

**ExxonMobil Pipeline Company**

**SCAT Area Transition Report  
for A29**

Silvertip Pipeline Incident  
Laurel, Montana

October 22, 2011



## **SCAT Area Transition Report for A29**

Silvertip Pipeline Incident  
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 A29, 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 A29. 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 & Access Issues**

Figure 1 provides an aerial map of SCAT Area A29, 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 A29 is 73.0. 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 area. International Bird Rescue and Resource Advisors from U.S. Fish and Wildlife Service conducted regular inspections of Area A29. One lightly oiled yellow warbler (*Dendroica petechia*) was captured, cleaned, and released. A lightly oiled red-tailed hawk (*Buteo jamaicensis*) was also observed; this is likely the same individual noted in the SATR for Area A28. One deceased moderately oiled mallard (*Anas platyrhynchos*) and one deceased lightly oiled great horned owl (*Bubo virginianus*) were collected and retained. No Wildlife Priority Cleanup Areas were identified. An Osprey (*Pandion haliaetus*) nest was identified in Area A29. In addition, a portion of a bald eagle (*Haliaeetus leucocephalus*) nesting buffer zone extended into Area A29 and was provided to Operations. An Exception Memo was drafted for sheen on several pools; the Exception Memo was closed administratively after further investigation revealed that the sheen was not hydrocarbon or incident related.

**1.3 Summary of Environmental Sampling**

Table 1 (below) summarizes samples collected within Area A29. 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 A29 are provided on Figure 3.

**Table 1 Environmental Sampling Summary**

Agency	Sample Num	Date	Matrix	Location	Latitude	Longitude
CTEH	BIMT0708IW202	08-Jul-11	Water_Irrigation	BIMT_ATRID283_IW202	45.69496	-108.64291
CTEH	BIMT0711DW301	11-Jul-11	Water_Drinking	BIMT_343_DW301	45.68904	-108.63886
CTEH	BIMT0711DW302	11-Jul-11	Water_Drinking	BIMT_343_DW302	45.68904	-108.63886
CTEH	BIMT0725SW610	25-Jul-11	Water_Surface	A29	45.688317	-108.641396
CTEH	BIMT0816SO523	16-Aug-11	Soil_River	SO-A29	45.688099	-108.641648
CTEH	LAMT0708DW4003	08-Jul-11	Water_Drinking	LAMT_277_DW001	45.691084	-108.638904
CTEH	LAMT0713DW301	13-Jul-11	Water_Drinking	LAMT_362_DW301	45.690595	-108.639607
CTEH	LAMT0713SW302	13-Jul-11	Water_Surface	LAMT_362_SW302	45.6898956	-108.6358643
CTEH	LAMT0729DW701	29-Jul-11	Water_Drinking	LAMT_458_DW701	45.691408	-108.63867
CTEH	LAMT0729IW104	29-Jul-11	Water_Irrigation	LAMT_458_IW104	45.691536	-108.637766
CTEH	LAMT0729IW105	29-Jul-11	Water_Irrigation	LAMT_458_IW104	45.691536	-108.637766
CTEH	LAMT0729IW702	29-Jul-11	Water_Irrigation	LAMT_458_IW702	45.691345	-108.638065
CTEH	LAMT0729IW703	29-Jul-11	Water_Irrigation	LAMT_458_IW702	45.691345	-108.638065
CTEH	LAMT0822SO101	22-Aug-11	Soil_Surface	LAMT_552_SO101	45.693887	-108.642874
CTEH	LAMT0822SO104	22-Aug-11	Soil_Surface	LAMT_552_SO104	45.694279	-108.646688
CTEH	LAMT0822SO105	22-Aug-11	Soil_Surface	LAMT_552_SO105	45.69451	-108.645569
CTEH	LAMT0822SO106	22-Aug-11	Soil_Surface	LAMT_552_SO106	45.693424	-108.645693
CTEH	LAMT0822SO107	22-Aug-11	Soil_Surface	LAMT_552_SO107	45.692853	-108.646932
CTEH	LAMT0822SO108	22-Aug-11	Soil_Surface	LAMT_552_SO108	45.693503	-108.644073
CTEH	LAMT0822SO109	22-Aug-11	Soil_Surface	LAMT_552_SO109	45.69467	-108.644748
CTEH	LAMT0822SOBK6111	22-Aug-11	Soil_Surface	LAMT_552_SO111	45.695224	-108.643013
MDEQ	B11070821-012	11-Jul-11	Soil_Surface	ST-LM-01	45.69463	-108.64213
MDEQ	B11070821-013	11-Jul-11	Soil_Surface	ST-LM-01	45.69463	-108.64213
MDEQ	B11070821-014	11-Jul-11	Soil_Surface	ST-LM-01	45.69463	-108.64213
MDEQ	B11070821-035	11-Jul-11	Soil_Surface	ST-RS-01	45.690575	-108.6396116
MDEQ	B11070821-036	11-Jul-11	Soil_Surface	ST-RS-01	45.690575	-108.6396116
MDEQ	ST-071511-LM1	15-Jul-11	Soil_Surface	ST-LM-01	45.69463	-108.64213
MDEQ	ST-072111-CA-DW	21-Jul-11	Water_Drinking	ST-CA-03	45.6911	-108.63893
EPA	SPDW201_071111	11-Jul-11	Water_Drinking	SPDW201	45.6889926	-108.6388165
EPA	SPDW202_071111	11-Jul-11	Water_Drinking	SPDW202	45.6889926	-108.6388165
EPA	SPDW206_071311	13-Jul-11	Water_Drinking	SPDW206	45.6905755	-108.6396116
EPA	SPSW201_071311	13-Jul-11	Water_Surface	SPSW201	45.6897962	-108.6359731

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, no exceedances are shown.

#### **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 A29 are included in Appendix B. Figure 4 provides the maximum oiling zones observed by the SCAT team during the initial surveys of Area A29.

#### **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. 15](#) and [CTR No. 40](#)).

#### **1.6 Oil Removal Activities**

Oil removal activities were conducted within Area A29 in accordance with the ATMs identified in the CTRs. [Appendix I](#) of the Summary of Assessment and Oil Removal Activities report presents this data including: date range/days worked, average number of people working per day, equipment used, and various types of bags removed: oily debris, personal protective equipment (PPE), plastic, trash, super sacks, wood chips, and contaminated wood.

#### **1.7 Pre-Inspection Survey Transmittal**

SCAT Operations liaisons performed an inspection of the remediated areas of SCAT Area A29 and developed a Pre-Inspection Survey Transmittal (PIST) associated with the left bank, right bank, and island within Area A29, which is presented in Appendix C.

#### **1.8 Post-Inspection Survey Transmittal**

SCAT Operations liaisons performed an inspection of the remediated areas of SCAT Area A29 and developed a Post-Inspection Survey Transmittal (POST) associated with the right bank within Area A29, which is presented in Appendix D.

### **1.9 Summary of Final SCAT Surveys**

Figure 5 shows the oiling conditions within Area A29 following completion of oil removal activities. The SCAT team performed final surveys of the left and right banks and island within SCAT Area A29 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 and island within Area A29, no further treatment is recommended for these areas. SCAT Segment Sign-Off Forms are included as Appendix F.

As described in Section 1.2, the Wildlife Branch identified pools with sheen and oiled woody debris in several areas of A29 after operations were complete. An Exception Memo was drafted for sheen on several pools; however, the Exception Memo was closed administratively after further investigation revealed that the sheen was not hydrocarbon or incident related. A copy of the closed Exception Memo is included in Appendix G.

**2. Transition Sign-Off Form**

**SCAT Area Transition Report for A29**

**Prepared for:**

**Unified Command**

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Date

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Unified Command – RP



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Report for A29**

Silvertip Pipeline Incident  
Laurel, Montana

**SCAT Area Transition Report for A29**

**Prepared for:**

**Unified Command**

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Date

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Unified Command – FOSC



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Silvertip Pipeline Incident  
Laurel, Montana

**SCAT Area Transition Report for A29**

**Prepared for:**

**Unified Command**

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Date

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Unified Command – MDEQ

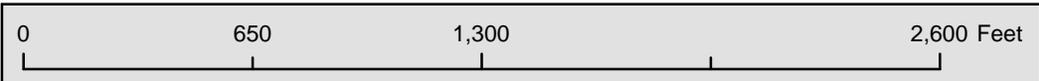
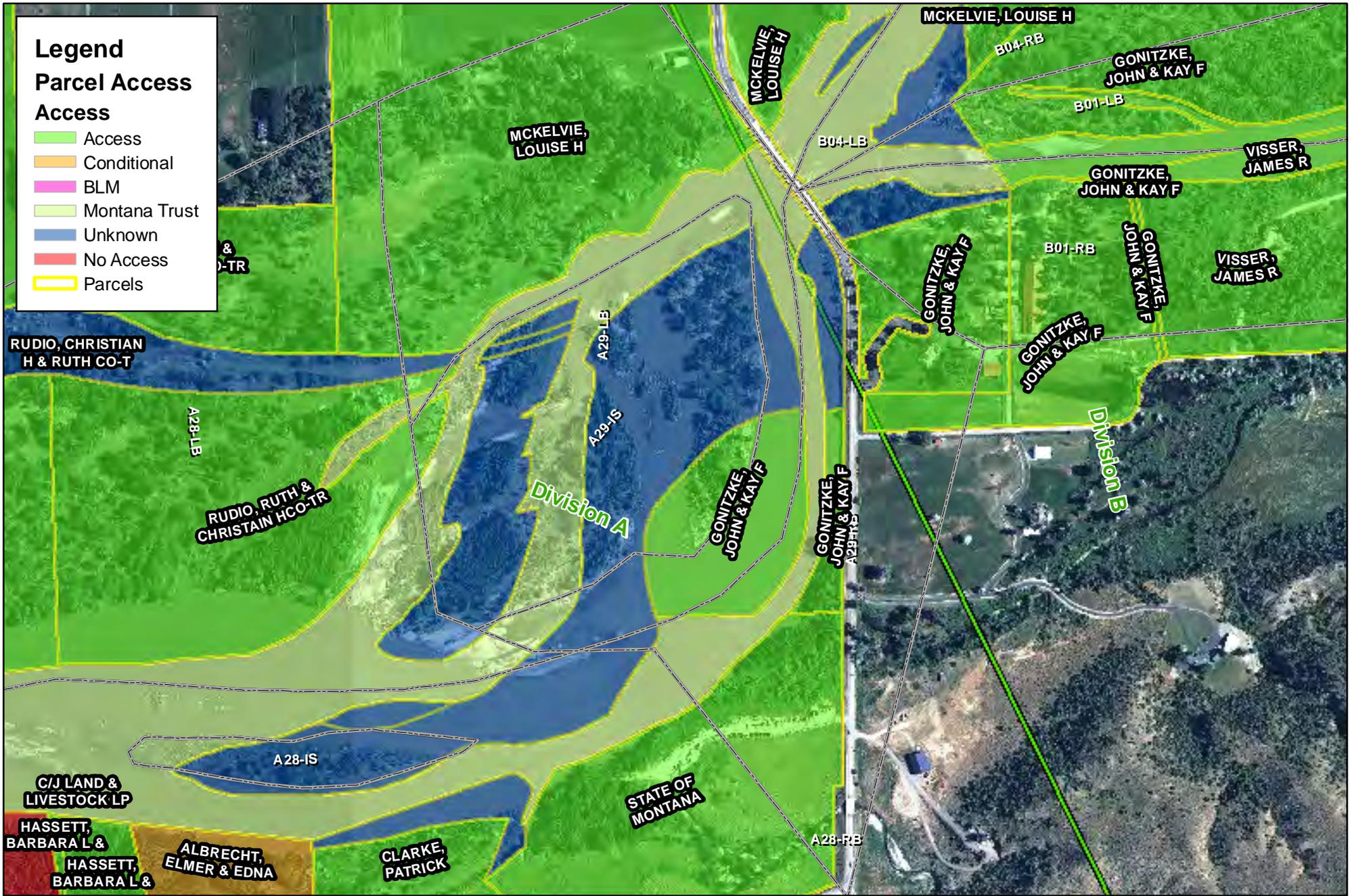
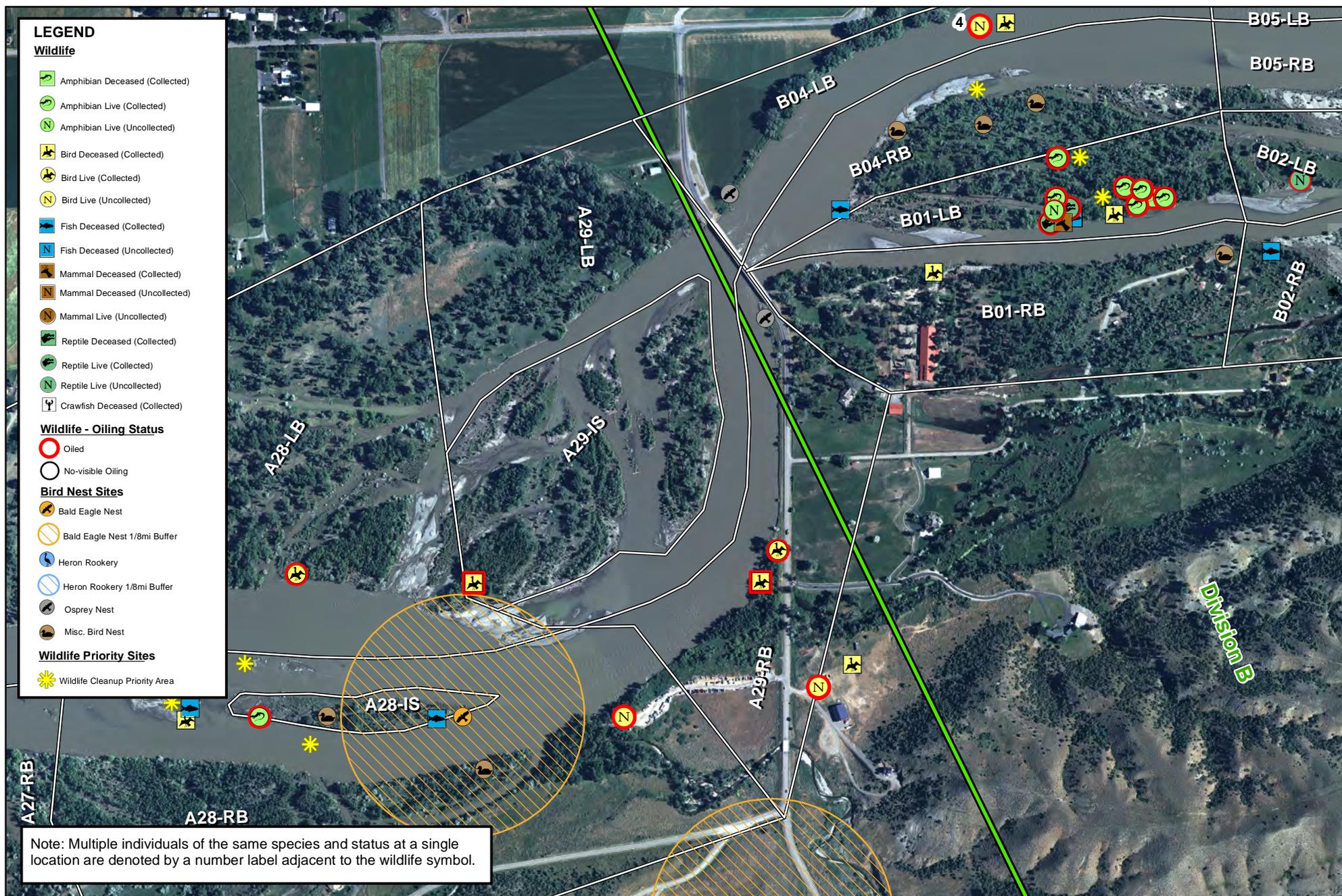


Figure 1

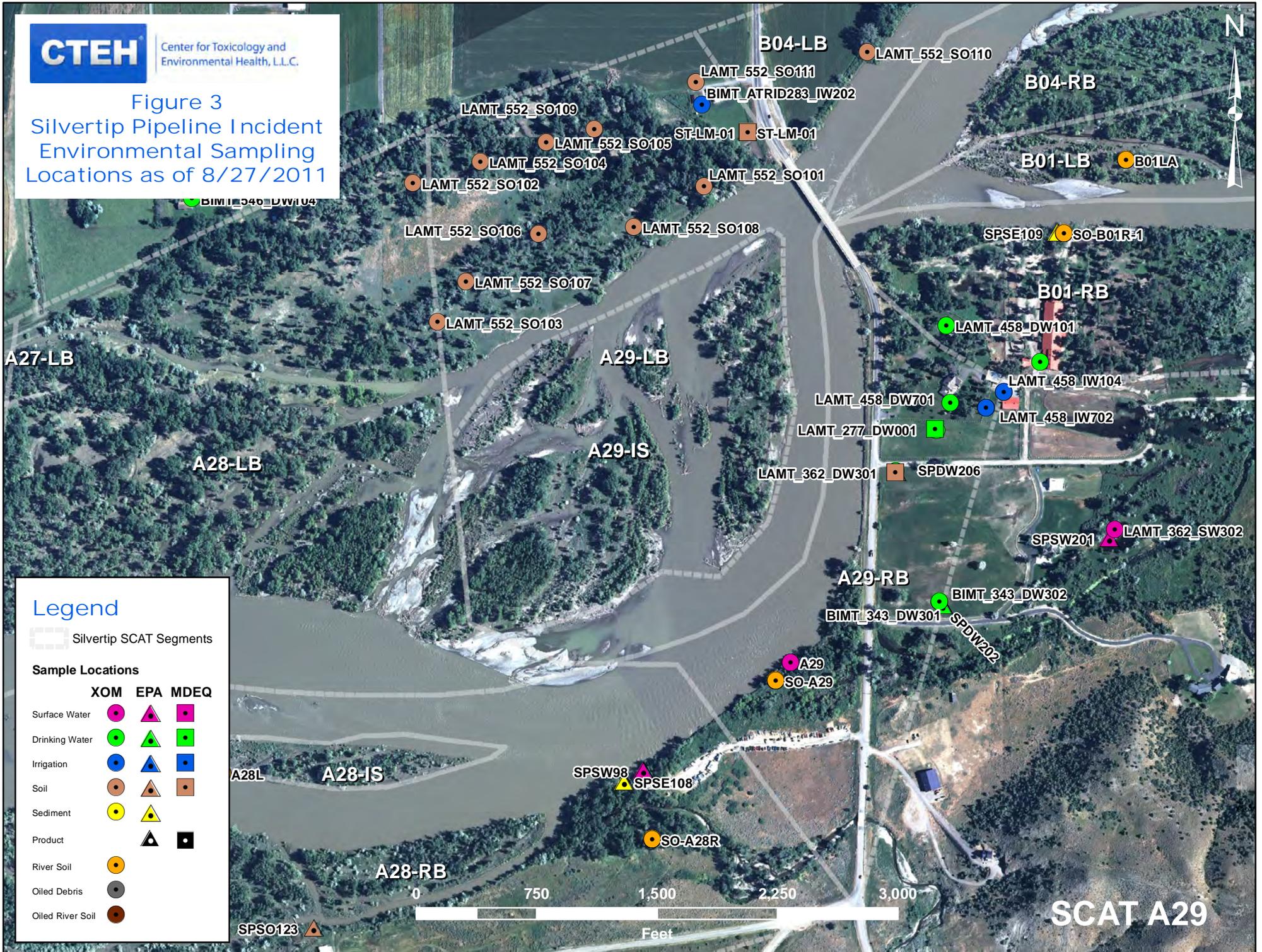


**Figure 2**  
**Wildlife Resources**



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

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



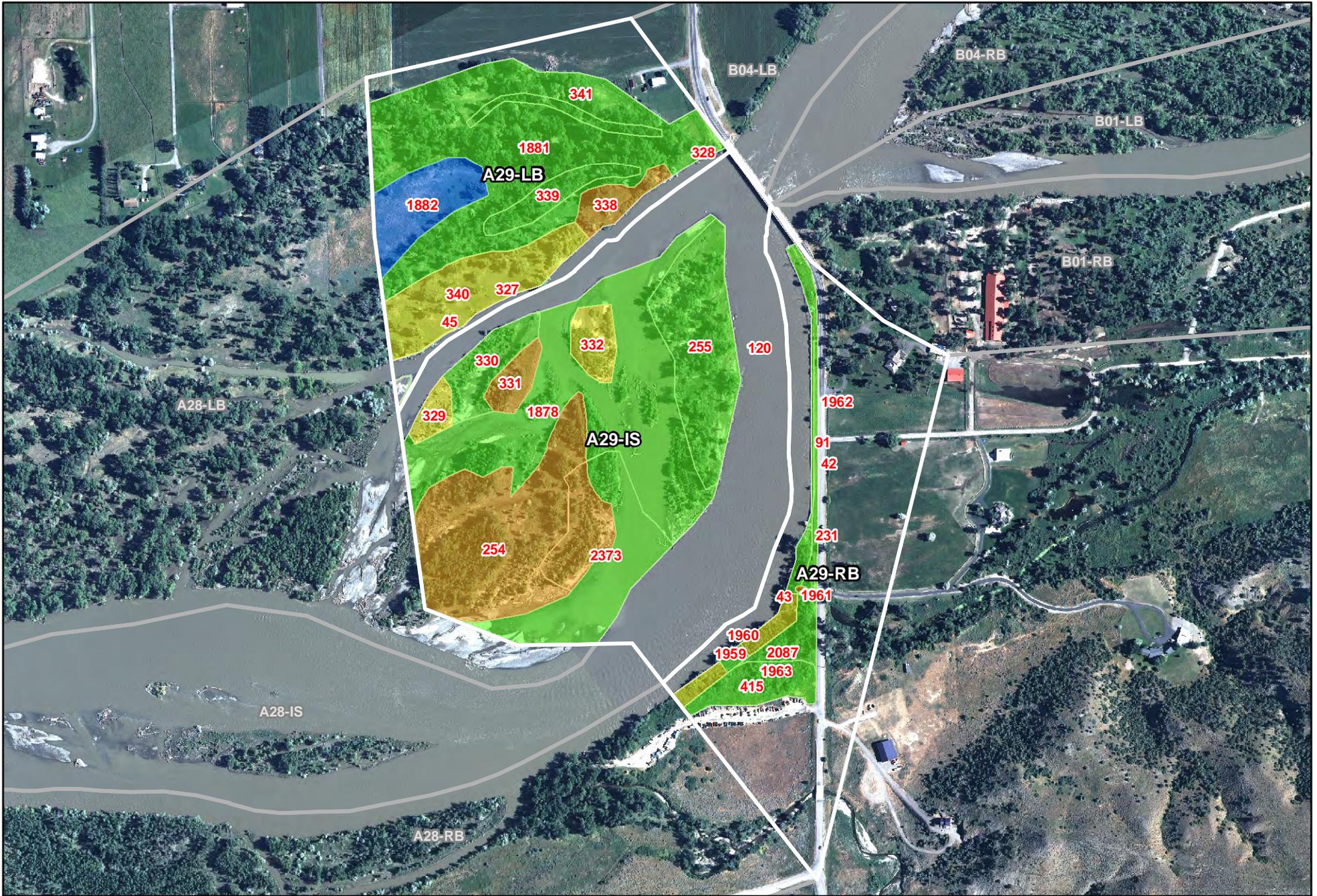
### Legend

Silvertip SCAT Segments

#### Sample Locations

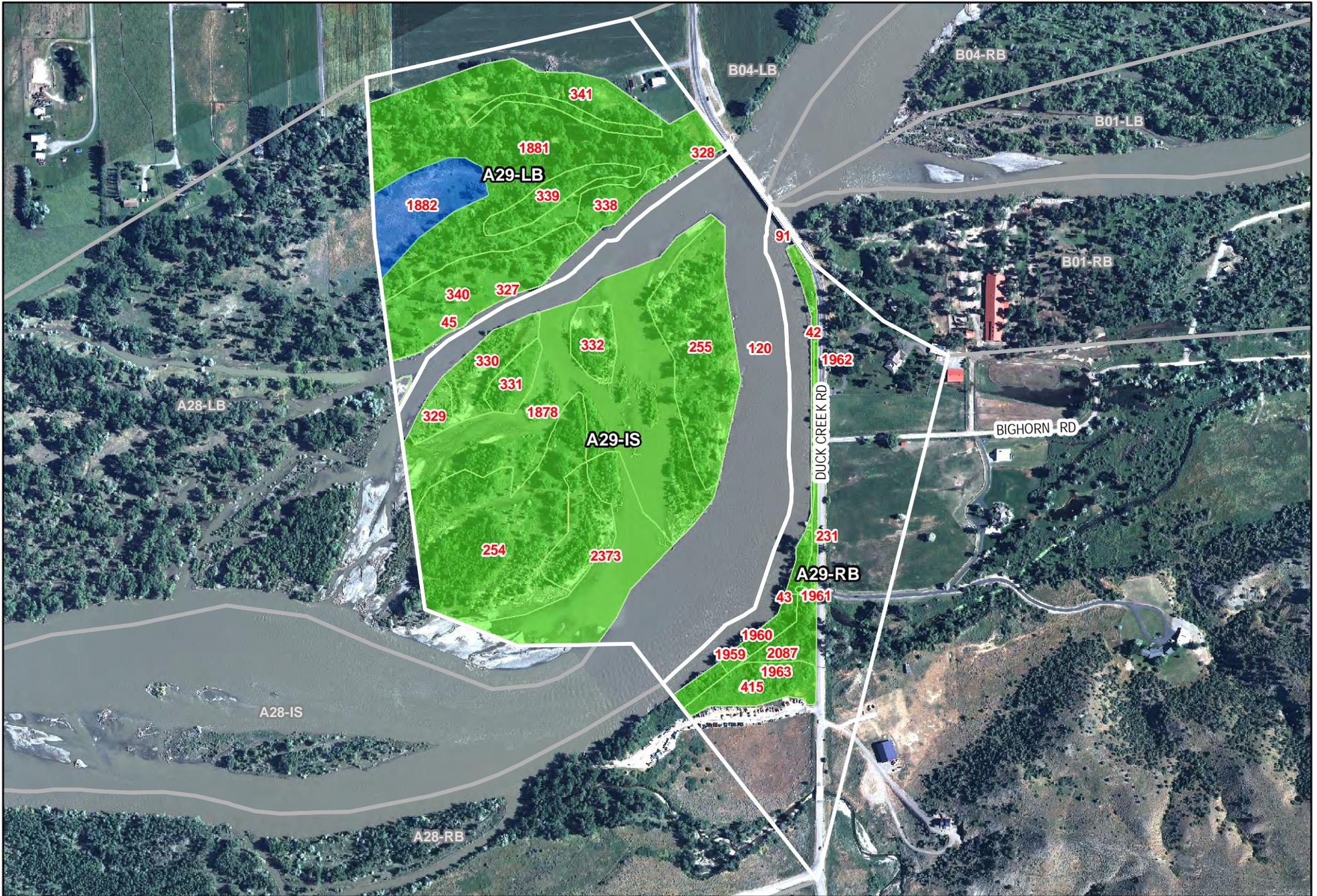
	XOM	EPA	MDEQ
Surface Water			
Drinking Water			
Irrigation			
Soil			
Sediment			
Product			
River Soil			
Oiled Debris			
Oiled River Soil			

SCAT A29



**Figure 4 - Maximum SCAT Observations For SCAT Area:**







## **Appendix A**

Sample Detections Summary



## Detections in Samples Collected in SCAT Area A29

Printed 9/10/2011

NA - Not Available

Detected Above Screening Level

Sample Num	Date	Sample Type	Matrix	Analytical Method	Analyte	Detected	Result	Screening Level	Result Qualifier	Lab Result Qualifier	Units	Above?
BIMT0708IW202	7/8/2011	Field	Water_Irrigation	SW8260B	Chloroform	Y	0.14	57		J	ug/L	no
BIMT0711DW301	7/11/2011	Field	Water_Drinking	E524.2	m+p-Xylenes	Y	0.38	10000		J	ug/L	no
BIMT0711DW301	7/11/2011	Field	Water_Drinking	E524.2	Xylenes, Total	Y	0.38	10000		J	ug/L	no
BIMT0725SW610	7/25/2011	Field	Water_Surface	EPA 6020	Arsenic	Y	7	10			ug/L	no
BIMT0725SW610	7/25/2011	Field	Water_Surface	EPA 6020	Barium	Y	45.5	1000			ug/L	no
BIMT0725SW610	7/25/2011	Field	Water_Surface	EPA 6020	Calcium	Y	18600	NA			ug/L	no
BIMT0725SW610	7/25/2011	Field	Water_Surface	EPA 6020	Chromium	Y	1.7	100			ug/L	no
BIMT0725SW610	7/25/2011	Field	Water_Surface	EPA 6020	Lead	Y	1.4	15			ug/L	no
BIMT0725SW610	7/25/2011	Field	Water_Surface	EPA 6020	Magnesium	Y	6390	NA			ug/L	no
BIMT0725SW610	7/25/2011	Field	Water_Surface	EPA 6020	Nickel	Y	2.9	100			ug/L	no
BIMT0725SW610	7/25/2011	Field	Water_Surface	EPA 6020	Potassium	Y	1860	NA			ug/L	no
BIMT0725SW610	7/25/2011	Field	Water_Surface	EPA 6020	Sodium	Y	11400	NA			ug/L	no
BIMT0725SW610	7/25/2011	Field	Water_Surface	EPA 6020	Vanadium	Y	3.7	NA			ug/L	no
BIMT0725SW610	7/25/2011	Field	Water_Surface	SM 2540D	Total Suspended Solids	Y	105	NA			mg/L	no
BIMT0725SW610	7/25/2011	Field	Surface Water	EPA 6020	Arsenic	Y	7	NA			ug/l	no
BIMT0725SW610	7/25/2011	Field	Surface Water	EPA 6020	Barium	Y	45.5	NA			ug/l	no
BIMT0725SW610	7/25/2011	Field	Surface Water	EPA 6020	Calcium	Y	18600	NA			ug/l	no
BIMT0725SW610	7/25/2011	Field	Surface Water	EPA 6020	Chromium	Y	1.7	NA			ug/l	no
BIMT0725SW610	7/25/2011	Field	Surface Water	EPA 6020	Lead	Y	1.4	NA			ug/l	no
BIMT0725SW610	7/25/2011	Field	Surface Water	EPA 6020	Magnesium	Y	6390	NA			ug/l	no
BIMT0725SW610	7/25/2011	Field	Surface Water	EPA 6020	Nickel	Y	2.9	NA			ug/l	no
BIMT0725SW610	7/25/2011	Field	Surface Water	EPA 6020	Potassium	Y	1860	NA			ug/l	no
BIMT0725SW610	7/25/2011	Field	Surface Water	EPA 6020	Sodium	Y	11400	NA			ug/l	no
BIMT0725SW610	7/25/2011	Field	Surface Water	EPA 6020	Vanadium	Y	3.7	NA			ug/l	no
BIMT0725SW610	7/25/2011	Field	Surface Water	SM 2540D	Total Suspended Solids	Y	105	NA			mg/l	no
BIMT0816SO523	8/16/2011	Field	Soil_River	EPA 6010	Arsenic	Y	4.8	40			mg/kg	no
BIMT0816SO523	8/16/2011	Field	Soil_River	EPA 6010	Barium	Y	109	820			mg/kg	no
BIMT0816SO523	8/16/2011	Field	Soil_River	EPA 6010	Cadmium	Y	0.15	3.8			mg/kg	no
BIMT0816SO523	8/16/2011	Field	Soil_River	EPA 6010	Chromium	Y	16.3	280			mg/kg	no
BIMT0816SO523	8/16/2011	Field	Soil_River	EPA 6010	Lead	Y	13.8	400			mg/kg	no
BIMT0816SO523	8/16/2011	Field	Soil_River	EPA 6010	Nickel	Y	13.1	150			mg/kg	no
BIMT0816SO523	8/16/2011	Field	Soil_River	EPA 6010	Selenium	Y	0.79	2.6			mg/kg	no
BIMT0816SO523	8/16/2011	Field	Soil_River	EPA 6010	Vanadium	Y	30.6	39			mg/kg	no
BIMT0816SO523	8/16/2011	Field	Soil_River	EPA 9060	Mean Total Organic Carbon	Y	14400	NA			mg/kg	no
BIMT0816SO523	8/16/2011	Field	Soil_River	EPA 9060	RSD%	Y	4.4	NA			%	no
BIMT0816SO523	8/16/2011	Field	Soil_River	EPA 9060	Total Organic Carbon	Y	15100	NA			mg/kg	no
BIMT0816SO523	8/16/2011	Field	Soil_River	MADEP EPH	Total Extractable Hydrocarbons	Y	20.3	200			mg/kg	no
LAMT0708DW4003	7/8/2011	Field	Water_Drinking	E524.2	Toluene	Y	0.19	1000	J	J	ug/L	no



### Detections in Samples Collected in SCAT Area A29

Printed 9/10/2011

NA - Not Available

Detected Above Screening Level

Sample Num	Date	Sample Type	Matrix	Analytical Method	Analyte	Detected	Result	Screening Level	Result Qualifier	Lab Result Qualifier	Units	Above?
LAMT0729DW701	7/29/2011	Field	Water_Drinking	EPA 524.2	Methylene Chloride	Y	0.67	5			ug/L	no
SPDW201_071111	7/11/2011	Field	Water_Drinking	EPA 524.2	Ethylbenzene	Y	0.26	700	J		ug/L	no
SPDW201_071111	7/11/2011	Field	Water_Drinking	EPA 524.2	Xylene (Total)	Y	0.36	10000	J		ug/L	no
ST-071511-LM1	7/15/2011	Field	Soil_Surface	8015M-MDEQ-REM	o-Terphenyl	Y	96	NA			%	no
ST-071511-LM1	7/15/2011	Field	Soil_Surface	8015M-MDEQ-REM	Total Extractable Hydrocarbons	Y	33	200			mg/kg	no
ST-071511-LM1	7/15/2011	Field	Soil_Surface	8260B	1,2-Dichloroethane-d4	Y	86	NA			%	no
ST-071511-LM1	7/15/2011	Field	Soil_Surface	8260B	Dibromofluoromethane	Y	96	NA			%	no
ST-071511-LM1	7/15/2011	Field	Soil_Surface	8260B	p-Bromofluorobenzene	Y	104	NA			%	no
ST-071511-LM1	7/15/2011	Field	Soil_Surface	8260B	Toluene-d8	Y	96	NA			%	no
ST-071511-LM1	7/15/2011	Field	Soil_Surface	8270C	2,4,6-Tribromophenol	Y	80	NA			%	no
ST-071511-LM1	7/15/2011	Field	Soil_Surface	8270C	2-Fluorobiphenyl	Y	77	NA			%	no
ST-071511-LM1	7/15/2011	Field	Soil_Surface	8270C	Nitrobenzene-D5	Y	77	NA			%	no
ST-071511-LM1	7/15/2011	Field	Soil_Surface	8270C	o-Fluorophenol	Y	70	NA			%	no
ST-071511-LM1	7/15/2011	Field	Soil_Surface	8270C	Phenol-d5	Y	77	NA			%	no
ST-071511-LM1	7/15/2011	Field	Soil_Surface	8270C	Terphenyl-d14	Y	77	NA			%	no
ST-071511-LM1	7/15/2011	Field	Soil_Surface	NONE-MDEQ-REM	Moisture content	Y	14	NA			% by wt	no
ST-072111-CA-DW	7/21/2011	Field	Water_Drinking	524.2	1,2-Dichloroethane-d4	Y	104	NA			%	no
ST-072111-CA-DW	7/21/2011	Field	Water_Drinking	524.2	p-Bromofluorobenzene	Y	104	NA			%	no
ST-072111-CA-DW	7/21/2011	Field	Water_Drinking	524.2	Toluene-d8	Y	99	NA			%	no
ST-072111-CA-DW	7/21/2011	Field	Water_Drinking	525.2	2-Nitro-M-Xylene	Y	100	NA			%	no
ST-072111-CA-DW	7/21/2011	Field	Water_Drinking	525.2	Perylene-d12	Y	78	NA			%	no
ST-072111-CA-DW	7/21/2011	Field	Water_Drinking	525.2	Pyrene-d10	Y	98	NA			%	no
ST-072111-CA-DW	7/21/2011	Field	Water_Drinking	525.2	Triphenyl phosphate	Y	83	NA			%	no
ST-072111-CA-DW	7/21/2011	Field	Water_Drinking	8015M-MDEQ-REM	o-Terphenyl	Y	102	NA			%	no



## **Appendix B**

Initial SCAT Survey Forms  
and Sketches

Db/G-15c

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy) 09/07/2011	Time (24h): std / daylight 4:30 5:05 16:30 hrs to 17:05 hrs	Water Level low - mean - bankfull - <u>overbank</u> falling - steady - rising
Segment/Reach ID: A-29 Left Bank / <u>Right Bank</u> / Island				
Operations Division: <u>A29 Right Bank (PARTIAL SURVEY) A</u>				
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook / _____		<u>Sun</u> Clouds / Fog / Rain / Snow / Windy / Calm	Air Temp +/- <u>27</u> deg C	

<b>2 SURVEY TEAM # 2,3</b>	name	organization	contact phone number
Richard Marty		Polaris	208-360-0733 <i>Richard Marty</i>
Tom Freeman		Polaris	864-630-9004 <i>Tom Freeman</i>

**3 SEGMENT** Total Segment/Reach Length \_\_\_\_\_ m Segment/Reach Length Surveyed 370 meters m

Start GPS: LATITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. LONGITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. Datum: \_\_\_\_\_

End GPS: LATITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. LONGITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min.

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

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

Sediment Bank: Clay/Mud \_\_\_\_\_ Sand \_\_\_\_\_ Mixed \_\_\_\_\_ Pebble/Cobble \_\_\_\_\_ Boulder \_\_\_\_\_ Peat/Organic \_\_\_\_\_ Vegetated Bank: (P) Wooded Upland: (S)

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

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

Cliff or Bluff: Est Height \_\_\_\_\_ m canyon \_\_\_\_\_ manmade \_\_\_\_\_ meander \_\_\_\_\_ confined or leveed \_\_\_\_\_ Substrate Type: \_\_\_\_\_

Sloped: (>5°)(15°)(30°) straight \_\_\_\_\_ braided \_\_\_\_\_ oxbow \_\_\_\_\_ flood plain valley X 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 5 trucks access restrictions Roadway immediately adjacent to oiled area.

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					370	1															X	
B				X	20	10	100			X			X									H <sub>2</sub> O

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

TRENCH or PIT NO.	RIVER BANK ZONE				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

Zone B - ponded stagnant water, < 1m deep, heavy brown sheen on surface, suggested clean up w/ hand crews and sorbant/snare

(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# \_\_\_\_\_)

591-621



A29

040

Zone A

Zone B

ZONE A - 370 m along roadside ditch - NOT RIVER BANK.

Stagnant pool of water with  
10 x 20 meter heavy brown  
sheen - **ZONE B**



**ZONE**

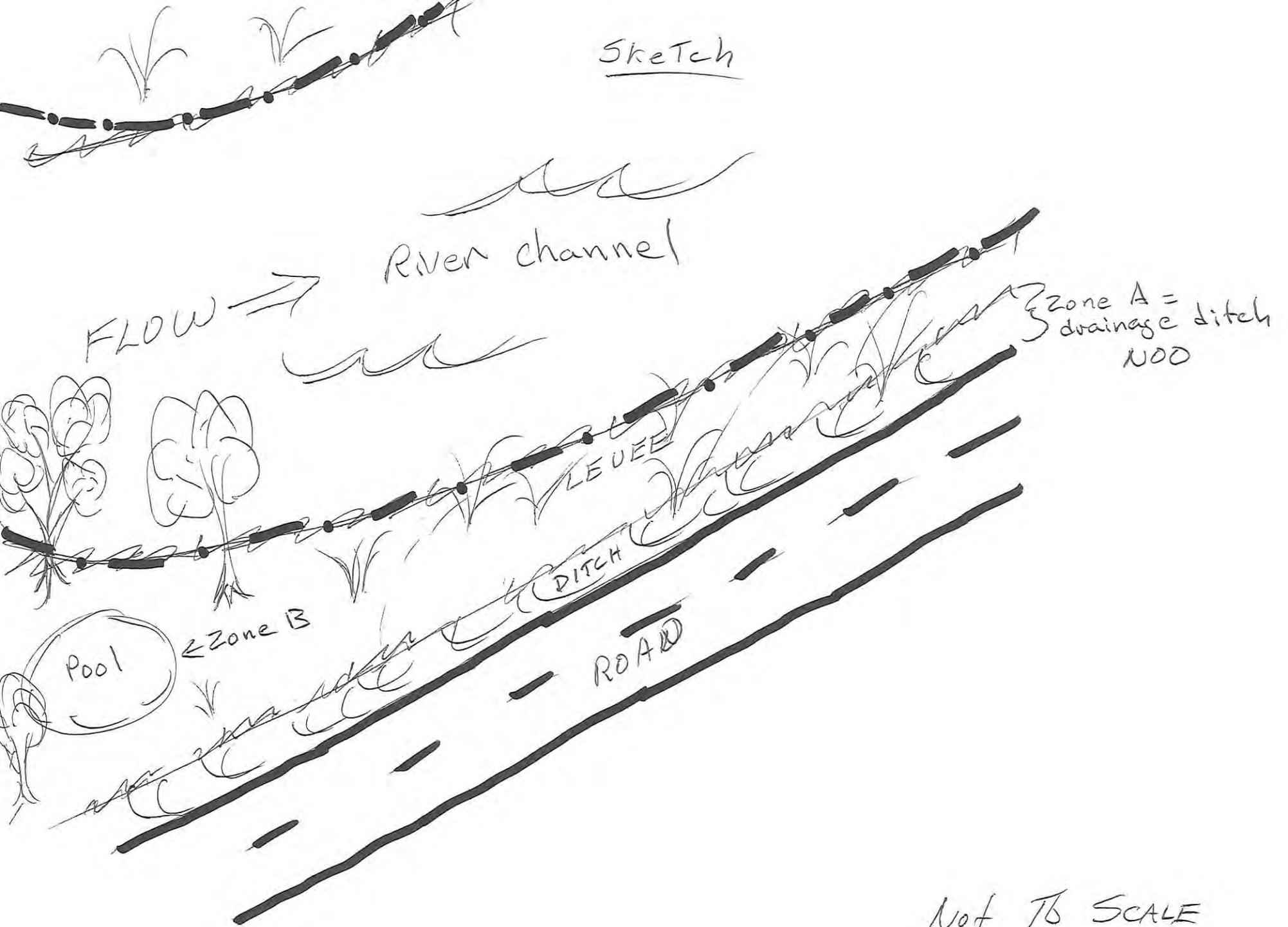
**A**



N45° 41' 19.8"

W108° 38' 25.1"

Sketch



Not To SCALE





**SCAT Teams 2 & 4 Survey**

Segment A29 Right Bank

11-Jul-2011



**Legend**

-  Oil Zones
-  Segment Boundaries



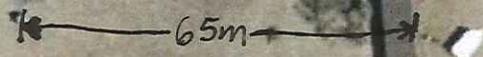
41%  
ST-CT

SL-RB-BR sheen on  
pond @ 1%

bt rings on trees  
grasses & shrubs.

Diled veg detritus  
on ground  
intermittent through  
area

Collect & polish  
area by cutting, raking, collecting  
oiled veg.



Surveyed Length  
= 90m

SL

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: <u>A29</u>	Left Bank / <u>Right Bank</u> / Island	<u>21/7/11</u>	<u>1355</u> hrs to <u>1418</u> hrs	low - mean - bankfull - overbank
Operations Division: <u>A</u>				falling - steady - rising
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook /		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- deg C

2 SURVEY TEAM #	name	organization	contact phone number
<u>1</u>	<u>Chelsea Murphy</u>	<u>Cardno ENVIEX</u>	<u>775-313-3976</u>
<u>2</u>	<u>Darrick Turner</u>	<u>M+D</u>	<u>406-444-1504</u>
<u>3</u>	<u>JAMES BOGDAN</u>	<u>USCG PAC STRIKE TEAM</u>	<u>727-244-8292</u>
<u>4</u>	<u>Steve Kennedy</u>	<u>Cardno ENVIEX</u>	<u>281-723-1259</u>

<b>3 SEGMENT</b>	Total Segment/Reach Length: <u>1000</u> m	Segment/Reach Length Surveyed: <u>240</u> m
Start GPS: LATITUDE <u>45.00738</u> deg. _____ min. LONGITUDE <u>108.64128</u> deg. _____ min. Datum: <u>NAD 83</u>		
End GPS: LATITUDE <u>45.00810</u> deg. _____ min. LONGITUDE <u>108.6413</u> deg. _____ min.		

<b>4A RIVER BANK TYPE</b>		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 <u>S</u>	Bog/Fen _____ Marsh _____
Sediment Bank: Clay/Mud <u>S</u>	Sand _____ Mixed _____ Pebble/Cobble _____ Boulder _____ Peat/Organic _____	Vegetated Bank: <u>P</u>	Wooded Upland: _____
Sediment Flat: Clay/Mud _____ Sand _____ Mixed/Coarse _____	Other: _____	If snow and ice use Winter River SOS	

<b>4B RIVER VALLEY CHARACTER</b>		select as appropriate		complete for primary
Cliff or Bluff: _____ Est Height _____ m	canyon _____ manmade _____ meander <u>S</u>	confined or leveed _____	Substrate Type: <u>Mud</u>	
Sloped: <u>45</u> (>5°) (15°) (30°)	straight _____ braided <u>P</u>	oxbow _____ flood plain valley _____	Forested <u>Vegetated</u> Bare	

<b>4C RIVER CHANNEL CHARACTER</b>		circle or select as appropriate	
est. width: <1m 1-10m <u>10-100m</u> >100m <u>200</u> m	est. water depth: <1m 1-3m <u>3-10m</u> >10m _____ m		
shoal(s) present <u>Y/N</u> point bar present <u>Y/N</u>	bar-shoal substrate: silt / sand / gravel / cobble / boulder / bedrock / debris		
seasonal water level: low / mean / bankfull / overbank flow	est. change over next 7 days: <u>falling</u> - same - rising		

<b>5 OPERATIONAL FEATURES</b>		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 _____ bags or _____ trucks		access restrictions	
Oiled trees/shrubs <u>Y/N</u> River Current strong <u>Y/N</u>		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>415</u> A				<u>P</u>	<u>240</u>	<u>25</u>	<u>0</u>														<u>P</u>	<u>mud/veg</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

Zone A Recommendation - We were only able to walk through portions of ~~the~~ seg A29 - most of it was inaccessible due to high water and dense vegetation. We recommend a re-survey when the area is more dry.

(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 # \_\_\_\_\_)



DB1A

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy) 09-Jul-2011	Time (24h): std / daylight 1012 hrs to 1019 hrs	Water Level low - mean - bankfull - <b>overbank</b> falling - steady - rising
Segment/Reach ID: A29 <u>Left Bank</u> / Right Bank / Island		Operations Division: A		
Survey by: Foot / ATV / <u>Boat</u> / Helicopter / Overlook /		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- <u>29.4</u> deg C

<b>2 SURVEY TEAM # 2 &amp; 4</b>	<i>name</i>	<i>organization</i>	<i>contact phone number</i>
Andrew Milanes		Polaris	
Tom Freeman		Polaris	
Andrew Johnson		USCG	
Travis Olson		USCG	

**3 SEGMENT** Total Segment/Reach Length \_\_\_\_\_ m Segment/Reach Length Surveyed 265 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

45

OIL ZONE ID	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
	m	m	%																		
A			X		265	1	25				X		X								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

Zone A Oiled Band Height: 20cm

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 # \_\_\_\_\_)



**SCAT Teams 2 & 4 Survey**

Segment A29

09-Jul-2011



**Legend**

 GPS Track

DB/G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy) 18-Jul-2011	Time (24h): std / daylight 1145 hrs to 1146 hrs	Water Level low - mean - <b>bankfull</b> - overbank <b>falling</b> - steady - rising
Segment/Reach ID: A29 <u>Left Bank</u> / Right Bank / Island				
Operations Division: A				
Survey by: Foot / ATV / <u>Boat</u> / Helicopter / Overlook / _____		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- <u>32</u> deg C

<b>2 SURVEY TEAM # 1 &amp; 2</b>	name	organization	contact phone number
Andrew Milanes <i>AM</i>		Polaris	
Bruce Kvam		Polaris	
Pete Lee		Polaris	
Andy Johnson <i>AJ</i>		USCG	
Travis Olson		USCG	
Aaron Anderson		MTDEQ	
Larry Elheim		MTDEQ	

**3 SEGMENT** Total Segment/Reach Length \_\_\_\_\_ m Segment/Reach Length Surveyed 523 m

Start GPS: LATITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. LONGITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. Datum: \_\_\_\_\_

End GPS: LATITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. LONGITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min.

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

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

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

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

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

Cliff or Bluff: \_\_\_\_\_ Est Height \_\_\_\_\_ m canyon \_\_\_\_\_ manmade \_\_\_\_\_ meander \_\_\_\_\_ confined or leveed \_\_\_\_\_ Substrate Type: mixed

Sloped: \_\_\_\_\_ (>5°)(15°)(30°) straight P braided S 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

Debris: Y / N oiled Y / N amount \_\_\_\_\_ bags or \_\_\_\_\_ trucks access restrictions

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

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

OIL ZONE ID	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER							SUBST. TYPE(S)			
	MS	LB	UB	OB	Length m	Width m	Distrib. %	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR	AP		NO		
A			X		193	1	20			X	X		X									Grass, trees	
B			X		330	1															X	Grass, trees	

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

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

Oil band heights: Zones A - 30cm

**Treatment Recommendations:**  
Zone A: Cut & remove oil coated vegetation smaller than 1" diameter. Wipe larger oil coated vegetation.

\*Refer to current approved treatment methods #1 (Cutting of Vegetation), #3 (Large Woody Debris)

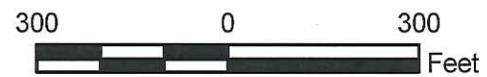
Sketch Yes / No Photos Yes / No Frames 4933-4936 (Milanes);



**SCAT Teams 1 & 2 Survey**

Segment A29 - Left Bank

18 July 2011



**Legend**

- Segment Boundaries
- ▭ Oiling Zones

DB/G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy) 18/07/2011	Time (24h): std / <u>daylight</u> hrs to _____ hrs	Water Level low - mean - bankfull - <u>overbank</u> falling - steady - rising
Segment/Reach ID: A29 <u>Left Bank</u> / Right Bank/Island				
Operations Division: A				
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook / _____		Sun / Clouds / Fog / Rain / Snow / Windy / <u>Calm</u>	Air Temp + / - <u>34</u> deg C	

<b>2 SURVEY TEAM # 3</b>	Name:	Organization:	Signature:
Jenni Nelson		Polaris	
Mike Ruggles <i>(MR)</i>		Montana Fish Wildlife and Parks	
Janice Witul		EPA	
Rebecca Ridenour		MDEQ	

**3 SEGMENT** Total Segment/Reach Length \_\_\_\_\_ m Segment/Reach Length Surveyed 875 m

Start GPS: LATITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. LONGITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. Datum: \_\_\_\_\_

End GPS: LATITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. LONGITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min.

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

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

Sediment Bank: Clay/Mud \_\_\_\_\_ Sand \_\_\_\_\_ Mixed \_\_\_\_\_ Pebble/Cobble \_\_\_\_\_ 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 P confined or leveed \_\_\_\_\_ Substrate Type: Mud/Sand

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 200 \_\_\_\_\_ 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 10 bags or \_\_\_\_\_ trucks access restrictions: Area is wet, and has lots of running channels.

Oiled trees/shrubs Y/N River Current strong Y/N Other Features: shoal areas have deep mud and wet unstable sand

**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	125	50	5	X	(X)	X												veg
B				X	200	25	0													X		veg
C				X	275	80	<1		(X)	(X)				X								veg
D				X	275	15	<1			(X)				X								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					
NONE																		

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

A - area of sporadic oiled debris ranging from 2-8% cover (average) & Team flagged some areas of heavier debris primarily at base of shrubs & trees that need to be collected. This is a high public use area for fishing & recreation, so should remove larger debris/patties

B - no oil observed along drainage.

C - area of trace oiling on grasses & woody debris & tree branches. no treatment recommended

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

Sketch (Yes/No) Photos (Yes/No (Roll # \_\_\_\_\_ Frames \_\_\_\_\_) Video Tape Yes/No (tape# \_\_\_\_\_)

D - area of trace oiling on woody debris, & RB sheen noted on standing pools of oil throughout drainage - could be sampled for petroleum product & a more thorough SEAT survey.

338  
339  
340  
341

thorough SEAT survey.



ACTIVE LOG

ACTI

18-July  
A-29  
SCAT 3

DB / G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy) 11-Jul-2011	Time (24h): std / daylight 1148 hrs to 1149 hrs	Water Level low - mean - bankfull - <u>overbank</u> falling - steady - rising
Segment/Reach ID: A29 <u>Left Bank</u> / Right Bank / Island				
Operations Division: A				
Survey by: Foot / ATV / <u>Boat</u> / Helicopter / Overlook /		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- <u>29.4</u> deg C

<b>2 SURVEY TEAM # 2 &amp; 4</b>	<i>name</i>	<i>organization</i>	<i>contact phone number</i>
Andrew Milanes		Polaris	
Tom Freeman		Polaris	
Andrew Johnson		USCG	
Travis Olson		USCG	

**3 SEGMENT** Total Segment/Reach Length \_\_\_\_\_ m Segment/Reach Length Surveyed 471 m

Start GPS: LATITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. LONGITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. Datum: \_\_\_\_\_

End GPS: LATITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. LONGITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min.

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

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

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

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

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

Cliff or Bluff: Est Height \_\_\_\_\_ m canyon \_\_\_\_\_ manmade \_\_\_\_\_ meander \_\_\_\_\_ confined or leveed \_\_\_\_\_ Substrate Type: mixed

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

**4C RIVER CHANNEL CHARACTER** circle or select as appropriate

est. width: <1m 1-10m 10-100m >100m 110m 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 1 \_\_\_\_\_ 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 zones that correspond to primary shoreline type

120

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		471	1	70			X	X		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					NO

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

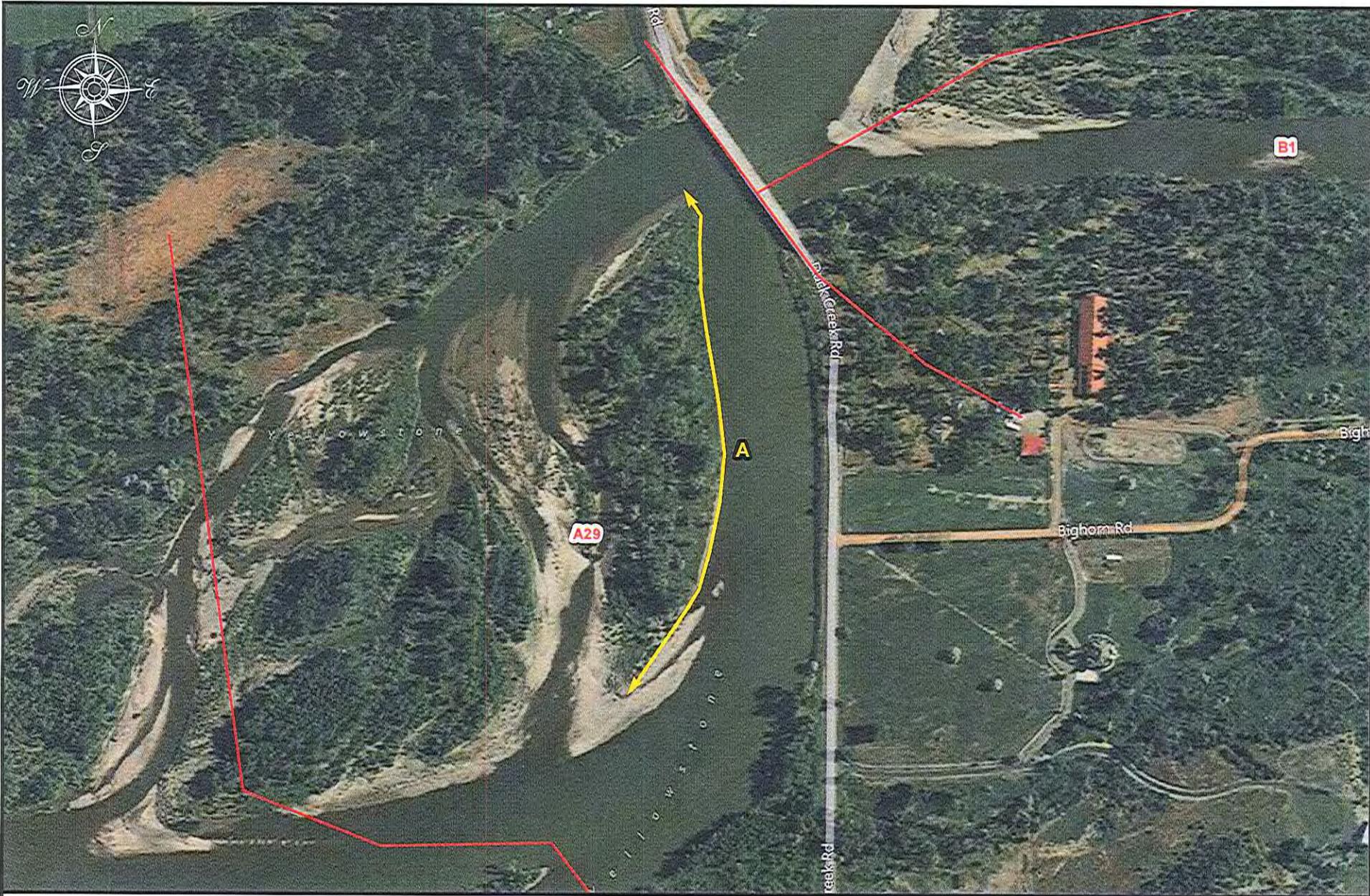
Oiled Band Heights: Zone A - 20cm

Due to survey platform (jet-drive boat) oil band width and heights are estimates. Unable to verify by foot.

Cleanup Recommendations: Trim oiled vegetation; wipe large oiled debris; remove small oiled debris; wipe oiled trees;

(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# \_\_\_\_\_)



**SCAT Teams 2 & 4 Survey**

Segment A29 Left Bank

11-Jul-2011



**Legend**

-  Oil Zones
-  Segment Boundaries

P/G/Sc

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy) 16-Jul-2011	Time (24h): std / daylight 1030 hrs to 1210 hrs	Water Level low - mean - bankfull - <u>overbank</u> falling - steady - rising
Segment/Reach ID: A29 Left Bank / Right Bank / <u>Island</u>				
Operations Division: A				
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook / _____		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- <u>32</u> deg C

2 SURVEY TEAM # 1 & 2	name	organization	contact phone number
Tom Freeman	<u>THF</u>	Polaris	
Bruce Kvam	<u>EBK</u>	Polaris	
Pete Lee	<u>PBL</u>	Polaris	
Travis Olson	<u>HO</u>	USCG	
Aaron Anderson	<u>AM</u>	MTDEQ	406-841-5049
Larry Alheim	<u>LA</u>	MTDEQ	<u>406-461-7516</u>

**3 SEGMENT** Total Segment/Reach Length \_\_\_\_\_ m Segment/Reach Length Surveyed 260 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: S Wooded Upland: P

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

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

Cliff or Bluff: \_\_\_\_\_ Est Height \_\_\_\_\_ m canyon \_\_\_\_\_ manmade \_\_\_\_\_ meander \_\_\_\_\_ confined or leveed \_\_\_\_\_ Substrate Type: mixed

Sloped: >5° (15°) (30°) straight S 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 150m 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 no vehicular access 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

254  
255

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	260	125	15	X	X	<u>X</u>	X		X								Grass, trees, debris, water
B				X	<u>320</u>	<u>100</u>	<u>10</u>			X	<u>ST</u>		X								A.A.

**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

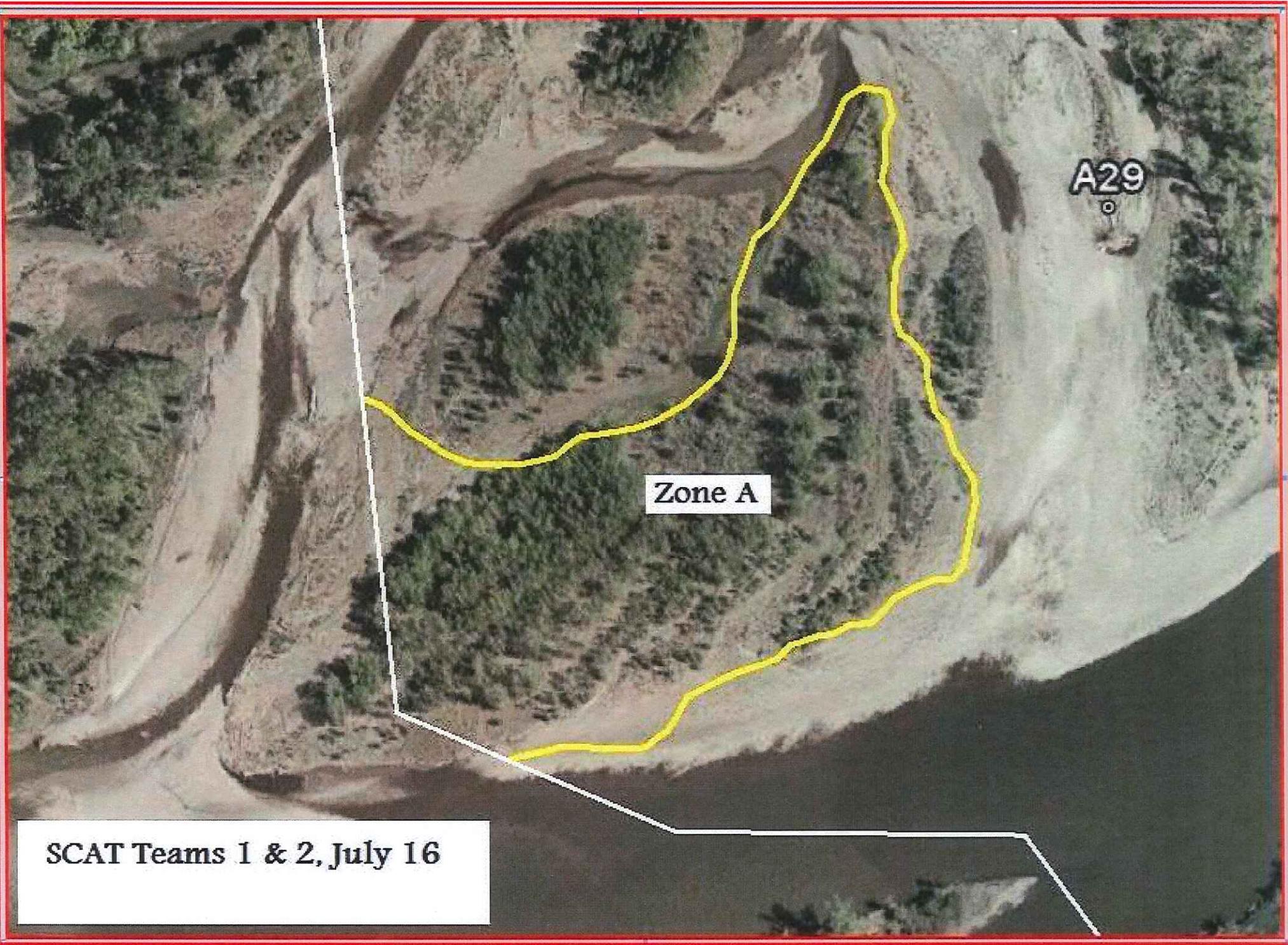
**8 COMMENTS** ecological/recreational/cultural/economic constraints - shorezone biota and wildlife observations - cleanup recommendations

Oil band heights: Zone A - 4cm

**Treatment Recommendations:**  
Zone A: Cut & remove oil coated vegetation smaller than 1" diameter. Remove oil coated debris smaller than 4" diameter. Wipe larger oil coated vegetation and debris. Remove pooled oil with sorbents. Due to the size and quantity of oil coated debris in this zone, alternative methods, such as burning, could be considered.

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

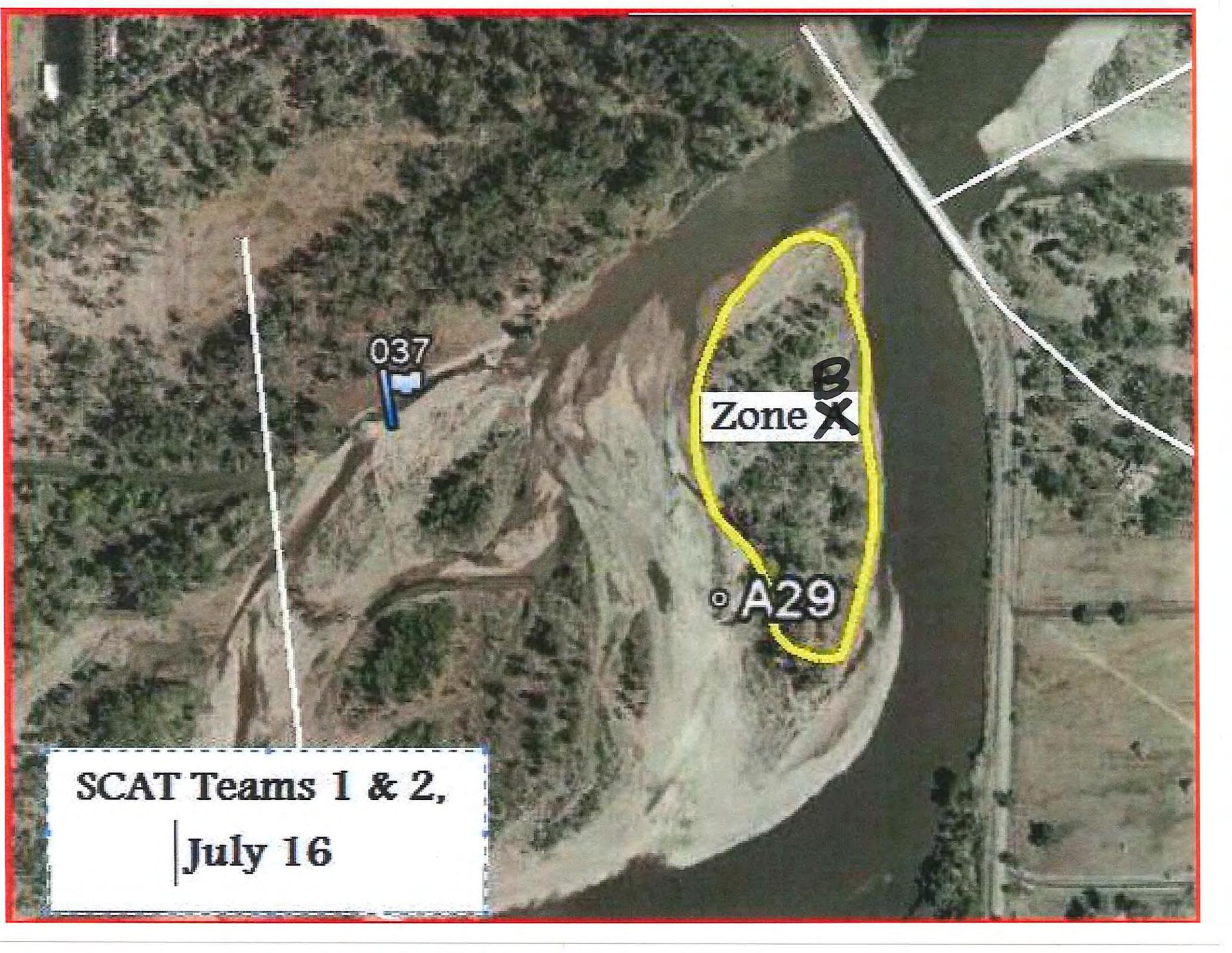
Sketch Yes / No Photos Yes / No Photo Numbers 41-62 (Kvam); 0807-0918 (Freeman)



A29

Zone A

SCAT Teams 1 & 2, July 16



037

Zone B X

⊙ A29

SCAT Teams 1 & 2,  
| July 16

0616

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy) 18-Jul-2011	Time (24h): std / daylight 1220 hrs to 1253 hrs	<b>Water Level</b> low - mean - <u>bankfull</u> - overbank falling - steady - rising
Segment/Reach ID: A29 Left Bank / Right Bank / <u>Island</u>		Operations Division: A		
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook / _____		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- <u>32</u> deg C

2 SURVEY TEAM # 1 & 2	name	organization	contact phone number
Andrew Milanes <u>ANM</u>		Polaris	
Bruce Kvam <u>BKL</u>		Polaris	
Pete Lee <u>PBL</u>		Polaris	
Andy Johnson <u>APJ</u>		USCG	
Travis Olson <u>TO</u>		USCG	
Aaron Anderson <u>AA</u>		MTDEQ <u>DEQ</u>	
Larry Elheim <u>LE</u>		MTDEQ <u>DEQ</u>	

**3 SEGMENT** Total Segment/Reach Length \_\_\_\_\_ m Segment/Reach Length Surveyed 428 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: S \_\_\_\_\_ Wooded Upland: P \_\_\_\_\_

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

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

Cliff or Bluff: \_\_\_\_\_ Est Height \_\_\_\_\_ m canyon \_\_\_\_\_ manmade \_\_\_\_\_ meander \_\_\_\_\_ confined or leveed \_\_\_\_\_ Substrate Type: mixed \_\_\_\_\_

Sloped: (>5°)(15°)(30°) straight P \_\_\_\_\_ braided S \_\_\_\_\_ 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

Debris: Y / N oiled Y / N amount \_\_\_\_\_ bags or 2 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	73	35	20			X	X		X									Grass, debris, soil
B				X	170	35														X		Soil, cobble
C				X	95	45	15			X	X		X									Grass, trees, debris
D				X	90	25	2			X	X		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

Oil band heights: Zones A, C, & D - 30cm

**Treatment Recommendations:**

Zone A: Cut & remove oil coated vegetation smaller than 1" diameter. Remove oil coated debris smaller than 4" diameter. Wipe larger oil coated vegetation and debris. Remove oil coated sediments with hand tools.

Zones C & D: Cut & remove oil coated vegetation smaller than 1" diameter. Remove oil coated debris smaller than 4" diameter. Wipe larger oil coated vegetation and debris

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

Sketch Yes / No Photos Yes / No Frames 4940-4960 (Milanes); \_\_\_\_\_

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

Page \_\_\_\_\_ of \_\_\_\_\_

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy) <u>18-Jul</u>	Time (24h): std / daylight hrs to _____ hrs	<b>Water Level</b> low - mean - bankfull - overbank falling - steady - rising
Segment/Reach ID: <u>A29</u> Left Bank / Right Bank <u>Island</u>				
Operations Division: <u>A</u>				
Survey by: <u>Foot / ATV / Boat / Helicopter / Overlook /</u>		Sun / Clouds / Fog / Rain / Snow / Windy / Calm	Air Temp + / - _____ deg C	

<b>2 SURVEY TEAM #</b> <u>172</u>	<b>name</b>	<b>organization</b>	<b>contact phone number</b>

**3 SEGMENT** Total Segment/Reach Length \_\_\_\_\_ m Segment/Reach Length Surveyed \_\_\_\_\_ m

Start GPS: LATITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. LONGITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. Datum: \_\_\_\_\_

End GPS: LATITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. LONGITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min.

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

Bedrock: Cliff/Ramp \_\_\_\_\_ 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: S Wooded Upland P

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

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

Cliff or Bluff: \_\_\_\_\_ Est Height \_\_\_\_\_ m canyon \_\_\_\_\_ manmade \_\_\_\_\_ meander \_\_\_\_\_ confined or leveed \_\_\_\_\_ Substrate Type: \_\_\_\_\_

Sloped: (>5°)(15°)(30°) straight \_\_\_\_\_ braided \_\_\_\_\_ 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 2 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			20			X	X		X								debris
B				X						X	X		X								soil, cobble
C				X			15			X	X		X								debris, grass, trees
D				X			2			X	X		X								trees, grass, debris
E				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

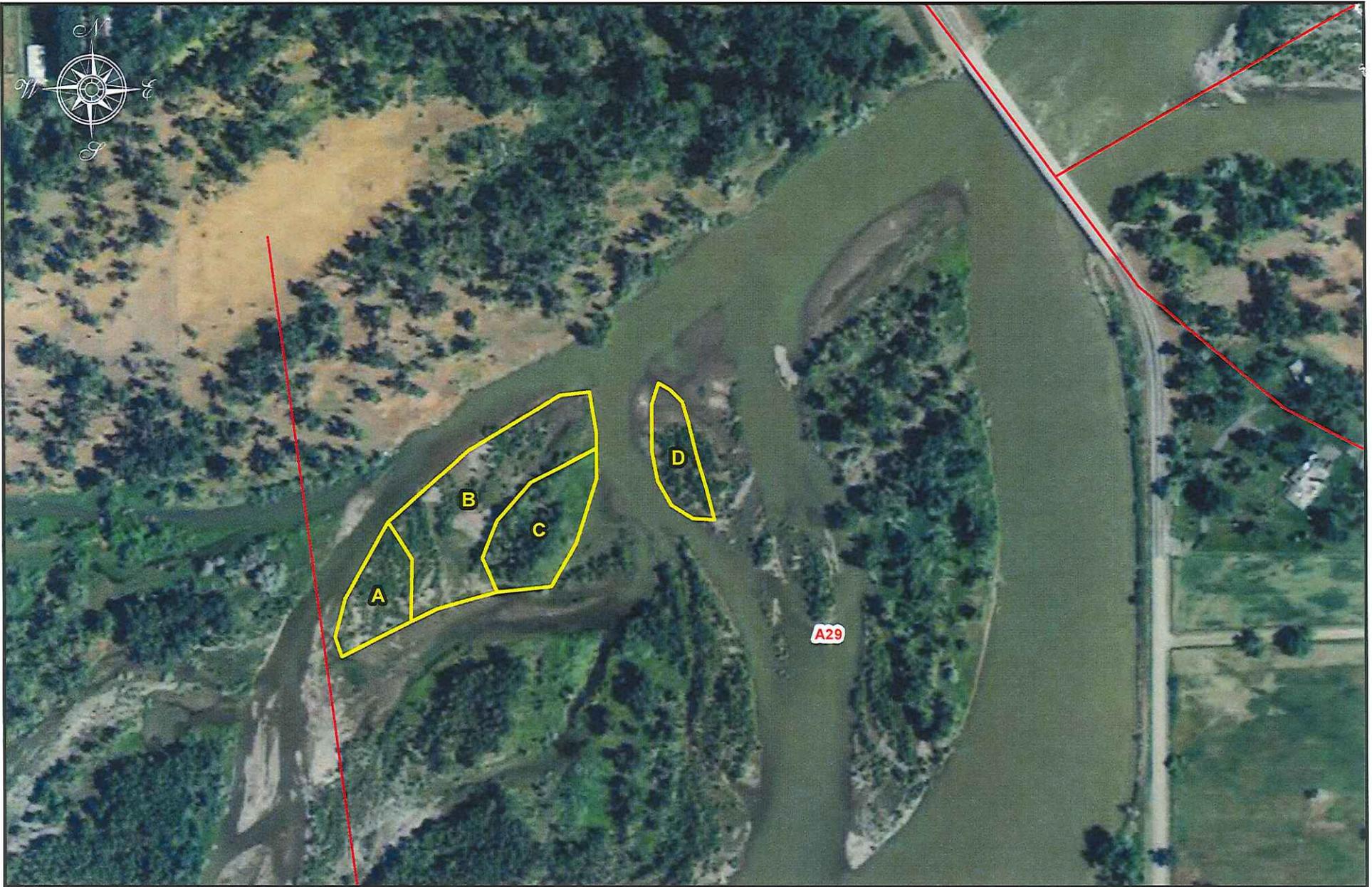
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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

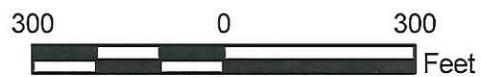
Sketch Yes/No Photos Yes/No (Roll # \_\_\_\_\_ Frames \_\_\_\_\_) Video Tape Yes/No (tape # \_\_\_\_\_)



**SCAT Teams 1 & 2 Survey**

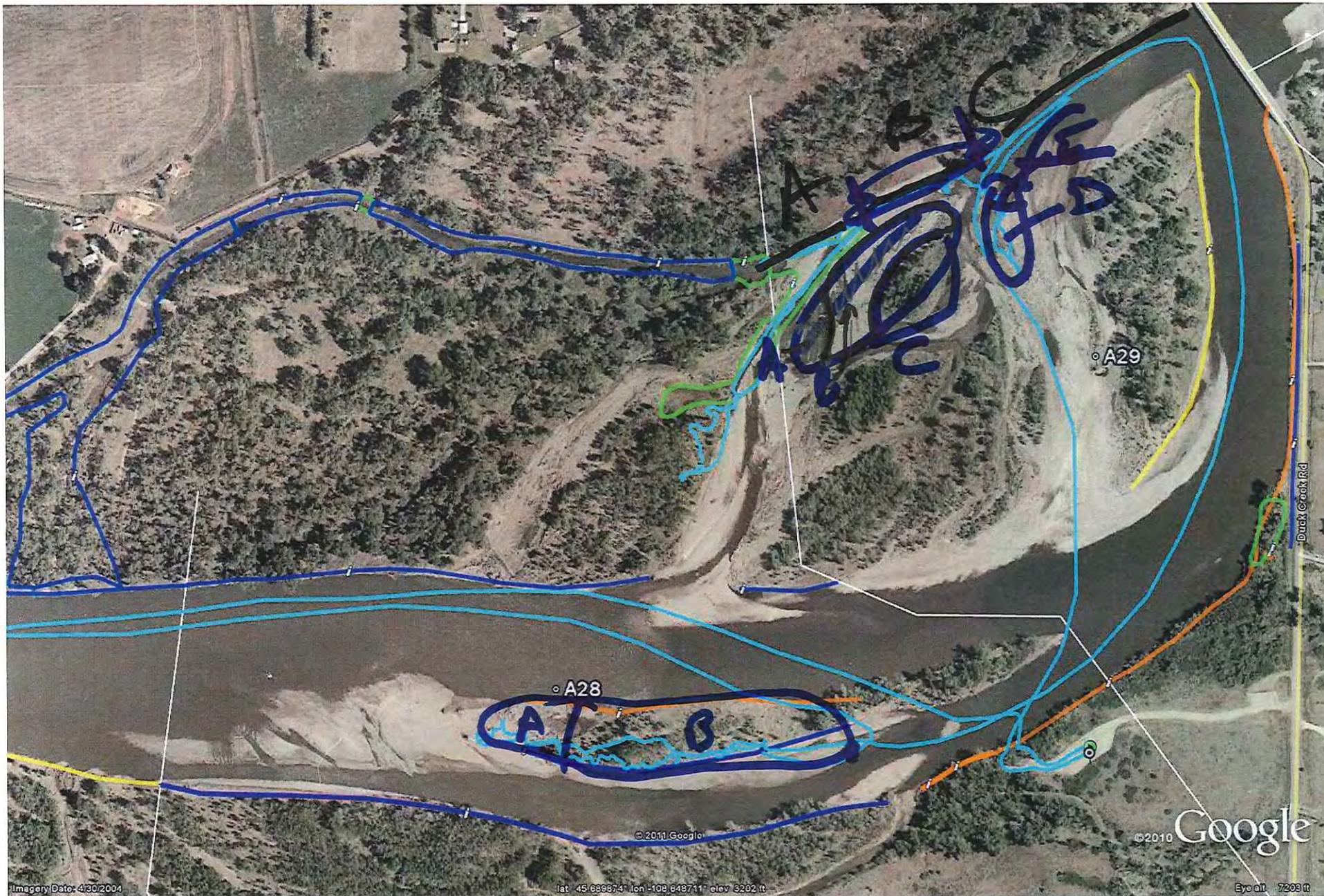
Segment A29 - Island

18 July 2011



**Legend**

-  Segment Boundaries
-  Oiling Zones



Imagery Date: 4/30/2004

lat 45.689674 lon -108.648711 elev 3202 ft

© 2010 Google

Eye alt. 7209 ft



## **Appendix C**

Pre-Inspection Survey Transmittal

## SCAT – Pre Inspection Survey Transmittal (PIST) Memo

Survey Date:   August 19, 2011  

Segment:   A-29 RB  

Team: SCAT Liaison   Gary Reiter   Signed:   *GA Reiter*    
Observer \_\_\_\_\_ Signed: \_\_\_\_\_  
Observer \_\_\_\_\_ Signed: \_\_\_\_\_  
Observer \_\_\_\_\_ Signed: \_\_\_\_\_

Segment meets criteria?      YES   \_\_\_        NO   X  

RBOS attached?              YES   \_\_\_        NO   X  

**If NO:**

Location Sketch attached?    YES   X        NO   \_\_\_  

CTR continue?                YES   X        NO   \_\_\_  

Comments:

Segment is State Property.

- A. Eastern end of segment is very steep riprap bank with oiled vegetation on sides.
- B. Middle section has oiled vegetation that requires removal

Due to presence of oiled buffalo berry bushes and grade of riprap it is recommended that Ops, Safety, Cultural representatives and DFWP meet on 29 to discuss best course of action for Eastern portion of segment.



AREA OF CONCERN

**Division A Segments 26-R through 29-R**

CTR-15 Oiling Zones

23 July 2011



# PIST

## Pre Inspection Survey Transmittal

Segment     A29 RB    

Date of Survey     9-2-11    

SCAT/Ops Liaison     Ray McKelvey    

Signed:     [Signature]    

SCAT/Ops Liaison \_\_\_\_\_

Signed: \_\_\_\_\_

SCAT/Ops Liaison \_\_\_\_\_

Signed: \_\_\_\_\_

SCAT/Ops Liaison \_\_\_\_\_

Signed: \_\_\_\_\_

*Segment meets Approved Treatment Methods Target Endpoints Criteria and is ready for a ReSCAT Assessment (Mark Yes or No)?*

**YES**      →      **Segment Referred to SCAT for Sign-Off Assessment**

Comments for SCAT:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**NO**      →      **Segment Referred to Ops for Further Treatment**

Describe the areas requiring further treatment. Based on the CTR(s), comment on oiling conditions, the appropriate ATMs to use, GPS waypoints, additional comments, attach a map, etc.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Zone Dimensions: Length \_\_\_\_\_ Width \_\_\_\_\_ GPS Waypoint: Lat. \_\_\_\_\_ Long. \_\_\_\_\_  
(required) (center of zone)

**SCAT – Pre Inspection Survey Transmittal (PIST) Memo**

---

Survey Date: 8/23/11

Segment: A29 LB

Team: SCAT Liaison Ray McKelvey

Signed: 

Observer Gary Reiter

Signed: 

Observer \_\_\_\_\_

Signed: \_\_\_\_\_

Observer \_\_\_\_\_

Signed: \_\_\_\_\_

Segment meets criteria? YES X NO \_\_\_\_\_

RBOS attached? YES \_\_\_\_\_ NO X

**If NO:**

Location Sketch attached? YES \_\_\_\_\_ NO X

CTR continue? YES \_\_\_\_\_ NO X

Comments: **Segment is ready for re-scat.**

1. Property name: Louise McKelvie
2. Property name: Rudio Ruth

*Full seg*

**SCAT – Pre Inspection Survey Transmittal (PIST) Memo**

---

Survey Date: 8/23/11

Segment: A29 ISLAND

Team: SCAT Liaison Ray McKelvey Signed:   
Observer Gary Reiter Signed:   
Observer \_\_\_\_\_ Signed: \_\_\_\_\_  
Observer \_\_\_\_\_ Signed: \_\_\_\_\_

Segment meets criteria? YES X NO \_\_\_\_\_

RBOS attached? YES \_\_\_\_\_ NO X

**If NO:**  
Location Sketch attached? YES \_\_\_\_\_ NO X

CTR continue? YES \_\_\_\_\_ NO X

Comments: **Segment is ready for re-scat.**

- 1. Property name: **Gonitzke**
- 2. Property name: **Montana State Trust Land**

*Lull seg*



## **Appendix D**

Post-Inspection Survey Transmittal

# POST

## Post Inspection Survey Transmittal

Segment A29RB

Date of Survey 8/30/11

SCAT Team Member Nathan Hammond Signed: Nathan Hammond

SCAT Team Member Justin Hawkalok Signed: Justin Hawkalok

SCAT Team Member Austin West Signed: Austin West

**Segment FAILED ReSCAT**

**Segment Conditionally PASSES ReSCAT**



IF the Segment FAILED ReSCAT, another ReSCAT is required after treatment has been completed.  
IF the Segment Conditionally PASSES ReSCAT, a SCAT/Ops Liaison will verify treatment completion.

Describe the zone requiring further treatment. Comment on oiling conditions, relevant portions of the CTR(s), the appropriate ATMs to use, GPS waypoints, additional comments, etc. Attach map.

Concentrate efforts in Zones A and C - ATM1, ATM2 and ATM9.

Zone Dimensions: Length \_\_\_\_\_ Width \_\_\_\_\_ GPS Waypoint: Lat. See Map Long. \_\_\_\_\_  
(required) (center of zone)

Estimated Work Effort: Number of People 20 Hours of Work 8 Applicable CTR(s) 15  
(required)

*The undersigned attests that the above treatment has been completed and the identified area meets the Approved Treatment Methods Target Endpoints.*

Nathan Hammond POST Pass 8/2/11  
Sign Name Print Name/ Affiliation Date



## **Appendix E**

Final SCAT Survey Forms  
and Sketches

DB/6

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy)	Time (24h): std / daylight	<b>Water Level</b>																		
Segment/Reach ID: <u>A29</u> Left Bank/ <u>Right Bank</u> / Island		<u>30/08/11</u>	<u>21:00</u> <u>15</u>	low <u>mean</u> bankfull - overbank																		
Operations Division: <u>A</u>			hrs to <u>1000</u> hrs	falling <u>steady</u> - rising																		
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook /		<u>Sun</u> / Clouds / Fog / Rain / Snow / Windy <u>Calm</u>	Air Temp +/- <u>28</u> deg C																			
<b>2 SURVEY TEAM # <u>6</u></b>		Name	Organization	Signature																		
		<u>Nathan Hammond</u>	<u>Cardno Entrix</u>	<u>Nathan Hammond</u>																		
		<u>Austin West</u>	<u>ADSCG</u>	<u>Austin West</u>																		
		<u>Justin Hawkdale</u>	<u>FWP</u>	<u>Justin Hawkdale</u>																		
<b>3 SEGMENT</b>		Total Segment/Reach Length <u>635</u> m	Segment/Reach Length Surveyed <u>635</u> m																			
Start GPS: LATITUDE _____ deg. _____ min. LONGITUDE _____ deg. _____ min. Datum: _____		End GPS: LATITUDE _____ deg. _____ min. LONGITUDE _____ deg. _____ min.																				
<b>4A RIVER BANK TYPE</b> 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>X</u> Sand _____ Mixed _____ Pebble/Cobble _____ Boulder _____ Peal/Organic _____		Vegetated Bank: <u>S</u>		Wooded Upland <u>P</u>																		
Sediment Flat: Clay/Mud _____ Sand _____ Mixed/Coarse _____ Other: _____		If snow and ice use Winter River SOS																				
<b>4B RIVER VALLEY CHARACTER</b> select as appropriate					complete for primary																	
Cliff or Bluff: _____ Est Height _____ m		canyon _____ manmade _____ meander _____ confined or leveed _____			Substrate Type: _____																	
Sloped: <u>&gt;5°</u> (15°) (30°)		straight _____ braided <u>X</u> oxbow _____ flood plain valley _____			Forested / <u>Vegetated</u> / Bare																	
<b>4C RIVER CHANNEL CHARACTER</b> circle or select as appropriate																						
est. width: <1m 1-10m <u>10-100m</u> >100m		est. water depth: <1m <u>1-3m</u> 3-10m >10m _____ m																				
shoal(s) present <u>Y</u> <u>N</u> point bar present <u>Y</u> <u>N</u>		bar-shoal substrate: silt / sand / gravel / cobble / boulder / bedrock / debris																				
seasonal water level: low / <u>mean</u> / bank full / overbank flow		est. change over next 7 days: <u>falling</u> - same - rising																				
<b>5 OPERATIONAL FEATURES</b>																						
Suitable backshore staging <u>Y</u> / <u>N</u>		Access: Direct from backshore <u>Y</u> / <u>N</u> Alongshore from next segment <u>Y</u> / <u>N</u>																				
Debris <u>Y</u> / <u>N</u> oiled <u>Y</u> / <u>N</u> amount _____ bags or _____ trucks		access restrictions																				
Oiled trees/shrubs <u>Y</u> / <u>N</u> River Current strong <u>Y</u> / <u>N</u>		Other Features:																				
<b>6 SURFACE OILING CONDITIONS</b> 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			S	P	85	20	2			P	S						X					Veg, Debris
B			S	P	150	20	2			S	P						X					Veg, Debris
C			S	P	85	20	2			P	S						X					Veg, Debris
D			S	P	465	25	2			S	P						X					Veg, Debris
E				P	215	60	0														✓	
<b>7 SUBSURFACE OILING CONDITIONS</b> 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					
<b>8 COMMENTS</b> ecological/recreational/cultural/economic constraints - shorezone biota and wildlife observations - cleanup recommendations																						
Overbank Survey Required <u>Y</u> / <u>N</u>		Overbank Survey Completed <u>Y</u> / <u>N</u>		Shoreline Survey Completed <u>Y</u> / <u>N</u>																		
Zones A & C - ATM 1, ATM 2, ATM 9																						
Zones B & D - No Further Treatment																						
Zone E - NOO - No Treatment required.																						
ReSCAT																						
Sketch Yes/ No		Photos Yes/ No		Frames/Photographer: _____																		

1959  
1960  
1961  
1962  
1963

A29

ZONE A LIGHT  
ZONE B - VERY LIGHT  
ZONE C - LIGHT  
ZONE E 1000

ZONED - VERY LIGHT

TEAM 6  
B29  
with 8/30/11

002 A 29-2  
29-1

003 004  
A-29-3 005

006

Duck Creek Rd

Bighorn Rd

Armadillo

D13/6

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy) <u>03/09/11</u>	Time (24h): std / daylight <u>1245</u> hrs to <u>1325</u> hrs	Water Level low - <u>mean</u> - bankfull - overbank falling - steady - rising
Segment/Reach ID: <u>A29</u> Left Bank (Right Bank) / Island				
Operations Division: <u>A</u>				
Survey by: <u>(Foot) / ATV / Boat / Helicopter / Overlook /</u>		<u>(Sunny) / (Clouds) / Fog / Rain / Snow / Windy / (Calm)</u>		Air Temp +/- <u>22</u> deg C

2 SURVEY TEAM # <u>6</u>	Name	Organization	Signature
	<u>Nathan Hammond</u>	<u>Cardno Entix</u>	<u>Nathan Hammond</u>
	<u>Austin West</u>	<u>USCL</u>	<u>Austin West</u>
	<u>Matthew Kent</u>	<u>DEQ</u>	<u>Matthew Kent</u>

**3 SEGMENT** Total Segment/Reach Length 644 m Segment/Reach Length Surveyed 644 m

Start GPS: LATITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. LONGITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. Datum: \_\_\_\_\_

End GPS: LATITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min. LONGITUDE \_\_\_\_\_ deg. \_\_\_\_\_ min.

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

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

Sediment Bank: Clay/Mud P Sand S Mixed S Pebble/Cobble \_\_\_\_\_ Boulder \_\_\_\_\_ Peat/Organic \_\_\_\_\_ Vegetated Bank: (S) Wooded Upland: (P)

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

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

Cliff or Bluff: \_\_\_\_\_ Est Height \_\_\_\_\_ m canyon \_\_\_\_\_ manmade \_\_\_\_\_ meander \_\_\_\_\_ confined or leveed \_\_\_\_\_ Substrate Type: \_\_\_\_\_

Sloped: (>5°)(15°)(30°) straight \_\_\_\_\_ braided X oxbow \_\_\_\_\_ flood plain valley \_\_\_\_\_ Forested (V) Vegetated (V) / 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 <1 bags or \_\_\_\_\_ trucks access restrictions \_\_\_\_\_

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

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

OIL ZONE ID	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER							SUBST. TYPE(S)		
	MS	LB	UB	OB	Length m	Width m	Distrib. %	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR	AP		NO	
A			S	P	644	55	<1				P						X					Very, 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	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 - Very Light oiling observed; No Treatment recommended.

ReSCAT

Sketch (Yes/No) Photos (Yes/No) Frames/Photographer: \_\_\_\_\_

0 am 9/3/2011 4:21 pm  
4 pm

A29-IS A29-LB

ZONE A  
VERY LIGHT

A29-RB

Team 6  
A29 RB  
9/3/11

Amadillo Rd

Bighorn Rd

© 2011 Google

004 1996

45°41'23.44" N 108°38'27.13" W elev 3204 ft

DB/G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy) 26/08/11	Time (24h): std / daylight 1230 hrs to 1500 hrs	Water Level low - mean - bankfull - overbank <u>(falling)</u> - steady - rising
Segment/Reach ID: <u>29LB</u> <u>(Left Bank / Right Bank / Island)</u>				
Operations Division: <u>A</u>				
Survey by: <u>Foot / ATV / Boat / Helicopter / Overlook /</u>		<u>Sun / Clouds / Fog / Rain / Snow / Windy / Calm</u>		Air Temp + / - <u>    </u> deg C

<b>2 SURVEY TEAM # 4</b>	Name	Organization	Signature
Bob Nailon		Cardno ENTRIX	<i>[Signature]</i>
Pete Lee		Polaris	<i>[Signature]</i>
Josh Hofkes		Cardno ENTRIX	<i>[Signature]</i>
Lance Richman		USEPA	<i>[Signature]</i>
Betsy Hovda		MTDEQ	<i>[Signature]</i>

**3 SEGMENT** Total Segment/Reach Length      m Segment/Reach Length Surveyed 440 m

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

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

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

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

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

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

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

Cliff or Bluff:      Est Height      m canyon      manmade      meander      confined or leveed      Substrate Type:     

Sloped:      (>5°)(15°)(30°) straight      braided X oxbow      flood plain valley X 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) m >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: Private Landowners

Oiled trees/shrubs (Y) / N 4+ 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	440	270	41			X	(X)						(X)					Grass, trees, debris
B				X	150	90															(X)	(1)

**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

Oil height:     

Treatment recommendations:

Zone A : No treatment required. (NFT)

B : N.O.O. (NFT)

Ops Hot Shot Team (Alex Barboza)

CTR: 40

Removed 1 bag of coated debris/vegetation

Sketch Yes / No Photos Yes / No Frames      Photographer



Segment 29LB  
August 26, 2011  
TEAM 4

A: Less than 1% - NPT  
B: NOO

DB/16

**RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident**

<b>1 GENERAL INFORMATION</b>		Date (dd/mm/yy) <b>25/AV6/2011</b>	Time (24h): std / daylight <b>14:00</b> hrs to <b>16:43</b> hrs	<b>Water Level</b> low - mean - bankfull - overbank falling - steady - rising
Segment/Reach ID: <b>A29</b> Left Bank / Right Bank / Island		Operations Division: <b>A29</b>		
Survey by: <b>Foot / ATV / Boat / Helicopter / Overlook /</b>		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp + / - <b>29</b> deg C
<b>2 SURVEY TEAM # 5</b>		Name	Organization	Signature
		Daniel Elefant	Cardno Entrix	<i>[Signature]</i>
		Ariel Blanc	Polaris	<i>[Signature]</i>
		Darrick Turner	DEQ	<i>[Signature]</i>
		Larisa Leonova	EPA	<i>[Signature]</i>
		Sean <i>SHAWN DANFORTH</i>	Cultural Rep	<i>[Signature]</i>

<b>3 SEGMENT</b>	Total Segment/Reach Length _____ m	Segment/Reach Length Surveyed <b>(66)</b> m
Start GPS: LATITUDE _____ deg. _____ min.	LONGITUDE _____ deg. _____ min.	Datum: _____
End GPS: LATITUDE _____ deg. _____ min.	LONGITUDE _____ deg. _____ min.	

<b>4A RIVER BANK TYPE</b> 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 <input checked="" type="checkbox"/> Sand <input checked="" type="checkbox"/> Mixed <input checked="" type="checkbox"/> Pebble/Cobble <input checked="" type="checkbox"/> Boulder _____ Peat/Organic _____	Vegetated Bank: <input checked="" type="checkbox"/> Wooded Upland: _____		
Sediment Flat: Clay/Mud _____ Sand <input checked="" type="checkbox"/> Mixed/Coarse <input checked="" type="checkbox"/> Other: _____	If snow and ice use Winter River SOS		

<b>4B RIVER VALLEY CHARACTER</b> select as appropriate				complete for primary
Cliff or Bluff: Est Height _____ m	canyon _____ manmade _____ meander <input checked="" type="checkbox"/>	confined or leveed _____	Substrate Type: <u>sand/sed</u>	
Sloped: (>5°) <u>(15°)</u> (30°)	straight _____ braided _____ oxbow _____	flood plain valley _____	Forested <input checked="" type="checkbox"/> Vegetated <input checked="" type="checkbox"/> Bare	

<b>4C RIVER CHANNEL CHARACTER</b> circle or select as appropriate			
est. width: <1m 1-10m 10-100m <u>(100m)</u> 160m	est. water depth: <1m <u>(1-3m)</u> 3-10m >10m _____ m		
shoal(s) present Y/N	point bar present <input checked="" type="checkbox"/> N	bar-shoal substrate: <u>silt/sand/gravel/cobble</u> boulder / bedrock / debris	
seasonal water level: <u>low</u> mean / bank full / overbank flow	est. change over next 7 days: <u>(falling)</u> same — rising		

<b>5 OPERATIONAL FEATURES</b>		Suitable backshore staging <input checked="" type="checkbox"/> N	Access: Direct from backshore <input checked="" type="checkbox"/> N	Alongshore from next segment <input checked="" type="checkbox"/> N
Debris: <input checked="" type="checkbox"/> N oiled <input checked="" type="checkbox"/> N amount _____ bags or _____ trucks	access restrictions _____			
Oiled trees/shrubs <input checked="" type="checkbox"/> N	River Current strong <input checked="" type="checkbox"/> N	Other Features: _____		

<b>6 SURFACE OILING CONDITIONS</b> 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
<b>1878</b> A			X	X	651	390	<1			<u>(X)</u>	X						X				veg & debris

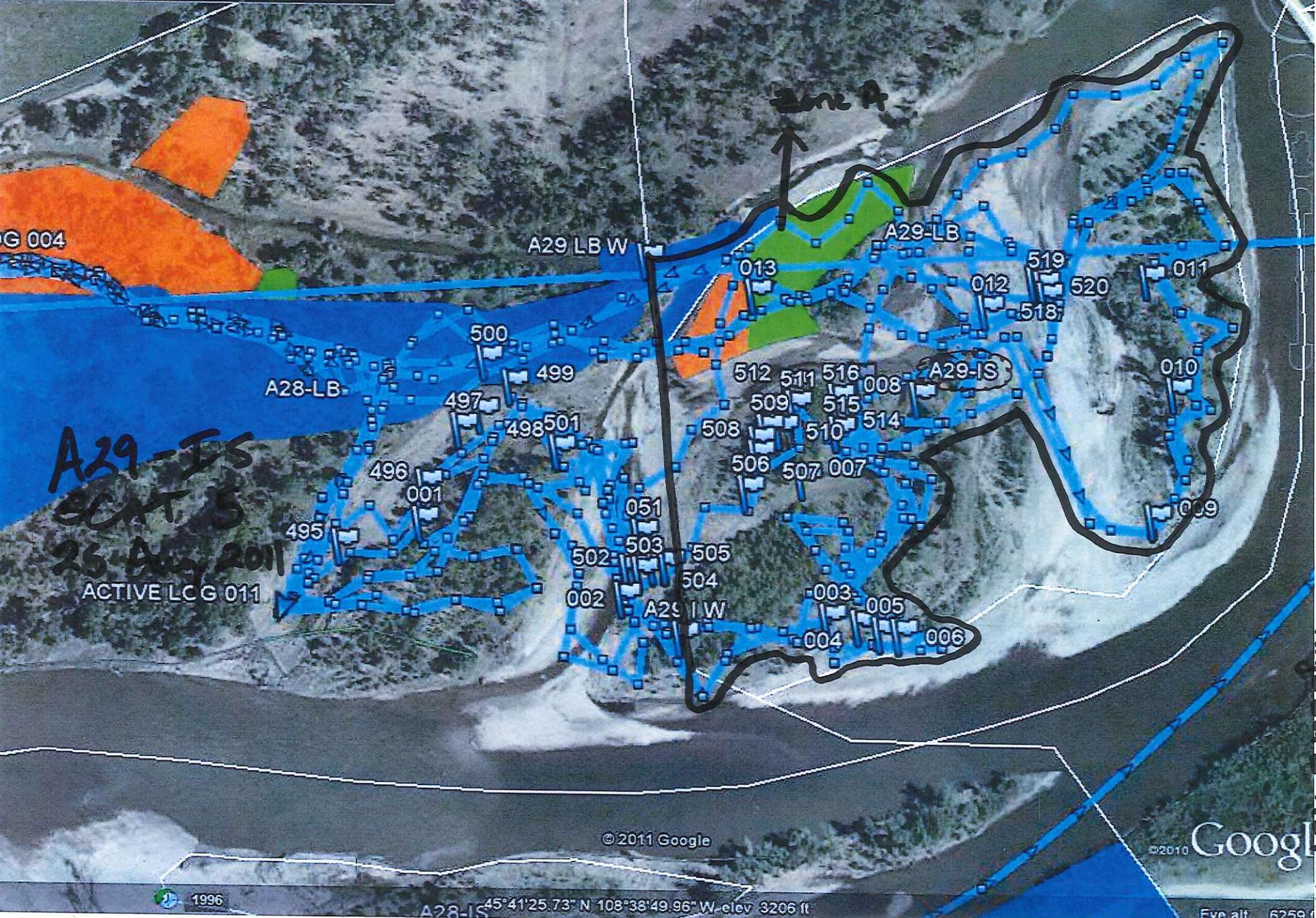
<b>7 SUBSURFACE OILING CONDITIONS</b> use letter for ZONE location plus Number of pit or trench — e.g., "A1"																
TRENCH or PIT NO.	RIVER BANK ZONE				MAX. PIT DEPTH cm	OILED ZONE cm-cm	SUBSURFACE OIL CHARACTER						WATER TABLE cm	SHEEN COLOUR B, R, S, N	CLEAN BELOW Yes / No	SUBST. TYPE(S)
	MS	LB	UB	OB			SAP	OP	PP	OR	OF	TR				

<b>8 COMMENTS</b> 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: oiled veg, trees and debris piles. <1%. Hotshot crew removed remaining transferable oil during rescat. A29 Island passed rescat. NFT

Sketch <input checked="" type="checkbox"/> No	Photos <input checked="" type="checkbox"/> No	Frames _____	Photographer _____
---	---	--------------	--------------------

8/25/2011 4 am  
8/25/2011 4 pm  
/15/2011  
8/25/2011



A29-IS  
SCAT 5  
25 Aug 2011  
ACTIVE LCG 011

Zone A

Page 2 of 2 A29 IS Inv

©2011 Google

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1996

A28-IS 45°41'25.73" N 108°38'49.96" W elev 3206 ft

Eye alt 6259



23/09/2011

Team #2 ReScut

2/2

A28-LB

A29 IS

A29-LB

A29-IS

A29-RB

A - NFT

ACTIVE LOG  
ACTIVE LOG ▲ ACTIVE LOG  
ACTIVE LOG

A28-IS



## **Appendix F**

Completed SCAT Segment  
Sign-Off Forms

# SCAT SEGMENT OPERATIONS COMPLETION SIGN-OFF SHEET

## SILVERTIP PIPELINE RELEASE

Segment A29 RB Date of Survey 9/3/11

Dates of Initial SCAT Assessments 09 JUL 11 (16)  
(to be filled out by SCAT Data Management)

CTR(s) Associated with SCAT Segment 15

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

Segment Assessment Complete<sup>1</sup>

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).*

[Signature] AUSTIN WEST USCG 9/17/2011  
Sign Name Print Name/ Affiliation Date  
**Federal Representative (EPA/USCG)**

[Signature] DEQ 9/3/2011  
Sign Name Print Name/ Affiliation Date  
**State Representative (DEQ/FWP)**

[Signature] Nathan Hammond / Carbon Entry 9/3/11  
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.

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

# Silvertip Pipeline Spill SCAT Segment Sign-Off Sheet

COMPLETED

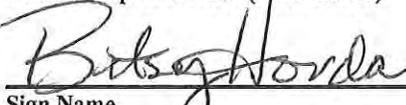
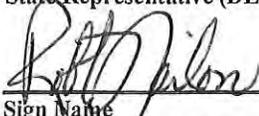
**Operations Division:** A  B  C

**SCAT Area Number (i.e. A12):** A29

**SCAT Segment Number (i.e. A12-LB/IS/RB):** A29-LB

- |  |   |
|--|---|
| <b>1. Completion Date for Initial SCAT Assessment:</b> <u>09 JUL 11</u> <sup>IL</sup>  | <b>Check if Complete:</b><br><input type="checkbox"/> |
| <b>2. Combined Treatment Recommendations (CTRs) Developed/Issued:</b><br>List CTRs Applicable to SCAT Segment: <u>CTR 40</u> | <input checked="" type="checkbox"/> Yes/No            |
| <b>3. Clean-Up Operations Conducted:</b>   | <input checked="" type="checkbox"/>                   |
| <b>4. Meets Qualitative Approved Treatment Methods Target Endpoints:</b>   | <input checked="" type="checkbox"/> Yes/No            |

**5. SCAT Reassessment:**

	Lance Rohman	8/26/11
Sign Name Federal Representative (EPA/USCG)	Print Name	Date
	Betsy Hovda	8/26/2011
Sign Name State Representative (DEQ/FWP)	Print Name	Date
	Robert Nailon	8/26/11
Sign Name RP Representative (SCAT Contractor)	Print Name	Date
	Pete Lee	8/26/11
	Josh Hofkes	8/26/11

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

# Silvertip Pipeline Spill SCAT Segment Sign-Off Sheet

COMPLETE!

<b>Operations Division:</b> A <input checked="" type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/>
<b>SCAT Area Number (i.e. A12):</b> <u>A29</u>
<b>SCAT Segment Number (i.e. A12-LB(<u>IS</u>)/RB):</b> <u>A29 Island</u>

Complete

- |   |   |
|---|---|
|   | Check if Complete:  |
| 1. Completion Date for Initial SCAT Assessment: <u>9-18 July - 2011</u>   | <input checked="" type="checkbox"/>                           |
| 2. Combined Treatment Recommendations (CTRs) Developed/Issued:<br>List CTRs Applicable to SCAT Segment: <u>40</u> | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| 3. Clean-Up Operations Conducted:   | <input checked="" type="checkbox"/>                           |
| 4. Meets Qualitative Approved Treatment Methods Target Endpoints:   | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| 5. SCAT Reassessment:   |   |

<i>Larisa Leonova</i>	LARISA LEONOVA	8/25/11
Sign Name Federal Representative (EPA/USCG)	Print Name	Date
<i>Derrick Turner</i>	DARRICK TURNER	8/26/11
Sign Name State Representative (DEQ/FWP)	Print Name	Date
<i>Arie Blanc</i>	Arie Blanc	25/AUG/2011
Sign Name RP Representative (SCAT Contractor)	Print Name	Date

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

# SCAT SEGMENT OPERATIONS COMPLETION SIGN-OFF SHEET

## SILVERTIP PIPELINE RELEASE

Segment A29 IS Date of Survey 23/09/2011

Dates of Initial SCAT Assessments 16 Jul 2011 (B)  
(to be filled out by SCAT Data Management)

CTR(s) Associated with SCAT Segment 40

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

Segment Assessment Complete<sup>1</sup>   
 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).*

*No Federal Rep Present*

Sign Name \_\_\_\_\_ Print Name/ Affiliation \_\_\_\_\_ Date \_\_\_\_\_  
**Federal Representative (EPA/USCG)**

Sign Name Sheila McAtee Print Name/ Affiliation DNREC Date 9/23/11  
**State Representative (DEQ/FWP)**

Sign Name [Signature] Print Name/ Affiliation Herlo GAVURETU Polaris Date 23/09/2011  
**RP Representative (SCAT RP Representative)**

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

<sup>1</sup> 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.



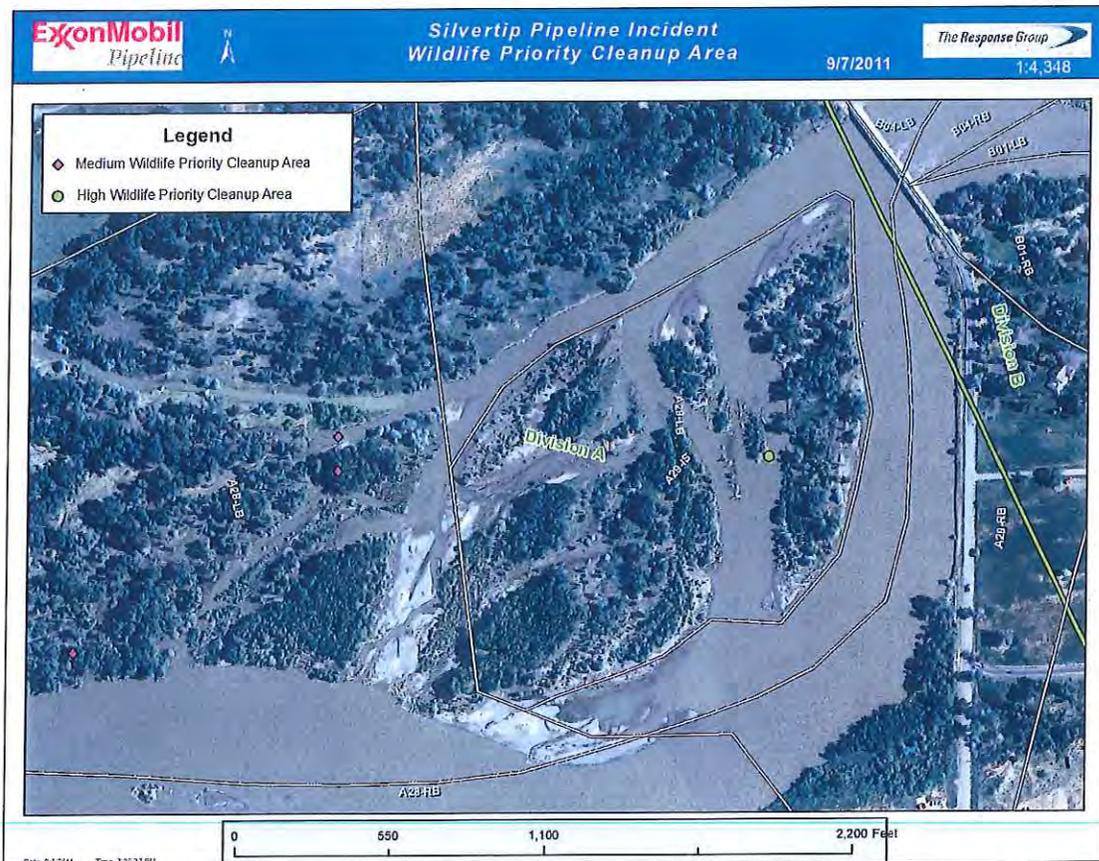
## **Appendix G**

Exception Memo

**GENERAL MESSAGE - SCAT AND OPERATIONS GUIDANCE FOR A28 AND A29 POOLS WITH SHEEN**

<b>TO:</b> Jimmie James, RPIC Tom Livers, SOSC Steven Merritt, FOSC	<b>POSITION:</b> ExxonMobil Montana DEQ State On-Scene Coordinator EPA Federal On-Scene Coordinator
<b>FROM:</b> Wildlife Branch	<b>POSITION:</b> Wildlife Chief
<b>SUBJECT:</b> A28 and A29 Pools	<b>DATE:</b> 09.07.2011 <b>TIME:</b> 1008 -1330

**MESSAGE:** International Bird Rescue and Resource Advisors with the USFWS identified four pools with sheen in scat sector A-28 and 29. This segment has passed SCAT but requires further response to reduce wildlife exposure risks. The four pools are identified on the map below. All pools had sheen on the water, passed the "stick test," the oil was transferable to a nitrile glove, and animal tracks were present. GPS coordinates of these pools are available and are listed on the Oiled Wildlife Risk Assessment Form maintained by the Wildlife Branch. A map of these areas is attached below, with a priority ranking associated with the locations. The size of the high priority area is 30 ft by 15 ft, the moderate priority areas are 50 ft by 20 ft, 100ft by 7 ft, and 30 ft by 10 ft.



<b>SIGNATURE:</b> Karen Nelson, Contaminants Specialist	<b>POSITION:</b> USFWS – Wildlife Branch
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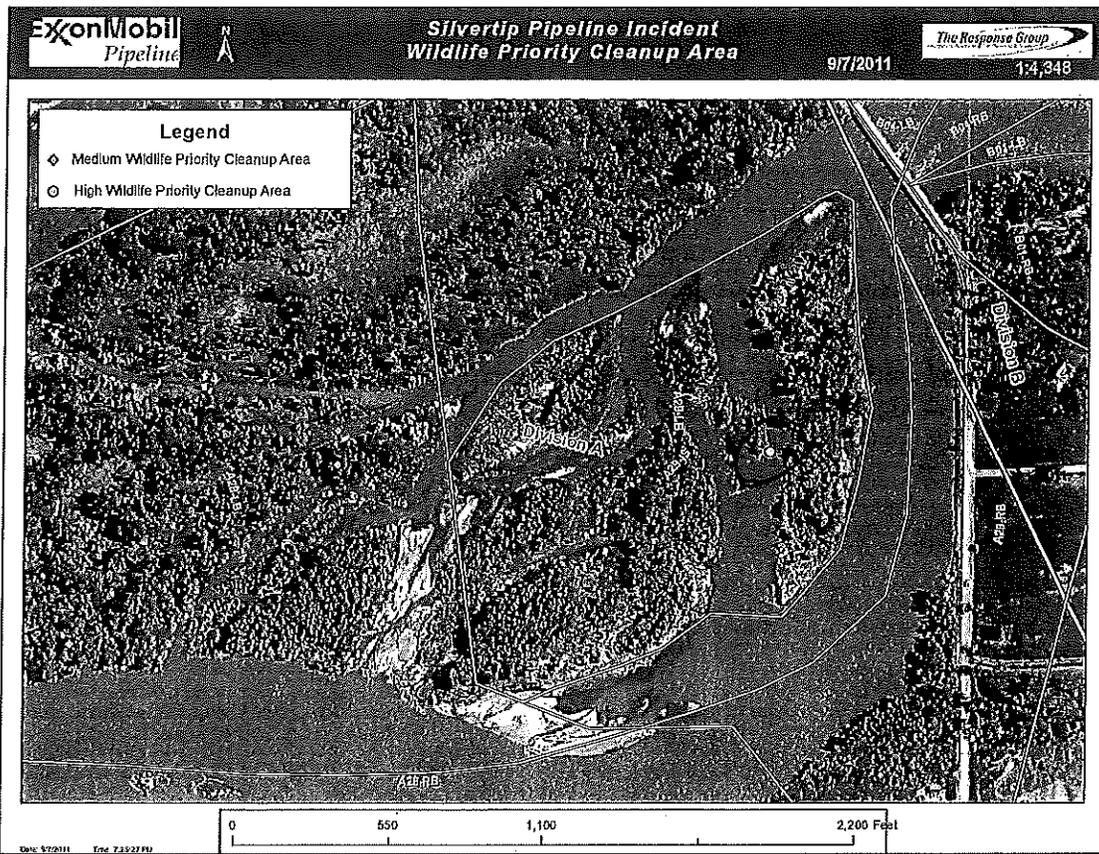
**REPLY:** SCAT and Operations

The Unified Command is aware of this area within SCAT Segments A28 and A29 and understands that operations within these segments have been completed by operations and passed by 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.

**GENERAL MESSAGE - SCAT AND OPERATIONS GUIDANCE FOR A28 AND A29 POOLS WITH SHEEN**

<b>TO:</b> Jimmie James, RPIC Tom Livers, SOSC Steven Merritt, FOSS	<b>POSITION:</b> ExxonMobil Montana DEQ State On-Scene Coordinator EPA Federal On-Scene Coordinator
<b>FROM:</b> Wildlife Branch	<b>POSITION:</b> Wildlife Chief
<b>SUBJECT:</b> A28 and A29 Pools	<b>DATE:</b> 09.07.2011 <b>TIME:</b> 1008 -1330

**MESSAGE:** International Bird Rescue and Resource Advisors with the USFWS identified four pools with sheen in scat sector A-28 and 29. This segment has passed SCAT but requires further response to reduce wildlife exposure risks. The four pools are identified on the map below. All pools had sheen on the water, passed the "stick test," the oil was transferable to a nitrile glove, and animal tracks were present. GPS coordinates of these pools are available and are listed on the Oiled Wildlife Risk Assessment Form maintained by the Wildlife Branch. A map of these areas is attached below, with a priority ranking associated with the locations. The size of the high priority area is 30 ft by 15 ft, the moderate priority areas are 50 ft by 20 ft, 100ft by 7 ft, and 30 ft by 10 ft.

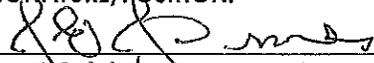
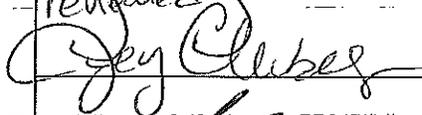


**SIGNATURE:** *Karen Nelson* Karen Nelson, Contaminants Specialist      **POSITION:** USFWS – Wildlife Branch

**REPLY:** SCAT and Operations

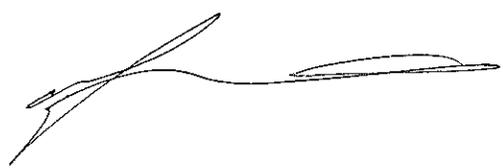
The Unified Command is aware of this area within SCAT Segments A28 and A29 and understands that operations within these segments have been completed by operations and passed by Re-SCAT efforts. We agree with the recommended treatment proposed above for this area. ExxonMobil will coordinate any future 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.

45.69095  
-108.64275

<b>DATE:</b> 09/08/2011	<b>TIME:</b> 11:40	<b>SIGNATURE/POSITION:</b>  Jimmie James, RPIC <i>renewed</i>  Tom Livers, SOSC  Steven Merritt, FOSC
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Closed by Nick Kautzman -

Pools contain sheen, after a field visit and research the sheen is likely not Hydrocarbon related and does not pose a hazard to wildlife

 9/14/2011