

ExxonMobil Pipeline Company

**SCAT Area Transition Report
for C32**

Silvertip Pipeline Incident
Laurel, Montana

October 22, 2011



SCAT Area Transition Report for C32

Silvertip Pipeline Incident
Laurel, Montana

Prepared for:
ExxonMobil Pipeline Company

Prepared by:
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Our Ref.:
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Date:
October 22, 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 C32, 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 C32. 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 C32, 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 C32 is 76.8. There were access issues for part of the right bank.

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 C32 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 C32.

1.3 Summary of Environmental Sampling

Table 1 (below) summarizes samples collected within Area C32. 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 C32 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 C32 are included in Appendix B. Figure 4 provides the maximum oiling zones observed by the SCAT team during the initial surveys of Area C32.

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. 59](#), [CTR No. 60](#), and [CTR No. 61](#)).

1.6 Oil Removal Activities

Oil removal activities were conducted within Area C32 in accordance with the ATMs identified in the CTRs. [Appendix I](#) of the Summary of Assessment and Oil Removal Activities report presents this data including: date range/days worked, average number of people working per day, equipment used, and various types of bags removed: oily debris, personal protective equipment (PPE), plastic, trash, super sacks, wood chips, and contaminated wood.

1.7 Pre-Inspection Survey Transmittal

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

1.8 Post-Inspection Survey Transmittal

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

1.9 Summary of Final SCAT Surveys

Figure 5 shows the oiling conditions within Area C32 following completion of oil removal activities. The SCAT team performed a final survey of the island within SCAT Area C32 to confirm the agreed-upon cleanup endpoints identified in the applicable CTRs had been achieved. The final SCAT survey documentation is presented in Appendix E.

1.10 SCAT Area Conclusions

Based on the initial SCAT surveys performed within Area C32, very light oiling was observed on portions of the left and right banks. The very light oiling zones will be addressed through natural attenuation. Based on the final SCAT survey performed on the island within Area C32, no further treatment is recommended for this segment. SCAT Segment Sign-Off Forms are included as Appendix F.



**SCAT Area Transition
Report for C32**

Silvertip Pipeline Incident
Laurel, Montana

2. Transition Sign-Off Form

SCAT Area Transition Report for C32

Prepared for:

Unified Command

Date

Unified Command – RP



**SCAT Area Transition
Report for C32**

Silvertip Pipeline Incident
Laurel, Montana

SCAT Area Transition Report for C32

Prepared for:

Unified Command

Date

Unified Command – FOSC



**SCAT Area Transition
Report for C32**

Silvertip Pipeline Incident
Laurel, Montana

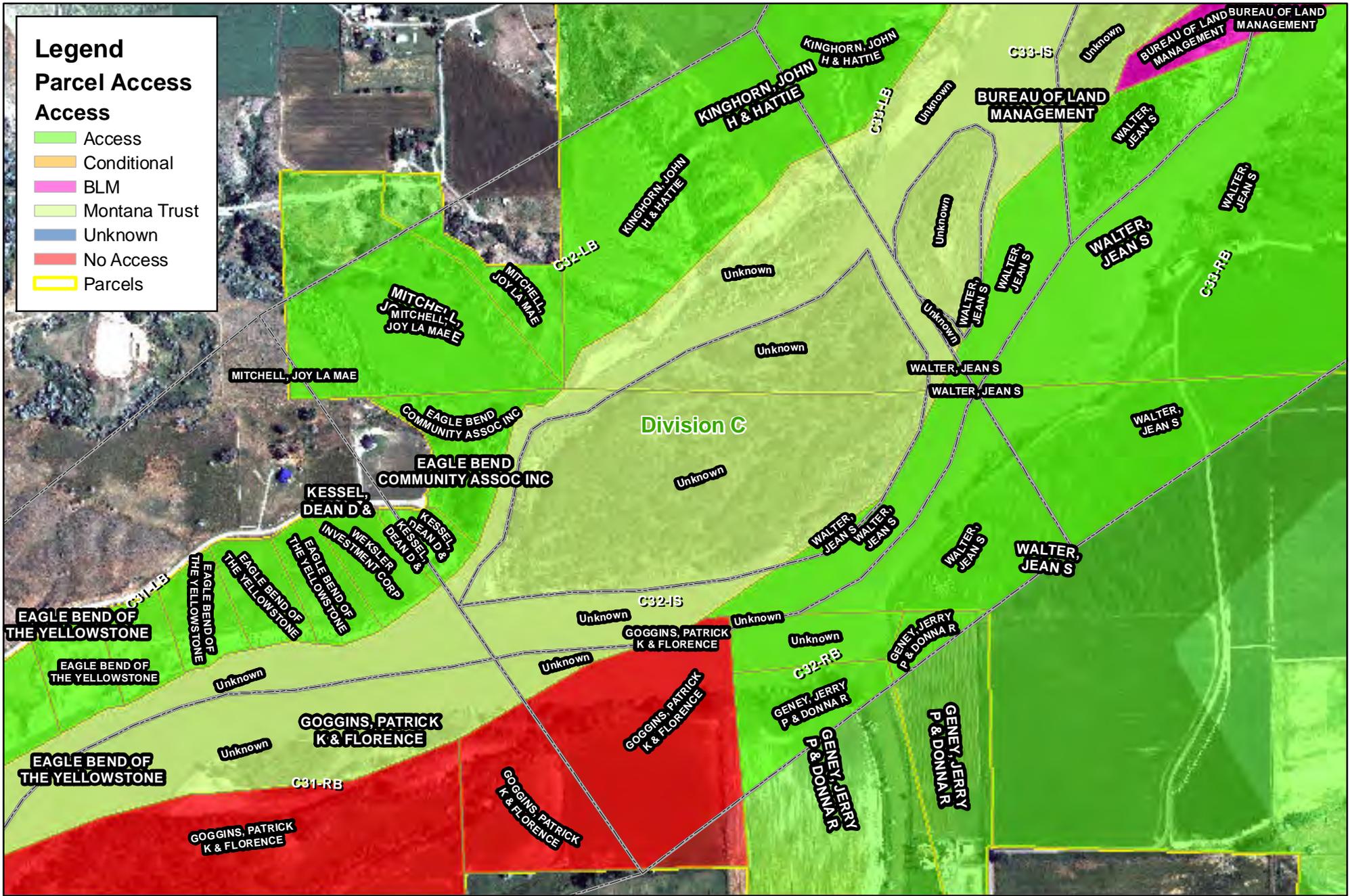
SCAT Area Transition Report for C32

Prepared for:

Unified Command

Date

Unified Command – MDEQ



Legend

Parcel Access

Access

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

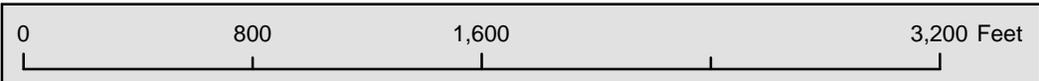


Figure 1



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

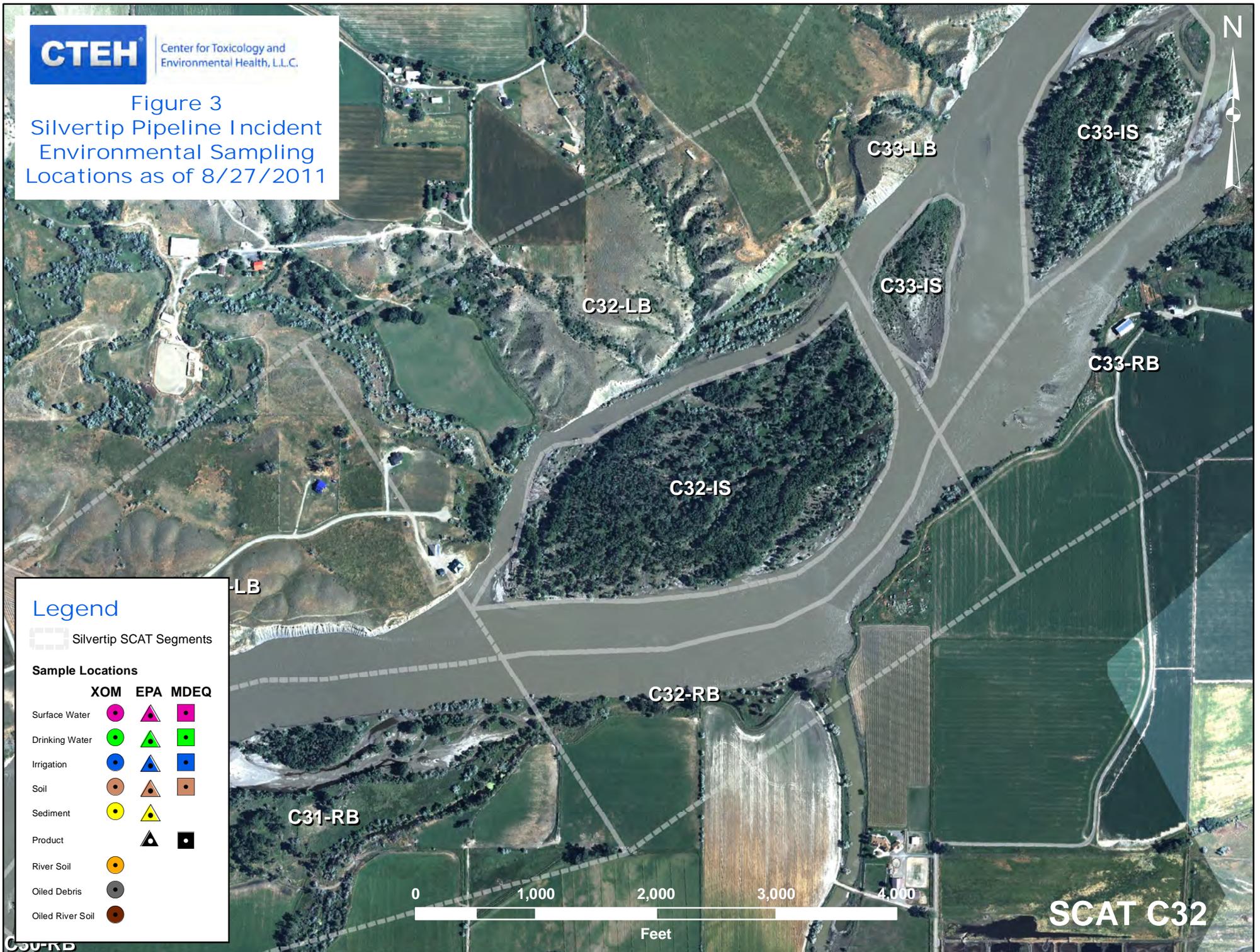




Figure 4 - Maximum SCAT Observations For SCAT Area:





 <p>9999 Oiling Zone ID  Heavy Oiling  Moderate Oiling</p>	<p> Light Oiling  Very Light Oiling  No Oil Observed</p>	<p>Figure 5 - Final SCAT Observations For SCAT Area: C32</p> <p>510 0 510 1,020 Feet</p>	
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Appendix A

Sample Detection Summary



Sample Results For
SCAT Area C32

Printed 10/7/2011

NA - Not Available

Detected Above Screening Level

Sample Num	Date	Sample Type	Matrix	Analytical Method	Analyte	Detected	Result	Screening Level	Result Qualifier	Units	Above?
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No Detections Reported



Appendix B

Initial SCAT Survey Forms and
Sketches

DB/C/S

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy) <u>26/07/11</u>	Time (24h): std / daylight <u>1:36</u> hrs to <u>1:38</u> hrs	Water Level low - mean - bankfull - overbank <u>(falling)</u> steady - rising
Segment/Reach ID: <u>C32</u> <u>(Left Bank / Right Bank / Island)</u>		Operations Division: <u>CL 10/4/11</u>		
Survey by: Foot / ATV / Boat / Helicopter / Overlook / _____		<input checked="" type="checkbox"/> Sun / <input type="checkbox"/> Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- <u>28</u> deg C

2 SURVEY TEAM #	Name	Organization	Signature
	<u>Pete Lee</u>	<u>Polaris</u>	<u>[Signature]</u>
	<u>John Beach</u>	<u>USEPA</u>	
	<u>Larry Alheim</u>	<u>MT DEQ</u>	

3 SEGMENT Total Segment/Reach Length 1200 m Segment/Reach Length Surveyed 1200 m

Start GPS: LATITUDE 45 deg. 57.559 min. LONGITUDE 108 deg. 16.300 min. Datum: _____

End GPS: LATITUDE 45 deg. 57.229 min. LONGITUDE 108 deg. 16.798 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: S Wooded Upland: _____

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

Cliff or Bluff: _____ Est Height _____ 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 60m 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			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>1200</u>	<u>1</u>															<input checked="" type="checkbox"/>	<u>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

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

no oil observed unk unk

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



©2010 Google

Eye alt 1.95 km

A

° C32

Image US DA | Farm Service Agency

45° 57.434' N 103° 16.584' W elev. 907 m

Imagery Date: 6/22/2009

DB/9/15

1 GENERAL INFORMATION		Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: C32 Left Bank / Right Bank / Island		06/08/11	0900 hrs to 1300 hrs	low - mean - <u>bankfull</u> - overbank
Operations Division: C				falling - steady - rising
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 # <u>3</u>	Name	Organization	Signature
	Michael Dirks	Cardno ENTRIX	<i>Michael Dirks</i>
	Jay Watson	MTFWP	<i>Jay Watson</i>
	Travis Cain	USEPA	<i>Travis Cain</i>

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 1561 m

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

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

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

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

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

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

Cliff or Bluff: X Est Height 100 m canyon _____ manmade _____ meander _____ confined or leveed X Substrate Type: Silt

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

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

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

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

OIL ZONE ID	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER						SUBST. TYPE(S)			
	MS	LB	UB	OB	Length m	Width m	Distrib. %	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR		AP	NO	
<u>1287</u> <u>1288</u> A		S	<u>(P)</u>		820	200	0														X	Vegetated bank and wood upland
B			<u>(P)</u>		650	50	<1%			P	S			X								Vegetated bank and wood upland
C			(P)		1	1	10%			P				X							X	Vegetated bank
D			(P)	S	90	100	0															Vegetated bank

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

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

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

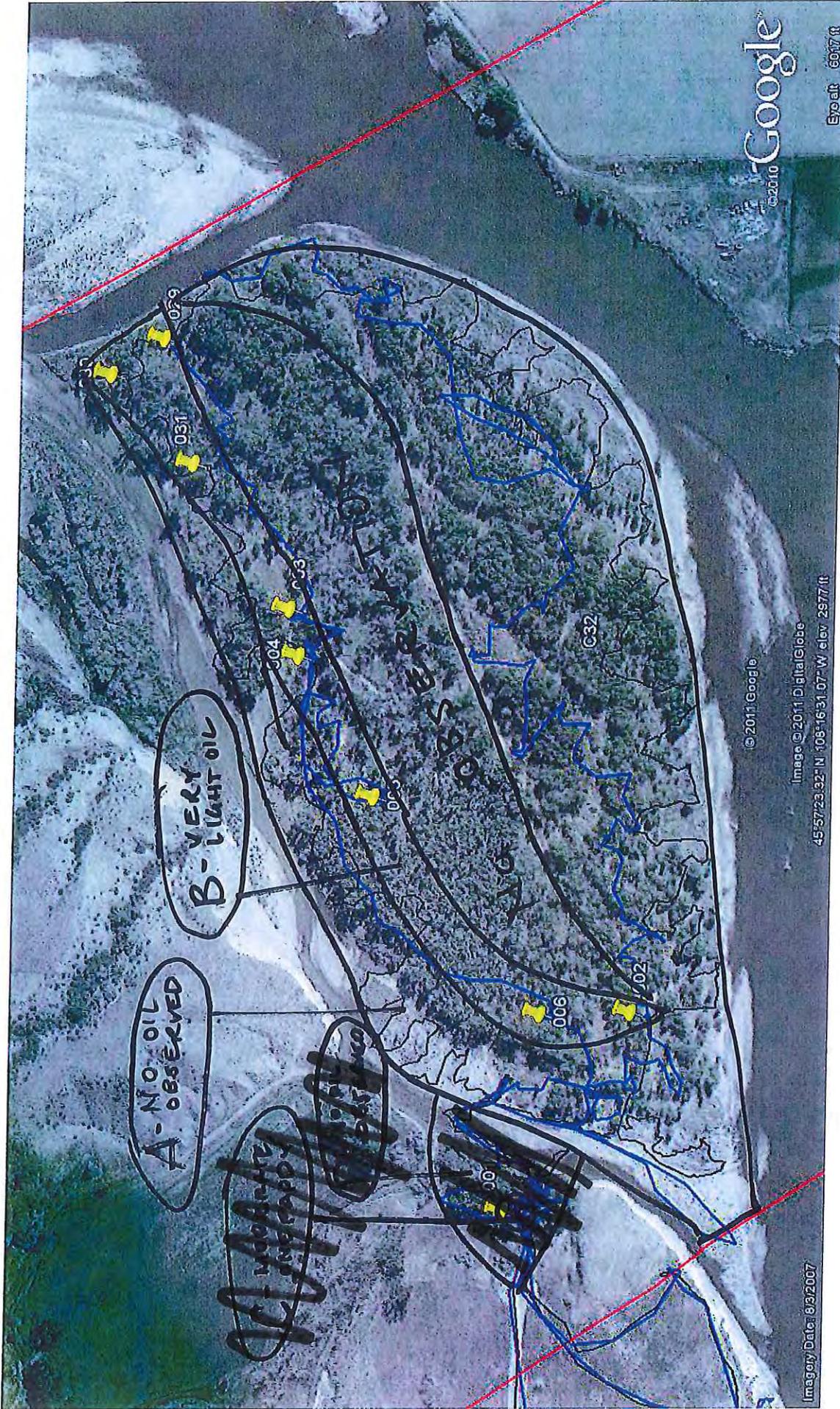
Overbank Survey Required Y / N Overbank Survey Completed Y / N Shoreline Survey Completed Y / N

Zone A & D: No oiling observed, no further treatment.

Zone B & C: Very light oiling, recommend a small crew to hand remove oil coated debris. Lower priority for treatment.

- The nearest property owner accompanied Team 3 to Zones C & D to identify anomalies with one coated debris pile less than paddy size found.

Sketch Yes / No Photos Yes / No Frames/Photographer: Jay Watson, Mike Dirks



08/06/2011
SCAT TEAMS

C32I

DB/6/15

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: C32	Left Bank / Right Bank / Island			low - mean - <u>bankfull</u> - overbank
Operations Division: C		06/08/11	0900 hrs to 1300 hrs	<u>falling</u> - steady - rising
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook /		<u>Sun</u> / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- <u>32°</u> deg C

2 SURVEY TEAM # <u>3</u>	Name	Organization	Signature
	Michael Dirks	Cardno ENTRIX	<i>Michael Dirks</i>
	Jay Watson	MTFWP	<i>Jay Watson</i>
	Travis Cain	USEPA	<i>Travis Cain</i>

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 1561 m

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

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

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

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

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

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

Cliff or Bluff: X Est Height 100 m canyon _____ manmade _____ meander _____ confined or leveed X Substrate Type: Silt

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: <1m 1-10m 10-100m >100m 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	<u>(P)</u>		820	200	0														X	Vegetated bank and wood upland
B			<u>(P)</u>		650	50	<1%			P	S		X									Vegetated bank and wood upland
C				<u>(P)</u>	1	1	10%			P			X									Vegetated bank and wood upland
D			<u>(P)</u>	S	90	100	0														X	Vegetated bank and wood upland

Split into LB + 15

7 SUBSURFACE OILING CONDITIONS use letter for ZONE e.g., "A1"

TRENCH or PIT NO.	RIVER BANK ZONE				MAX. PIT DEPTH cm	OILED ZONE cm-cm	SAP	TER BLE m	SHEEN COLOUR B, R, S, N	CLEAN BELOW Yes / No	SUBST. TYPE(S)
	MS	LB	UB	OB							

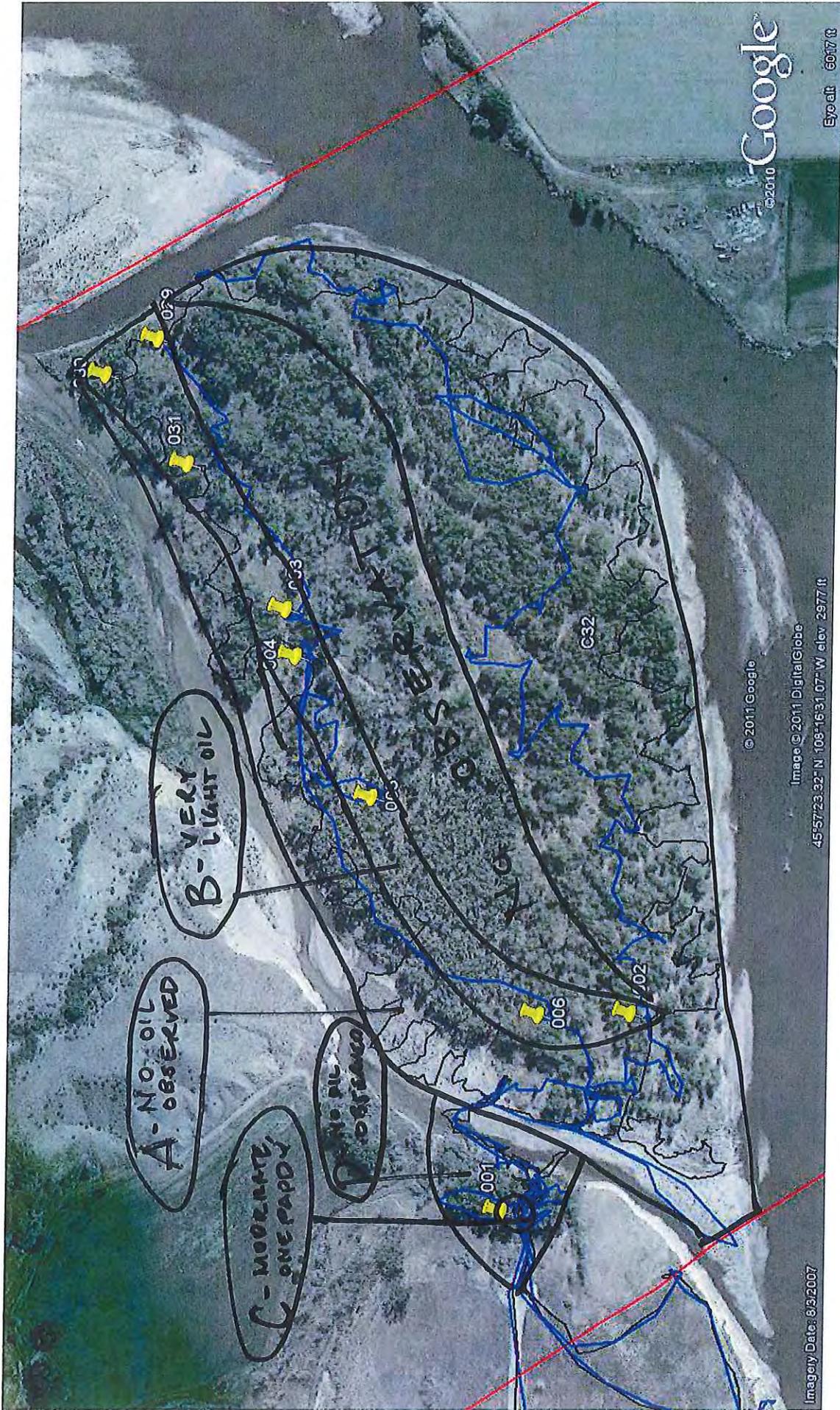
8 COMMENTS ecological/recreational/cultural/economic constraints

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

Zone A & D: No oiling observed, no further treatment.

Zone B & C: Very light oiling, recommend a small crew to hand remove oil coated debris. Lower priority for treatment.

- The nearest property owner accompanied Team 3 to Zones C & D to identify anomalies with one coated debris pile less than paddy size found.



08/06/2011
SCAT TEAMS

C3a I

DB/G/S

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy) 27/07/11	Time (24h): std / daylight 0945 hrs to 1050 hrs	Water Level low - mean - <u>bankfull</u> - overbank falling - steady - rising
Segment/Reach ID: C 32 <u>Left Bank / Right Bank / Island</u>		Operations Division:		
Survey by: <u>Foot / ATV / Boat / Helicopter / Overlook /</u>		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- <u>2.7</u> deg C
2 SURVEY TEAM #	Name	Organization	Signature	
	John Bauer	Polaris		
	John Brown	MT DEQ		
	Janice Witul	USCG / US EPA		

3 SEGMENT Total Segment/Reach Length 900 m Segment/Reach Length Surveyed 180 m

Start GPS: LATITUDE 45 deg 57.516 min. LONGITUDE 108 deg 16.503 min. Datum: NAD83 End

GPS: LATITUDE 45 deg 57.539 min. LONGITUDE 108 deg 16.405 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: X Est Height 30 m canyon manmade meander confined or leveed Substrate Type: MW

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: <1m 1-10m 10-100m >100m 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	100	1	<1			X	X		X				X					GRASS
B				X	3	1	<1			X	X		X				X					GRASS
C				X	40	3																
D				X	70	3																
E				X	15	3																

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

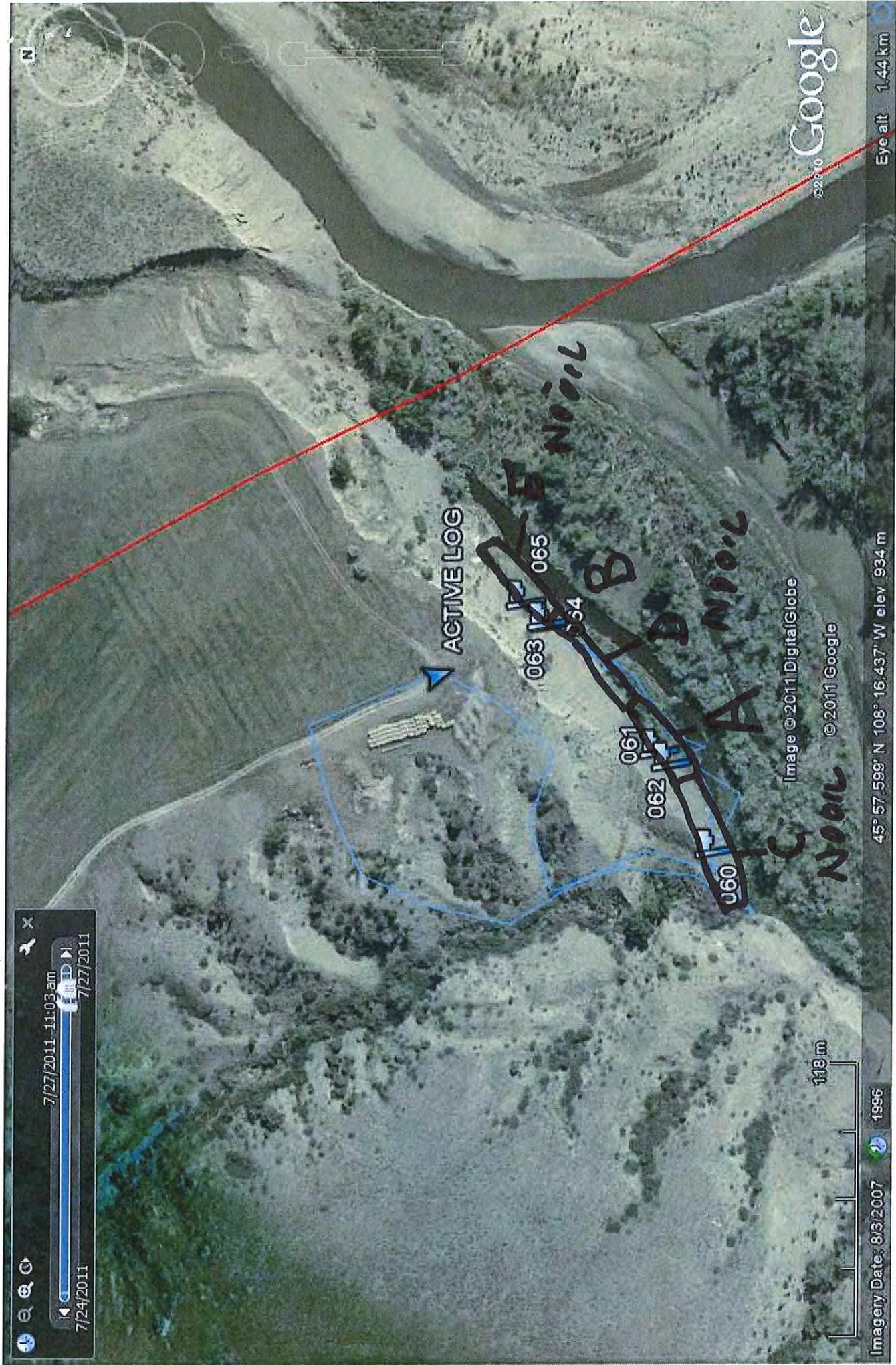
Overbank Survey Required Y N Overbank Survey Completed Y N Shoreline Survey Completed Y N

Oil band heights: 40 cm

Treatment Recommendations:
 Zone : Zone A: Less than 1% coverage very small area of light coat. Due to limited access & wetland bottomland recommend natural attenuation. Remedial work cover more than than leaving
Zone B: same as zone A
Zone C, D, E. NO OIL OBSERVED, NO CLEANUP REQUIRED

Sketch Yes / No Photos Yes / No Frames Photographer Falle

C 32 L TEAM 3 27 Jul 2011



7/27/2011 11:03 am
7/24/2011 7/27/2011

Eye alt 1.44 km
Image © 2011 DigitalGlobe
© 2011 Google
45° 57.599' N 108° 16.437' W elev 934 m
Imagery Date: 8/3/2007 1996

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

DB/G

1 GENERAL INFORMATION		Date (dd/mm/yy) <u>04/08/11</u>	Time (24h): std / daylight <u>0900</u> hrs to <u>1045</u> hrs	Water Level low - mean - bankfull - <u>overbank</u> falling - steady - rising
Segment/Reach ID: <u>C32</u> (Left Bank / Right Bank / Island)				
Operations Division: <u>C</u>				
Survey by: <u>Foot / ATV / Boat / Helicopter / Overlook /</u>		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- <u> </u> deg C

2 SURVEY TEAM # <u>6</u>	Name	Organization	Signature
	<u>Brandon Owens</u>	<u>Cardno ENTRIX</u>	<u>[Signature]</u>
	<u>Courtney Tyree</u>	<u>Montana FWP</u>	<u>[Signature]</u>
	<u>Dominic Ventura</u>	<u>EPA</u>	<u>[Signature]</u>

3 SEGMENT Total Segment/Reach Length 550 m Segment/Reach Length Surveyed 550 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: Wooded Upland:

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

Cliff or Bluff: Est Height m canyon manmade meander confined or leveed 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 1-10 m 10-100 m (>100m) 160m est. water depth: <1 m 1-3 m (3-10 m) >10 m m

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

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

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

Debris: (Y) N oiled (Y) / N amount 0 bags or 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		<input checked="" type="checkbox"/>			550	80	-1			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						<input checked="" type="checkbox"/>				

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

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

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

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

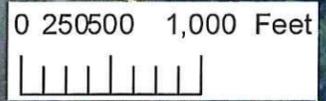
ZONE A - -1% oily primarily stained (trace)
- recommend Natural Attenuation

Sketch Yes / No Photos Yes / No Frames Photographer



Handwritten: Trace
(A) - Light - 1%

*Data Current through 7/30/2011



DB/G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

Page _____ of _____

1 GENERAL INFORMATION		Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: <u>C32</u> (Left Bank / Right Bank / Island)		<u>06/08/11</u>	<u>0900</u> hrs to <u>1300</u> hrs	low - mean - <u>bankfull</u> - overbank
Operations Division:				falling - steady - rising
Survey by: <u>Foot / ATV / Boat / Helicopter / Overlook /</u>		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp + / - _____ deg C

2 SURVEY TEAM # <u>3</u>	Name	Organization	Signature
	<u>Mike Dirks</u>	<u>Cardno Entrix</u>	<u>See attached</u>
	<u>Tay Watson</u>	<u>MTEWP</u>	
	<u>Travis Caine</u>	<u>USEPA</u>	

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 91 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: S Wooded Upland: (P)

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

4B RIVER VALLEY CHARACTER select as appropriate

Cliff or Bluff: _____ Est Height _____ m canyon _____ manmade _____ meander _____ confined or leveed X

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

Substrate Type: Silt Forested / Vegetated / Bare

4C RIVER CHANNEL CHARACTER circle or select as appropriate

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

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

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

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

Debris: (Y/N) oiled (Y/N) amount 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

2305
2306

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					1	1	100%			P			X											veg. bank / wooded upland
B					90	100	-																X	

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

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

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

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

A: Very light oiling, recommend a small crew to hand remove oil coated debris. Lower priority treatment.

B: NOO, NFT

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



08/06/2011
SCAT TEAMS

C3a1B

DB/ais

1 GENERAL INFORMATION		Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: C32 Left Bank / Right Bank / Island		06/08/11	0900 hrs to 1300 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 +/- 32° deg C

2 SURVEY TEAM #3	Name	Organization	Signature
Michael Dirks		Cardno ENTRIX	<i>Michael Dirks</i>
Jay Watson		MTFWP	<i>Jay Watson</i>
Travis Cain		USEPA	<i>Travis Cain</i>

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 1561 m

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

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

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

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

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

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

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

Cliff or Bluff: X Est Height 100 m canyon _____ manmade _____ meander _____ confined or leveed X Substrate Type: Silt _____

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: <1m 1-10m 10-100m >100m 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)		820	200	0														X	Vegetated bank and wood upland
B			(P)		650	50	<1%			P	S			X								Vegetated bank and wood upland
C				(P)	1	1	10%			P				X								Vegetated bank and wood upland
D			(P)	S	90	100	0														X	Vegetated bank and wood upland

7 SUBSURFACE OILING CONDITIONS use "A" 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	WATER TABLE cm	SHEEN COLOUR B, R, S, N	CLEAN BELOW Yes / No	SUBST. TYPE(S)
	MS	LB	UB	OB						

Split into LB + IS

8 COMMENTS ecological/recreational/cultural/economic

Overbank Survey Required Y/N C

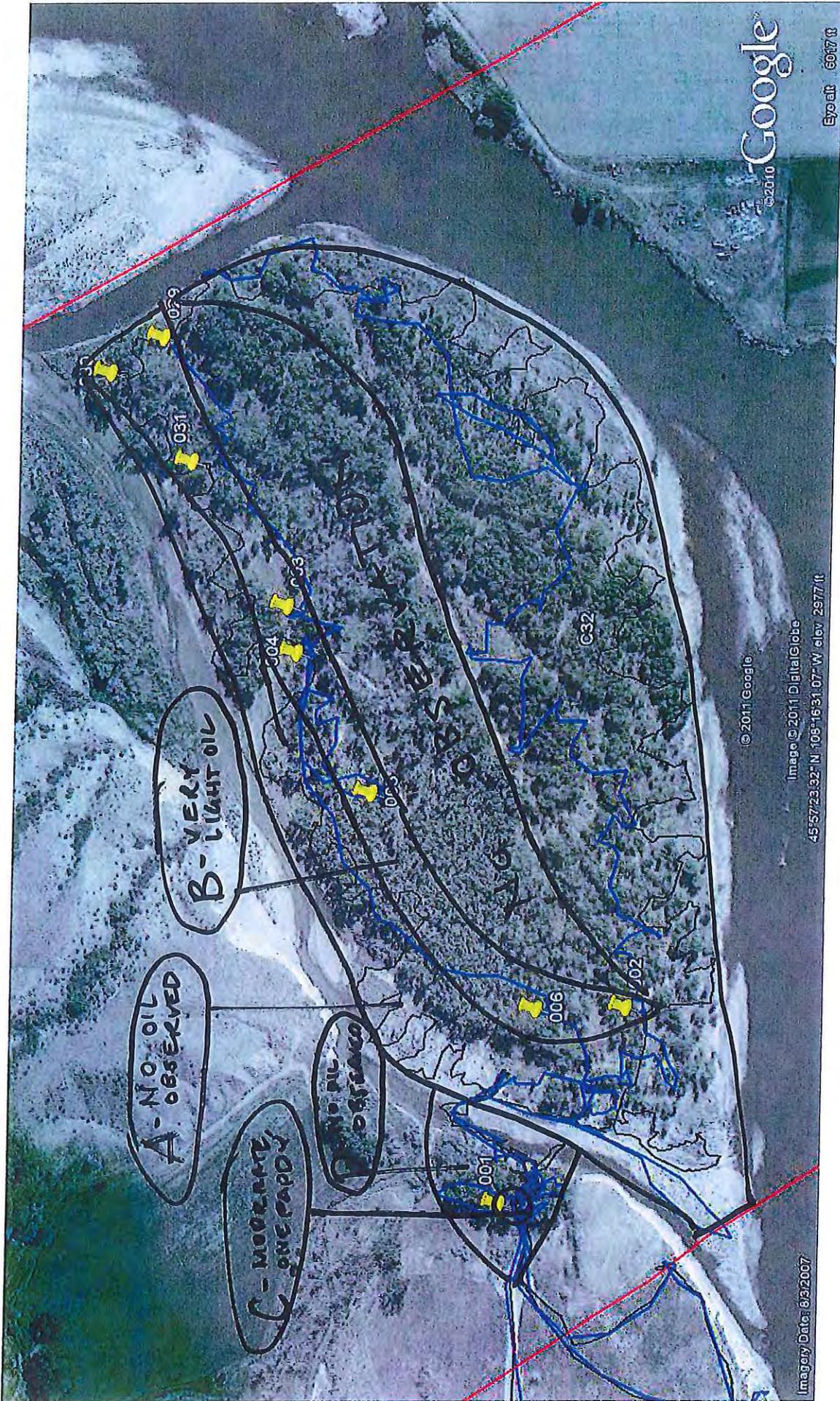
observations - cleanup recommendations

shoreline Survey Completed Y/N

Zone A & D: No oiling observed, no further treatment.

Zone B & C: Very light oiling, recommend a small crew to hand remove oil coated debris. Lower priority for treatment.

- The nearest property owner accompanied Team 3 to Zones C & D to identify anomalies with one coated debris pile less than paddy size found.



08/06/2011
SCAT TEAMS

C381

DB/G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION				Date (dd/mm/yy) 10/08/11	Time (24h): std / daylight 1050 hrs to 1115 hrs	Water Level low - mean - bankfull - overbank falling - steady - rising															
Segment/Reach ID: C32 (Left Bank / Right Bank / Island)				Operations Division: C		Survey by: Foot / ATV / Boat / Helicopter / Overlook / <u>Sun</u> / <u>Clouds</u> / Fog / Rain / Snow / Windy / <u>Calm</u> / Air Temp +/- <u>26</u> deg C															
2 SURVEY TEAM # 4				Name	Organization	Signature															
				Nathan Hammond	Cardno Entrix	<i>[Signature]</i>															
				John Konziker	FWRP	<i>[Signature]</i>															
				Pete Reich	EPA	<i>[Signature]</i>															
				Damien Korte	Cardno Entrix	<i>[Signature]</i>															
3 SEGMENT				Total Segment/Reach Length	881 m	Segment/Reach Length Surveyed	271 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 <u>X</u> 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															
4B RIVER VALLEY CHARACTER				select as appropriate				complete for primary													
Cliff or Bluff: _____ Est Height <u>35</u> m				canyon _____ manmade _____ meander _____ confined or leveed _____				Substrate Type: _____													
Sloped: <u>60</u> (>5°) (<u>15</u>) (<u>30</u>)				straight _____ braided <u>X</u> oxbow _____ flood plain valley _____				Forested <u>(Vegetated)</u> / Bare													
4C RIVER CHANNEL CHARACTER				circle or select as appropriate																	
est. width: <1m 1-10m (<u>10-100</u>) >100m				est. water depth: <1m (<u>1-3</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 / mean / <u>bank full</u> / overbank flow				est. change over next 7 days: <u>falling</u> - same - rising																	
5 OPERATIONAL FEATURES				Suitable backshore staging <u>Y</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 <u>Bluff - crossing agriculture land</u>																	
Oiled trees/shrubs <u>Y</u> (<u>N</u>) River Current strong <u>Y</u> (<u>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
A			X		780	90	0														✓
B																					
A			X		271	90	0														✓
B			X		1	1	21			S	P			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	SUBSURFACE OIL CHARACTER					WATER TABLE cm	SHEEN COLOUR B, R, S, N	CLEAN BELOW Yes / No	SUBST. TYPE(S)						
	MS	LB	UB	OB			SAP	OP	PP	OR	OF					TR	NO				
8 COMMENTS				ecological/recreational/cultural/economic constraints - shorezone biota and wildlife observations - cleanup recommendations																	
				Overbank Survey Required <u>Y</u> (<u>N</u>) Overbank Survey Completed <u>Y</u> (<u>N</u>) Shoreline Survey Completed <u>Y</u> (<u>N</u>)																	
				Zone A - NOO																	
				Zone B - Ops team on location during SCAT operations - observed oiling cleaned in adherence to ATM 1; cutting of vegetation (Grass) - NFT recommended.																	
Sketch Yes/No				Photos Yes/No				Frames/Photographer: <i>[Signature]</i>													

1399
1399

C30LB
Team #4
10/08/11

ZONE B
very light
NFT

ZONE A
NOD

002
003
002

©2010

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Image © 2011 DigitalGlobe

45°57'30.46" N 108°16'38.06" W elev 3032 ft

1996

07

Handwritten text: T6A/B, C32, 8/12/11

010 ZONE C - NOO

008 ZONE B - VERY LIGHT - ATM 7

009 ZONE A - NOO

Image © 2011 DigitalGlobe
© 2011 Google
C32

45°57'26.55" N 108°16'38.22" W elev 2985 ft

1996

07

02010



DB/G

1 GENERAL INFORMATION		Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: C32 Left Bank / <u>Right Bank</u> / Island		08/08/11	13:45 hrs to 15:00 hrs	low - mean - <u>bankfull</u> - overbank
Operations Division: C				<u>falling</u> - steady - rising
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook /		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp + / - <u>27°</u> deg C

2 SURVEY TEAM # <u>3</u>	Name	Organization	Signature
	Michael Dirks	Cardno ENTRIX	<i>Michael D. Dirks</i>
	Travis Cain	USEPA	<i>Travis Cain</i>
	Jay Watson	MTFWP	<i>Jay Watson</i>

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 974 m

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

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

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

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

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

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: X Est Height _____ m canyon _____ manmade _____ meander _____ confined or leveed _____ Substrate Type: mixed

Sloped: >45°(>5°)(15°)(30°) straight _____ braided X oxbow _____ flood plain valley _____ Forested / Vegetated / Bare

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: <1m 1-10m 10-100m >100m 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 5-10bags 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	
1279 1280 A			P		110	5	<1%				P		<u>X</u>									Vegetation, grass
1281 1282 B			P		360	5	0															X Vegetation, grass
1283 1284 C			P		495	5	0															X Vegetation, grass
			S	P	5	5	<1%				P		<u>X</u>									Vegetation, grass
				P	3	1	<1%				P	S	<u>X</u>									Dead wood trunk, wild roses
				P	1	1	<1%				P		<u>X</u>									Vegetation, 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				

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

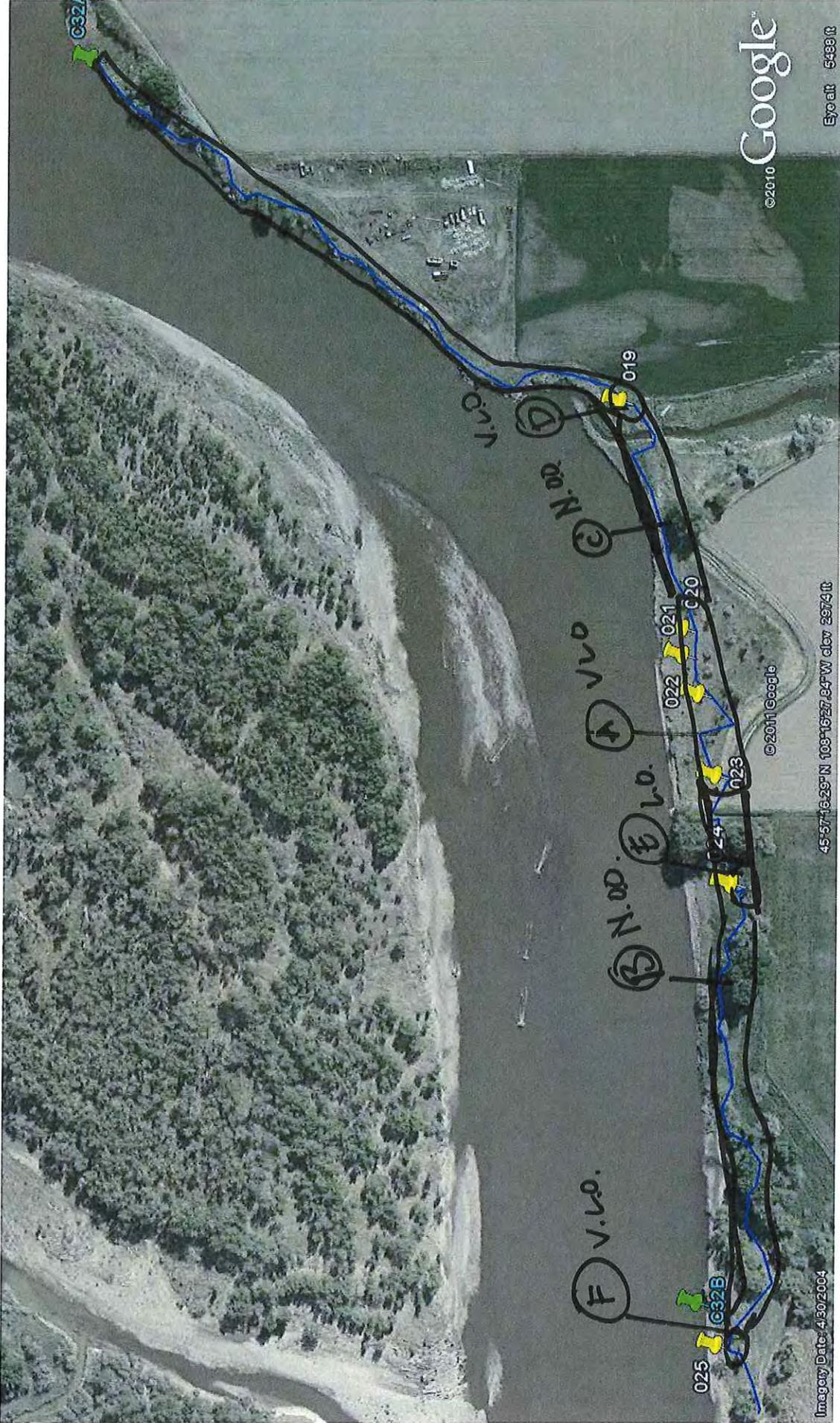
Overbank Survey Required Y / N Overbank Survey Completed Y / N Shoreline Survey Completed Y / N

Zones A, D & F: Very light oil staining 0.3m high on prairie grass stalks. Heavily trampled area by cattle and horses, almost no visible oil left. No further treatment recommended.

Zones B & C: No oil observed, no treatment recommended.

Zone E: Coat on single dead tree trunk, several inches in diameter. Clean-up crews would be more of a disturbance to the livestock, possibly outweighing any benefit from cutting and removing the stalk. Recommend a small Hotshot team use fixative or no further treatment.

Sketch Yes / No Photos Yes / No Frames/Photographer: Jay Watson & Michael Dirks



C32 RB 08.08.2011
SCAT 3

Image Date: 4/30/2004

45°57'16.29" N 108°16'27.84" W elev 2974 ft

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Google™

Eye alt 5488 ft

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

DB/6

1 GENERAL INFORMATION

Segment/Reach ID: C32 Left Bank / Right Bank / Island

Date (dd/mm/yy) 09/08/11

Time (24h): std / daylight 1225 1306

Operations Division: C

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

Water Level: low - mean - bankfull - overbank

falling - steady - rising

Air Temp +/- 25 deg C

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

2 SURVEY TEAM # 4

name	organization	contact phone number
<u>Nathan Hammond</u>	<u>Cardno Entix</u>	<u>Nathan Hammond</u>
<u>Peter Reich</u>	<u>EPA</u>	<u>Peter Reich</u>
<u>John Hunziker</u>	<u>FWP</u>	<u>John Hunziker</u>

3 SEGMENT Total Segment/Reach Length 850 m Segment/Reach Length Surveyed 295 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: _____ Wooded Upland: X

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

4B RIVER VALLEY CHARACTER select as appropriate

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

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: <1m 1-10m 10-100m >100m 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 Agriculture land

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	295	5	0														✓	Trees, shrubs		

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									

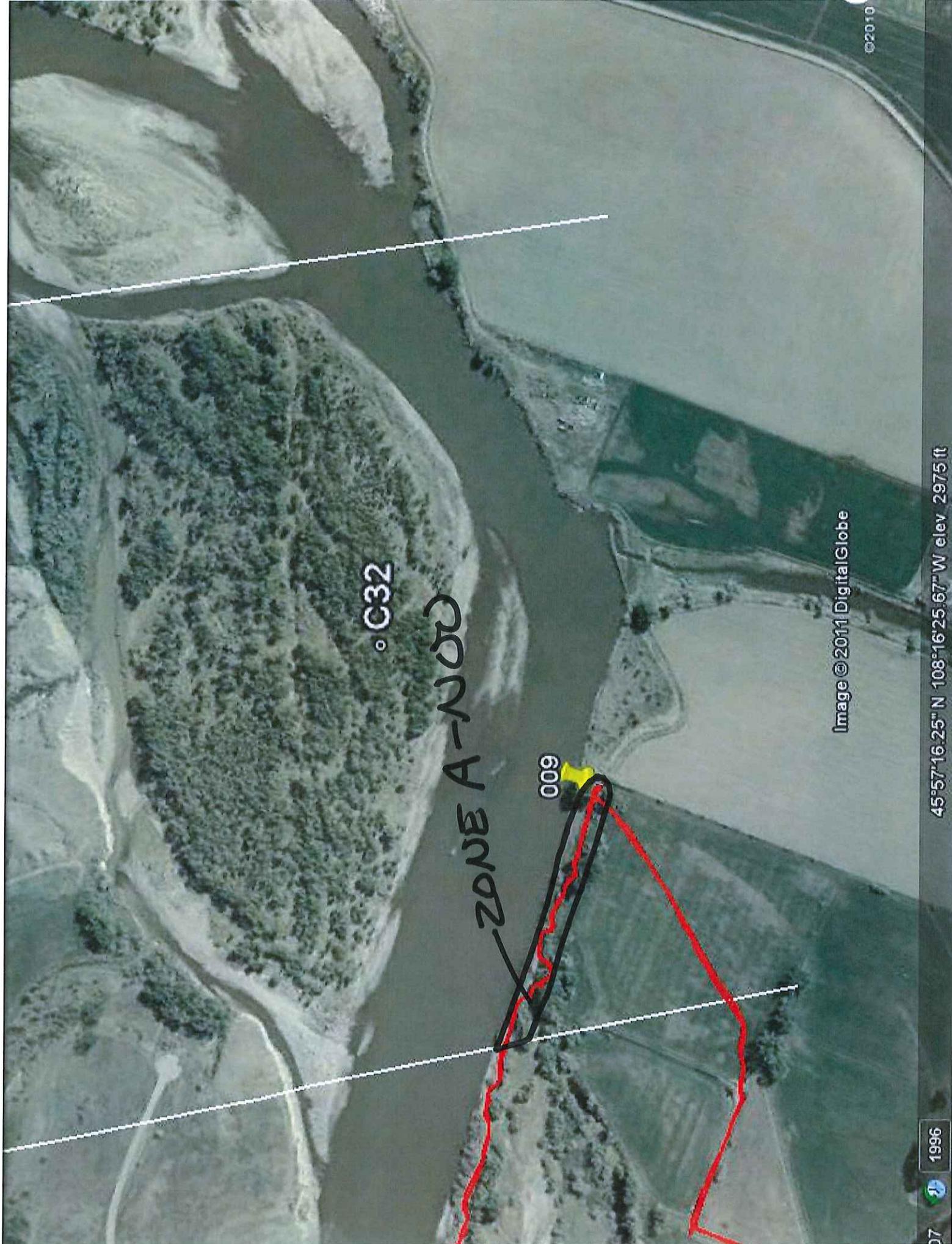
8 COMMENTS ecological/recreational/cultural/economic constraints - shorezone biota and wildlife observations - cleanup recommendations

ZONE A-NOO

1366

(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# _____)



° C32

ZONE A-NJ00

009

Image © 2011 DigitalGlobe

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07



1996

45°57'16.25" N 108°16'25.67" W elev. 2975 ft

C3786-17000-#4-0810011



Appendix C

Pre-Inspection Survey Transmittal

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



Appendix D

Post-Inspection Survey Transmittal

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



Appendix E

Final SCAT Survey Forms and
Sketches

DB16

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: C32 Left Bank / Right Bank / <u>Island</u>		09/10/11	0900 hrs to 1000 hrs	low - <u>mean</u> - bankfull - overbank
Operations Division: C				<u>falling</u> - steady - rising
Survey by: <u>Foot</u> / ATV / Boat / Helicopter / Overlook / _____		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- 8 4 F deg

2 SURVEY TEAM # <u>4</u>	Name	Organization	Signature
	Michael Dirks	Cardno ENTRIX	<i>Michael D. Dirks</i>
	Jay Watson	MTFWP	<i>Jay Watson</i>

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 632 m

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

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

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

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

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

Sediment Flat: Clay/Mud _____ Sand _____ Mixed/Coarse x 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 x - P Forested / Vegetated / Bare

4C RIVER CHANNEL CHARACTER circle or select as appropriate

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

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

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

5 OPERATIONAL FEATURES Suitable backshore staging Y / N / N/A 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	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER						SUBST. TYPE(S)				
					Length	Width	Distrib.	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR		AP	NO		
ID	MS	LB	UB	OB	m	m	%																
A			P	S	632	88	<1					P						P					Shrubs, grass, trees, debris piles

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)
							SAP	OP	PP	OR	OF	TR				
	MS	LB	UB	OB	cm	cm-cm							cm	B, R, S, N	Yes / No	

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

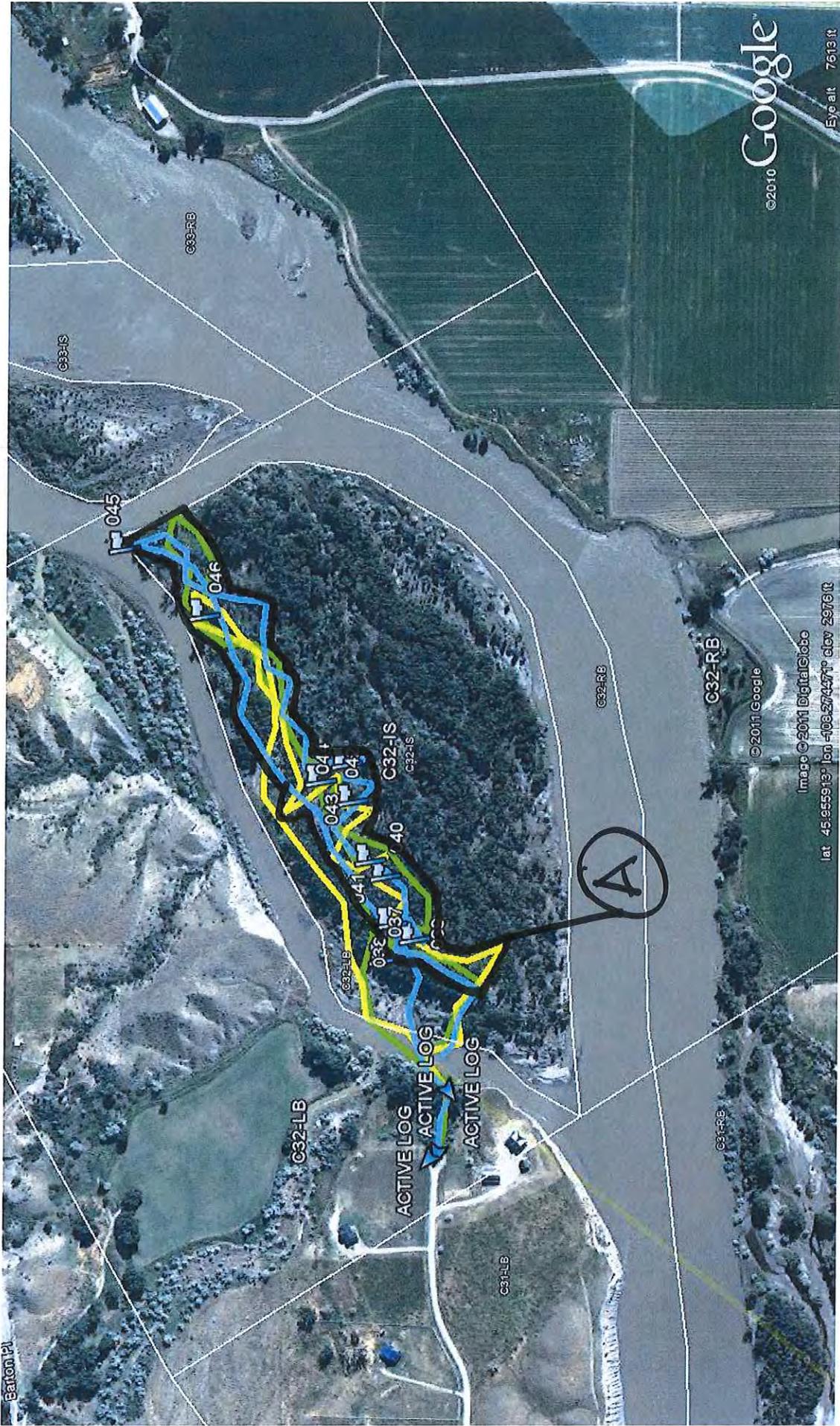
Overbank Survey Required Y / N Overbank Survey Completed Y / N Shoreline Survey Completed Y / N

RESCAT

Zone A: Very light oil, sporadic distribution. Vigorous sub-canopy re-vegetation throughout the debris piles. Weathering diminished the stained oil in the vegetated debris piles. Removed stained debris.

Recommendations: No further treatment.

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



09/10/2011 SCAT TEAM 4 C32-1S

ZONE A: NO FURTHER TREATMENT, PASS



Appendix F

Completed SCAT Segment Sign-Off
Forms

SCAT SEGMENT OPERATIONS COMPLETION SIGN-OFF SHEET

SILVERTIP PIPELINE RELEASE

Segment C32-13 Date of Survey 09/10/11

Dates of Initial SCAT Assessments 06 Aug 11 (FD)
(to be filled out by SCAT Data Management)

CTR(s) Associated with SCAT Segment 60

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

Segment Assessment Complete¹
Partial Segment Assessment

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

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

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

No federal rep.

Sign Name _____ Print Name/ Affiliation _____ Date _____
Federal Representative (EPA/USCG)

[Signature] JAY WATSON FWP 9/10/11
Sign Name _____ Print Name/ Affiliation _____ Date _____
State Representative (DEQ/FWP)

[Signature] MIKE DIRKS / Cardio ENTRIX 09/10/11
Sign Name _____ Print Name/ Affiliation _____ Date _____
RP Representative (SCAT RP Representative)

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

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