. There were no access issues for this area.

1.2 Cultural, Historic, and Natural Resource Constraints

No historic properties or cultural resources have been identified within this 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 C17 due to the low level of oiling in Division C. No oiled wildlife was observed or recovered. One Wildlife Priority Cleanup Area (WPCA) was identified in Area C17. The WPCA consisted of a series of 'paddies' of transferable oil in a dry channel. Operations addressed the WPCA and no further action is required. No active migratory bird nests were identified in Area C17.

1.3 Summary of Environmental Sampling

Table 1 (below) summarizes samples collected within Area C17. 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 C17 are provided on Figure 3.

Table 1 Environmental Sampling Summary

Agency	Sample Num	Date	Matrix	Location	Latitude	Longitude
CTEH	BIMT0725SO208	7/25/2011	Soil_Surface	BIMT_404_SO208	45.873290	-108.372170
CTEH	BIMT0725SO209	7/25/2011	Soil_Surface	BIMT_404_SO209	45.873230	-108.371920
CTEH	BIMT0725SO210	7/25/2011	Soil_Surface	BIMT_404_SO210	45.873310	-108.371780
CTEH	HUMT0724SW501	7/25/2011	Water_Lab	C17	45.871883	-108.354654
CTEH	HUMT0724SW501	7/25/2011	Water_Surface	C17	45.871883	-108.354654
CTEH	HUMT0724SW501	8/28/2011	Sediment	C17	45.871883	-108.354654
EPA	SPSE119_071411	7/14/2011	Sediment	SPSE119	45.872676	-108.363402
MDEQ	ST-072511-BS5-BG	7/25/2011	Soil_Surface	ST-BS-03	45.873320	-108.372040
MDEQ	ST-072511-C17-SW	7/25/2011	Water_Surface	ST-C17	45.871664	-108.354506

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 four exceedances: one for arsenic, one for selenium, and two 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 C17 are included in Appendix B. Figure 4 provides the maximum oiling zones observed by the SCAT team during the initial surveys of Area C17.

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. 55](#) and [CTR No. 62](#)).

1.6 Oil Removal Activities

Oil removal activities were conducted within Area C17 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

A final SCAT survey was not conducted for this area.

1.10 SCAT Area Conclusions

Based on the initial SCAT survey performed within Area C17, no oiling was observed on the left bank and no further treatment was recommended. Based on initial SCAT surveys, no oiling was observed on the right bank or island and therefore no further treatment is recommended. Therefore, a PIST, POST, and final SCAT survey were not performed and a SCAT Segment Sign-Off Form is not necessary.

A Wildlife Exception Memo was created to identify multiple wildlife hazards in Area C17. The areas identified in the Wildlife Exception Memo were treated and are no longer considered wildlife hazards. No additional work is required in this area. Details of the action taken are described in Appendix G.



**SCAT Area Transition
Report for C17**

Silvertip Pipeline Incident
Laurel, Montana

2. Transition Sign-Off Form

SCAT Area Transition Report for C17

Prepared for:

Unified Command

Date

Unified Command – RP



**SCAT Area Transition
Report for C17**

Silvertip Pipeline Incident
Laurel, Montana

SCAT Area Transition Report for C17

Prepared for:

Unified Command

10/11/2011

Date


S. McAllen
Unified Command – FOSC



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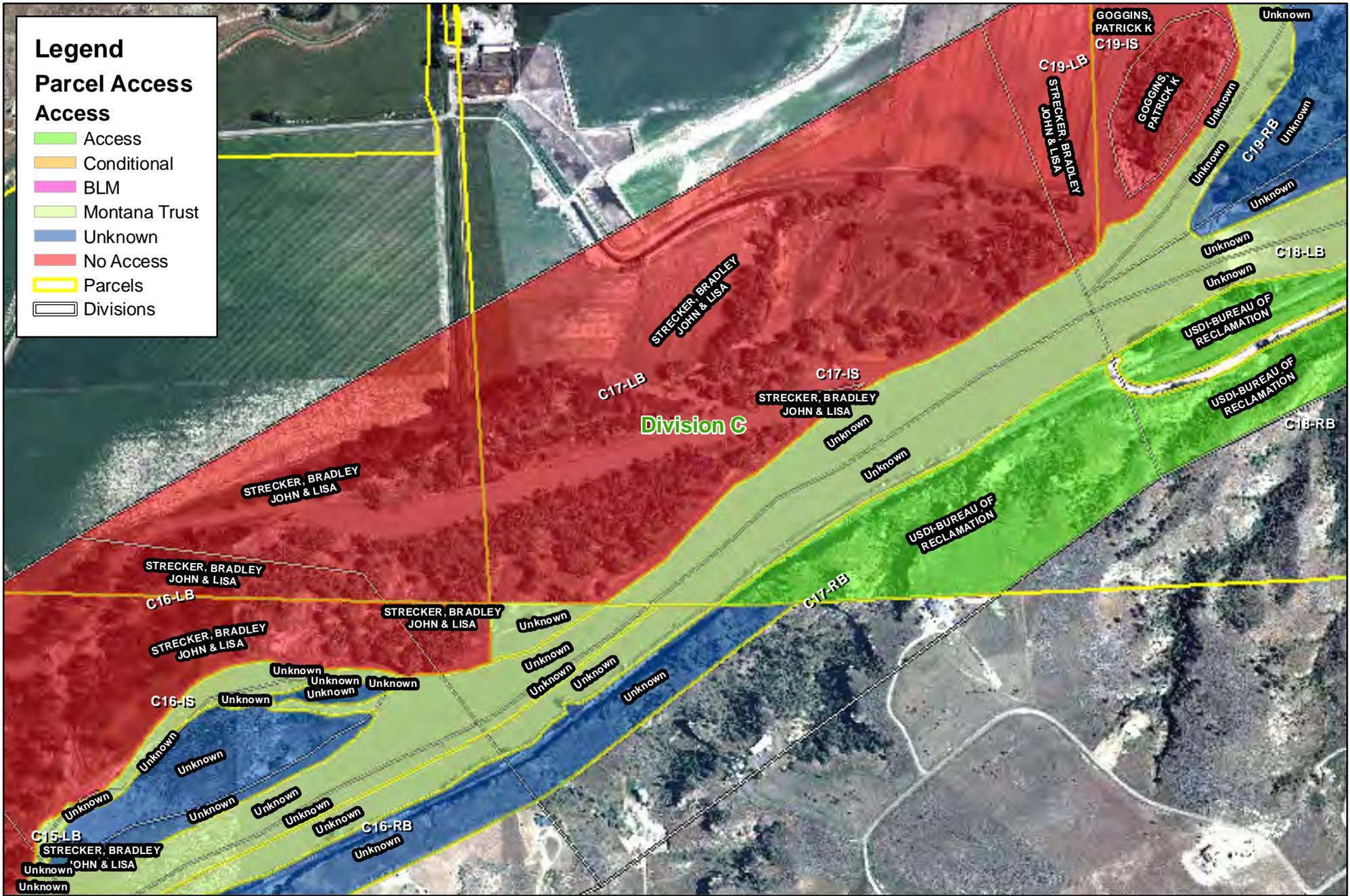
SCAT Area Transition Report for C17

Prepared for:

Unified Command

Date

Unified Command – MDEQ



Legend

Parcel Access

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

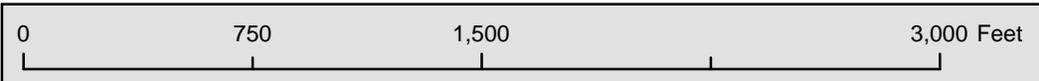


Figure 1



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

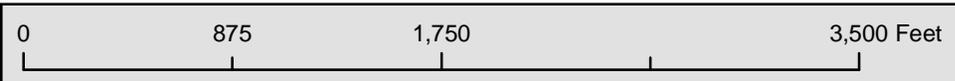


Figure 2
Wildlife Resources



Center for Toxicology and Environmental Health, L.L.C.

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



Legend

Silvertip SCAT Segments

Sample Locations

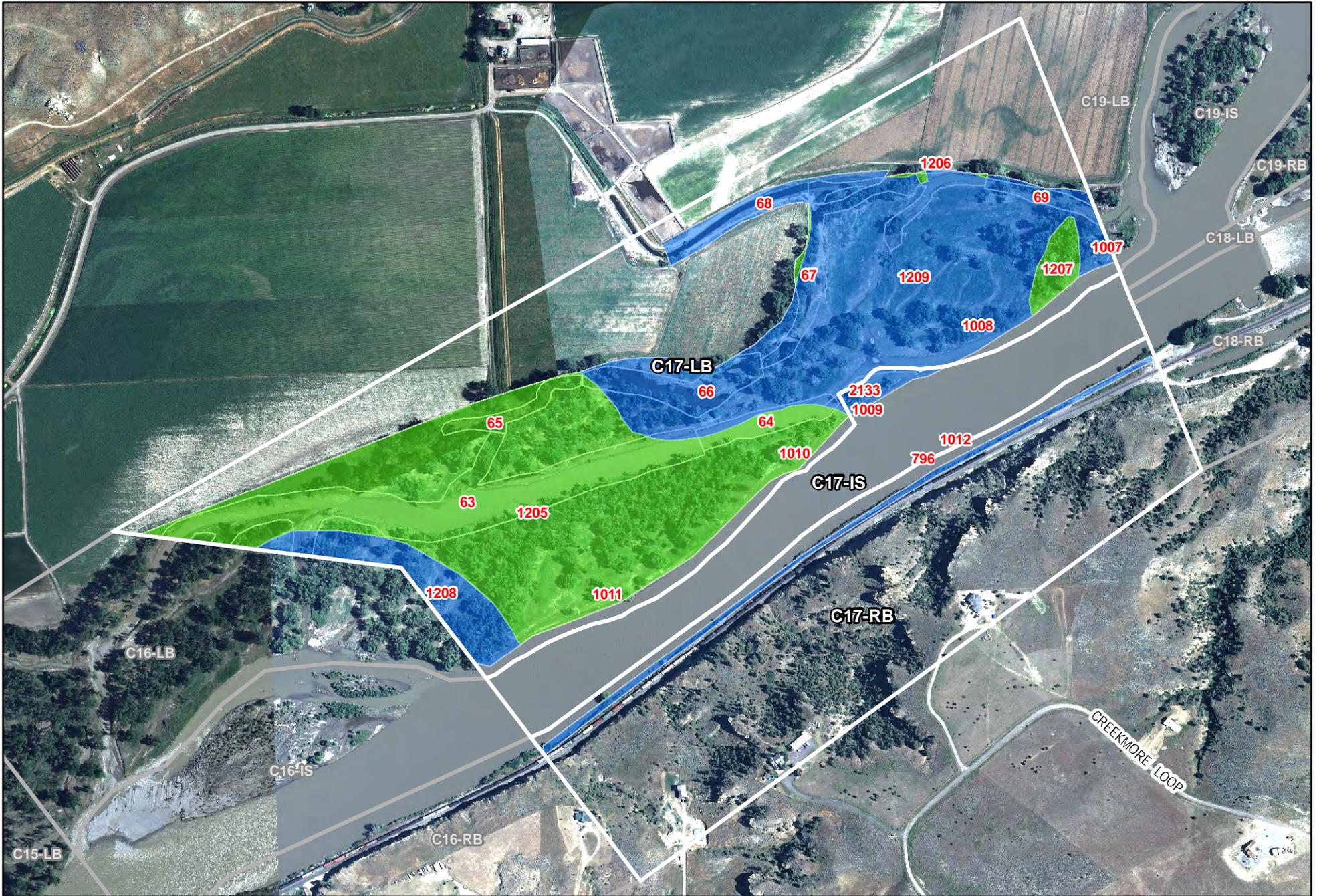
	XOM	EPA	MDEQ
Surface Water			
Drinking Water			
Irrigation			
Soil			
Sediment			
Product			
River Soil			
Oiled Debris			
Oiled River Soil			

SCAT C17



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

Figure 4 - Maximum SCAT Observations For SCAT Area: C17



**Figure 5 - Final SCAT Observations
For SCAT Area:**



9999 Oiling Zone ID
 Heavy Oiling
 Moderate Oiling

Light Oiling
 Very Light Oiling
 No Oil Observed

480 0 480 960
 Feet



Appendix A

Sample Detections Summary



Detections in Samples Collected in SCAT Area C17

NA - Not Available

Detected Above Screening Level

Sample Num	Date	Sample Type	Matrix	Analytical Method	Analyte	Detected	Result	Screening Level	Result Qualifier	Units	Above?
BIMT0725SO208	07/25/2011	Field	Soil_Surface	EPA 6010	Arsenic	Y	18.4	40		mg/kg	no
BIMT0725SO208	07/25/2011	Field	Soil_Surface	EPA 6010	Barium	Y	157	820		mg/kg	no
BIMT0725SO208	07/25/2011	Field	Soil_Surface	EPA 6010	Cadmium	Y	1.5	3.8		mg/kg	no
BIMT0725SO208	07/25/2011	Field	Soil_Surface	EPA 6010	Chromium	Y	26	280		mg/kg	no
BIMT0725SO208	07/25/2011	Field	Soil_Surface	EPA 6010	Lead	Y	13.9	400		mg/kg	no
BIMT0725SO208	07/25/2011	Field	Soil_Surface	EPA 7471	Mercury	Y	0.023	1	J-	mg/kg	no
BIMT0725SO208	07/25/2011	Field	Soil_Surface	EPA 6010	Nickel	Y	20.7	150		mg/kg	no
BIMT0725SO208	07/25/2011	Field	Soil_Surface	EPA 6010	Selenium	Y	1.8	2.6		mg/kg	no
BIMT0725SO208	07/25/2011	Field	Soil_Surface	EPA 6010	Vanadium	Y	40.9	39		mg/kg	YES
BIMT0725SO209	07/25/2011	Field	Soil_Surface	EPA 6010	Arsenic	Y	18.2	40		mg/kg	no
BIMT0725SO209	07/25/2011	Field	Soil_Surface	EPA 6010	Barium	Y	154	820		mg/kg	no
BIMT0725SO209	07/25/2011	Field	Soil_Surface	EPA 6010	Cadmium	Y	1.5	3.8		mg/kg	no
BIMT0725SO209	07/25/2011	Field	Soil_Surface	EPA 6010	Chromium	Y	25.5	280		mg/kg	no
BIMT0725SO209	07/25/2011	Field	Soil_Surface	MADEP VPH	Ethylbenzene	Y	0.11	6	J+	mg/kg	no
BIMT0725SO209	07/25/2011	Field	Soil_Surface	EPA 6010	Lead	Y	13.4	400		mg/kg	no
BIMT0725SO209	07/25/2011	Field	Soil_Surface	EPA 6010	Nickel	Y	20.6	150		mg/kg	no
BIMT0725SO209	07/25/2011	Field	Soil_Surface	EPA 6010	Selenium	Y	1.1	2.6		mg/kg	no
BIMT0725SO209	07/25/2011	Field	Soil_Surface	EPA 6010	Vanadium	Y	38.9	39		mg/kg	no
BIMT0725SO210	07/25/2011	Field	Soil_Surface	EPA 6010	Arsenic	Y	18.3	40		mg/kg	no
BIMT0725SO210	07/25/2011	Field	Soil_Surface	EPA 6010	Barium	Y	159	820		mg/kg	no
BIMT0725SO210	07/25/2011	Field	Soil_Surface	EPA 6010	Cadmium	Y	1.6	3.8		mg/kg	no
BIMT0725SO210	07/25/2011	Field	Soil_Surface	EPA 6010	Chromium	Y	26.3	280		mg/kg	no
BIMT0725SO210	07/25/2011	Field	Soil_Surface	MADEP VPH	Ethylbenzene	Y	0.11	6	J+	mg/kg	no
BIMT0725SO210	07/25/2011	Field	Soil_Surface	EPA 6010	Lead	Y	13.9	400		mg/kg	no
BIMT0725SO210	07/25/2011	Field	Soil_Surface	EPA 7471	Mercury	Y	0.021	1	J-	mg/kg	no
BIMT0725SO210	07/25/2011	Field	Soil_Surface	EPA 6010	Nickel	Y	21.3	150		mg/kg	no
BIMT0725SO210	07/25/2011	Field	Soil_Surface	EPA 6010	Selenium	Y	1.3	2.6		mg/kg	no
BIMT0725SO210	07/25/2011	Field	Soil_Surface	EPA 6010	Vanadium	Y	40.5	39		mg/kg	YES
BIMT0828SE406	08/28/2011	Field	Sediment	EPA 6010	Arsenic	Y	13.3	9.8		mg/kg	YES
BIMT0828SE406	08/28/2011	Field	Sediment	EPA 6010	Barium	Y	141	NA		mg/kg	no
BIMT0828SE406	08/28/2011	Field	Sediment	EPA 6010	Cadmium	Y	0.62	0.99		mg/kg	no



Detections in Samples Collected in SCAT Area C17

NA - Not Available

Detected Above Screening Level

Sample Num	Date	Sample Type	Matrix	Analytical Method	Analyte	Detected	Result	Screening Level	Result Qualifier	Units	Above?
BIMT0828SE406	08/28/2011	Field	Sediment	EPA 6010	Chromium	Y	20.6	43.4		mg/kg	no
BIMT0828SE406	08/28/2011	Field	Sediment	EPA 6010	Lead	Y	27.8	35.8		mg/kg	no
BIMT0828SE406	08/28/2011	Field	Sediment	EPA 9060	Mean Total Organic Carbon	Y	10200	NA		mg/kg	no
BIMT0828SE406	08/28/2011	Field	Sediment	EPA 7471	Mercury	Y	0.048	0.18		mg/kg	no
BIMT0828SE406	08/28/2011	Field	Sediment	EPA 6010	Nickel	Y	19.8	22.7		mg/kg	no
BIMT0828SE406	08/28/2011	Field	Sediment	EPA 9060	RSD%	Y	7.2	NA		%	no
BIMT0828SE406	08/28/2011	Field	Sediment	EPA 6010	Selenium	Y	3.4	2		mg/kg	YES
BIMT0828SE406	08/28/2011	Field	Sediment	MADEP EPH	Total Extractable Hydrocarbons	Y	59.2	200		mg/kg	no
BIMT0828SE406	08/28/2011	Field	Sediment	EPA 9060	Total Organic Carbon	Y	11100	NA		mg/kg	no
BIMT0828SE406	08/28/2011	Field	Sediment	EPA 6010	Vanadium	Y	35.4	NA		mg/kg	no
HUMT0724SW501	07/25/2011	Field	Water_Surface	EPA 6020	Arsenic	Y	8.3	10		ug/L	no
HUMT0724SW501	07/25/2011	Field	Water_Surface	EPA 6020	Barium	Y	50.4	1000		ug/L	no
HUMT0724SW501	07/25/2011	Field	Water_Surface	EPA 6020	Calcium	Y	17500	NA		ug/L	no
HUMT0724SW501	07/25/2011	Field	Water_Surface	EPA 6020	Chromium	Y	2.2	100		ug/L	no
HUMT0724SW501	07/25/2011	Field	Water_Surface	EPA 6020	Lead	Y	1.6	15		ug/L	no
HUMT0724SW501	07/25/2011	Field	Water_Surface	EPA 6020	Magnesium	Y	5860	NA		ug/L	no
HUMT0724SW501	07/25/2011	Field	Water_Surface	EPA 1631E	Mercury	Y	0.00000617	0.00005		mg/L	no
HUMT0724SW501	07/25/2011	Field	Water_Surface	EPA 6020	Nickel	Y	3.4	100		ug/L	no
HUMT0724SW501	07/25/2011	Field	Water_Surface	EPA 6020	Potassium	Y	2020	NA		ug/L	no
HUMT0724SW501	07/25/2011	Field	Water_Surface	EPA 6020	Sodium	Y	9460	NA		ug/L	no
HUMT0724SW501	07/25/2011	Field	Water_Surface	SM 2540D	Total Suspended Solids	Y	105	NA		mg/L	no
HUMT0724SW501	07/25/2011	Field	Water_Surface	EPA 6020	Vanadium	Y	4.3	180		ug/L	no
SPSE119_071411	07/14/2011	Field	Sediment	MADEP EPH	Total Extractable Hydrocarbons	Y	47.9	200		mg/kg	no
ST-072511-BS5-BG		Field	Soil_Surface	8260B	1,2-Dichloroethane-d4	Y	86	NA		%	no
ST-072511-BS5-BG		Field	Soil_Surface	8270C	2,4,6-Tribromophenol	Y	89	NA		%	no
ST-072511-BS5-BG		Field	Soil_Surface	8270C	2-Fluorobiphenyl	Y	90	NA		%	no
ST-072511-BS5-BG		Field	Soil_Surface	8260B	Dibromofluoromethane	Y	106	NA		%	no
ST-072511-BS5-BG		Field	Soil_Surface	8270C	Nitrobenzene-D5	Y	86	NA		%	no
ST-072511-BS5-BG		Field	Soil_Surface	8270C	o-Fluorophenol	Y	81	NA		%	no
ST-072511-BS5-BG		Field	Soil_Surface	8015M-MDEQ-REM	o-Terphenyl	Y	90	NA		%	no
ST-072511-BS5-BG		Field	Soil_Surface	8260B	p-Bromofluorobenzene	Y	125	NA		%	no



Detections in Samples Collected in SCAT Area C17

NA - Not Available

Detected Above Screening Level

Sample Num	Date	Sample Type	Matrix	Analytical Method	Analyte	Detected	Result	Screening Level	Result Qualifier	Units	Above?
ST-072511-BS5-BG		Field	Soil_Surface	8270C	Phenol-d5	Y	86	NA		%	no
ST-072511-BS5-BG		Field	Soil_Surface	8270C	Terphenyl-d14	Y	88	NA		%	no
ST-072511-BS5-BG		Field	Soil_Surface	8260B	Toluene-d8	Y	117	NA		%	no
ST-072511-BS5-BG		Field	Soil_Surface	8015M-MDEQ-REM	Total Extractable Hydrocarbons	Y	20	200		mg/kg	no
ST-072511-C17-SW		Field	Water_Surface	8260B	1,2-Dichloroethane-d4	Y	109	NA		%	no
ST-072511-C17-SW		Field	Water_Surface	8270C	2,4,6-Tribromophenol	Y	59	NA		%	no
ST-072511-C17-SW		Field	Water_Surface	8270C	2-Fluorobiphenyl	Y	59	NA		%	no
ST-072511-C17-SW		Field	Water_Surface	8260B	Dibromofluoromethane	Y	112	NA		%	no
ST-072511-C17-SW		Field	Water_Surface	8270C	Nitrobenzene-D5	Y	62	NA		%	no
ST-072511-C17-SW		Field	Water_Surface	8270C	o-Fluorophenol	Y	35	NA		%	no
ST-072511-C17-SW		Field	Water_Surface	8015M-MDEQ-REM	o-Terphenyl	Y	104	NA		%	no
ST-072511-C17-SW		Field	Water_Surface	8260B	p-Bromofluorobenzene	Y	113	NA		%	no
ST-072511-C17-SW		Field	Water_Surface	8270C	Phenol-d5	Y	33	NA		%	no
ST-072511-C17-SW		Field	Water_Surface	8270C	Terphenyl-d14	Y	55	NA		%	no
ST-072511-C17-SW		Field	Water_Surface	8260B	Toluene-d8	Y	112	NA		%	no



Appendix B

Initial SCAT Survey Forms
and Sketches

DB/G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

Page _____ of _____

1 GENERAL INFORMATION		Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: <u>C17</u>	Left Bank / <u>Right</u> Bank / Island	<u>27/07/11</u>	<u>1148</u> hrs to <u>1145</u> hrs	low - mean - bankfull - overbank
Operations Division: <u>C</u>				<u>falling</u> - steady - rising
Survey by: Foot / ATV / <u>Boat</u> / Helicopter / Overlook / _____	<u>Sun</u> / Clouds / Fog / Rain / Snow / Windy / Calm			Air Temp +/- <u>30</u> deg C

2 SURVEY TEAM # <u>1</u>	Name	Organization	Signature
	<u>Chuck Pons</u>	<u>Coastal ENTRIX</u>	<u>Clk CR</u>
	<u>Joy Watson</u>	<u>MFWP</u>	
	<u>Ernie McKenzie</u>	<u>US BLM</u>	

3 SEGMENT Total Segment/Reach Length 1100 m Segment/Reach Length Surveyed 1100 m

Start GPS: LATITUDE 45 deg. 52°27.6 min. LONGITUDE 108 deg. 21°05.78 min. Datum: WGS 84

End GPS: LATITUDE 45 deg. 52°08.56 min. LONGITUDE 108 deg. 21°42.45 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: Y Wooded Upland: Y

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 1-10m 10-100m 100m 100m 110 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

1012

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>	<u>1100</u>	<u>2</u>	<u>0</u>			<u>100</u>										<u>X</u>	<u>Sand</u>

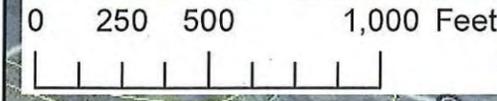
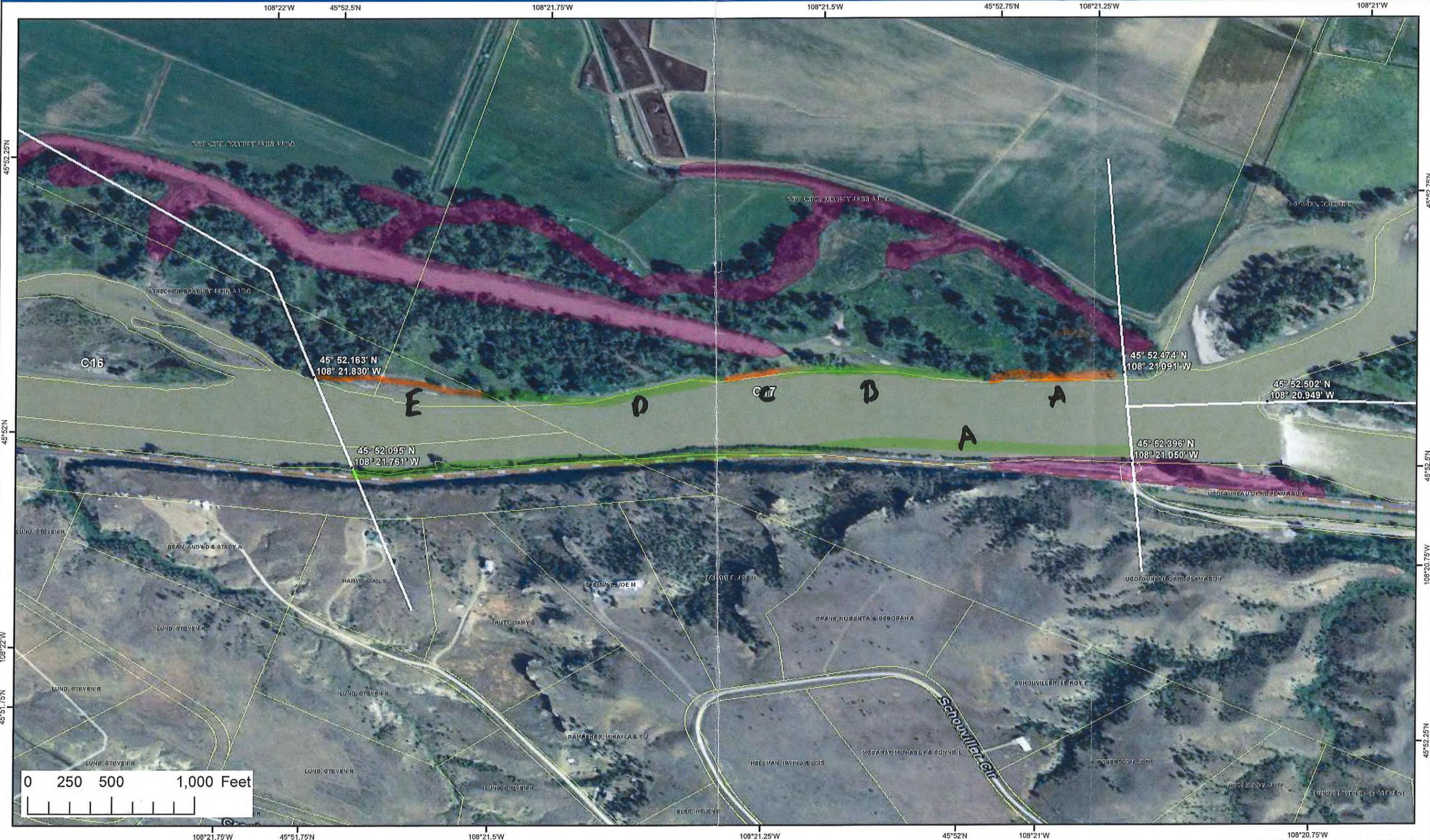
7 SUBSURFACE OILING CONDITIONS use letter for ZONE location plus Number of pit or trench - e.g., "A1"

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

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

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

No o.i. observed.



DB/AG/S

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: <u>C17</u> Left Bank / Right Bank / Island		<u>27/07/11</u>	<u>0900</u> hrs to <u>1230</u> hrs	low - mean - bankfull - overbank
Operations Division: <u>C</u>		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		falling - steady - rising
Survey by: <u>Foot / ATV / Boat / Helicopter / Overlook /</u>		Air Temp + / - <u>29</u> deg C		

2 SURVEY TEAM # <u>4</u>	Name	Organization	Signature
	<u>Joe Boy</u>	<u>Cardno ENTRIX</u>	<u>[Signature]</u>
	<u>Loi Williams</u>	<u>Cardno ENTRIX</u>	<u>[Signature]</u>
	<u>EARL RADONSKI</u>	<u>MT. FWP</u>	<u>[Signature]</u>
	<u>John Beach</u>	<u>US EPA</u>	<u>[Signature]</u>

3 SEGMENT Total Segment/Reach Length 1100 m Segment/Reach Length Surveyed 1100 m

Start GPS: LATITUDE 45 deg. 52.095 min. LONGITUDE 108 deg. 21.761 min. Datum: WGS84

End GPS: LATITUDE 45 deg. 52.396 min. LONGITUDE 108 deg. 21.050 min.

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

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

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

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

Cliff or Bluff: ___ Est Height 5 m canyon ___ manmade ___ meander S confined or leveed ___ Substrate Type: mucl

Sloped: >5°(15°)(30°) >60 straight ___ braided P oxbow ___ flood plain valley ___ Forested / Vegetated / Bare

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: <1m 1-10m 10-100m >100m 160m 140m 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 Railroad

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

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

OIL ZONE ID	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER					SUBST. TYPE(S)				
	MS	LB	UB	OB	Length m	Width m	Distrib. %	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC		SR	AP	NO	
<u>796</u> A			<u>S</u>	<u>P</u>	<u>110</u>	<u>5</u>	<u>0</u>														<u>P</u>	<u>005</u>

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

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

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

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

ZONE A: NO oil observed

recommendation: rescaty from boat at low speed lowerbank

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



STRECKER, BRADLEY JOHN & USA

C17

ZONE A

CAEMPT, E. JOE M

CRANE, ROBERT A & DEBORAH A

UNNAMED STREET

SCHOUVILLIER, LE ROY F

MCCARTY, MICHAEL

RAMAKER, MIKAYLA & T-J

KUTT, GARY S

UNNAMED STREET

HARMS, GAIL S

IDDY & STACY A

VEN R

D STREET

USD HEUT

ROBERTSON

DBIG/S

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy) 10-Jul-2011	Time (24h): std / daylight 1350 hrs to 1450 hrs	Water Level low - mean - bankfull - <u>overbank</u> falling - steady - rising
Segment/Reach ID: C17 <u>Left Bank</u> / Right Bank / Island		Operations Division: C		
Survey by: Foot / ATV / <u>Boat</u> / Helicopter / Overlook / _____		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp + / - <u>29.4</u> deg C

2 SURVEY TEAM # 2 & 4	name	organization	contact phone number
Andrew Milanes		Polaris	
Tom Freeman		Polaris	
Andrew Johnson		USCG	
Travis Olson		USCG	

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 2954 m

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

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

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

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

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

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

Cliff or Bluff: Est Height _____ m canyon _____ manmade _____ meander _____ confined or leveed _____ Substrate Type: 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 10-100m >100m _____ m est. water depth: <1m 1-3 m 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

63
64
65
66
67
68
69

OIL ZONE ID	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER							SUBST. TYPE(S)		
	MS	LB	UB	OB	Length m	Width m	Distrib. %	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR	AP		NO	
A			X	X	870	30															X	Grass, trees, debris
B			X		373	2	<1				X		X									Grass, trees
C			X		225	2	<1				X		X									Grass, trees
D			X	X	333	15															X	Grass, trees, debris
E				X	595	1	<1				X		X									Trees
F			X		390	15															X	Grass, trees, debris
G			X	X	168	15															X	Grass, trees, debris

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

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

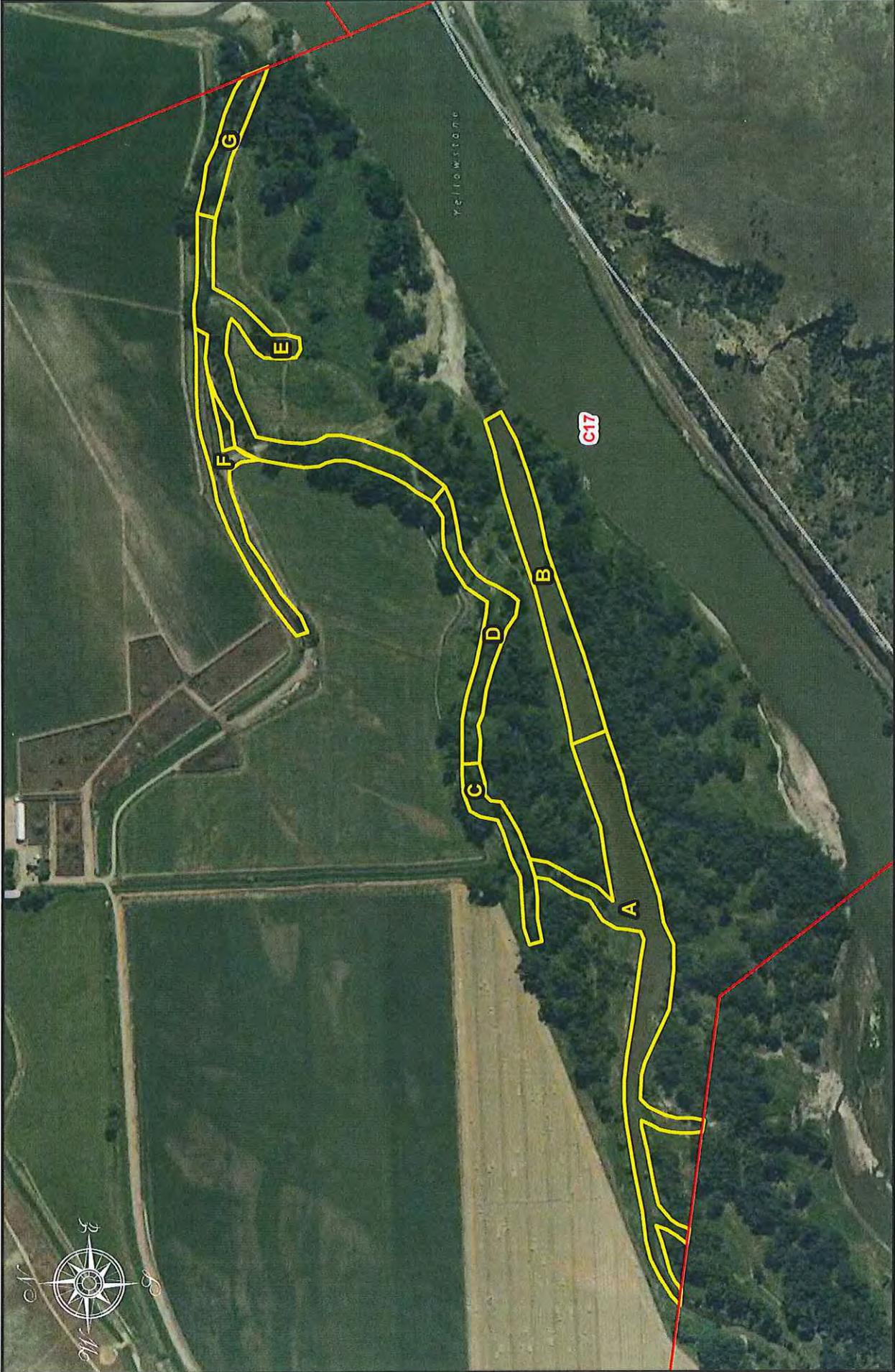
8 COMMENTS ecological/recreational/cultural/economic constraints - shorezone biota and wildlife observations - cleanup recommendations

Zone B Oiled Band Height: 10cm
Zones C & E Oiled Band Height: 5cm

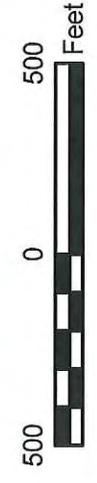
Cleanup Recommendations: No Further Treatment

(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# _____)



Legend
— Segment Boundaries
□ C17 Oil Zones



SCAT Teams 2 & 4 Survey
Segment C17 Left Bank
10-Jul-2011

DB/G/S

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

Page _____ of _____

1 GENERAL INFORMATION		Date (dd/mm/yy) 27/07/11	Time (24h): std / daylight 9:24 hrs to 9:26 hrs	Water Level low - mean - bankfull - overbank falling - steady - rising
Segment/Reach ID: <u>L17</u> Left Bank / Right Bank / Island				
Operations Division: <u>C</u>				
Survey by: Foot / ATV / Boat / Helicopter / Overlook / _____		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- <u>30</u> deg C

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

3 SEGMENT Total Segment/Reach Length 1100 m Segment/Reach Length Surveyed 1100 m

Start GPS: LATITUDE 45 deg. 52°45.63 min. LONGITUDE 108 deg. 20°15.56 min. Datum: WGS 84

End GPS: LATITUDE 45 deg. 52°09.27 min. LONGITUDE 108 deg. 21°49.04 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: Veget / Sand

Sloped: (>5°)(15°)(30°) straight _____ braided (X) oxbow _____ flood plain valley _____ Forested (X) Vegetated (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 (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				
1007 1008 1009 1010 1011 A			X	X	145	2	60			S	P		X									Veget		
B			X	X	330	2	0														X			
C			X	X	25	2	60			S	P		X											
D			X	X	440	2	0														X			
E			X	X	160	2	60			S	P		X											

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

TRENCH or PIT NO.	RIVER BANK ZONE				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

Zones A, C, + E have stain + could veg (primarily grass)
Veg needs to be cut out or trimmed and removed.

Sketch (Y) / No Photos (Y) / No Frames _____ Photographer _____

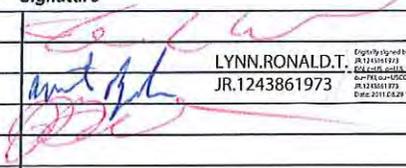
DB/G

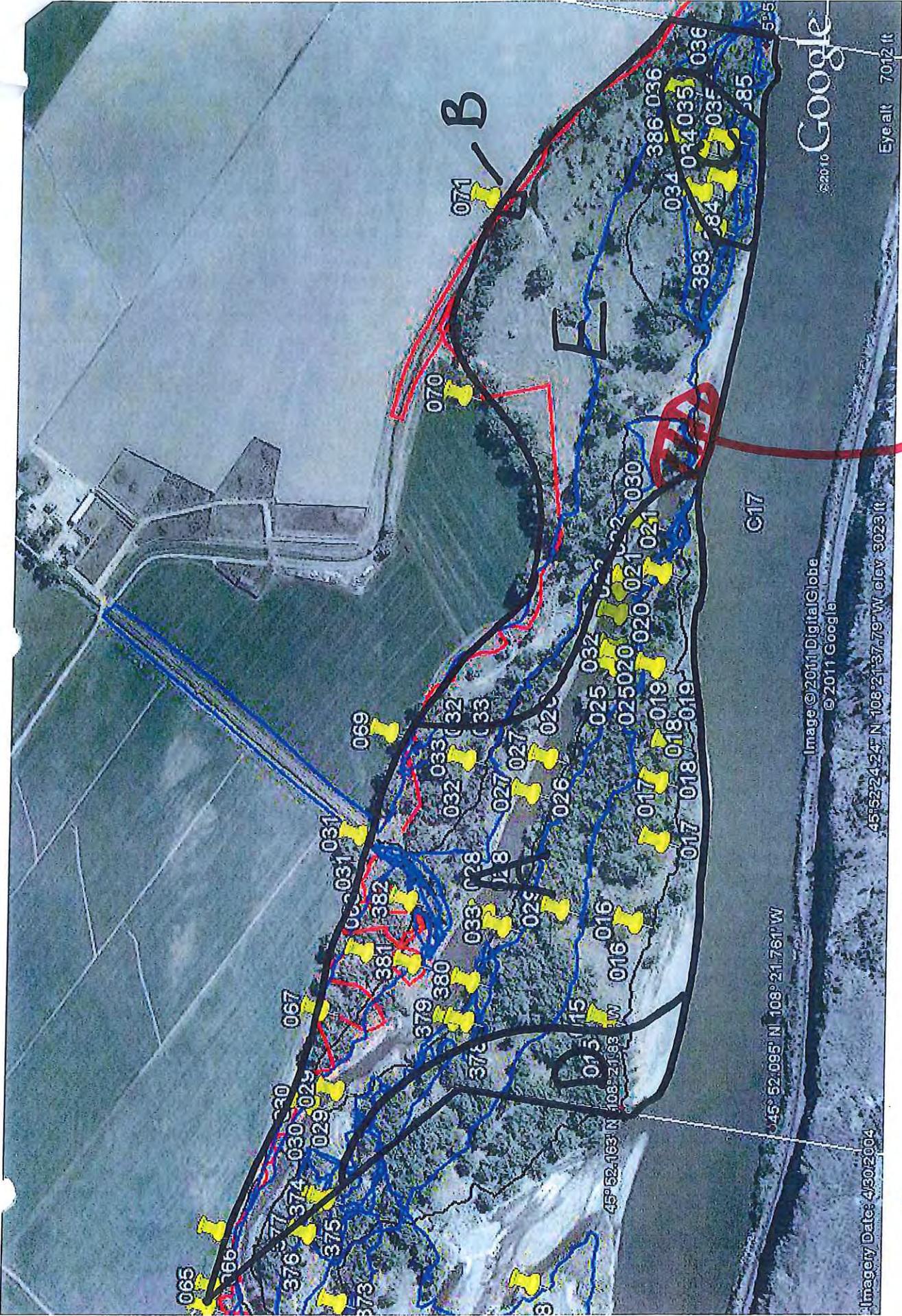
RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION				Date (dd/mm/yy) 04/08/11	Time (24h): std / daylight 1130 hrs to 1237 hrs	Water Level low - mean - <u>bankfull</u> - overbank falling - steady - rising																
Segment/Reach ID: C17 <u>Left Bank</u> / Right Bank / Island				Operations Division:		Air Temp +/- 2.5 - 3.5 deg C																
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook /				Sun / Clouds / Fog / Rain / Snow / Windy / Calm																		
2 SURVEY TEAM # 5		Name	Organization	Signature																		
Josh Hofkes			Cardno ENTRIX																			
Ron Lynn			USCG																			
Mike Ruggles			FWP																			
John Brown			DEQ																			
3 SEGMENT		Total Segment/Reach Length _____ m	Segment/Reach Length Surveyed <u>1148</u> 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 <u>S</u> Sand <u>S</u> Mixed <u>S</u> Pebble/Cobble <u>S</u> Boulder _____ Peat/Organic <u>P</u>		Vegetated Bank: <u>X</u>		Wooded Upland: <u>X</u>																		
Sediment Flat: Clay/Mud _____ Sand _____ Mixed/Coarse _____		Other: _____		If snow and ice use Winter River SOS																		
4B RIVER VALLEY CHARACTER select as appropriate																						
Cliff or Bluff: _____ Est Height _____ m		canyon _____ manmade _____ meander <u>S</u> confined or leveed _____		Substrate Type: <u>organic</u>																		
Sloped: _____ (>5°)(15°)(30°)		straight _____ braided _____ oxbow <u>S</u> flood plain valley <u>P</u>		Forested / Vegetated / Bare																		
4C RIVER CHANNEL CHARACTER circle or select as appropriate																						
est. width: <1m 1-10m 10-100m <u>>100m</u>		est. water depth: <1m <u>1-3m</u> 3-10m >10m _____ m																				
shoal(s) present <u>Y/N</u> point bar present <u>Y/N</u>		bar-shoal substrate: <u>silt</u> / sand / gravel / cobble / boulder / bedrock / debris																				
seasonal water level: low / mean / <u>bank full</u> / overbank flow		est. change over next 7 days: <u>falling</u> — same — rising																				
5 OPERATIONAL FEATURES																						
Suitable backshore staging <u>Y/N</u>		Access: Direct from backshore <u>Y/N</u> Alongshore from next segment <u>Y/N</u>		access restrictions																		
Debris: <u>Y/N</u> oiled <u>Y/N</u> amount <u>NA</u> bags or <u>NA</u> trucks		Other Features:																				
Oiled trees/shrubs <u>Y/N</u>		River Current strong <u>Y/N</u>																				
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	370	360	<1			S	P	S	S					S				Mix
B				X	3	3	<1			S	P							S				Mix
C				X	173	50	<1			S	P							S				Vegetation
D				X	313	65	<1														X	Mix
E				X	536	270	<1														X	Mix
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 <u>Y/N</u> Overbank Survey Completed <u>Y/N</u> Shoreline Survey Completed <u>Y/N</u>																						
Zone A: Isolated and contiguous trace (<1%) oiling coat and stain on vegetation and small vegetative debris. Silver oil sheen within isolated slack waters/ox bows within floodplain. No further treatment (NFT) recommended.																						
Zone B: Isolated trace (<1%) oiling coat and stain on vegetation and small vegetative debris. No further treatment (NFT) recommended.																						
Zone C: Isolated and contiguous trace (<1%) oiling coat and stain on vegetation and small vegetative debris. No further treatment (NFT) commended.																						
Zone D: No oiling observed. No further treatment (NFT) recommended.																						
Zone E: No oiling observed. No further treatment (NFT) recommended.																						
Sketch Yes / No Photos Yes / No Frames/Photographer: _____																						

25
26
27
28
29

DB/G

1 GENERAL INFORMATION				Date (dd/mm/yy) 04/08/11	Time (24h): std / daylight 1130 hrs to 1237 hrs	Water Level low - mean - bankfull - overbank falling - steady - rising															
Segment/Reach ID: C17 <u>Left Bank / Right Bank / Island</u>				Operations Division:		Air Temp +/- 2.5 - 3.5 deg C															
Survey by: <u>Foot / ATV / Boat / Helicopter / Overlook /</u>				Sun / Clouds / Fog / Rain / Snow / Windy / Calm																	
2 SURVEY TEAM # 5		Name		Organization		Signature															
Josh Hofkes				Cardno ENTRIX																	
Ron Lynn				USCG																	
Mike Ruggles				FWP																	
John Brown				DEQ																	
3 SEGMENT		Total Segment/Reach Length _____ m		Segment/Reach Length Surveyed <u>1148</u> 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 <u>S</u> Sand <u>S</u> Mixed <u>S</u> Pebble/Cobble <u>S</u> Boulder _____ Peat/Organic <u>P</u>		Vegetated Bank: <u>X</u>		Wooded Upland: <u>X</u>																	
Sediment Flat: Clay/Mud _____ Sand _____ Mixed/Coarse _____		Other: _____		If snow and ice use Winter River SOS																	
4B RIVER VALLEY CHARACTER		select as appropriate																			
Cliff or Bluff: _____ Est Height _____ m		canyon _____ manmade _____ meander <u>S</u> confined or leveed _____		Substrate Type: <u>organic</u>																	
Sloped: _____ (>5°)(15°)(30°)		straight _____ braided _____ oxbow <u>S</u> flood plain valley <u>P</u>		Forested / Vegetated / Bare																	
4C RIVER CHANNEL CHARACTER		circle or select as appropriate																			
est. width: <1m 1-10m 10-100m <u>>100m</u>		est. water depth: <1m <u>1-3m</u> 3-10m >10m _____ m																			
shoal(s) present <u>Y/N</u> point bar present <u>Y/N</u>		bar-shoal substrate: <u>silt / sand / gravel / cobble</u> / boulder / bedrock / debris																			
seasonal water level: low / mean / <u>bank full</u> / overbank flow		est. change over next 7 days: <u>falling</u> — same — rising																			
5 OPERATIONAL FEATURES		Suitable backshore staging <u>Y/N</u>		Access: Direct from backshore <u>Y/N</u> Alongshore from next segment <u>Y/N</u>																	
Debris: <u>Y/N</u> oiled <u>Y/N</u> amount <u>NA</u> bags or <u>NA</u> trucks		River Current strong <u>Y/N</u>		Other Features:																	
Oiled trees/shrubs <u>Y/N</u>																					
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 m	Width m	Distrib. %	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC		SR	AP	NO
1205 1206 1207 1208 1209				X	370	360	<1			S	P	S	S				S				Mix
				X	3	3	<1			S	P						S				Mix
				X	173	50	<1			S	P						S				Vegetation
	X			X	313	65	<1	X	X											X	Mix
				X	536	270	<1													X	Mix
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 <u>Y/N</u> Overbank Survey Completed <u>Y/N</u> Shoreline Survey Completed <u>Y/N</u>																					
Zone A: Isolated and contiguous trace (<1%) oiling coat and stain on vegetation and small vegetative debris. Silver oil sheen within isolated slack waters/ox bows within floodplain. No further treatment (NFT) recommended.																					
Zone B: Isolated trace (<1%) oiling coat and stain on vegetation and small vegetative debris. No further treatment (NFT) recommended.																					
Zone C: Isolated and contiguous trace (<1%) oiling coat and stain on vegetation and small vegetative debris. No further treatment (NFT) recommended.																					
Zone D: No oiling observed. No further treatment (NFT) recommended.																					
Zone E: No oiling observed. No further treatment (NFT) recommended.																					
Sketch Yes / No		Photos Yes / No		Frames/Photographer: _____																	



August 4, 2011
 TEAM 5 C17 LB
 zones A,B,C,D+E
 C17-15

DB/G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy) 04/08/11	Time (24h): std / daylight 1130 hrs to 1237 hrs	Water Level low - mean - <u>bankfull</u> - overbank falling - steady - rising
Segment/Reach ID: C17 <u>Left Bank</u> / Right Bank / Island		Operations Division:		
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook / _____		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- 2 5 - 3 5 deg C

2 SURVEY TEAM # 5	Name	Organization	Signature
Josh Hofkes		Cardno ENTRIX	
Ron Lynn		USCG	
Mike Ruggles		FWP	
John Brown		DEQ	

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 1148 m

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

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

ORIGINAL

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 S Pebble/Cobble S Boulder _____ Peat/Organic P 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 S confined or leveed _____ Substrate Type: organic

Sloped: _____ (>5°)(15°)(30°) straight _____ braided _____ oxbow S flood plain valley P 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 NA bags or NA 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
1205 1206 1207 1208 1209 A				X	370	360	<1			S	P	S	S				S				Mix
B				X	3	3	<1			S	P						S				Mix
C				X	173	50	<1			S	P						S				Vegetation
D				X	313	65	<1													X	Mix
E				X	536	270	<1													X	Mix

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

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

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

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

Zone A: Isolated and contiguous trace (<1%) oiling coat and stain on vegetation and small vegetative debris. Silver oil sheen within isolated slack waters/ox bows within floodplain. No further treatment (NFT) recommended.

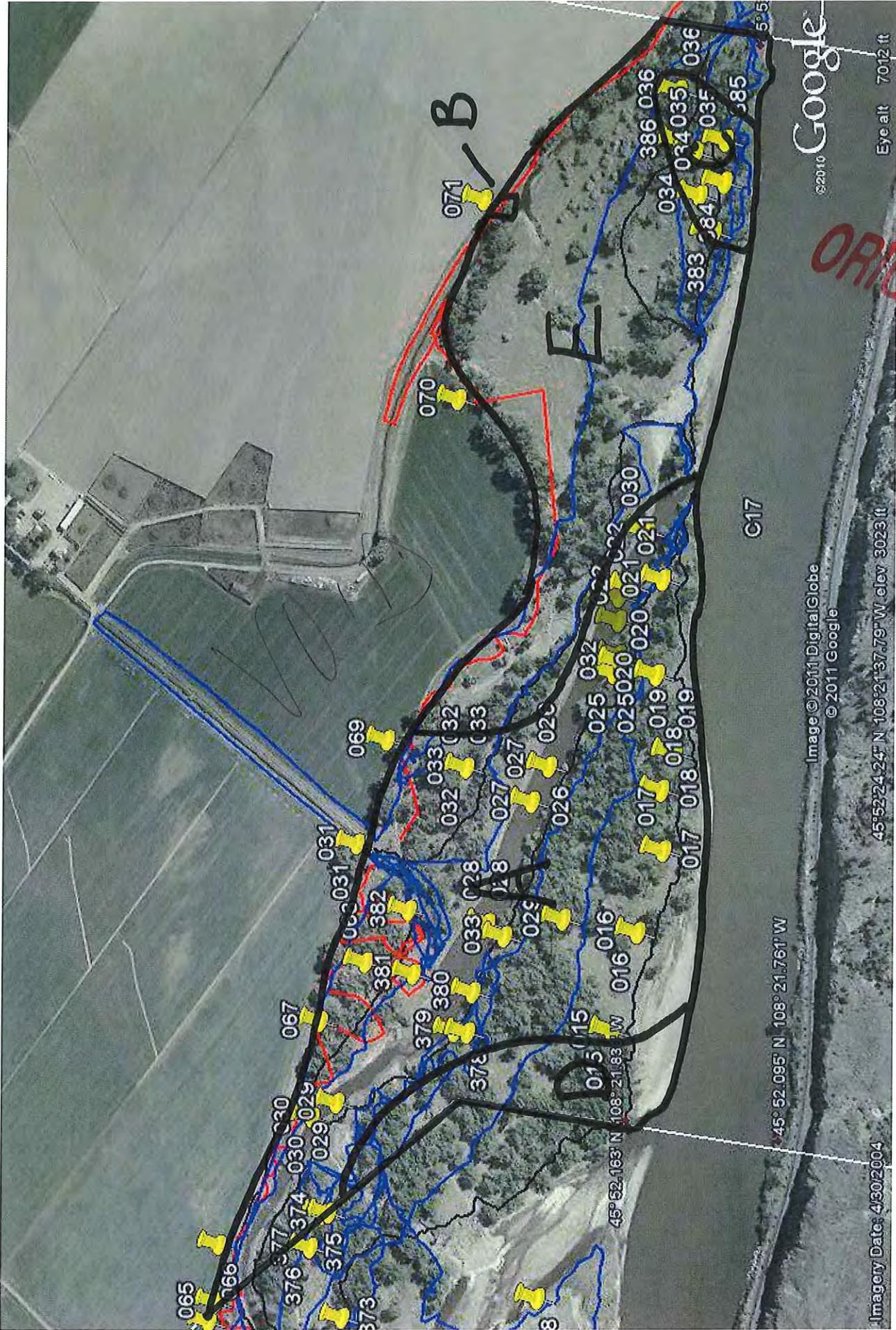
Zone B: Isolated trace (<1%) oiling coat and stain on vegetation and small vegetative debris. No further treatment (NFT) recommended.

Zone C: Isolated and contiguous trace (<1%) oiling coat and stain on vegetation and small vegetative debris. No further treatment (NFT) recommended.

Zone D: No oiling observed. No further treatment (NFT) recommended.

Zone E: No oiling observed. No further treatment (NFT) recommended.

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



August 4, 2011
 TEAM 5 C17 LB
 zones A,B,C,D,E

DB/G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy) 04/08/11	Time (24h): std / daylight 1130 hrs to 1237 hrs	Water Level low - mean - <u>bankfull</u> - overbank falling - steady - rising
Segment/Reach ID: C17 <u>Left Bank / Right Bank</u> <u>Island</u>		Operations Division:		
Survey by: <u>Foot / ATV / Boat / Helicopter / Overlook /</u>		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- 2.5 - 3.5 deg C

2 SURVEY TEAM # 5	Name	Organization	Signature
Josh Hofkes		Cardno ENTRIX	
Ron Lynn		USCG	
Mike Ruggles		FWP	
John Brown		DEQ	

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 1148 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 S Pebble/Cobble S Boulder _____ Peat/Organic P 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 S confined or leveed _____ Substrate Type: organic

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

debris: Y/N oiled Y/N amount NA bags or NA 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	370	360	<1			S	P	S	S				S				Mix
B				X	3	3	<1			S	P						S				Mix
C				X	173	50	<1			S	P						S				Vegetation
D				X	313	65	<1													X	Mix
E				X	536	270	<1													X	Mix

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

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

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

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

Zone A: Isolated and contiguous trace (>1%) oiling coat and stain on vegetation and small vegetative debris. Silver oil sheen within isolated slack waters/ox bows within floodplain. No further treatment (NFT) recommended.

Zone B: Isolated trace (<1%) oiling coat and stain on vegetation and small vegetative debris. No further treatment (NFT) recommended.

Zone C: Isolated and contiguous trace (<1%) oiling coat and stain on vegetation and small vegetative debris. No further treatment (NFT) commended.

Zone D: ~~No oiling observed. No further treatment (NFT) recommended.~~

Zone E: No oiling observed. No further treatment (NFT) recommended.

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

DB/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: C17 <u>Left Bank</u> / Right Bank / Island		04/08/11		low - mean - <u>bankfull</u> - overbank
Operations Division:			1130 hrs to 1237 hrs	<u>falling</u> - steady - rising
Survey by: <u>Foot / ATV / Boat / Helicopter / Overlook /</u>		<u>Sun</u> / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- 2 5 - 3 5 deg C

2 SURVEY TEAM # 5	Name	Organization	Signature
	Josh Hofkes	Cardno ENTRIX	
	Ron Lynn	USCG	
	Mike Ruggles	FWP	
	John Brown	DEQ	

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 1148 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 S Pebble/Cobble S Boulder _____ Peat/Organic P _____ 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 S confined or leveed _____ Substrate Type: organic

Sloped: (-5°)(15°)(30°) straight _____ braided _____ oxbow S flood plain valley P 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 NA bags or NA 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

1205
1206
1207
1208
1209

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	
A				X	370	360	<1			S	P	S	S				S					Mix
B				X	3	3	<1			S	P						S					Mix
C				X	173	50	<1			S	P						S					Vegetation
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	MS	LB	UB	OB			SAP	OP	PP	OR	OF	TR	NO									

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

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

Zone A: Isolated and contiguous trace (<1%) oiling coat and stain on vegetation and small vegetative debris. Silver oil sheen within isolated slack waters/ox bows within floodplain. No further treatment (NFT) recommended.

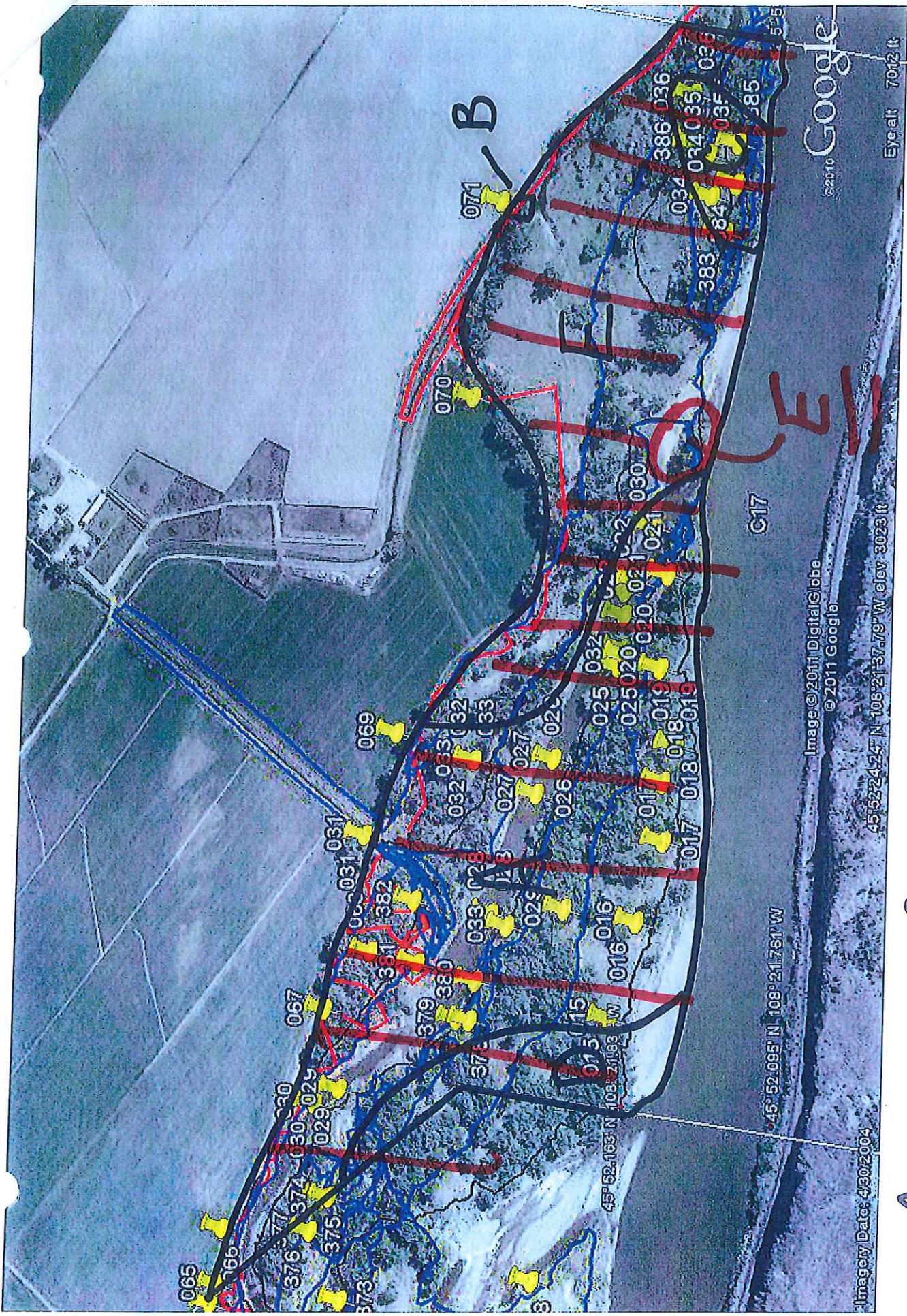
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Zone C: Isolated and contiguous trace (<1%) oiling coat and stain on vegetation and small vegetative debris. No further treatment (NFT) recommended.

Zone D: No oiling observed. No further treatment (NFT) recommended.

Zone E: No oiling observed. No further treatment (NFT) recommended.

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



August 4, 2011
 TEAM 5 C17 LB
 zones A,B,C,D+E

DB/G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy) 04/08/11	Time (24h): std / daylight 1130 hrs to 1237 hrs	Water Level low - mean - bankfull - overbank falling - steady - rising
Segment/Reach ID: C17 <u>Left Bank</u> / Right Bank / Island				
Operations Division:				
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook /		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- 2.5 - 3.5 deg C

2 SURVEY TEAM # 5	Name	Organization	Signature
Josh Hofkes		Cardno ENTRIX	
Ron Lynn		USCG	
Mike Ruggles		FWP	
John Brown		DEQ	

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 1148 m

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

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

ORIGINAL

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 S Pebble/Cobble S Boulder _____ Peat/Organic P _____ 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 S confined or leveed _____ Substrate Type: organic

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

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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 NA bags or NA 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					X	370	360	<1			S	P	S	S				S					Mix
B					X	3	3	<1			S	P						S					Mix
C					X	173	50	<1			S	P						S				Vegetation	
D					X	313	65	<1													X	Mix	
E					X	536	270	<1													X	Mix	

205
206
207
208
209

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

Zone A: Isolated and contiguous trace (<1%) oiling coat and stain on vegetation and small vegetative debris. Silver oil sheen within isolated slack waters/ox bows within floodplain. No further treatment (NFT) recommended.

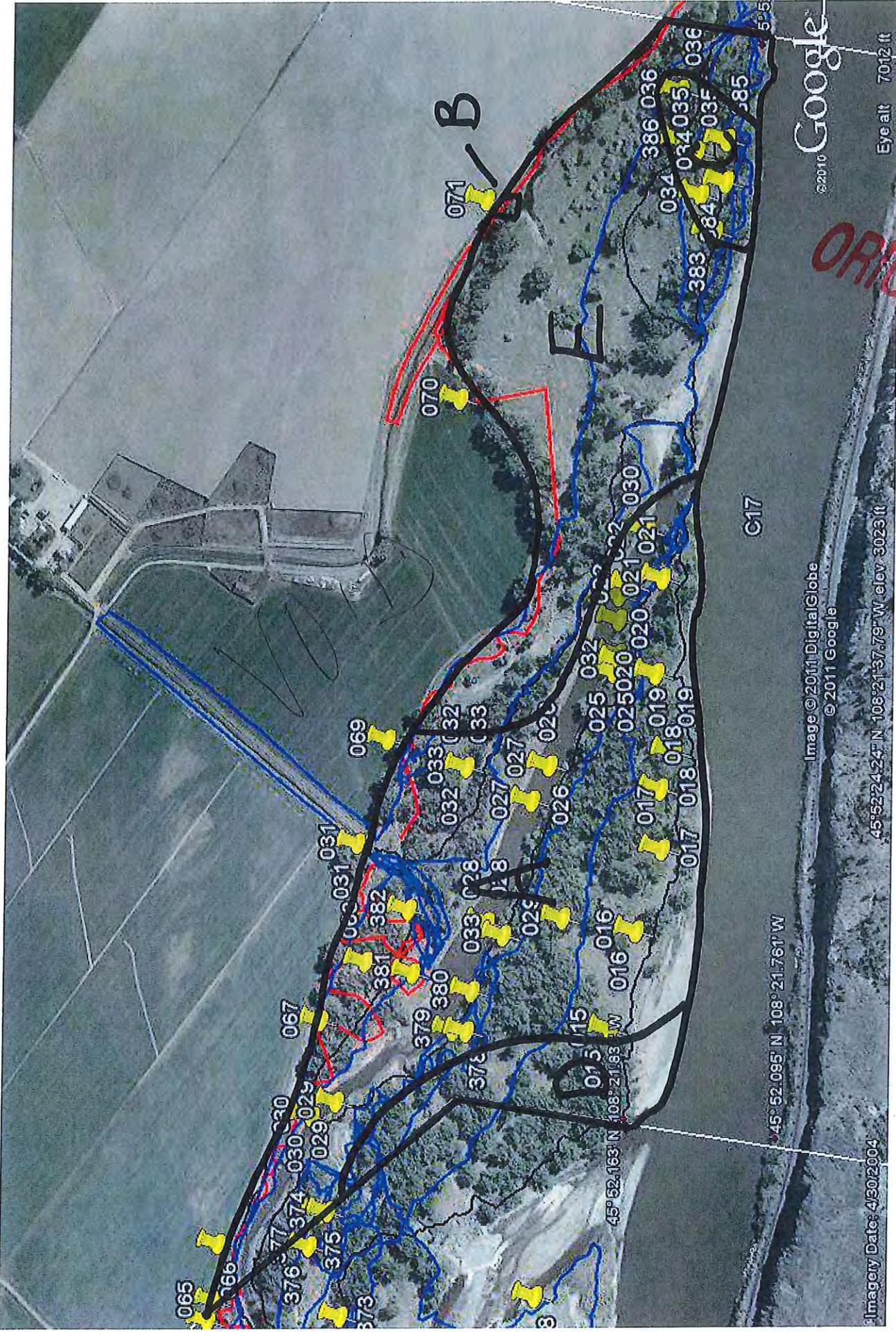
Zone B: Isolated trace (<1%) oiling coat and stain on vegetation and small vegetative debris. No further treatment (NFT) recommended.

Zone C: Isolated and contiguous trace (<1%) oiling coat and stain on vegetation and small vegetative debris. No further treatment (NFT) recommended.

Zone D: No oiling observed. No further treatment (NFT) recommended.

Zone E: No oiling observed. No further treatment (NFT) recommended.

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



August 4, 2011
 TEAM 5 C17 LB
 ZONES A, B, C, D, E



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

**Final SCAT Surveys were not
conducted for this area**



Appendix F

Completed SCAT Segment
Sign-Off Forms

**SCAT Segment Sign-Off Forms were not
necessary for this area**



Appendix G

Exception Memos

GENERAL MESSAGE - SCAT AND OPERATIONS GUIDANCE FOR C-17 LB PATTIES AND OIL ON VEGETATION

TO: Jimmie James, RPIC
 Jenny Chambers, SOSC
 Steven Merritt, FOSC

POSITION: ExxonMobil
 Montana DEQ State On-Scene Coordinator
 EPA Federal On-Scene Coordinator

FROM: Wildlife Branch

POSITION: Wildlife Deputy Chief

SUBJECT: C-17LB

DATE: 09.05.2011

TIME: 1113-1208

MESSAGE: International Bird Rescue and Resource Advisors with the USFWS identified several areas in SCAT sector C-17 LB Island. This segment is listed as NFT but is presenting a threat to wildlife. Several areas are recommended for remediation to reduce potential exposure. Bird activity on the island is high and insect activity in the oiled areas is also high increasing exposure risk. **The area depicted in the map (N 45.87085 by W 108.36049) below is high priority area where oil patties were located on the ground. Oil was easily transferable even on cool mornings. The other high priority areas in this sector include N 45.87228 by W 108.35777; this is oil in debris transfers oil easily.** Several other areas were noted on this island and include the following:

- N 45.87420 by W 108.35260– light oil stain on grass north bank of river
- N 45.87413 by W 108.35300 – light to medium oil on grass
- N 45.87143 by W 108.35970 – oil in wood debris (high priority)
- N 45.86993 by W 108.36277—oil in grass easily transfers (low priority)

Many of the oil patties on this site are located in a dry channel in the center of the island running east to west. The channel has clay soils, and the oil is at risk on getting entrained in the river during the next rain event.

SIGNATURE: Karen J. Nelson, USFWS EC Specialist

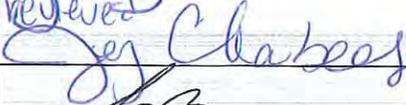
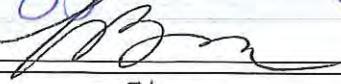
Ruby Clayton

POSITION: Wildlife Deputy Chief

FIELD SUPERVISOR

REPLY: SCAT and Operations

The Unified Command is aware of this area within SCAT Segments C17LB and that operations within these segments have been completed by operations and Re-SCAT efforts. We agree with the recommended treatment proposed above for this area. ExxonMobil will coordinate any future remediation activities at this site with MTDEQ. In the meantime, this segment will be flagged as a "Wildlife Exception" and excised within GIS maps from the Re-SCAT report that will be produced to close-out the segment. This document will be included as an attachment to the Area Transition Report to document the need for additional work within this segment beyond Re-SCAT and a POST should be used to re-close the segment once these wildlife concerns are addressed by operations teams.

DATE:	TIME:	SIGNATURE/POSITION:
09/09/2011	11:00	 Jimmie James, RPIC
		<i>reviewed</i>  Jenny Chambers, SOSC
		 Steven Merritt, FOSC

9/10 07:55 HET



RECEIVED