

ExxonMobil Pipeline Company

**SCAT Area Transition Report
for C14**

Silvertip Pipeline Incident
Laurel, Montana

October 25, 2011



SCAT Area Transition Report for C14

Silvertip Pipeline Incident
Laurel, Montana

Prepared for:
ExxonMobil Pipeline Company

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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 C14, 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 C14. 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 B46, 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 C14 is 42.2. There were access issues for the left bank and island.

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 C14 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 C14.

1.3 Summary of Environmental Sampling

Table 1 (below) summarizes samples collected within Area C14. 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 C14 are provided on Figure 3.

Table 1 Environmental Sampling Summary

Area	Agency	Sample Num	Date	Matrix	Location	Latitude	Longitude
C14		No Samples Collected*					

Appendix A contains a summary of sample results with detections for this sample set. Detections with a result above the screening level are highlighted. However, to date, no samples have been collected in this area.

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 C14 are included in Appendix B. Figure 4 provides the maximum oiling zones observed by the SCAT team during the initial surveys of Area C14.

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. 60](#)).

1.6 Oil Removal Activities

Oil removal activities were conducted within Area C14, 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 C14 and developed a Pre-Inspection Survey Transmittal (PIST) associated with the island within Area C14, which is presented in Appendix C.

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 C14 following completion of oil removal activities. The SCAT team performed final surveys of the left bank and island within SCAT Area C14 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 on the right bank within Area C14, no oil was observed. Based on the final SCAT surveys performed on the left bank and island within Area C14, no further treatment is recommended for these segments. SCAT Segment Sign-Off Forms are included as Appendix F.



**SCAT Area Transition
Report for C14**

Silvertip Pipeline Incident
Laurel, Montana

2. Transition Sign-Off Form

SCAT Area Transition Report for C14

Prepared for:

Unified Command

Date

Unified Command – RP



**SCAT Area Transition
Report for C14**

Silvertip Pipeline Incident
Laurel, Montana

SCAT Area Transition Report for C14

Prepared for:

Unified Command

Date

Unified Command – FOSC



**SCAT Area Transition
Report for C14**

Silvertip Pipeline Incident
Laurel, Montana

SCAT Area Transition Report for C14

Prepared for:

Unified Command

Date

Unified Command – MDEQ

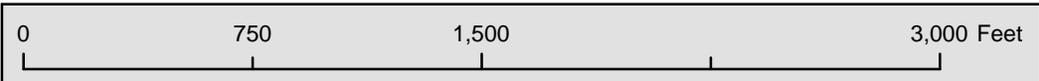
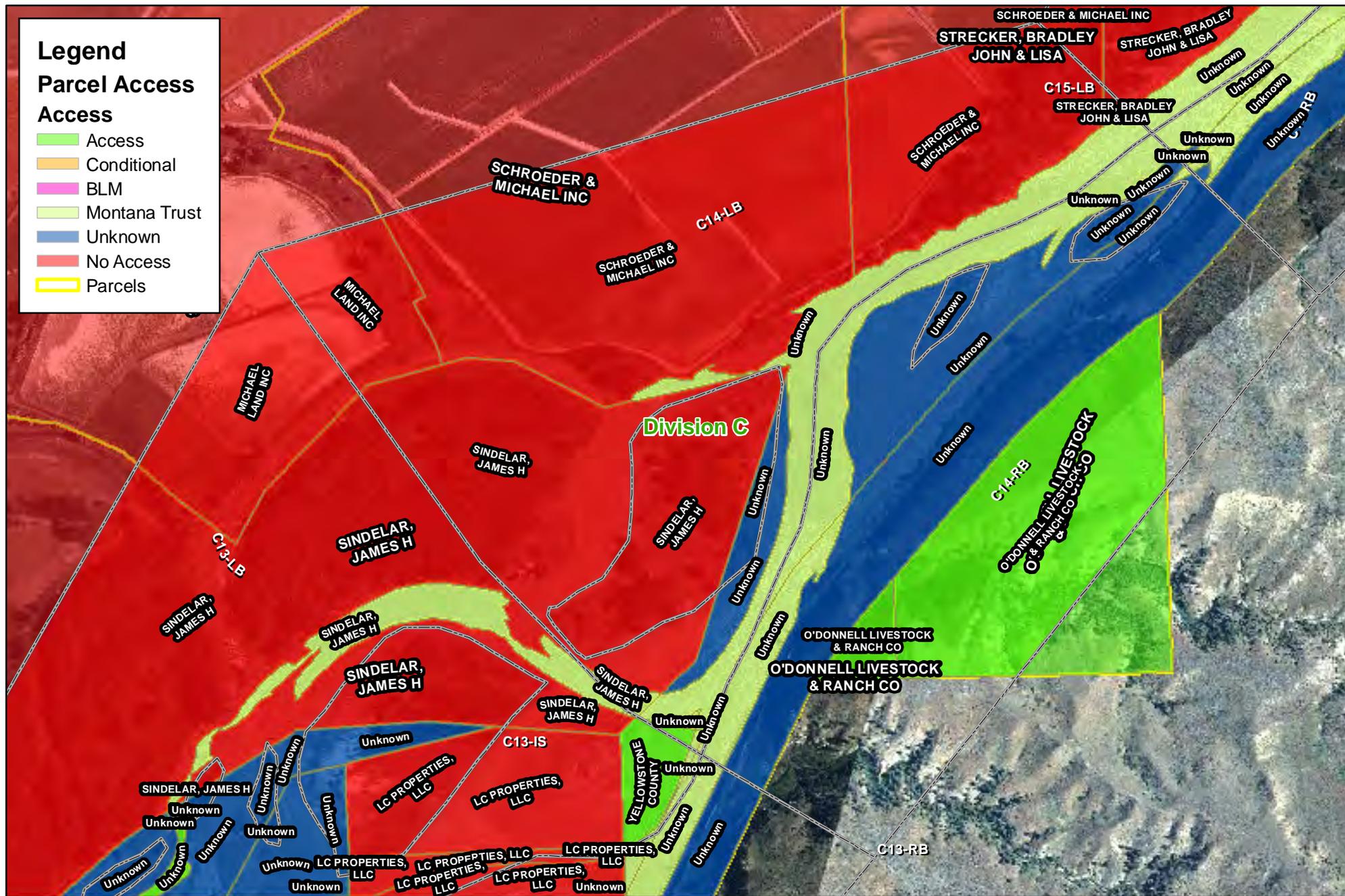


Figure 1

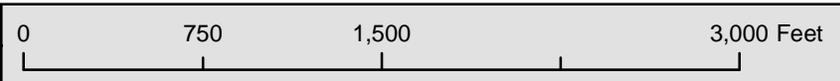
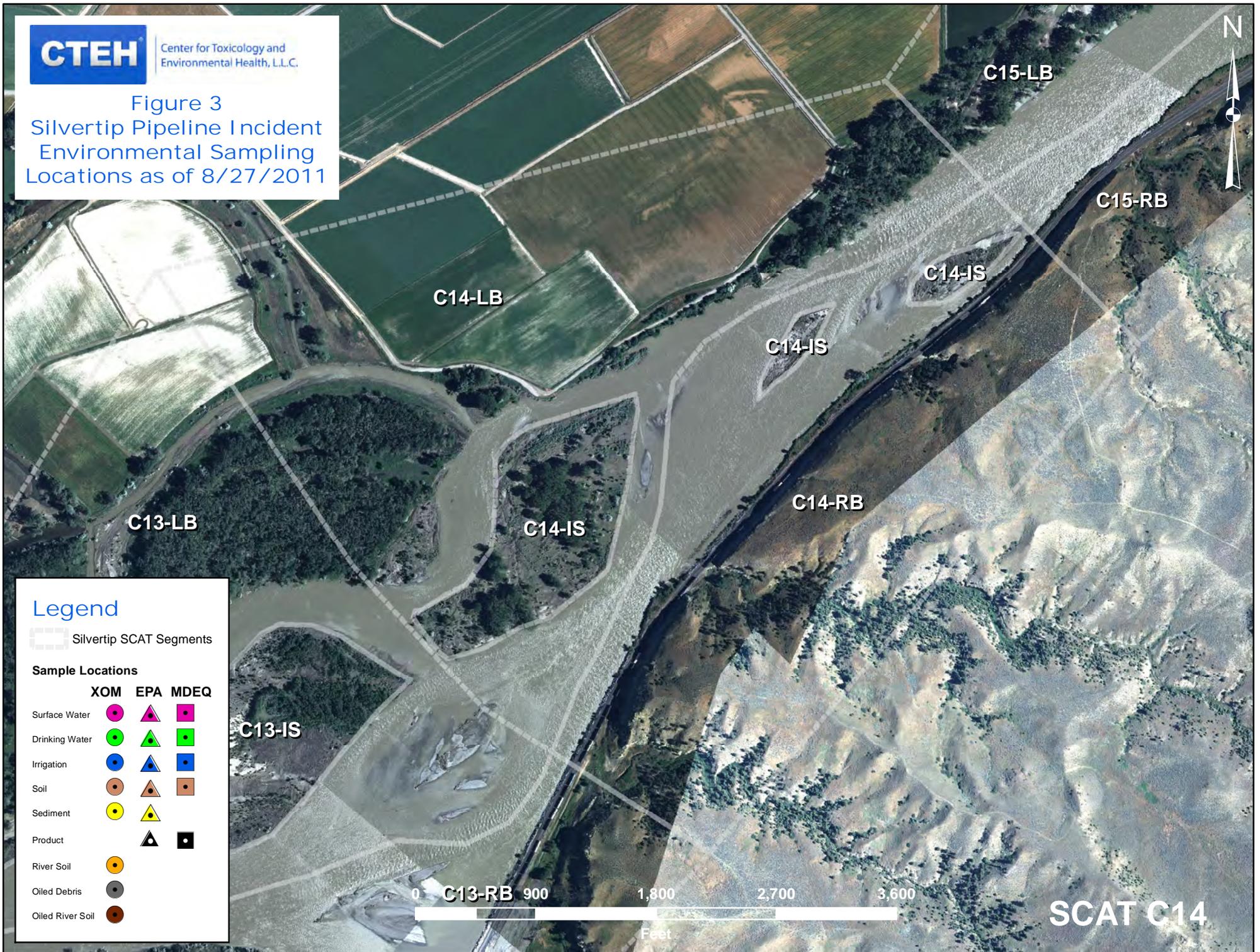


Figure 2
Wildlife Resources



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

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





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

Figure 4 - Maximum SCAT Observations
For SCAT Area: C14



Figure 5 - Final SCAT Observations For SCAT Area: C14

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

Scale: 0 to 940 Feet

POLARIS APPLIED SCIENCES, INC.



Appendix A

Sample Detection Summary



Sample Results For
SCAT Area C14

Printed 10/13/2011

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 Samples Taken



Appendix B

Initial SCAT Survey Forms
and Sketches

1 GENERAL INFORMATION		Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: <u>CM</u>	Left Bank / <input checked="" type="radio"/> Right Bank / Island	<u>27/07/11</u>	<u>1151</u> hrs to <u>1152</u> hrs	low - mean - <input checked="" type="radio"/> bankfull - overbank
Operations Division: <u>C</u>				falling - steady - rising
Survey by: Foot / ATV / <input checked="" type="radio"/> Boat / Helicopter / Overlook / _____	<input checked="" type="radio"/> Sun / Clouds / Fog / Rain / Snow / Windy / Calm	Air Temp +/- <u>30</u> deg C		

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

3 SEGMENT Total Segment/Reach Length 1350 m Segment/Reach Length Surveyed 1350 m

Start GPS: LATITUDE 45 deg. 51°42.80 min. LONGITUDE 108 deg. 22°35.14 min. Datum: NAD83

End GPS: LATITUDE 45 deg. 51°16.09 min. LONGITUDE 108 deg. 23°12.60 min.

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

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

Sediment Bank: Clay/Mud _____ Sand P Mixed _____ Pebble/Cobble S Boulder _____ Peat/Organic _____ Vegetated Bank: 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 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 110 est. water depth: <1m 1-3m 3-10m >10m _____ m

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

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

Oiled trees/shrubs Y / N River Current strong / 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>942</u> A			<input checked="" type="radio"/>	<input checked="" type="radio"/>	<u>1350</u>	<u>2</u>	<u>0</u>														<input checked="" type="radio"/>	<u>S-1/4</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 N Overbank Survey Completed Y / N Shoreline Survey Completed N

No oil observed

Sketch / No Photos Yes / No Frames _____ Photographer _____



108°23.75'W 45°51.5'N 108°23.5'W 45°51.75'N 108°23.25'W 45°52'N 108°23'W



45° 51.424' N
108° 23.439' W

45° 51.786' N
108° 22.709' W

45° 51.716' N
108° 22.613' W

45° 51.262' N
108° 23.178' W



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>C14</u>	<input checked="" type="radio"/> Left Bank <input type="radio"/> Right Bank / Island	<u>27/07/11</u>	<u>929</u> hrs to <u>9:32</u> hrs	low - mean - bankfull - overbank <input checked="" type="radio"/> falling <input type="radio"/> steady - rising
Operations Division: <u>C</u>		Survey by: <input checked="" type="radio"/> Foot / ATV / Boat <input type="radio"/> Helicopter / Overlook / _____		Air Temp +/- <u>30</u> deg C
		<input checked="" type="radio"/> Sun <input type="radio"/> Clouds / Fog / Rain / Snow / Windy / Calm		

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

3 SEGMENT Total Segment/Reach Length 1350 m Segment/Reach Length Surveyed 1350 m

Start GPS: LATITUDE 45 deg. 51'47.20 min. LONGITUDE 108 deg. 22'43.18 min. Datum: WGS 84

End GPS: LATITUDE 45 deg. 51'21.25 min. LONGITUDE 108 deg. 23'21.12 min.

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

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

Sediment Bank: Clay/Mud _____ Sand P Mixed _____ Pebble/Cobble S Boulder _____ Peat/Organic _____ Vegetated Bank: 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 X oxbow _____ flood plain valley _____ Forested / Vegetated / Bare

4C RIVER CHANNEL CHARACTER circle or select as appropriate

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

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

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

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

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

OIL ZONE	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER							SUBST. TYPE(S)		
	MS	LB	UB	OB	Length	Width	Distrib.	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR	AP		NO	
<u>943</u> <u>944</u> <u>945</u> <u>946</u> A			<u>X</u>	<u>X</u>	<u>190</u>	<u>2</u>	<u>60</u>			<u>S</u>		<u>P</u>	<u>X</u>									
B			<u>X</u>	<u>X</u>	<u>180</u>	<u>2</u>	<u>0</u>															<u>X</u>
C			<u>X</u>	<u>X</u>	<u>20</u>	<u>2</u>	<u>60</u>			<u>S</u>		<u>A</u>	<u>X</u>									
D			X	X	990	2	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				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 N Overbank Survey Completed Y / N Shoreline Survey Completed N

Zones A+C have stained + coated veg (primarily Grass)
Veg needs to cut and/or treated and removed

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

DB/G

ORIGINAL

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>C14</u> Left Bank / Right Bank / Island		<u>27/07/11</u>	<u>929</u> hrs to <u>9:32</u> hrs	low - mean - bankfull - overbank falling - steady - rising
Operations Division: <u>C</u>				Air Temp + / - <u>30</u> deg C
Survey by: Foot / ATV / <u>Boat</u> Helicopter / Overlook / _____		Sun / Clouds / Fog / Rain / Snow / Windy / Calm		

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

3 SEGMENT Total Segment/Reach Length 1350 m Segment/Reach Length Surveyed 1350 m

Start GPS: LATITUDE 45 deg. 51°47.20 min. LONGITUDE 108 deg. 22°43.18 min. Datum: wgs 84

End GPS: LATITUDE 45 deg. 51°21.25 min. LONGITUDE 108 deg. 23°21.12 min.

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

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

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

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

4B RIVER VALLEY CHARACTER select as appropriate complete for primary

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

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: <1m 1-10m 10-100m 100m 160m 110 est. water depth: <1m 1-3m 3-10m >10m _____ m

shoal(s) present Y/N point bar present N/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
<u>43</u> A			X	X	190	2	60			S		P	X								
<u>44</u> B			X	X	180	2	0														X
<u>45</u> C			X	X	20	2	60			S		A	X								
<u>46</u> D			X	X	990	2	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				MAX. PIT DEPTH cm	OILED ZONE cm-cm	SUBSURFACE OIL CHARACTER						WATER TABLE cm	SHEEN COLOUR B, R, S, N	CLEAN BELOW Yes / No	SUBST. TYPE(S)
	MS	LB	UB	OB			SAP	OP	PP	OR	OF	TR				

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

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

Zones A+C have stained + coated veg (primarily Grass)
Veg needs to cut and/or treated and removed

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



DB/G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: <u>C14</u>	<u>Left Bank</u> / Right Bank / Island	<u>20/08/2011</u>	<u>1300</u> hrs to <u>1400</u> hrs	<u>low</u> mean - bankfull - overbank
Operations Division: <u>C14</u>				<u>falling</u> - steady - rising
Survey by: <u>(Foot) ATV / Boat / Helicopter / Overlook /</u>	<u>Sun</u> / Clouds / Fog / Rain / Snow / Windy / Calm			Air Temp +/- <u>28</u> deg C

2 SURVEY TEAM # <u>122</u>	Name	Organization	Signature
	<u>Aniel Blanc</u>	<u>Polaris</u>	<u>Aniel Blanc</u>
	<u>DANIEL ELKANS</u>	<u>CARDNO ENTRIX</u>	<u>[Signature]</u>
	<u>Joe Boyle</u>	<u>Cardno ENTRIX</u>	<u>[Signature]</u>
	<u>Joe Boyle</u>	<u>Overlook ENTRIX</u>	<u>[Signature]</u>
	<u>SON DAVIS</u>	<u>USCG</u>	<u>[Signature]</u>
	<u>Larry Alheim</u>	<u>DEW</u>	<u>[Signature]</u>
	<u>JAY WATSON</u>	<u>MFWP</u>	<u>[Signature]</u>

Cindy Santiago (EPA)
Cindy Santiago

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 276 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: _____

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 2 m canyon _____ manmade _____ meander confined or leveed _____

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

Substrate Type: sand & gravel

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 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 / N oiled / N amount 3 bags or _____ trucks access restrictions Island difficult to access @ low water

Oiled trees/shrubs / N River Current strong / 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	276	279	21		X	(X)	X						(X)					veg
B			X		30	1	5%		X	(X)							(X)					tree/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

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

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

Zone A: Infrequent oiling of vegetation and debris, weathered, some remain slightly sticky

B wp. 400 recommend ATM 1 for 1x30m area of 5% oil in tree. Area has been flagged, Treatment Only needed for this area of segment. Two workers, 1 bag.

Sketch / No Photos / No Frames _____ Photographer _____

C14 LB Page 2 of 2
SCAT 1-2

C13IW
C13IE

C14 E R62

276 7279

ACTIVE LOG 001

C14-LB

C14 E 019 ACTIVE LOG 001

398

022 022 018
023 023 383

030

02 066 382
024 364
025 369

C14-RB

C14-S 014

380 019 054
379 372

C14IW

ACTIVE LOG 002

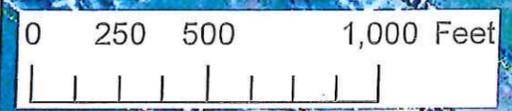
402 ACTIVE LOG 002

C13E C14W

IS



SILVERTIP PIPELINE INCIDENT Yellowstone River Map 31



RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

Page 1 of 3

1 GENERAL INFORMATION		Date (dd/mm/yy) <u>8/29/11</u>	Time (24h): std / daylight <u>1000</u> hrs to <u>1100</u> hrs	Water Level low - (mean) - bankfull - overbank falling - steady - rising
Segment/Reach ID: <u>14</u>	Left Bank / Right Bank <u>Island</u>			
Operations Division: <u>C</u>				
Survey by: <u>Foot</u> ATV / Boat / Helicopter / Overlook /		<u>Sun</u> Clouds / Fog / Rain / Snow / Windy / Calm	Air Temp +/- <u>29</u> deg C	

2 SURVEY TEAM # <u>1/2</u>	Name	Organization	Signature
	<u>ARIEL BLANC</u>	<u>POLARIS</u>	<u>[Signature]</u>
	<u>JESSICA ROSS</u>	<u>DEQ</u>	<u>[Signature]</u>
	<u>JON DAVIS</u>	<u>CG</u>	<u>[Signature]</u>
	<u>MATT DEBONG</u>	<u>DANIEL RESNAIT</u>	<u>[Signature]</u>
	<u>JOE FITTLE</u>	<u>CARDNO</u>	<u>[Signature]</u>
	<u>CINDY SANTALGO</u>	<u>EPA</u>	<u>[Signature]</u>
	<u>JAT WATSON</u>	<u>FWP</u>	<u>[Signature]</u>

3 SEGMENT Total Segment/Reach Length 1152 m Segment/Reach Length/Surveyed 1030 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 PS Boulder _____ Peat/Organic _____ Vegetated Bank: Wooded Upland: DEBRIS

Sediment Flat: Clay/Mud _____ Sand _____ Mixed/Coarse P 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./COBBLE

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 1-10m 10-100m >100m 160m 186 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 BOAT ONLY

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)				
	MS	LB	UB	OB	Length m	Width m	Distrib. %	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC		SR	AP	NO	
<u>1675</u> <u>1676</u> <u>1677</u> A				<input checked="" type="checkbox"/>	<u>395</u>	<u>98</u>	<u>0</u>														<input checked="" type="checkbox"/>	<u>COBBLE</u>
B				<input checked="" type="checkbox"/>	<u>260</u>	<u>77</u>	<u>0</u>														<input checked="" type="checkbox"/>	<u>COBBLE</u>
C				<input checked="" type="checkbox"/>	<u>500</u>	<u>193</u>	<u><1</u>			<u>(P)</u>	<u>S</u>				<u>X</u>		<u>(X)</u>					<u>VEG./DEBRIS</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				

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 NOO. COBBLE IS.

B NOO. COBBLE IS.

C SPORAOK OILING, COAT/STAIN ON VEG & DEBRIS FILES
RECOM TREATMENT: HOT SHOT CREW 10 BAGS
TARGET FLAGGED AREAS & SWEEP FOR OILED DEBRIS

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

C131W
C131E

5

ENECA

ACTIVE LOG 001 ACTIVE LOG 001

ENECC

C14 RB

C14-LB

98

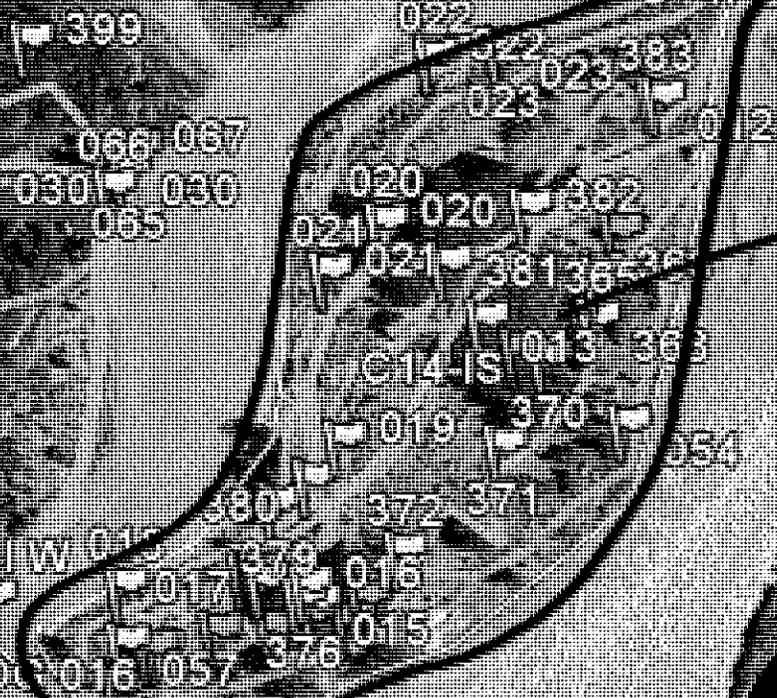
031

nd

ACTIVE LOG 016
LOG 016

Current Track: 20 AUG 2011 10:17
nt Track: 20 AUG 2011 10:24

402



C14
SCAT 1+2
20 Aug 2011



Appendix C

Pre-Inspection Survey Transmittal

PIST

Pre Inspection Survey Transmittal

Segment C-1415

Date of Survey 08 SEP 2011

SCAT/Ops Liaison _____

Signed: _____

SCAT/Ops Liaison PEPE PRITCHARD

Signed: [Signature]

SCAT/Ops Liaison Ray McKelvey

Signed: [Signature]

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)



Appendix D

Post-Inspection Survey Transmittal

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



Appendix E

Final SCAT Survey Forms
and Sketches

9/6/2011 5:14 pm

C14-LB

ZONE A
VERY LIGHT

Team 6
C14LB
9/6/11

005

C14-IS

C14-RB

© 2011 Google
Image © 2011 GeoEye

©2010

1996

45°51'38.17" N 108°23'07.92" W elev 3047 ft

DB/16

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION		Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: <u>C14</u>	Left Bank / Right Bank / Island <u>(C)</u>	<u>11/09/11</u>	<u>0945</u> hrs to <u>1030</u> hrs	low - mean - bankfull - overbank
Operations Division: <u>C</u>		Survey by: <u>Foot / ATV / Boat / Helicopter / Overlook /</u>		falling - steady - rising
		<u>(Sun)</u> Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp +/- <u>25</u> deg C

2 SURVEY TEAM # <u>1</u>	Name	Organization	Signature
	<u>Todd Farias</u>	<u>Polaris</u>	<u>[Signature]</u>
	<u>Damien Korte</u>	<u>Cardno Entrix</u>	<u>[Signature]</u>
	<u>David Hergenrider</u>	<u>DEA FWP</u>	<u>[Signature]</u>

3 SEGMENT Total Segment/Reach Length 500 m Segment/Reach Length Surveyed 500 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: Grass/Trees

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/sandy) gravel (cobble) / boulder / bedrock / debris

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

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

Debris (Y) N oiled (Y) N amount 2 bags or _____ trucks access restrictions: Island, boat access only

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	500	215	0															Grass/Ases
B				X	100	20	<1			P												Woody Veg

2261
2262

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 - NOO

Zone B - Hot shot crew utilized ATM 1, 2, and 9 to remove 2 bags of oiled debris. NFT.

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

9/11/2011 6:21 pm

9/11/2011

Dovers Island

SCAT
Team
9/11/11
C14-IS

251

250

C14-IS

A

B

C14

© 2011 Europa Technologies

© 2010

© 2011 Google

C14-RB

1996

45°51'27.91" N 108°23'10.41" W elev 3046 ft





Appendix F

Completed SCAT Segment
Sign-Off Forms

SCAT SEGMENT OPERATIONS COMPLETION SIGN-OFF SHEET

SILVERTIP PIPELINE RELEASE

Segment C14 LB Date of Survey 9/6/11

Dates of Initial SCAT Assessments 27 JUL 11
(to be filled out by SCAT Data Management)

CTR(s) Associated with SCAT Segment N/A

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

Segment Assessment Complete¹

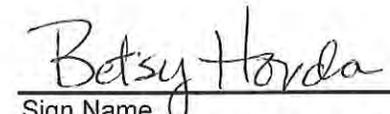
Partial Segment Assessment

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).

 Austin West USCG 9/6/11
Sign Name Print Name/ Affiliation Date
Federal Representative (EPA/USCG)

 Betsy Hovda DEQ 9/6/11
Sign Name Print Name/ Affiliation Date
State Representative (DEQ/FWP)

 Nathan Hammond/Carlin Entrix 9/6/11
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.

SCAT SEGMENT OPERATIONS COMPLETION SIGN-OFF SHEET

SILVERTIP PIPELINE RELEASE

Segment C14-IS Date of Survey 09/11/11
Dates of Initial SCAT Assessments 20 AUG 11 (E)
(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 Federal Representative (EPA/USCG) Print Name/ Affiliation _____ Date _____

Dave Hergenrich Dave Hergenrich FWP 9/11/2011

Sign Name _____ Print Name/ Affiliation _____ Date _____

Todd Farrar Todd Farrar / Polaris 9/11/2011

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.