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ExxonMobil Pipeline Company

SCAT Area Transition Report for C51

Silvertip Pipeline Incident
Laurel, Montana

October 25, 2011

SCAT Area Transition Report for C51

Silvertip Pipeline Incident
Laurel, Montana

Prepared for:
ExxonMobil Pipeline Company

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Our Ref.:
B0085883.1103

Date:
October 25, 2011

The observations described in this Report were made exclusively under the conditions at the time and subject to the limitations stated therein. It is understood by Client that ARCADIS has relied on the accuracy of documents, oral information, and other material and information provided by sources documented in this report, including but not limited to information provided by Client and Client's other contractors. ARCADIS has not independently verified any such information. The conclusions presented in the Report are based solely upon the observations and representations made by others.

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1. Executive Summary of Oil Removal Activities

This Shoreline Cleanup Assessment Technique (SCAT) Area Transition Report provides a summary of the SCAT surveys conducted to determine the extent of oiling along the riverbanks and floodplain within SCAT Area C51, 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 C51. This report is intended to be read and used in conjunction with the Summary of Assessment and Oil Removal Activities report.

1.1 Land Ownership and Access Issues

Figure 1 provides an aerial map of SCAT Area C51, 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 C51 is 39.0. There were some conditional access agreements for the right bank; otherwise there were no access issues for this area.

1.2 Cultural, Historic, and Natural Resource Constraints

No historic properties or cultural resources have been identified within this area that would affect oil removal activities.

Figure 2 summarizes the natural resources identified in this segment. International Bird Rescue and Resource Advisors from U.S. Fish and Wildlife Service conducted limited inspections of Area C51 due to the low level of oiling in Division C. No oiled wildlife was observed or recovered. No Wildlife Priority Cleanup Areas were identified. No active migratory bird nests were identified in Area C51.

1.3 Summary of Environmental Sampling

Table 1 (below) summarizes samples collected within Area C51. 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 C51 are provided on Figure 3. However, to date, no samples have been collected in this area.

Table 1 Environmental Sampling Summary

Agency	Sample Num	Date	Matrix	Location	Latitude	Longitude
No Samples Collected						

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 C51 are included in Appendix B. Figure 4 provides the maximum oiling zones observed by the SCAT team during the initial surveys of Area C51.

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. 48 and CTR No. 61).

1.6 Oil Removal Activities

Oil removal activities were conducted within Area C51 in accordance with the ATMs identified in the CTRs. Appendix I of the Summary of Assessment and Oil Removal Activities report presents this data including: date range/ days worked, average number of people working per day, equipment used, and various types of bags removed: oily debris, personal protective equipment, plastic, trash, super sacks, wood chips, and contaminated wood.

1.7 Pre-Inspection Survey Transmittal

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

1.8 Post-Inspection Survey Transmittal

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

1.9 Summary of Final SCAT Surveys

Figure 5 shows the oiling conditions within Area C51 following completion of oil removal activities. The SCAT team performed final surveys of the right bank within SCAT Area C51 to confirm the agreed-upon cleanup endpoints identified in the applicable CTRs had been achieved. The final SCAT survey documentation is presented in Appendix E.

1.10 SCAT Area Conclusions

Based on the initial SCAT survey performed within Area C15, only very light oiling was observed on a portion of the left bank and no oiling was observed on the island. The very light oiling zones will be addressed through natural attenuation. Based on the final SCAT surveys performed on the right bank within Area C51, no further treatment is recommended for this segment. SCAT Segment Sign-Off Forms are included as Appendix F.

2. Transition Sign-Off Form

SCAT Area Transition Report for C51

Prepared for:

Unified Command

_____

Date

_____

Unified Command – RP

SCAT Area Transition Report for C51

Prepared for:

Unified Command

10/11/2011

Date

S MERRITT

Unified Command – FOSC

SCAT Area Transition Report for C51

Prepared for:

Unified Command

_____

Date

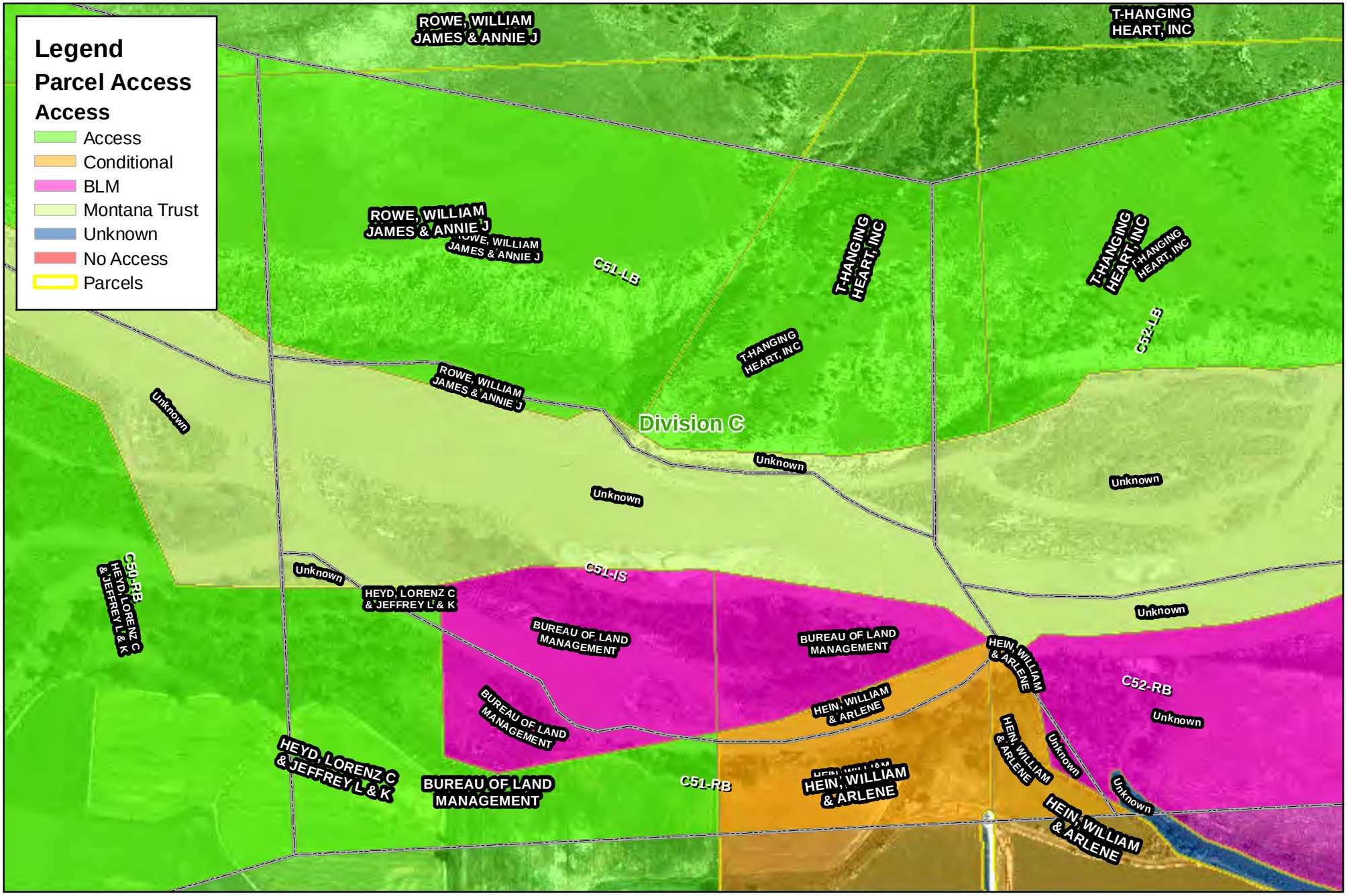
_____

Unified Command – MDEQ

Silvertip Pipeline Incident
Area Transition Report Map - Parcels
Segment - C51

9/27/2011

1:7,500



0 750 1,500 3,000 Feet

Figure 1

Date: 9/27/2011 Time: 5:50:58 PM

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

Silvertip Pipeline Incident
SCAT Area Transition Report Map
Area - C51

ExxonMobil Pipeline

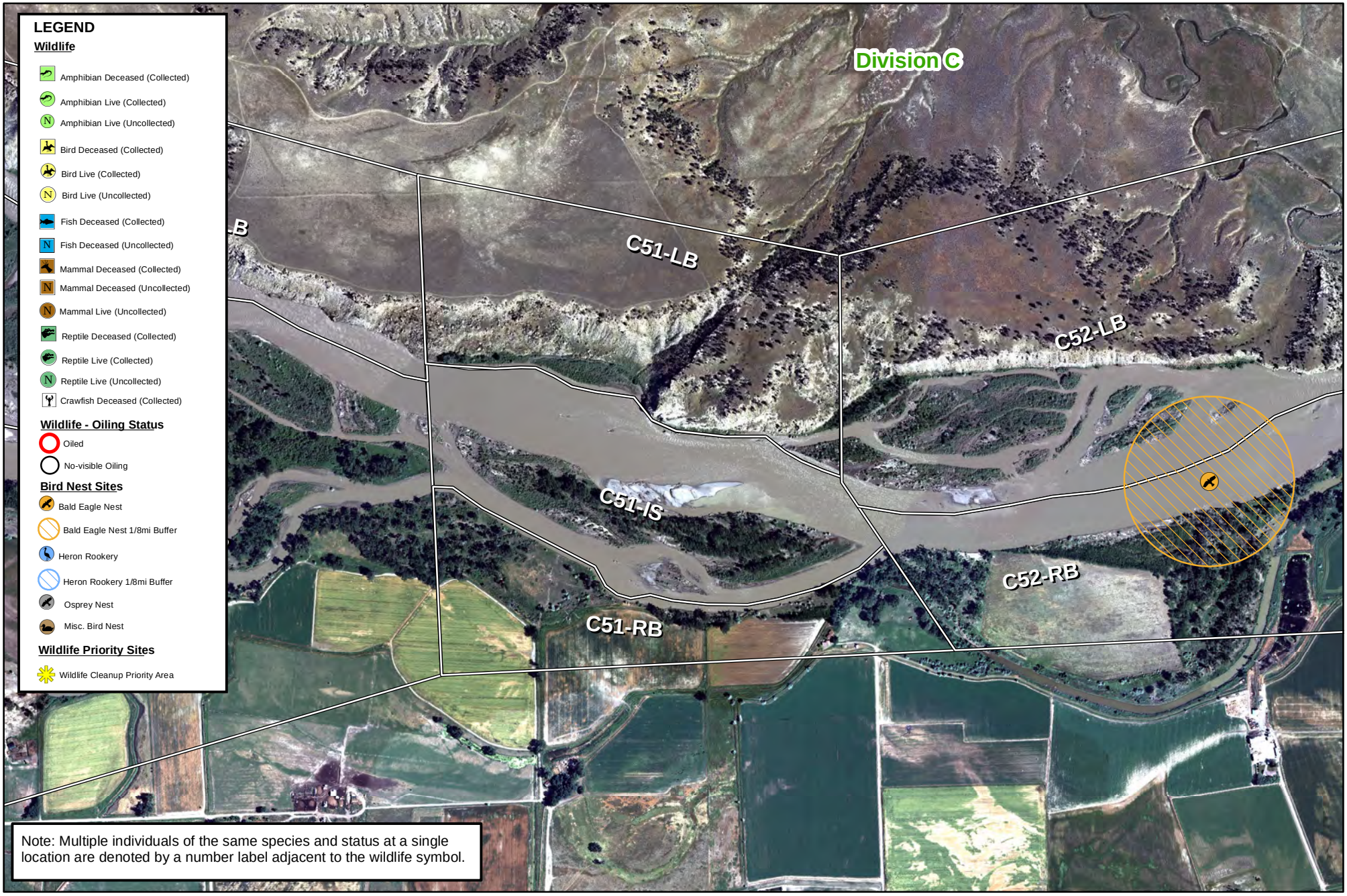
N

1:12,000

9/26/2011

The Response Group

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

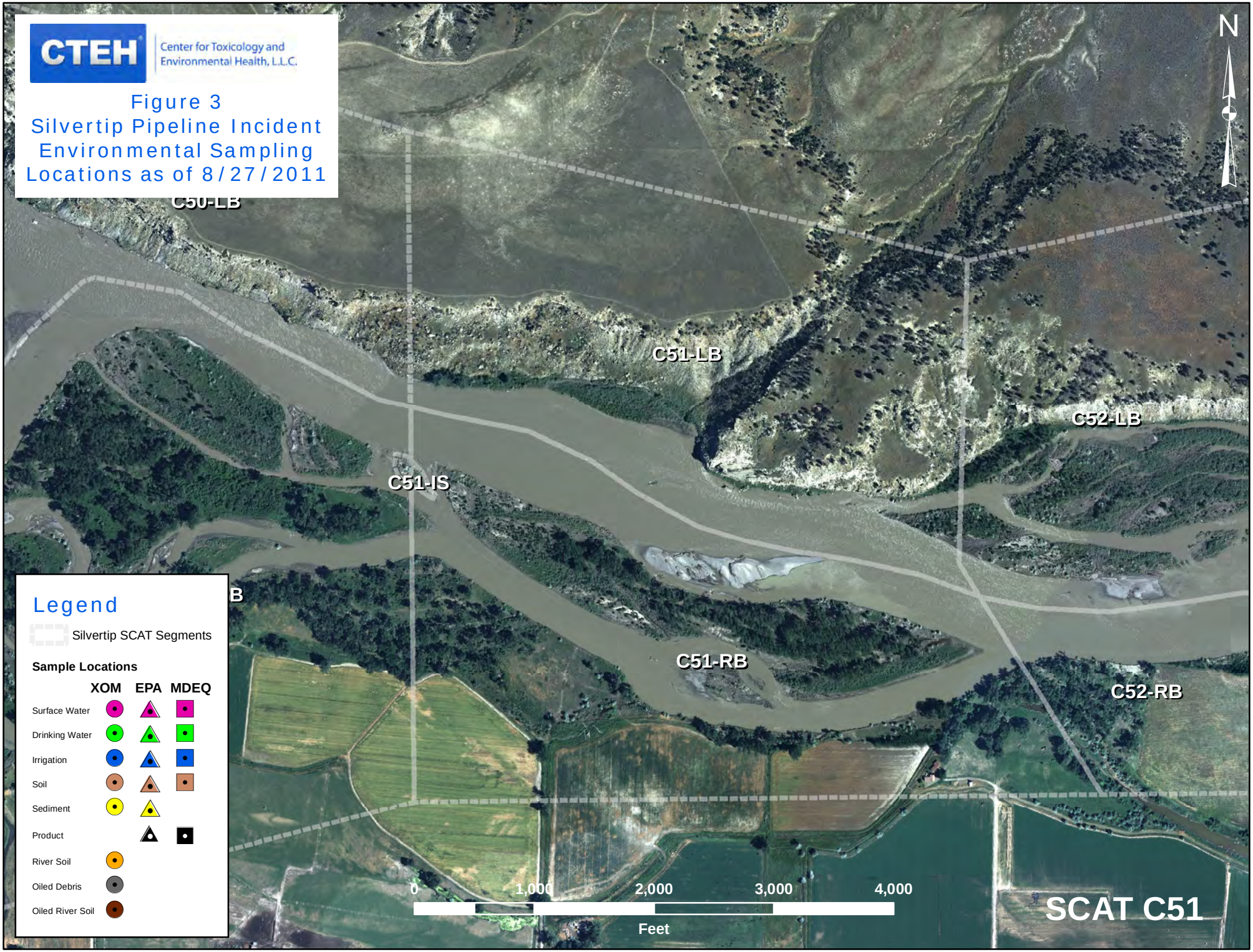


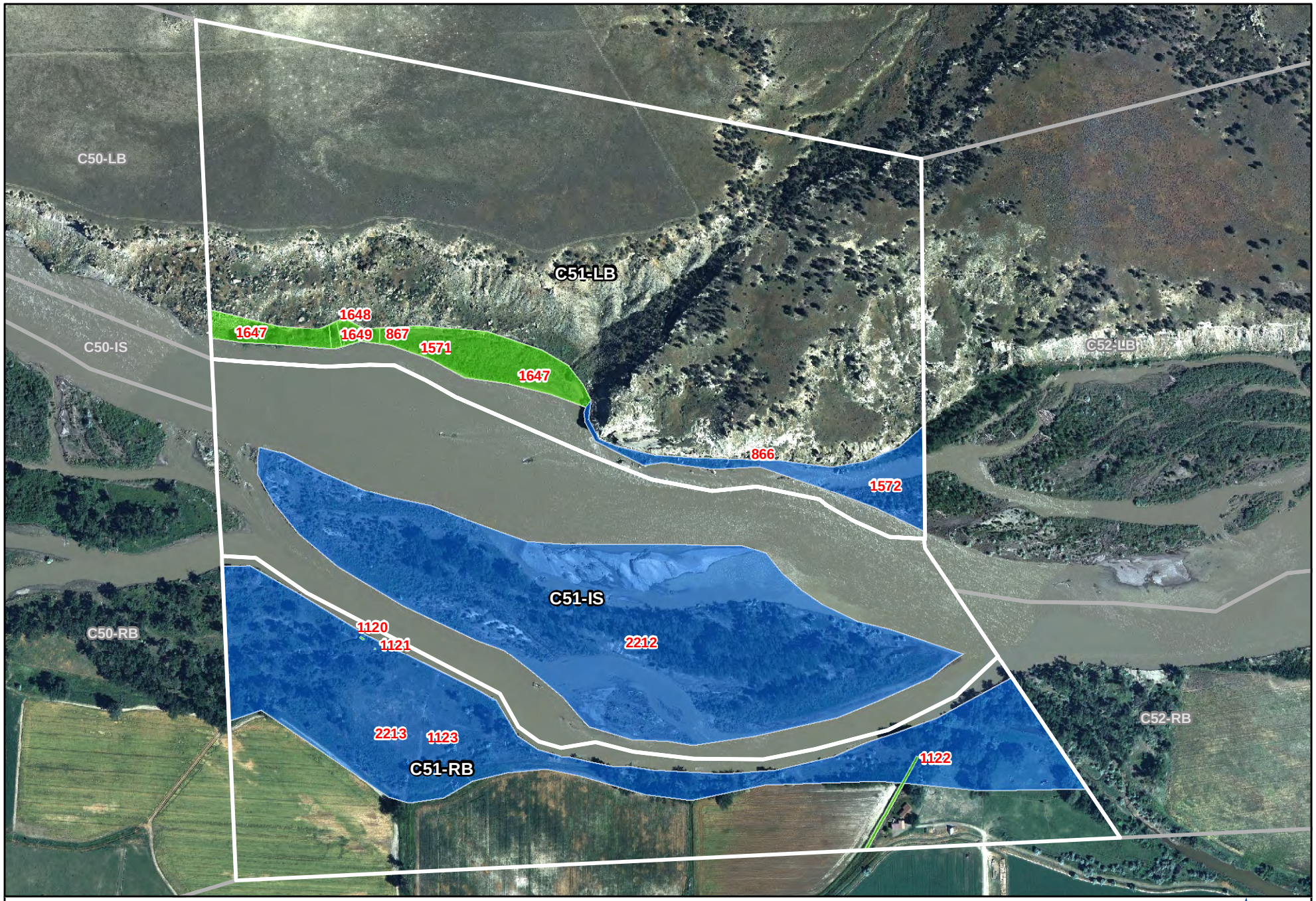
Note: Multiple individuals of the same species and status at a single location are denoted by a number label adjacent to the wildlife symbol.

0 1,250 2,500 5,000 Feet

Figure 2
Wildlife Resources

Date: 9/26/2011 Time: 5:33:24 PM


CTEH
Center for Toxicology and Environmental Health, L.L.C.
Figure 3
Silvertip Pipeline Incident Environmental Sampling Locations as of 8/27/2011
N
C50-LB
C51-LB
C52-LB
C51-IS
C51-RB
C52-RB
Legend
Silvertip SCAT Segments
Sample Locations
XOM
EPA
MDEQ
Surface Water
Drinking Water
Irrigation
Soil
Sediment
Product
River Soil
Oiled Debris
Oiled River Soil
0
1,000
2,000
3,000
4,000
Feet
SCAT C51



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

450 0 450 900 Feet

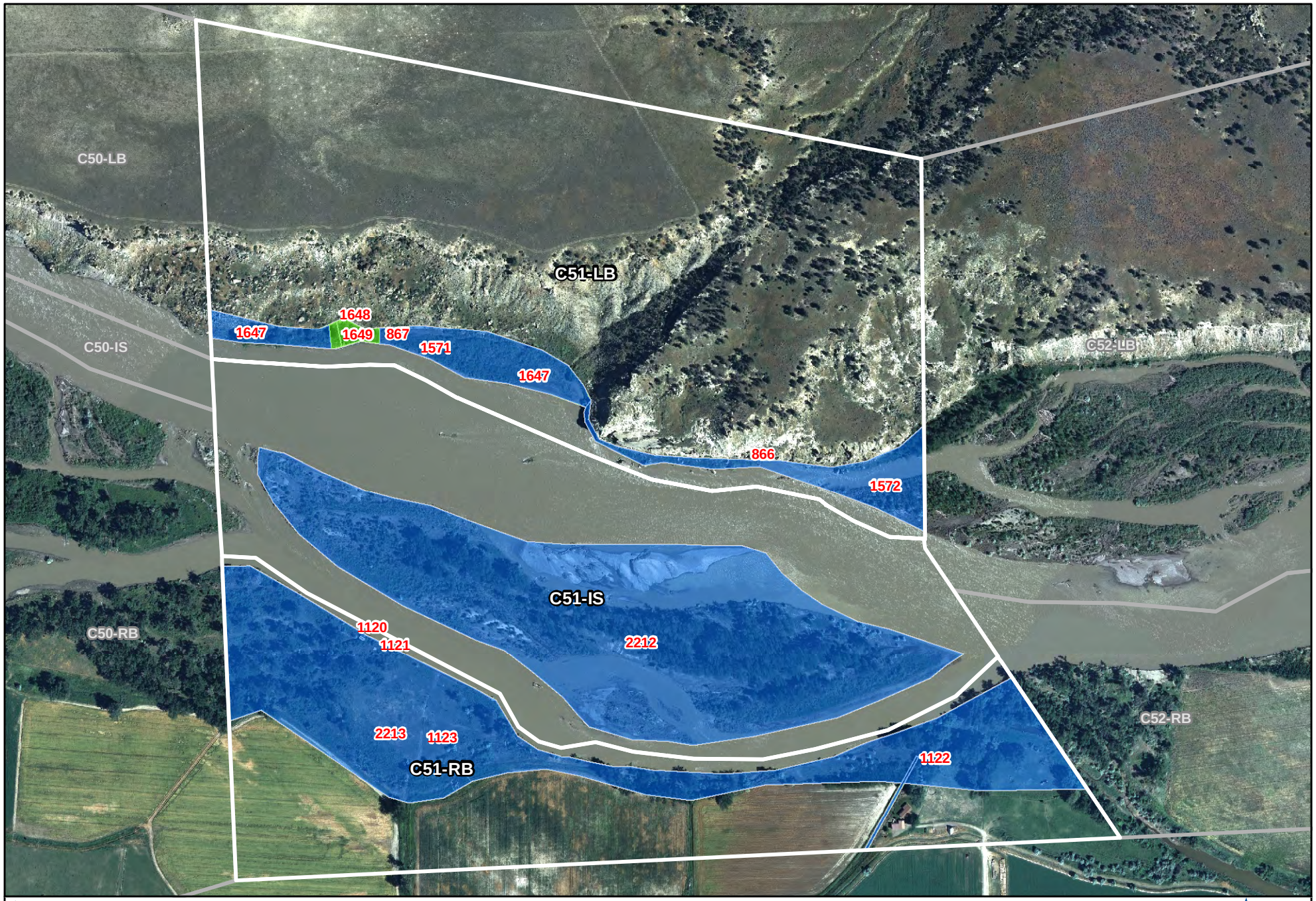
Figure 4 - Maximum SCAT Observations For SCAT Area: C51

POLARIS APPLIED SCIENCES, INC.

Aerial Photography Dated July 20, 2011

O:\GIS\SCAT Mapping\Maps\Area Transition Reports MXD\ATR Fig 4 - Max_SCAT_Observations_DataPages.mxd

Printed: 9/28/2011 5:19:01 PM



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

450 0 450 900 Feet

Figure 5 - Final SCAT Observations For SCAT Area: C51

POLARIS APPLIED SCIENCES, INC.

Aerial Photography Dated July 20, 2011

O:\GIS\SCAT Mapping\Maps\Area Transition Reports MXD\ATR Fig 5 - Final_SCAT_Observations_DataPages.mxd

Printed: 9/28/2011 5:28:47 PM

Appendix **A**

Sample Detections Summary

Sample Results For
SCAT Area C51

Printed 9/8/2011

NA - Not Available

Detected Above Screening Level

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

No Samples Collected

Appendix **B**

Initial SCAT Survey Forms and Sketches

D3/G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION	Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: C51 Left Bank / Right Bank / **Island**	08/09/2011	900 hrs to 1000 hrs	low - mean - **bankfull** - overbank
Operations Division: C			falling - steady – rising
Survey by: Foot / ATV / Boat / Helicopter / Overlook / _____	**Sun / Clouds / Fog / Rain / Snow / Windy / Calm**		Air Temp + / - **28** deg C

2 SURVEY TEAM # NA	Name	Organization	Signature
	Juan Patino	US Coast Guard	
	Shawn Briggs	Montana FWP	
	Richard Marty	Polaris	Richard Marty

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 S___ 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/grvl

Sloped:___(>5°)(15°)(30°) straight_____ braided s___ oxbow_____ flood plain valley_____ Forested / **Vegetated** / Bare

4C RIVER CHANNEL CHARACTER ***circle51 or select as appropriate***

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

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

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

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

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

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	
2212 A				X	1000	255	0													x	PAll

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

TRENCH or PIT NO.	RIVER BANK ZONE				MAX. PIT DEPTH	OILED ZONE	SUBSURFACE OIL CHARACTER							WATER TABLE	SHEEN COLOUR	CLEAN BELOW	SUBST. TYPE(S)
	MS	LB	UB	OB	cm	cm-cm	SAP	OP	PP	OR	OF	TR	NO	cm	B, R, S, N	Yes / No	
None																	

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

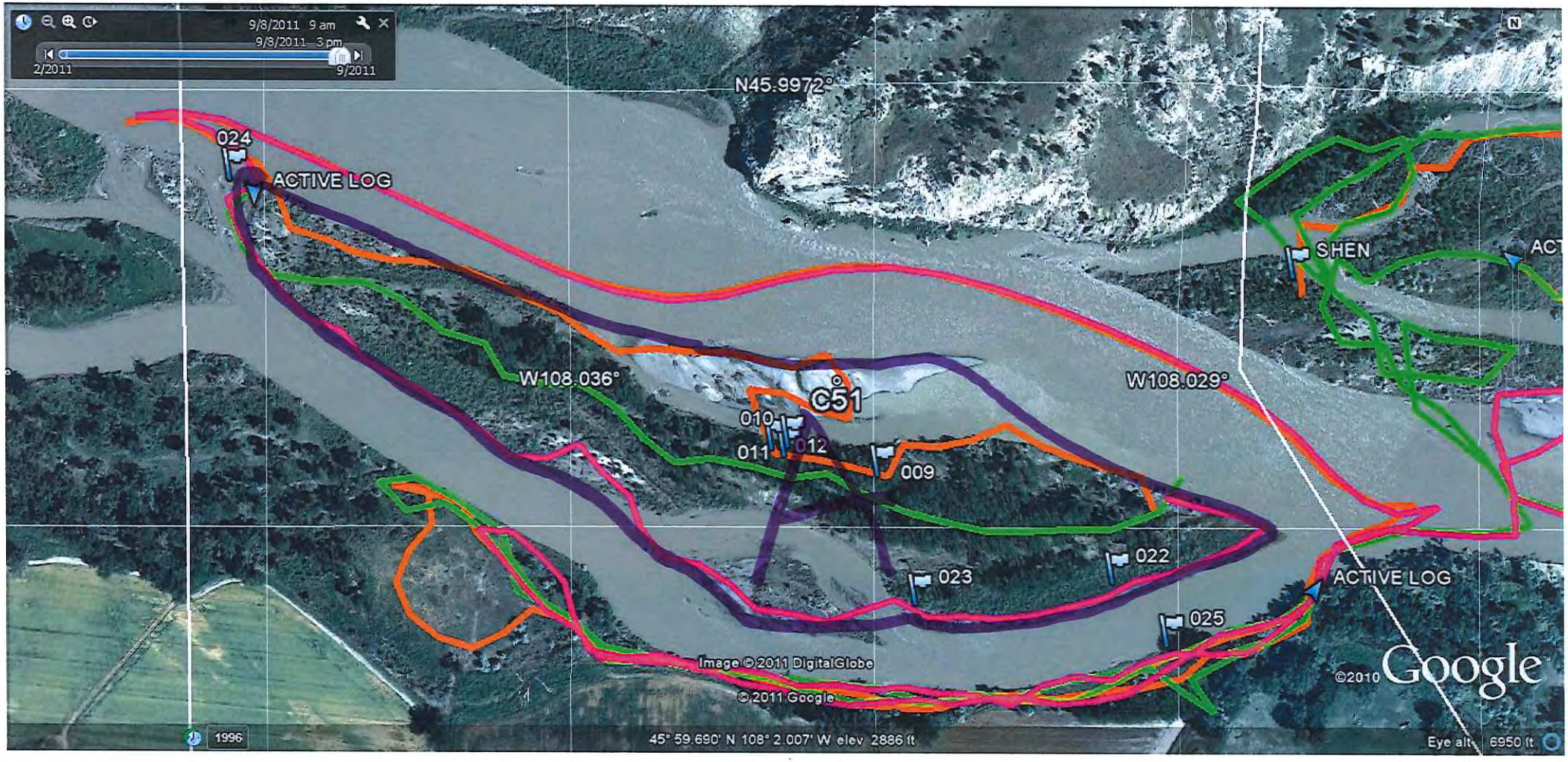
Overbank Survey Required Y / **N** Overbank Survey Completed **Y** / N Shoreline Survey Completed **Y** / N

Land is primarily BLM ownership.

A – No oil observed. No treatment is required.

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

C51IS
8 Sept. 2011
Team 2



A = NOO

DB / BG / S

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

1 GENERAL INFORMATION	Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: C 51 Left Bank / Right Bank / Island	26/07/11	1250 hrs to 1252 hrs	low - mean - bankfull - overbank
Operations Division:			falling - steady – rising
Survey by: Foot / ATV / Boat / Helicopter / Overlook /	Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp + / - 28 deg C

2 SURVEY TEAM # 1	Name	Organization	Signature
Pete Lee	PBL	Polaris	225.892.6459
John Beach	JFB	US EPA	415.972.3347
Larry Alheim		MT DEQ	406.461.7516

3 SEGMENT Total Segment/Reach Length 1110 m Segment/Reach Length Surveyed 1110 m

Start GPS: LATITUDE 45 deg. 59.697 min. LONGITUDE 108 deg. 0.574 min. Datum:

End GPS: LATITUDE 45 deg. 59.803 min. LONGITUDE 108 deg. 2.437 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 5 Shelf ___ | Manmade: Solid ___ Permeable ___ (type) ___ | Wetland: Swamp ___ Bog/Fen ___ Marsh ___

Sediment Bank: Clay/Mud ___ Sand ___ Mixed ___ Pebble/Cobble ___ Boulder ___ Peat/Organic ___ | Vegetated Bank: 5 | Wooded Upland: ___

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

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

Cliff or Bluff: X Est Height 60 m | canyon ___ manmade ___ meander ___ confined or leveed ___ | Substrate Type: ___

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: < 1m 1–10 m 10–100 m >100m ~~160m~~ 195m | est. water depth: <1 m 1-3 m 3-10 m >10 m ___ m

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

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

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

Debris: Y N oiled Y / N amount ___ bags or ___ trucks | access restrictions

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

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

OIL ZONE ID	RIVER BANK ZONE MS	LB	UB	OB	OIL COVER Length m	Width m	Distrib. %	OIL THICKness TO	CV	CT	ST	FL	OIL CHARACTER FR	MS	TB	PT	TC	SR	AP	NO	SUBST. TYPE(S)
866 A			X	X	470	1	15				P		X							~~X~~	~~Veg~~
867 B				X	540	1	~~15~~													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 MS	LB	UB	OB	MAX. PIT DEPTH cm	OILED ZONE cm-cm	SUBSURFACE OIL CHARACTER SAP	OP	PP	OR	OF	TR	NO	WATER TABLE cm	SHEEN COLOUR B, R, S, N	CLEAN BELOW Yes / No	SUBST. TYPE(S)

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

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

Oil height::

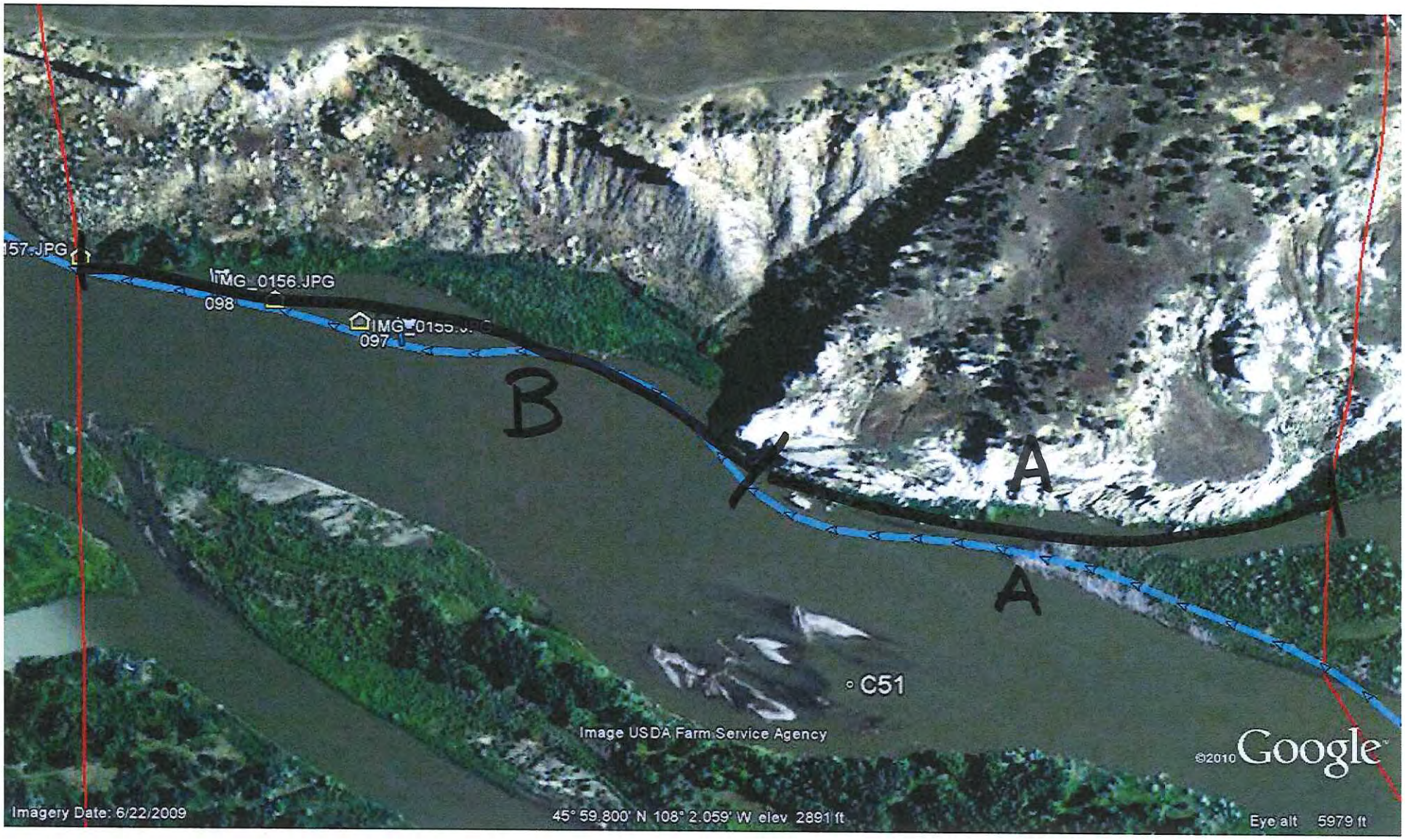
Treatment recommendations:

Zone B : No oil observed; no treatment required.

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

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

Sketch Yes / No Photos Yes / No Frames 0018 – 0027 Beach Photographer Beach


157.JPG
IMG_0156.JPG
098
IMG_0155.JPG
097
B
A
A
C51
Image USDA Farm Service Agency
©2010 Google
Imagery Date: 6/22/2009
45° 59.800' N 108° 2.059' W elev 2891 ft
Eye alt 5979 ft

DB/G

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

1 GENERAL INFORMATION	Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: C51 **Left Bank** / Right Bank / Island	15/08/11		low - **mean - bankfull** - overbank
Operations Division: C		1250 hrs to 1355 hrs	**falling** - steady – rising
Survey by: (Foot) / ATV / (Boat) / Helicopter / Overlook / _____	Sun / (Clouds) / Fog / Rain / Snow / Windy / Calm		Air Temp + / - 27 deg C

2 SURVEY TEAM # 1,2	Name	Organization	Signature
	Joe Busalacchi	Cardno Entrix	
	[redacted]	[redacted]	
	Donnie McCurry	DEQ	
	Adam Bausch	Cardno Entrix	
	[redacted]	[redacted]	
	Lance Richman	EPA	
	[redacted]	[redacted]	

3 SEGMENT Total Segment/Reach Length 1,022 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 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: X Est Height 35 m | canyon____ manmade____ meander ____ confined or leveed ____ | Substrate Type: _____

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

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

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

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

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

Debris (Y) / N oiled Y / (N) amount ____ bags or ____ trucks | access restrictions

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

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

OIL ZONE ID	RIVER BANK ZONE MS	LB	UB	OB	OIL COVER Length m	Width m	Distrib. %	OIL THICKNESS TO	CV	CT	ST	FL	OIL CHARACTER FR	MS	TB	PT	TC	SR	AP	NO	SUBST. TYPE(S)
1571 A				X	517	62	1-10				(X)						X				Woody Veg Grass
1572 B				X	505	5	0													X	

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

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

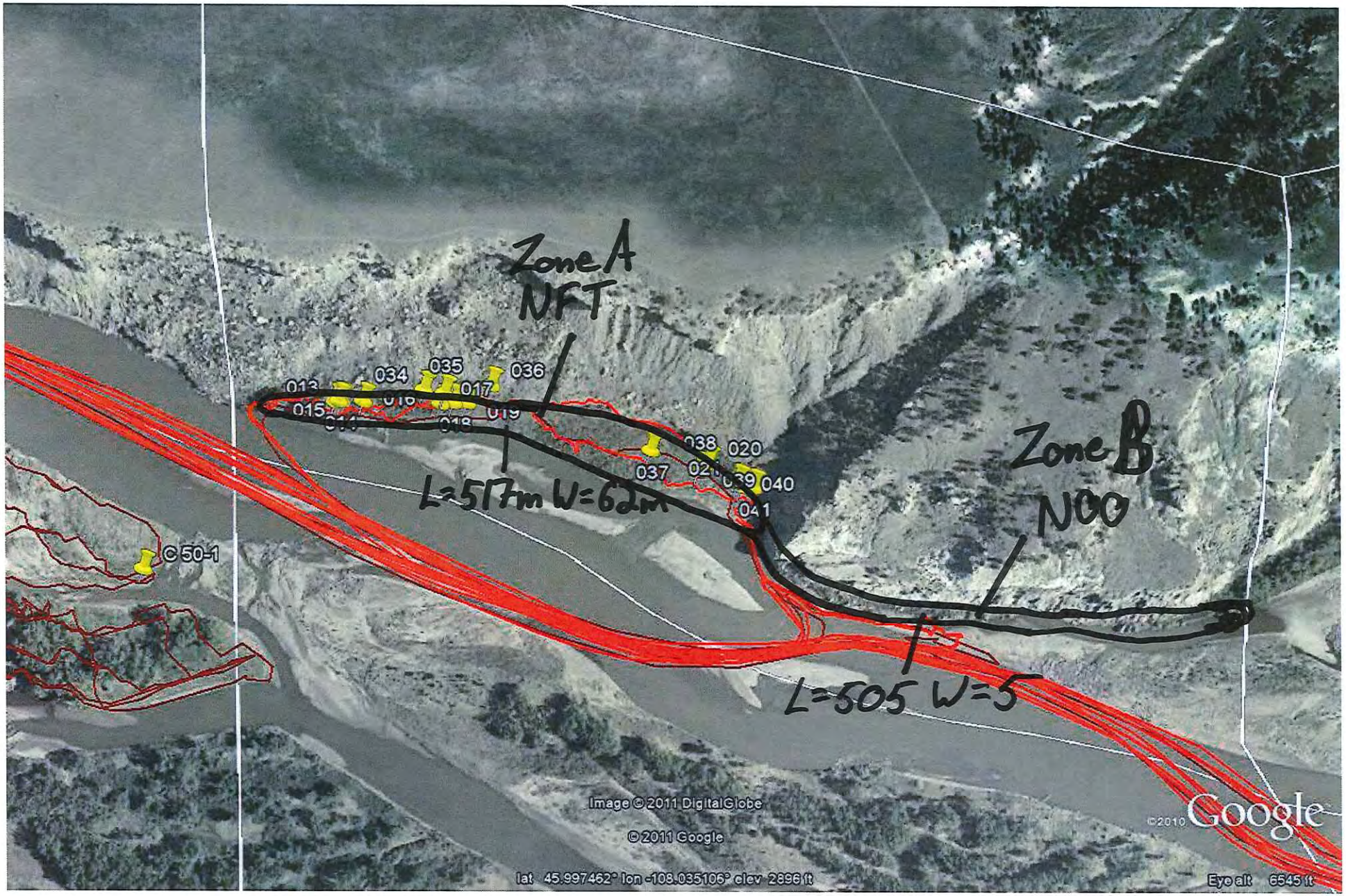
8 COMMENTS ecological/recreational/cultural/economic constraints - shorezone biota and wildlife observations - cleanup recommendations

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

Zone A - Band of Non-transferable (stain) ~~or very light coat~~ on grasses and willow. Extends most of the length of this zone but very sporadic 2½'-3' high. Recommended treatment: No Further Treatment

Zone B - NOO

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


Zone A
NFT
Zone B
NOO
L=517m W=62m
L=505 W=5
C 50-1
013
015
034
035
036
017
019
038
020
037
040
041
Image © 2011 DigitalGlobe
© 2011 Google
©2010 Google
lat 45.997462° lon -108.035106° elev 2896 ft
Eye alt 6545 ft

DB/G

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

1 GENERAL INFORMATION	Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: 51 (Left Bank) / Right Bank / Island	8/19/11	1400 hrs to 1500 hrs	low / mean / bankfull - overbank
Operations Division: C			falling - steady – rising
Survey by: (Foot) / ATV / (Boat) / Helicopter / Overlook / _____	(Sun) / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp + / - 28 deg C

2 SURVEY TEAM # 294

Name	Organization	Signature
DANIEL ELLEFANT	Cardno Entrix	
JOE BOYLE	Cardno Entrix	
ALICIA TAYLOR	USCG	
LEE BURKOWEKS	FWP	
DAMIEN KORTE	Cardno Entrix	
CINDY SANTIAGO	EPA	
DARYL REED	DEQ	

3 SEGMENT Total Segment/Reach Length 1000 m Segment/Reach Length Surveyed 1000 m

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

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

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

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

Sediment Bank: Clay/Mud____ Sand S Mixed P Pebble/Cobble____ Boulder____ Peat/Organic____ | Vegetated Bank: Sv | Wooded Upland: ____

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

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

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

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

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

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

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

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

Debris (Y) / N oiled (Y) / N amount <1 bags or ____ trucks | access restrictions

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

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

OIL ZONE ID	RIVER BANK ZONE MS	LB	UB	OB	OIL COVER Length m	Width m	Distrib. %	OIL THICKNESS TO	CV	CT	ST	FL	OIL CHARACTER FR	MS	TB	PT	TC	SR	AP	NO	SUBST. TYPE(S)
1647 A			✓		1000	50	0													✓	SANDSTONE
1648 B			✓		1	1	<1			P	S						✓				DEBRIS
1649 C			✓		30	5	<1			S	P						✓				Willows

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

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

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

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

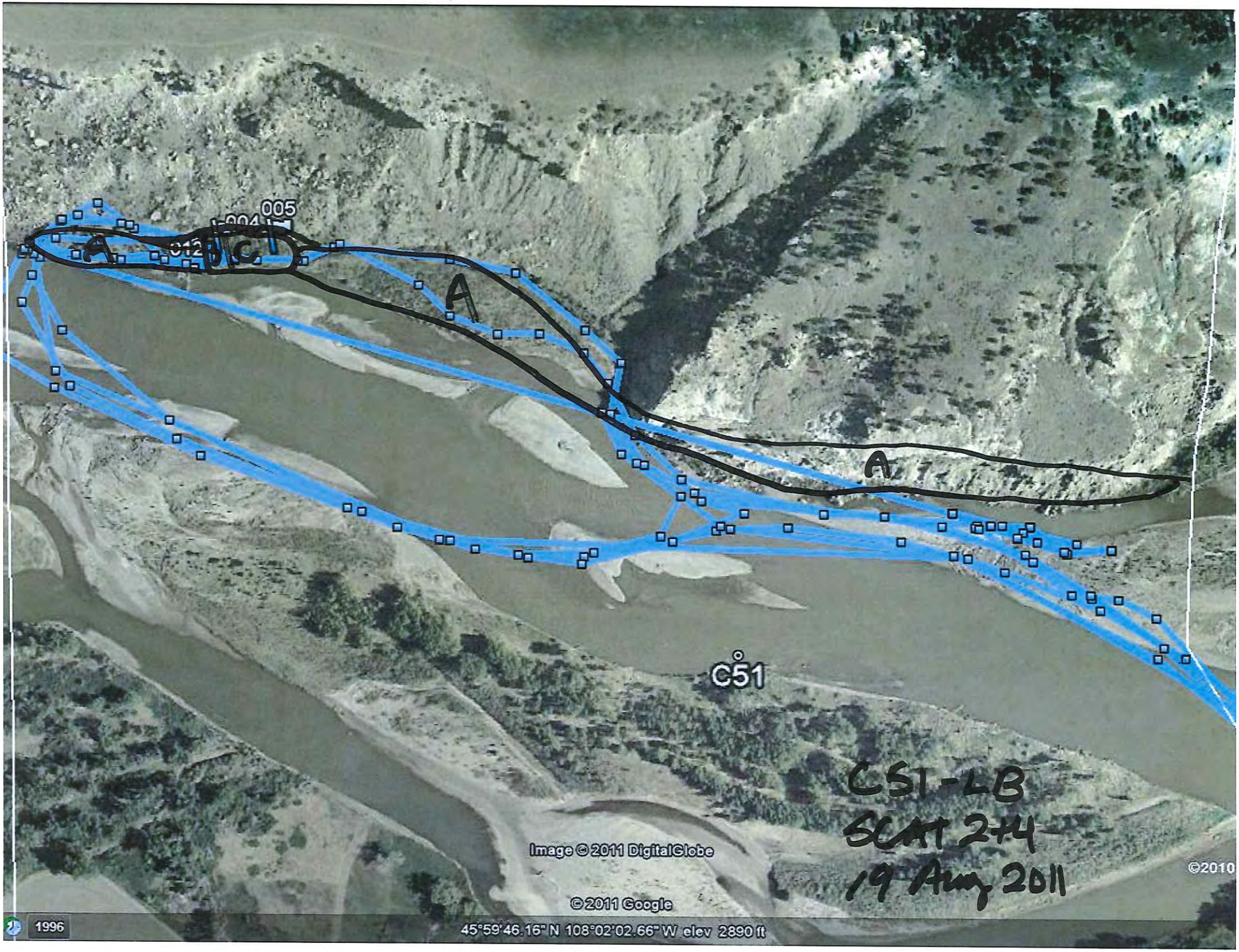
ZONE A – N.O.

B – NFT, VERY SMALL DEBRIS PILE (1 PILE @ 100 cm²)

C – NFT, STAIN ON WILLOW, VERY LIGHT <1% 30 x 5m

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

Ver. 31 July 2011


005
A
B
C
A
A
C51
C51-LB
SCAT 274
19 Aug 2011
Image © 2011 DigitalGlobe
©2010
© 2011 Google
1996
45°59'46.16" N 108°02'02.66" W elev 2890 ft

D/B/G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident Page 1 of ~~3~~ 4

1 GENERAL INFORMATION	Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: C 51 Left Bank / Right Bank / Island	02/Aug/2011	1015 hrs to 1130 hrs	low - mean - bankfull - overbank
Operations Division:			falling - steady – rising
Survey by: Foot / ATV / Boat / Helicopter / Overlook / _____	Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp + / - 30 deg C

2 SURVEY TEAM # 3	Name	Organization	Signature
John Bauer		Polaris	
Steve Opp		MT DEQ	
Jay Parks		BLM	J. Parks
Larry ~~Patten~~ PADDEN		~~EPA~~ BLM	
Josh Hofkes		Cardno Entrix	
Mark Denny		Tribal representative	

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 1160 m

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

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 S___ 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 s___ Sand____ Mixed/Coarse____ | Other: ____ | If snow and ice use Winter River SOS

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

Cliff or Bluff: ____ Est Height ____ m | canyon____ manmade____ meander ____ confined or leveed ____ | Substrate Type: gravel

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

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

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

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

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

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

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

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

	OIL ZONE ID	RIVER BANK ZONE				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	
1120	A				X	60	2	50					X	X								water
1121	B				X	3	1	1		X	X			X				X				veg
1122	C				X	60	1	2		X	X			X				X				veg
1123	D				X	1160	100														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	OILED ZONE	SUBSURFACE OIL CHARACTER							WATER TABLE	SHEEN COLOUR	CLEAN BELOW	SUBST. TYPE(S)
	MS	LB	UB	OB	cm	cm-cm	SAP	OP	PP	OR	OF	TR	NO	cm	B, R, S, N	Yes / No	

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

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

Oil band heights:

Treatment Recommendations:

Zone : A: silver sheen on slough - no treatment recommended.

B: no treatment recommended

C: Cut and remove oiled grass, removed piled dead vegetation and oiled small debris on west side of fence line.

D. NOO. No treatment recommended.

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

Sketch Yes / No Photos Yes / No Frames_____ Photographer_____

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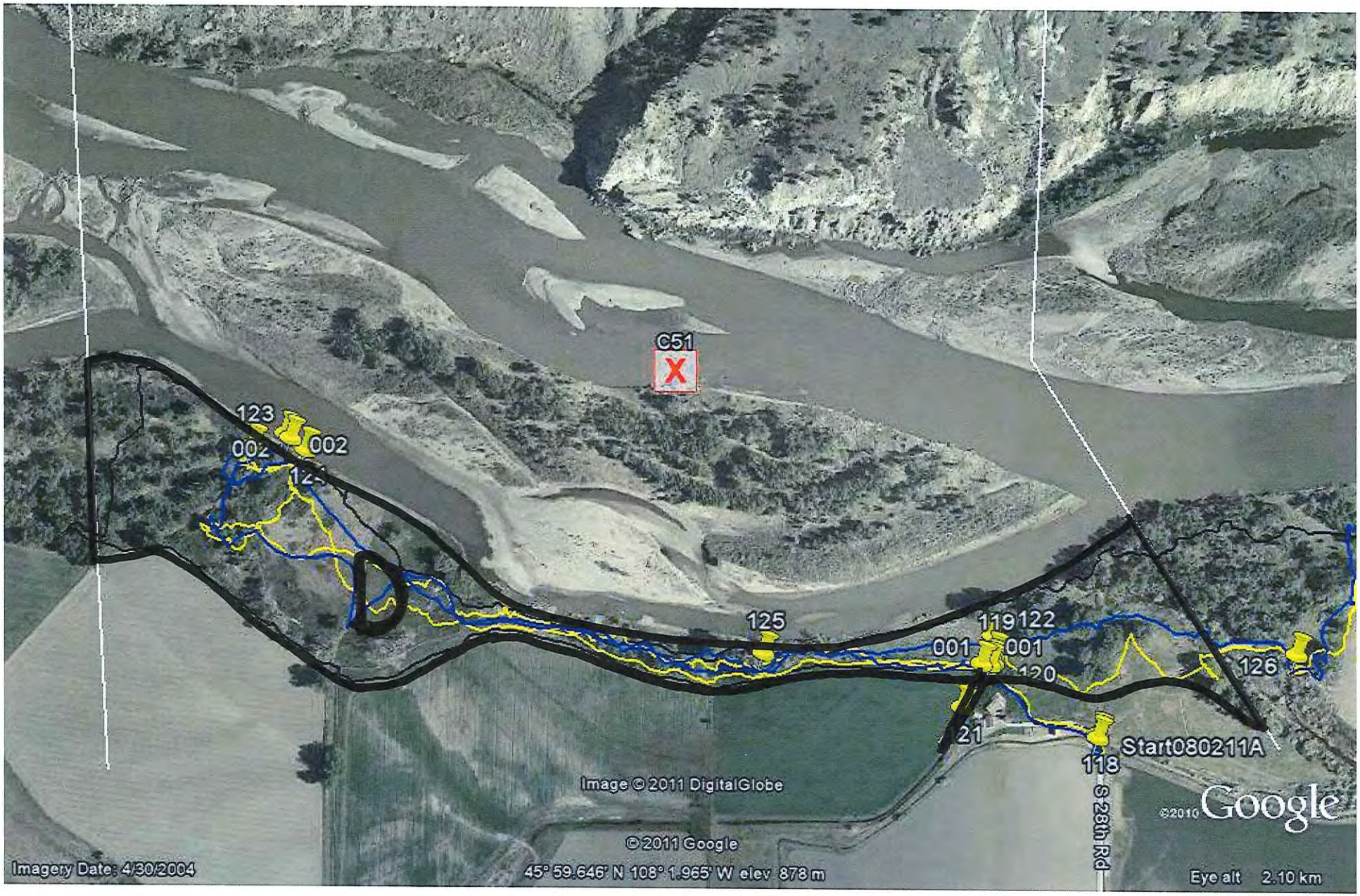
August 2, 2011

TEAM 3 C51R

zone A + B

August 2, 2011
TEAM 3 C51R
Zone C



August 2, 2011

TEAM 3 C51R

Zone D

Appendix **C**

Pre-Inspection Survey Transmittal

ARCADIS

A Pre-Inspection Survey was not conducted for this area

Appendix **D**

Post-Inspection Survey Transmittal

ARCADIS

A Post-Inspection Survey was not conducted for this area

Appendix **E**

Final SCAT Survey Forms and Sketches

DB/G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION	Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: C51 Left Bank / **Right Bank** / Island	08/09/2011		low - mean - **bankfull** - overbank
Operations Division: C		1000 hrs to 1200 hrs	falling - steady – rising
Survey by: Foot / ATV / Boat / Helicopter / Overlook / _____	**Sun / Clouds / Fog / Rain / Snow / Windy / Calm**		Air Temp + / - **28** deg C

2 SURVEY TEAM # NA

Name	Organization	Signature
Juan Patino	US Coast Guard	
Shawn Briggs	Montana FWP	
Richard Marty	Polaris	Richard Marty

3 SEGMENT *Total Segment/Reach Length* _____ *m* *Segment/Reach Length Surveyed* 1025 *m*

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

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

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

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

Sediment Bank: Clay/Mud S___ Sand_____ Mixed_____ Pebble/Cobble_____ Boulder_____ Peat/Organic_____ ***Vegetated Bank: 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/grvl

Sloped:___(>5°)(15°)(30°) straight_____ braided s___ oxbow_____ flood plain valley_____ Forested / **Vegetated** / Bare

4C RIVER CHANNEL CHARACTER ***circle51 or select as appropriate***

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

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

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

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

Debris: Y / N oiled Y / **N** amount _____bags or _____trucks access restrictions:

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

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

OIL ZONE ID	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER								SUBST. TYPE(S)
					Length	Width	Distrib.														
	MS	LB	UB	OB	m	m	%	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR	AP	NO	
A				X	1025	50	0													X	PAll

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

TRENCH or PIT NO.	RIVER BANK ZONE				MAX. PIT DEPTH	OILED ZONE	SUBSURFACE OIL CHARACTER							WATER TABLE	SHEEN COLOUR	CLEAN BELOW	SUBST. TYPE(S)
	MS	LB	UB	OB	cm	cm-cm	SAP	OP	PP	OR	OF	TR	NO	cm	B, R, S, N	Yes / No	
None																	

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

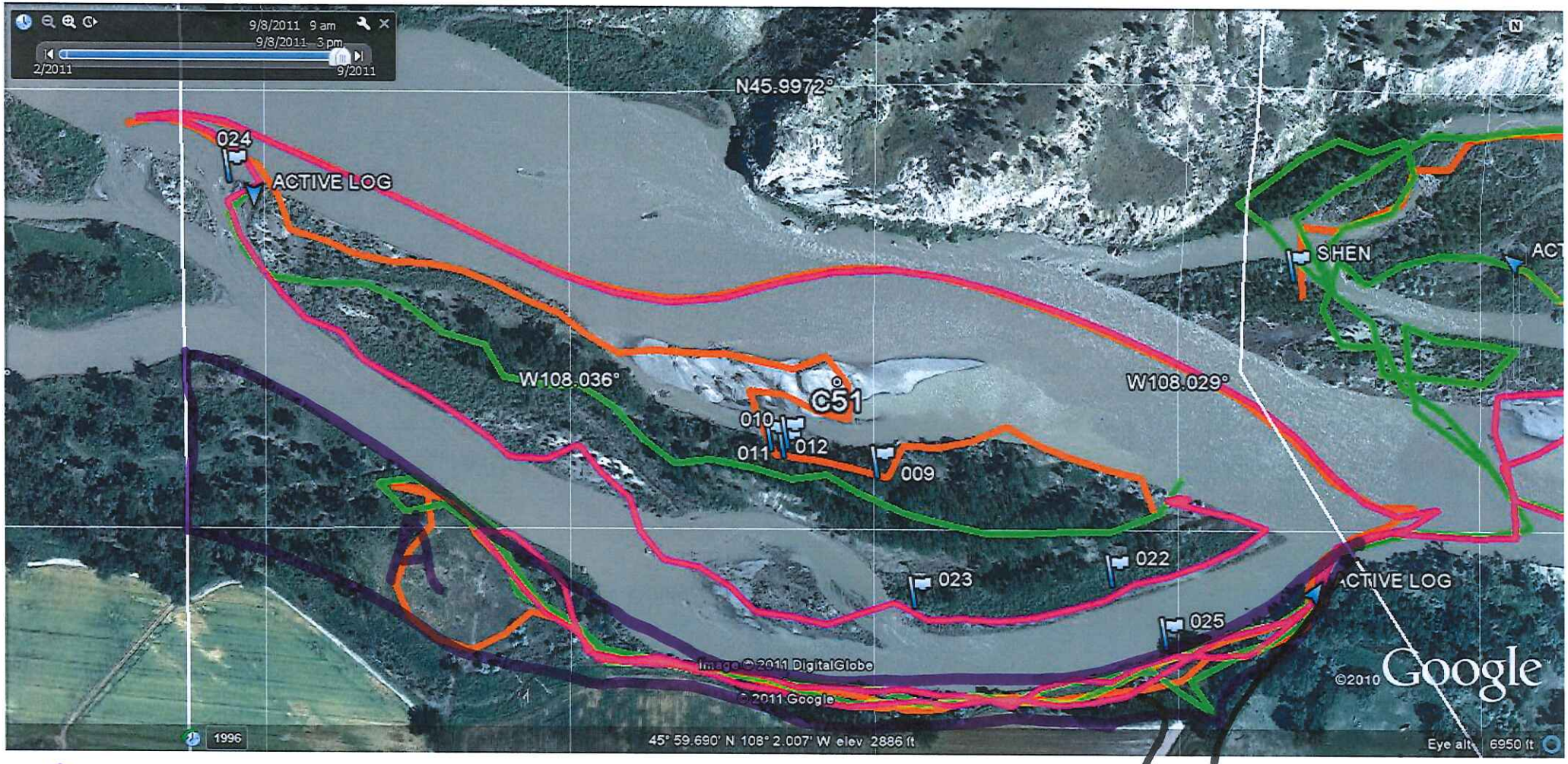
Overbank Survey Required Y / **N** Overbank Survey Completed **Y** / N Shoreline Survey Completed **Y** / N

Area has been cleaned by operations. The two oil zones that were present are no longer there.

A – No oil observed. No additional treatment is required.

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

8 Sept. 2011
C51 RB



A = NOO

Area of fence examined NOO
RM 28 Sept 2011

Appendix **F**

Completed SCAT Segment Sign-Off Forms

SCAT SEGMENT OPERATIONS COMPLETION SIGN-OFF SHEET

SILVERTIP PIPELINE RELEASE

Segment _C51R_____ Date of Survey ____8 Sept. 2011_____

Dates of Initial SCAT Assessments __2 Aug. 2011_____
(to be filled out by SCAT Data Management)

CTR(s) Associated with SCAT Segment _CTR-48_____

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

Segment Assessment Complete[1] ■

Partial Segment Assessment ☐

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

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

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

	Juan Patino/US Coast Guard	09 SEP 11
Sign Name	Print Name/ Affiliation	Date

Federal Representative (EPA/USCG)

	Shawn Briggs/Montana Fish, Wildlife, and Parks	9/8/2011
Sign Name	Print Name/ Affiliation	Date

State Representative (DEQ/FWP)

Richard Marty	Richard Marty/Polaris (for Exxon-Mobile)	
Sign Name	Print Name/ Affiliation	Date

RP Representative (SCAT RP Representative)

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

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