Imagine the result

ExxonMobil Pipeline Company

SCAT Area Transition Report for A04

Silvertip Pipeline Incident
Laurel, Montana

October 18, 2011

SCAT Area Transition Report for A04

Silvertip Pipeline Incident
Laurel, Montana

Prepared for:
ExxonMobil Pipeline Company

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

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1. Executive Summary of Oil Removal Activities

This Shoreline Cleanup Assessment Technique (SCAT) Area Transition Report provides a summary of the SCAT surveys conducted to determine the extent of oiling along the riverbanks and floodplain within SCAT Area A04, 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 A04. 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 A04, 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 A04 is 19.2. Access issues were identified in Area A04 for most of the left bank and part of the 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 regular inspections of Area A04. No oiled wildlife was observed or recovered. No Wildlife Priority Cleanup Areas were identified. No active migratory bird nests were identified in Area A04.

1.3 Summary of Environmental Sampling

Table 1 (below) summarizes samples collected within Area A04. 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 A04 are provided on Figure 3.

Table 1 Environmental Sampling Summary

Agency	Sample Num	Date	Matrix	Location	Latitude	Longitude
CTEH	LAMT0708IW102	7/8/11	Water_Irrigation	LAMT_310_IW102	45.652026	-108.745283
CTEH	LAMT0723SW505	7/23/11	Water_Surface	A04	45.653283	-108.742696
CTEH	LAMT0814DE401	8/14/11	Debris_Oiled	SO-A04-02	45.653552	-108.744786
CTEH	LAMT0814SO402	8/14/11	Soil_River	SO-A04-01	45.653387	-108.74467
CTEH	LAMT0814SO403	8/14/11	Soil_River	SO-A04-01	45.653387	-108.74467
CTEH	LAMT0814SO404	8/14/11	Soil_River	SO-A04-01	45.653387	-108.74467
CTEH	LAMT0814SO405	8/14/11	Soil_River	SO-A04-01	45.653387	-108.74467
CTEH	LAMT0814SO406	8/14/11	Soil_River	SO-A04-01	45.653387	-108.74467
CTEH	LAMT0814SO407	8/14/11	Soil_River	SO-A04-01	45.653387	-108.74467
CTEH	LAMT0814SO409	8/14/11	Soil_River	SO-A05	45.653008	-108.743458
CTEH	LAMT0816SO101	8/16/11	Soil_Surface	LAMT_471_SO101	45.650532	-108.741368
CTEH	LAMT0816SO103	8/16/11	Soil_Surface	LAMT_471_SO103	45.650682	-108.741493
CTEH	LAMT0816SO104	8/16/11	Soil_Surface	LAMT_471_SO104	45.650702	-108.741748
CTEH	LAMT0816SO105	8/16/11	Soil_Surface	LAMT_471_SO105	45.65071	-108.742154
CTEH	LAMT0816SO106	8/16/11	Soil_Surface	LAMT_471_SO106	45.650777	-108.742398
CTEH	LAMT0816SO107	8/16/11	Soil_Surface	LAMT_471_SO107	45.650871	-108.742142
CTEH	LAMT0816SO108	8/16/11	Soil_Surface	LAMT_471_SO108	45.650586	-108.741424
CTEH	LAMT0816SOBKG111	8/16/11	Soil_Surface	LAMT_471_SOBKG111	45.650817	-108.743083
CTEH	LAMT0824SE405	8/24/11	Sediment	A04	45.653283	-108.742696
CTEH	LAMT0824SE406	8/24/11	Sediment	A04	45.653283	-108.742696
MDEQ	ST-072011-CV1	7/20/11	Soil_Surface	ST-CV-01	45.65059	-108.74168
MDEQ	ST-072011-CV2	7/20/11	Soil_Surface	ST-CV-02	45.65082	-108.74217
EPA	SPSO101D02_071211	7/12/11	Soil_Surface	SPSO101	45.6508649	-108.7423382
EPA	SPSO102D02_071211	7/12/11	Soil_Surface	SPSO102	45.6508172	-108.742171
EPA	SPSO108D02_071311	7/13/11	Soil_Surface	SPSO108	45.6530624	-108.7452513
EPA	SPSO109D02_071311	7/13/11	Soil_Surface	SPSO109	45.6524182	-108.7429344
EPA	SPSO110D02_071311	7/13/11	Soil_Surface	SPSO110	45.6516699	-108.7424753
EPA	SPSO111D02_071311	7/13/11	Soil_Surface	SPSO111	45.6513318	-108.7415163

Appendix A contains a summary of sample results with detections for this sample set. Detections with a result above the screening level are highlighted; for this set, 22 exceedances are shown: 1 each for benzo(a)pyrene, cadmium, and naphthalene; 3 for arsenic; 7 for total extractable hydrocarbons; and 9 for vanadium.

1.4 Summary of Initial SCAT Surveys

The SCAT teams used systematic evaluation criteria and treatment method tables approved by the National Oceanic and Atmospheric Administration to provide a standard approach for data collection and conducting field surveys. The forms and sketches from the initial SCAT surveys performed along the river bank (water edge) and floodplain within Area A04 are included in Appendix B. Figure 4 provides the maximum oiling zones observed by the SCAT team during the initial surveys of Area A04.

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 (Appendix C).

1.6 Oil Removal Activities

Oil removal activities were conducted within Area A04 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 A04 and developed a Pre-Inspection Survey Transmittal (PIST) associated with the right bank within Area A04, which is presented in Appendix D.

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 A04 following completion of oil removal activities. The SCAT team performed final surveys of the right bank within SCAT Area A04 to confirm the agreed-upon cleanup endpoints identified in the applicable CTRs had been achieved. The final SCAT survey documentation is presented in Appendix F.

1.10 SCAT Area Conclusions

Based on the final SCAT surveys performed on the right bank within Area A04, no further treatment is recommended for this area. Based on the initial SCAT surveys, no oiling was observed on the left bank of Area A04. A SCAT Segment Sign-Off Form is included as Appendix G.

2. Transition Sign-Off Form

SCAT Area Transition Report for A04

Prepared for:

Unified Command

_____

Date

_____

Unified Command – RP

ARCADIS

SCAT Area Transition Report for A04

Prepared for:

Unified Command

9/27/2011

Date

S. Weber

Unified Command – FOSC

SCAT Area Transition Report for A04

Prepared for:

Unified Command

9/28/11

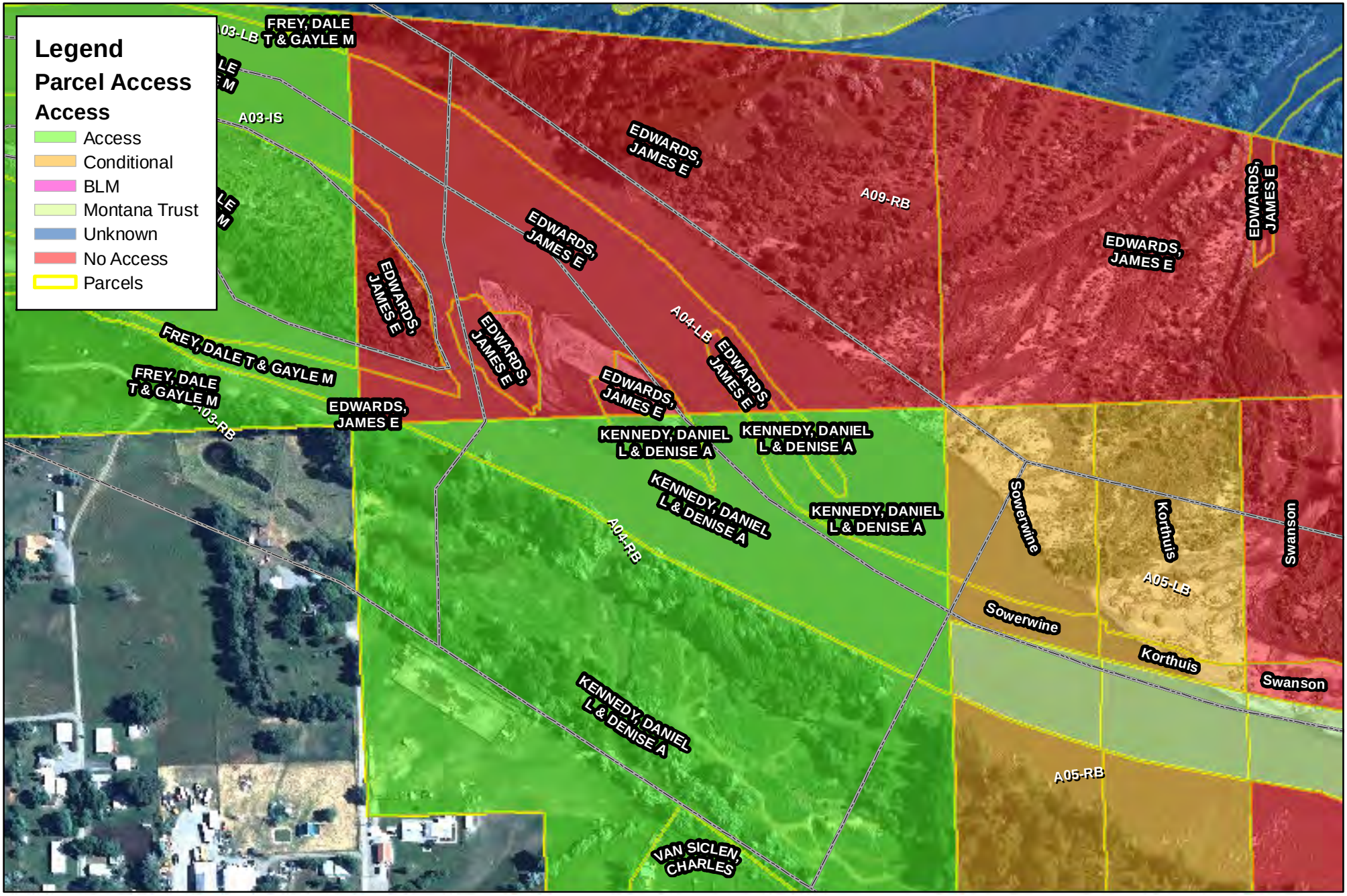
Date

Unified Command – MDEQ

Silvertip Pipeline Incident
Area Transition Report Map - Parcels
Segment - A4

9/27/2011

1:3,500



0 350 700 1,400 Feet

Figure 1

Date: 9/27/2011 Time: 10:20:06 AM

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Silvertip Pipeline Incident
SCAT Area Transition Report Map
Area - A4

ExxonMobil Pipeline

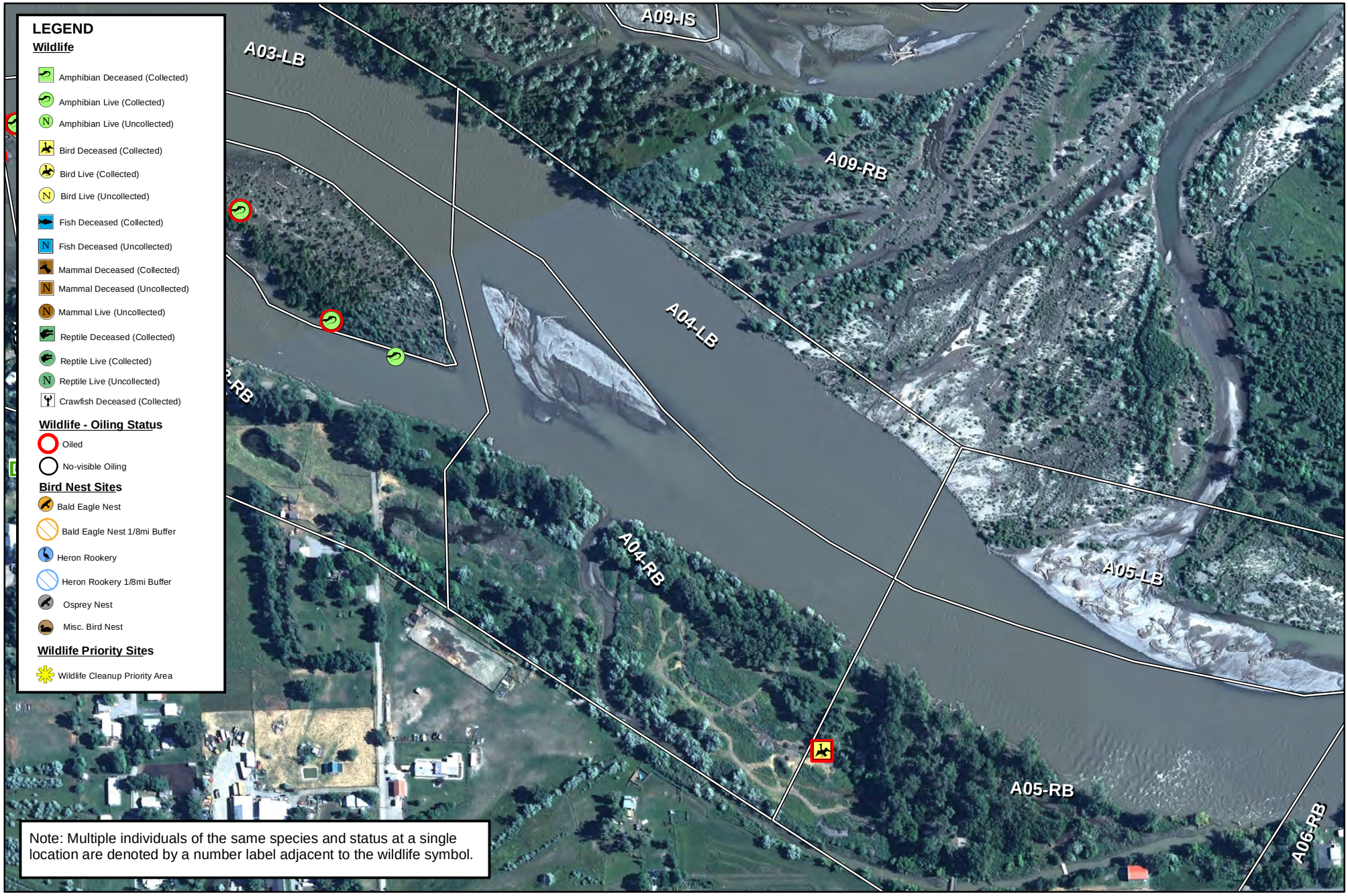
N

1:4,000

9/22/2011

The Response Group

Path: P:\GIS\MXD's\Wildlife\ATR Maps - Figure 2\ATR Map_Div.A_Fig2_09222011.mxd

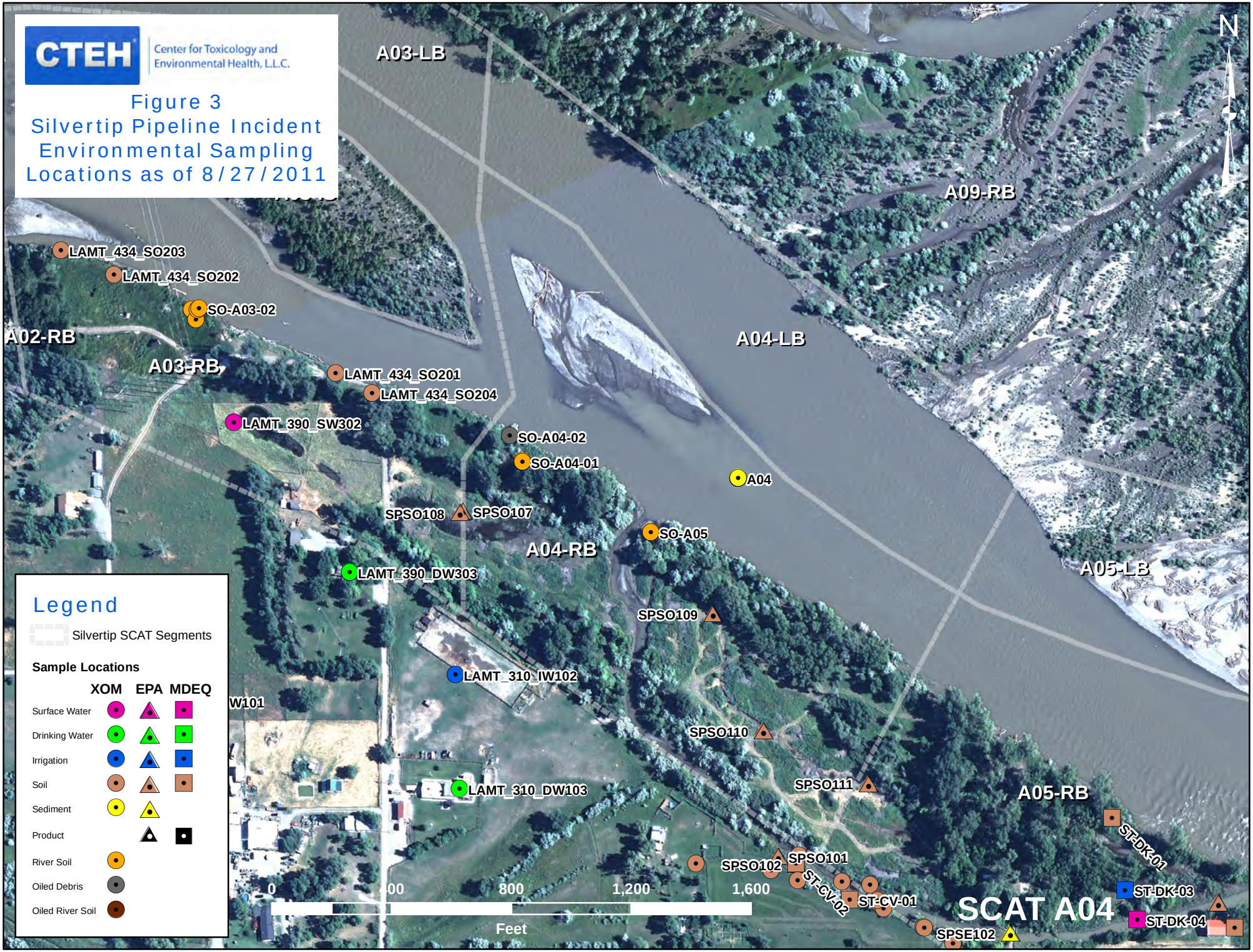


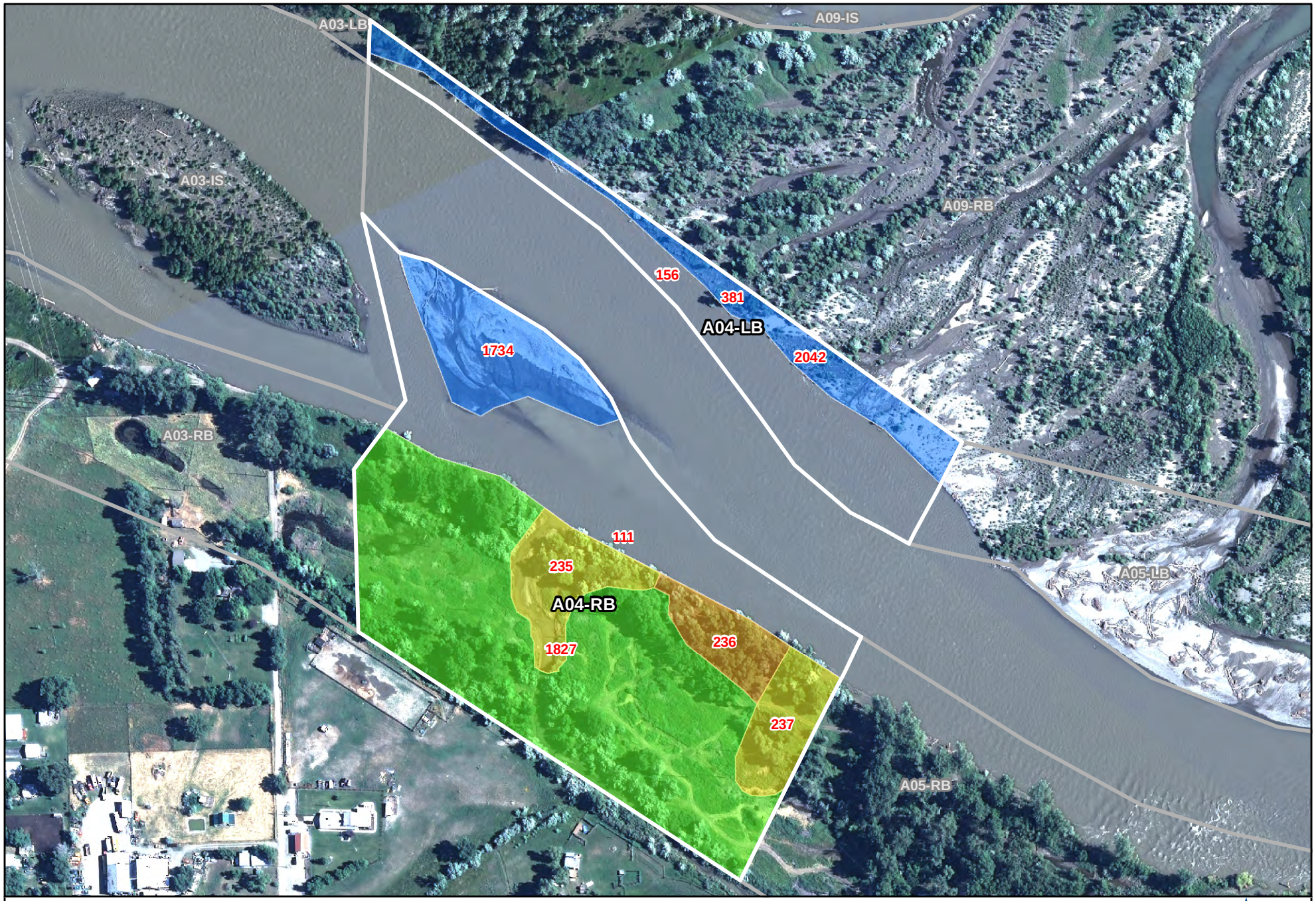
Note: Multiple individuals of the same species and status at a single location are denoted by a number label adjacent to the wildlife symbol.

0 375 750 1,500 Feet

Figure 2
Wildlife Resources

Date: 9/22/2011 Time: 8:57:16 AM


CTEH
Center for Toxicology and Environmental Health, L.L.C.
Figure 3
Silvertip Pipeline Incident Environmental Sampling Locations as of 8/27/2011
N
A03-LB
A09-RB
A04-LB
A02-RB
A03-RB
A04-RB
A05-LB
A05-RB
LAMT_434_SO203
LAMT_434_SO202
SO-A03-02
LAMT_434_SO201
LAMT_434_SO204
LAMT_390_SW302
SO-A04-02
SO-A04-01
A04
SPSO108
SPSO107
SO-A05
LAMT_390_DW303
SPSO109
LAMT_310_IW102
SPSO110
SPSO111
LAMT_310_DW103
SPSO102
SPSO101
ST-CV-02
ST-CV-01
ST-DK-01
ST-DK-03
ST-DK-04
SPSE102
SCAT A04
0
800
1,200
1,600
Feet
Legend
Silvertip SCAT Segments
Sample Locations
XOM
EPA
MDEQ
Surface Water
Drinking Water
Irrigation
Soil
Sediment
Product
River Soil
Oiled Debris
Oiled River Soil



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

220 0 220 440 Feet

Figure 4 - Maximum SCAT Observations For SCAT Area: A04

POLARIS APPLIED SCIENCES, INC.

Aerial Photography Dated July 20, 2011

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

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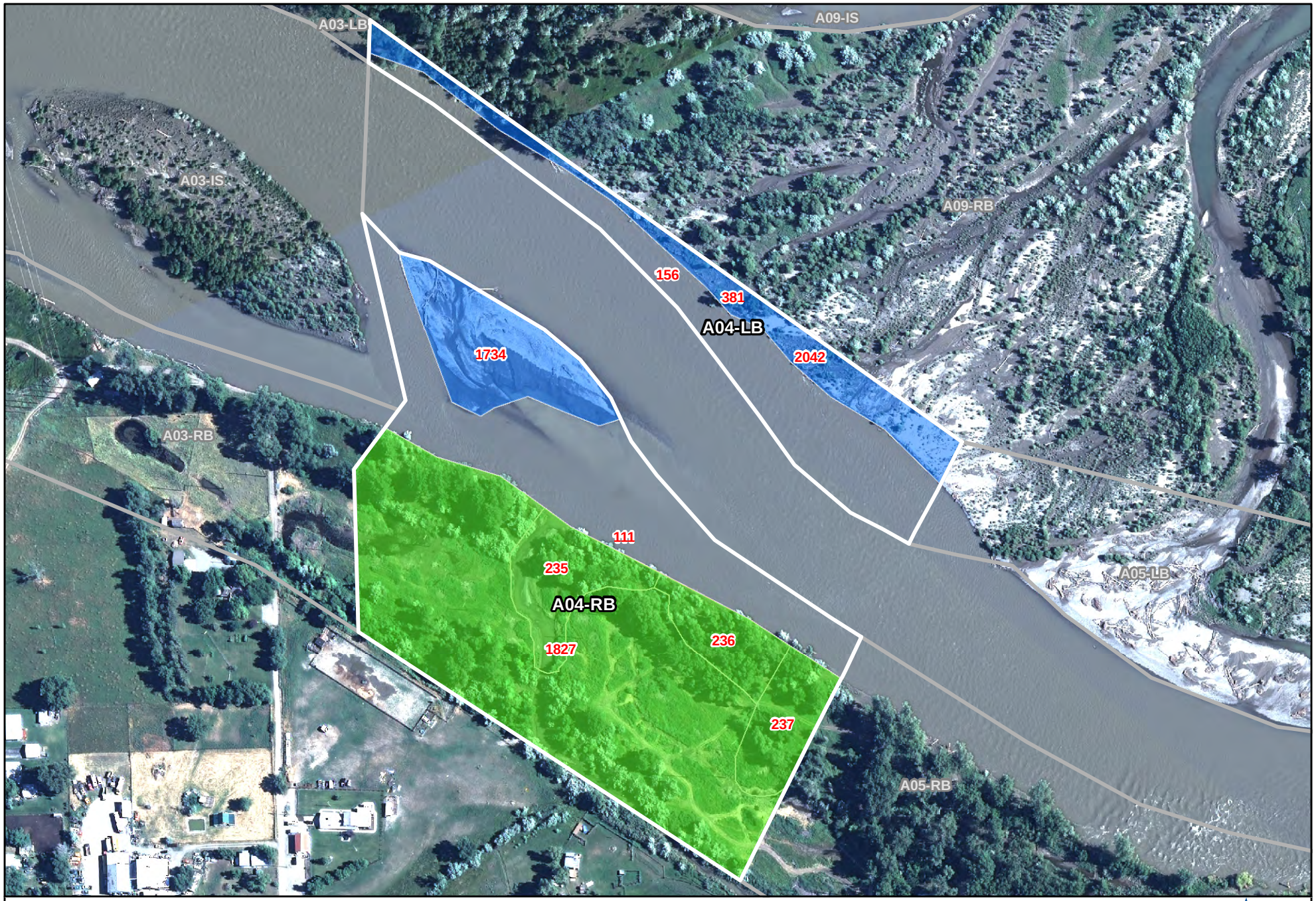

9999 Oiling Zone ID
Heavy Oiling
Moderate Oiling
Light Oiling
Very Light Oiling
No Oil Observed

220 0 220 440 Feet

Figure 5 - Final SCAT Observations For SCAT Area: A04

POLARIS APPLIED SCIENCES, INC.

Aerial Photography Dated July 20, 2011

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

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Appendix A

Sample Detections Summary

Detections in Samples Collected in SCAT Area A04

NA - Not Available

Detected Above Screening Level

Sample Num	Date	Sample Type	Matrix	Analytical Method	Analyte	Detected	Result	Screening Level	Result Qualifier	Units	Above?
LAMT0708IW102	07/08/2011	Field	Water_Irrigation	SW8260B	Toluene	Y	0.32	1000		ug/L	no
LAMT0723SW505	07/23/2011	Field	Water_Surface	EPA 6020	Arsenic	Y	**10.4**	10		ug/L	YES
LAMT0723SW505	07/23/2011	Field	Water_Surface	EPA 6020	Barium	Y	52.4	1000		ug/L	no
LAMT0723SW505	07/23/2011	Field	Water_Surface	EPA 6020	Calcium	Y	15400	NA		ug/L	no
LAMT0723SW505	07/23/2011	Field	Water_Surface	EPA 6020	Chromium	Y	3.1	100		ug/L	no
LAMT0723SW505	07/23/2011	Field	Water_Surface	EPA 6020	Lead	Y	1.6	15		ug/L	no
LAMT0723SW505	07/23/2011	Field	Water_Surface	EPA 6020	Magnesium	Y	4940	NA		ug/L	no
LAMT0723SW505	07/23/2011	Field	Water_Surface	EPA 1631E	Mercury	Y	0.00000911	0.00005		mg/L	no
LAMT0723SW505	07/23/2011	Field	Water_Surface	EPA 6020	Nickel	Y	3.8	100		ug/L	no
LAMT0723SW505	07/23/2011	Field	Water_Surface	EPA 6020	Potassium	Y	2010	NA		ug/L	no
LAMT0723SW505	07/23/2011	Field	Water_Surface	EPA 6020	Sodium	Y	8340	NA		ug/L	no
LAMT0723SW505	07/23/2011	Field	Water_Surface	SM 2540D	Total Suspended Solids	Y	95	NA		mg/L	no
LAMT0723SW505	07/23/2011	Field	Water_Surface	EPA 6020	Vanadium	Y	4.9	180		ug/L	no
LAMT0814DE401	08/14/2011	Field	Debris_Oiled	EPA 8270 by SIM	Benzo(a)pyrene	Y	131	NA		ug/kg	no
LAMT0814DE401	08/14/2011	Field	Debris_Oiled	EPA 8270 by SIM	Chrysene	Y	297	NA		ug/kg	no
LAMT0814DE401	08/14/2011	Field	Debris_Oiled	EPA 8270 by SIM	Pyrene	Y	80.3	NA		ug/kg	no
LAMT0814DE401	08/14/2011	Field	Debris_Oiled	MADEP EPH	Total Extractable Hydrocarbons	Y	71600	NA		mg/kg	no
LAMT0814SO402	08/14/2011	Field	Soil_River	EPA 6010	Arsenic	Y	24.2	40		mg/kg	no
LAMT0814SO402	08/14/2011	Field	Soil_River	EPA 6010	Barium	Y	198	820		mg/kg	no
LAMT0814SO402	08/14/2011	Field	Soil_River	EPA 6010	Cadmium	Y	1.6	3.8		mg/kg	no
LAMT0814SO402	08/14/2011	Field	Soil_River	EPA 6010	Chromium	Y	31.5	280		mg/kg	no
LAMT0814SO402	08/14/2011	Field	Soil_River	EPA 6010	Lead	Y	13.9	400		mg/kg	no
LAMT0814SO402	08/14/2011	Field	Soil_River	EPA 9060	Mean Total Organic Carbon	Y	18700	NA		mg/kg	no
LAMT0814SO402	08/14/2011	Field	Soil_River	EPA 7471	Mercury	Y	0.036	1		mg/kg	no
LAMT0814SO402	08/14/2011	Field	Soil_River	EPA 6010	Nickel	Y	25.8	150		mg/kg	no
LAMT0814SO402	08/14/2011	Field	Soil_River	EPA 9060	RSD%	Y	15.8	NA		%	no
LAMT0814SO402	08/14/2011	Field	Soil_River	EPA 6010	Selenium	Y	1.5	2.6		mg/kg	no
LAMT0814SO402	08/14/2011	Field	Soil_River	MADEP EPH	Total Extractable Hydrocarbons	Y	47.6	200		mg/kg	no
LAMT0814SO402	08/14/2011	Field	Soil_River	EPA 9060	Total Organic Carbon	Y	22800	NA		mg/kg	no
LAMT0814SO402	08/14/2011	Field	Soil_River	EPA 6010	Vanadium	Y	**51.3**	39		mg/kg	YES
LAMT0814SO407	08/14/2011	Field	Soil_River	EPA 6010	Arsenic	Y	24.2	40		mg/kg	no

Detections in Samples Collected in SCAT Area A04

NA - Not Available

Detected Above Screening Level

Sample Num	Date	Sample Type	Matrix	Analytical Method	Analyte	Detected	Result	Screening Level	Result Qualifier	Units	Above?
LAMT0814SO407	08/14/2011	Field	Soil_River	EPA 6010	Barium	Y	202	820		mg/kg	no
LAMT0814SO407	08/14/2011	Field	Soil_River	EPA 6010	Cadmium	Y	1.6	3.8		mg/kg	no
LAMT0814SO407	08/14/2011	Field	Soil_River	EPA 6010	Chromium	Y	31.2	280		mg/kg	no
LAMT0814SO407	08/14/2011	Field	Soil_River	EPA 6010	Lead	Y	13.8	400		mg/kg	no
LAMT0814SO407	08/14/2011	Field	Soil_River	EPA 9060	Mean Total Organic Carbon	Y	22300	NA		mg/kg	no
LAMT0814SO407	08/14/2011	Field	Soil_River	EPA 7471	Mercury	Y	0.036	1		mg/kg	no
LAMT0814SO407	08/14/2011	Field	Soil_River	EPA 6010	Nickel	Y	26.3	150		mg/kg	no
LAMT0814SO407	08/14/2011	Field	Soil_River	EPA 9060	RSD%	Y	8.4	NA		%	no
LAMT0814SO407	08/14/2011	Field	Soil_River	MADEP EPH	Total Extractable Hydrocarbons	Y	61	200		mg/kg	no
LAMT0814SO407	08/14/2011	Field	Soil_River	EPA 9060	Total Organic Carbon	Y	24200	NA		mg/kg	no
LAMT0814SO407	08/14/2011	Field	Soil_River	EPA 6010	Vanadium	Y	**51.8**	39		mg/kg	YES
LAMT0814SO409	08/14/2011	Field	Soil_River	EPA 6010	Arsenic	Y	17.3	40		mg/kg	no
LAMT0814SO409	08/14/2011	Field	Soil_River	EPA 6010	Barium	Y	113	820		mg/kg	no
LAMT0814SO409	08/14/2011	Field	Soil_River	EPA 6010	Cadmium	Y	1	3.8		mg/kg	no
LAMT0814SO409	08/14/2011	Field	Soil_River	EPA 6010	Chromium	Y	17.1	280		mg/kg	no
LAMT0814SO409	08/14/2011	Field	Soil_River	EPA 6010	Lead	Y	7.9	400		mg/kg	no
LAMT0814SO409	08/14/2011	Field	Soil_River	EPA 9060	Mean Total Organic Carbon	Y	3810	NA		mg/kg	no
LAMT0814SO409	08/14/2011	Field	Soil_River	EPA 6010	Nickel	Y	12.9	150		mg/kg	no
LAMT0814SO409	08/14/2011	Field	Soil_River	EPA 9060	RSD%	Y	6.3	NA		%	no
LAMT0814SO409	08/14/2011	Field	Soil_River	EPA 9060	Total Organic Carbon	Y	4030	NA		mg/kg	no
LAMT0814SO409	08/14/2011	Field	Soil_River	EPA 6010	Vanadium	Y	33.7	39		mg/kg	no
LAMT0816SO101	08/16/2011	Field	Soil_Surface	EPA 6010	Arsenic	Y	12.9	40		mg/kg	no
LAMT0816SO101	08/16/2011	Field	Soil_Surface	EPA 6010	Barium	Y	178	820		mg/kg	no
LAMT0816SO101	08/16/2011	Field	Soil_Surface	EPA 6010	Cadmium	Y	0.3	3.8		mg/kg	no
LAMT0816SO101	08/16/2011	Field	Soil_Surface	EPA 6010	Chromium	Y	29.5	280		mg/kg	no
LAMT0816SO101	08/16/2011	Field	Soil_Surface	EPA 6010	Lead	Y	21.9	400		mg/kg	no
LAMT0816SO101	08/16/2011	Field	Soil_Surface	EPA 6010	Nickel	Y	23.6	150		mg/kg	no
LAMT0816SO101	08/16/2011	Field	Soil_Surface	MADEP EPH	Total Extractable Hydrocarbons	Y	26.4	200		mg/kg	no
LAMT0816SO101	08/16/2011	Field	Soil_Surface	EPA 6010	Vanadium	Y	**48.7**	39		mg/kg	YES
LAMT0816SO103	08/16/2011	Field	Soil_Surface	EPA 6010	Arsenic	Y	12.7	40		mg/kg	no
LAMT0816SO103	08/16/2011	Field	Soil_Surface	EPA 6010	Barium	Y	166	820		mg/kg	no

Detections in Samples Collected in SCAT Area A04

NA - Not Available

Detected Above Screening Level

Sample Num	Date	Sample Type	Matrix	Analytical Method	Analyte	Detected	Result	Screening Level	Result Qualifier	Units	Above?
LAMT0816SO103	08/16/2011	Field	Soil_Surface	EPA 6010	Cadmium	Y	0.27	3.8		mg/kg	no
LAMT0816SO103	08/16/2011	Field	Soil_Surface	EPA 6010	Chromium	Y	26	280		mg/kg	no
LAMT0816SO103	08/16/2011	Field	Soil_Surface	EPA 6010	Lead	Y	19.6	400		mg/kg	no
LAMT0816SO103	08/16/2011	Field	Soil_Surface	EPA 7471	Mercury	Y	0.023	1		mg/kg	no
LAMT0816SO103	08/16/2011	Field	Soil_Surface	EPA 6010	Nickel	Y	19.9	150		mg/kg	no
LAMT0816SO103	08/16/2011	Field	Soil_Surface	EPA 6010	Vanadium	Y	**45.4**	39		mg/kg	YES
LAMT0816SO104	08/16/2011	Field	Soil_Surface	EPA 6010	Arsenic	Y	11	40		mg/kg	no
LAMT0816SO104	08/16/2011	Field	Soil_Surface	EPA 6010	Barium	Y	146	820		mg/kg	no
LAMT0816SO104	08/16/2011	Field	Soil_Surface	EPA 6010	Cadmium	Y	0.23	3.8		mg/kg	no
LAMT0816SO104	08/16/2011	Field	Soil_Surface	EPA 6010	Chromium	Y	25.6	280		mg/kg	no
LAMT0816SO104	08/16/2011	Field	Soil_Surface	EPA 6010	Lead	Y	19.6	400		mg/kg	no
LAMT0816SO104	08/16/2011	Field	Soil_Surface	EPA 6010	Nickel	Y	18.8	150		mg/kg	no
LAMT0816SO104	08/16/2011	Field	Soil_Surface	MADEP EPH	Total Extractable Hydrocarbons	Y	15.2	200		mg/kg	no
LAMT0816SO104	08/16/2011	Field	Soil_Surface	EPA 6010	Vanadium	Y	**47.3**	39		mg/kg	YES
LAMT0816SO105	08/16/2011	Field	Soil_Surface	EPA 6010	Arsenic	Y	11.8	40		mg/kg	no
LAMT0816SO105	08/16/2011	Field	Soil_Surface	EPA 6010	Barium	Y	178	820		mg/kg	no
LAMT0816SO105	08/16/2011	Field	Soil_Surface	EPA 6010	Cadmium	Y	0.3	3.8		mg/kg	no
LAMT0816SO105	08/16/2011	Field	Soil_Surface	EPA 6010	Chromium	Y	29.9	280		mg/kg	no
LAMT0816SO105	08/16/2011	Field	Soil_Surface	EPA 6010	Lead	Y	22.7	400		mg/kg	no
LAMT0816SO105	08/16/2011	Field	Soil_Surface	EPA 7471	Mercury	Y	0.033	1		mg/kg	no
LAMT0816SO105	08/16/2011	Field	Soil_Surface	EPA 6010	Nickel	Y	24.6	150		mg/kg	no
LAMT0816SO105	08/16/2011	Field	Soil_Surface	EPA 6010	Selenium	Y	1.2	2.6		mg/kg	no
LAMT0816SO105	08/16/2011	Field	Soil_Surface	MADEP EPH	Total Extractable Hydrocarbons	Y	77.4	200		mg/kg	no
LAMT0816SO105	08/16/2011	Field	Soil_Surface	EPA 6010	Vanadium	Y	**49.2**	39		mg/kg	YES
LAMT0816SO106	08/16/2011	Field	Soil_Surface	EPA 6010	Arsenic	Y	10.8	40		mg/kg	no
LAMT0816SO106	08/16/2011	Field	Soil_Surface	EPA 6010	Barium	Y	188	820		mg/kg	no
LAMT0816SO106	08/16/2011	Field	Soil_Surface	EPA 6010	Cadmium	Y	0.3	3.8		mg/kg	no
LAMT0816SO106	08/16/2011	Field	Soil_Surface	EPA 6010	Chromium	Y	31.3	280		mg/kg	no
LAMT0816SO106	08/16/2011	Field	Soil_Surface	EPA 6010	Lead	Y	24.2	400		mg/kg	no
LAMT0816SO106	08/16/2011	Field	Soil_Surface	EPA 7471	Mercury	Y	0.038	1		mg/kg	no
LAMT0816SO106	08/16/2011	Field	Soil_Surface	EPA 6010	Nickel	Y	25.2	150		mg/kg	no

Detections in Samples Collected in SCAT Area A04

NA - Not Available

Detected Above Screening Level

Sample Num	Date	Sample Type	Matrix	Analytical Method	Analyte	Detected	Result	Screening Level	Result Qualifier	Units	Above?
LAMT0816SO106	08/16/2011	Field	Soil_Surface	EPA 6010	Selenium	Y	1.7	2.6		mg/kg	no
LAMT0816SO106	08/16/2011	Field	Soil_Surface	MADEP EPH	Total Extractable Hydrocarbons	Y	48.2	200		mg/kg	no
LAMT0816SO106	08/16/2011	Field	Soil_Surface	EPA 6010	Vanadium	Y	**50**	39		mg/kg	YES
LAMT0816SO107	08/16/2011	Field	Soil_Surface	MADEP EPH	Aliphatic (C09-C18)	Y	21.6	200		mg/kg	no
LAMT0816SO107	08/16/2011	Field	Soil_Surface	MADEP EPH	Aliphatic (C19-C36)	Y	171	20000		mg/kg	no
LAMT0816SO107	08/16/2011	Field	Soil_Surface	MADEP EPH	Aromatic (C11-22)	Y	71.9	400		mg/kg	no
LAMT0816SO107	08/16/2011	Field	Soil_Surface	EPA 6010	Arsenic	Y	13	40		mg/kg	no
LAMT0816SO107	08/16/2011	Field	Soil_Surface	EPA 6010	Barium	Y	186	820		mg/kg	no
LAMT0816SO107	08/16/2011	Field	Soil_Surface	EPA 6010	Cadmium	Y	0.34	3.8		mg/kg	no
LAMT0816SO107	08/16/2011	Field	Soil_Surface	EPA 6010	Chromium	Y	30.6	280		mg/kg	no
LAMT0816SO107	08/16/2011	Field	Soil_Surface	EPA 8270 by SIM	Chrysene	Y	17.4	20000		ug/kg	no
LAMT0816SO107	08/16/2011	Field	Soil_Surface	EPA 6010	Lead	Y	23.6	400		mg/kg	no
LAMT0816SO107	08/16/2011	Field	Soil_Surface	EPA 7471	Mercury	Y	0.04	1		mg/kg	no
LAMT0816SO107	08/16/2011	Field	Soil_Surface	EPA 8260	Methylene Chloride	Y	54.4	11000		ug/kg	no
LAMT0816SO107	08/16/2011	Field	Soil_Surface	EPA 6010	Nickel	Y	25.5	150		mg/kg	no
LAMT0816SO107	08/16/2011	Field	Soil_Surface	MADEP EPH	Total Extractable Hydrocarbons	Y	**475**	200		mg/kg	YES
LAMT0816SO107	08/16/2011	Field	Soil_Surface	EPA 6010	Vanadium	Y	**50.4**	39		mg/kg	YES
LAMT0816SO108	08/16/2011	Field	Soil_Surface	EPA 6010	Arsenic	Y	12.3	40		mg/kg	no
LAMT0816SO108	08/16/2011	Field	Soil_Surface	EPA 6010	Barium	Y	160	820		mg/kg	no
LAMT0816SO108	08/16/2011	Field	Soil_Surface	EPA 6010	Cadmium	Y	0.25	3.8		mg/kg	no
LAMT0816SO108	08/16/2011	Field	Soil_Surface	EPA 6010	Chromium	Y	27.9	280		mg/kg	no
LAMT0816SO108	08/16/2011	Field	Soil_Surface	EPA 6010	Lead	Y	20.4	400		mg/kg	no
LAMT0816SO108	08/16/2011	Field	Soil_Surface	EPA 6010	Nickel	Y	20.3	150		mg/kg	no
LAMT0816SO108	08/16/2011	Field	Soil_Surface	EPA 6010	Selenium	Y	0.87	2.6		mg/kg	no
LAMT0816SO108	08/16/2011	Field	Soil_Surface	MADEP EPH	Total Extractable Hydrocarbons	Y	31.5	200		mg/kg	no
LAMT0816SO108	08/16/2011	Field	Soil_Surface	EPA 6010	Vanadium	Y	**48.7**	39		mg/kg	YES
LAMT0816SOBKG111	08/16/2011	Field	Soil_Surface	EPA 6010	Arsenic	Y	3.5	40		mg/kg	no
LAMT0816SOBKG111	08/16/2011	Field	Soil_Surface	EPA 6010	Barium	Y	152	820		mg/kg	no
LAMT0816SOBKG111	08/16/2011	Field	Soil_Surface	EPA 8270 by SIM	Benzo(a)anthracene	Y	24.9	200		ug/kg	no
LAMT0816SOBKG111	08/16/2011	Field	Soil_Surface	EPA 8270 by SIM	Benzo(a)pyrene	Y	**30.5**	20		ug/kg	YES
LAMT0816SOBKG111	08/16/2011	Field	Soil_Surface	EPA 8270 by SIM	Benzo(b)fluoranthene	Y	50.9	200		ug/kg	no

Detections in Samples Collected in SCAT Area A04

NA - Not Available

Detected Above Screening Level

Sample Num	Date	Sample Type	Matrix	Analytical Method	Analyte	Detected	Result	Screening Level	Result Qualifier	Units	Above?
LAMT0816SOBKG111	08/16/2011	Field	Soil_Surface	EPA 8270 by SIM	Benzo(k)fluoranthene	Y	18.2	2000		ug/kg	no
LAMT0816SOBKG111	08/16/2011	Field	Soil_Surface	EPA 6010	Cadmium	Y	0.73	3.8		mg/kg	no
LAMT0816SOBKG111	08/16/2011	Field	Soil_Surface	EPA 6010	Chromium	Y	24.3	280		mg/kg	no
LAMT0816SOBKG111	08/16/2011	Field	Soil_Surface	EPA 8270 by SIM	Chrysene	Y	39.2	20000		ug/kg	no
LAMT0816SOBKG111	08/16/2011	Field	Soil_Surface	EPA 8270 by SIM	Fluoranthene	Y	35.6	300000		ug/kg	no
LAMT0816SOBKG111	08/16/2011	Field	Soil_Surface	EPA 8270 by SIM	Indeno(1,2,3-cd)pyrene	Y	27.2	200		ug/kg	no
LAMT0816SOBKG111	08/16/2011	Field	Soil_Surface	EPA 6010	Lead	Y	31.7	400		mg/kg	no
LAMT0816SOBKG111	08/16/2011	Field	Soil_Surface	EPA 7471	Mercury	Y	0.025	1		mg/kg	no
LAMT0816SOBKG111	08/16/2011	Field	Soil_Surface	EPA 6010	Nickel	Y	18.7	150		mg/kg	no
LAMT0816SOBKG111	08/16/2011	Field	Soil_Surface	EPA 8270 by SIM	Pyrene	Y	33.7	200000		ug/kg	no
LAMT0816SOBKG111	08/16/2011	Field	Soil_Surface	EPA 6010	Selenium	Y	0.93	2.6		mg/kg	no
LAMT0816SOBKG111	08/16/2011	Field	Soil_Surface	MADEP EPH	Total Extractable Hydrocarbons	Y	74.3	200		mg/kg	no
LAMT0816SOBKG111	08/16/2011	Field	Soil_Surface	EPA 6010	Vanadium	Y	36.4	39		mg/kg	no
LAMT0824SE405	08/24/2011	Field	Sediment	EPA 6010	Arsenic	Y	**17.1**	9.8		mg/kg	YES
LAMT0824SE405	08/24/2011	Field	Sediment	EPA 6010	Barium	Y	131	NA		mg/kg	no
LAMT0824SE405	08/24/2011	Field	Sediment	EPA 6010	Cadmium	Y	0.99	0.99		mg/kg	no
LAMT0824SE405	08/24/2011	Field	Sediment	EPA 6010	Chromium	Y	17.5	43.4		mg/kg	no
LAMT0824SE405	08/24/2011	Field	Sediment	EPA 6010	Lead	Y	12.9	35.8		mg/kg	no
LAMT0824SE405	08/24/2011	Field	Sediment	EPA 9060	Mean Total Organic Carbon	Y	2740	NA		mg/kg	no
LAMT0824SE405	08/24/2011	Field	Sediment	EPA 6010	Nickel	Y	13	22.7		mg/kg	no
LAMT0824SE405	08/24/2011	Field	Sediment	EPA 9060	RSD%	Y	19.9	NA		%	no
LAMT0824SE405	08/24/2011	Field	Sediment	EPA 9060	Total Organic Carbon	Y	3420	NA		mg/kg	no
LAMT0824SE405	08/24/2011	Field	Sediment	EPA 6010	Vanadium	Y	33.6	NA		mg/kg	no
LAMT0824SE406	08/24/2011	Field	Sediment	EPA 6010	Arsenic	Y	**17.8**	9.8		mg/kg	YES
LAMT0824SE406	08/24/2011	Field	Sediment	EPA 6010	Barium	Y	127	NA		mg/kg	no
LAMT0824SE406	08/24/2011	Field	Sediment	EPA 6010	Cadmium	Y	**1**	0.99		mg/kg	YES
LAMT0824SE406	08/24/2011	Field	Sediment	EPA 6010	Chromium	Y	16.9	43.4		mg/kg	no
LAMT0824SE406	08/24/2011	Field	Sediment	EPA 6010	Lead	Y	7.3	35.8		mg/kg	no
LAMT0824SE406	08/24/2011	Field	Sediment	EPA 9060	Mean Total Organic Carbon	Y	6190	NA		mg/kg	no
LAMT0824SE406	08/24/2011	Field	Sediment	EPA 6010	Nickel	Y	12.9	22.7		mg/kg	no
LAMT0824SE406	08/24/2011	Field	Sediment	EPA 9060	RSD%	Y	11.1	NA		%	no

Detections in Samples Collected in SCAT Area A04

NA - Not Available

Detected Above Screening Level

Sample Num	Date	Sample Type	Matrix	Analytical Method	Analyte	Detected	Result	Screening Level	Result Qualifier	Units	Above?
LAMT0824SE406	08/24/2011	Field	Sediment	EPA 9060	Total Organic Carbon	Y	7010	NA		mg/kg	no
LAMT0824SE406	08/24/2011	Field	Sediment	EPA 6010	Vanadium	Y	33.9	NA		mg/kg	no
SPSO101D02_071211	07/12/2011	Field	Soil_Surface	EPA 8260	1,2,4-Trimethylbenzene	Y	2450	62000		ug/kg	no
SPSO101D02_071211	07/12/2011	Field	Soil_Surface	EPA 8260	1,3,5-Trimethylbenzene	Y	715	780000		ug/kg	no
SPSO101D02_071211	07/12/2011	Field	Soil_Surface	MADEP VPH	Aliphatic (C09-C12).Unadjusted	Y	62.2	100		mg/kg	no
SPSO101D02_071211	07/12/2011	Field	Soil_Surface	MADEP VPH	Aromatic (C09-C10)	Y	60	100		mg/kg	no
SPSO101D02_071211	07/12/2011	Field	Soil_Surface	MADEP VPH	Naphthalene	Y	**5.1**	4		mg/kg	YES
SPSO101D02_071211	07/12/2011	Field	Soil_Surface	EPA 8260	Naphthalene	Y	718	4000		ug/kg	no
SPSO101D02_071211	07/12/2011	Field	Soil_Surface	EPA 8260	n-Butylbenzene	Y	575	3900000		ug/kg	no
SPSO101D02_071211	07/12/2011	Field	Soil_Surface	EPA 8260	n-Propylbenzene	Y	158	3400000		ug/kg	no
SPSO101D02_071211	07/12/2011	Field	Soil_Surface	EPA 8260	p-Isopropyltoluene	Y	313	NA		ug/kg	no
SPSO101D02_071211	07/12/2011	Field	Soil_Surface	EPA 8260	sec-Butylbenzene	Y	196	NA		ug/kg	no
SPSO101D02_071211	07/12/2011	Field	Soil_Surface	MADEP EPH	Total Extractable Hydrocarbons	Y	**3190**	200		mg/kg	YES
SPSO109D02_071311	07/13/2011	Field	Soil_Surface	MADEP EPH	Total Extractable Hydrocarbons	Y	21.6	200		mg/kg	no
SPSO110D02_071311	07/13/2011	Field	Soil_Surface	MADEP EPH	Total Extractable Hydrocarbons	Y	38.3	200		mg/kg	no
SPSO111D02_071311	07/13/2011	Field	Soil_Surface	MADEP EPH	Total Extractable Hydrocarbons	Y	**1220**	200		mg/kg	YES
ST-072011-CV1		Field	Soil_Surface	8260B	1,2-Dichloroethane-d4	Y	80	NA		%	no
ST-072011-CV1		Field	Soil_Surface	8270C	2,4,6-Tribromophenol	Y	119	NA		%	no
ST-072011-CV1		Field	Soil_Surface	MA-EPH-MDEQ-REM	2-Bromonaphthalene	Y	93	NA		%	no
ST-072011-CV1		Field	Soil_Surface	MA-EPH-MDEQ-REM	2-Fluorobiphenyl	Y	92	NA		%	no
ST-072011-CV1		Field	Soil_Surface	8270C	2-Fluorobiphenyl	Y	85	NA		%	no
ST-072011-CV1		Field	Soil_Surface	MA-EPH-MDEQ-REM	C11-C22 Aromatics	Y	168	400		mg/kg	no
ST-072011-CV1		Field	Soil_Surface	MA-EPH-MDEQ-REM	C19-C36 Aliphatics	Y	176	20000		mg/kg	no
ST-072011-CV1		Field	Soil_Surface	MA-VPH-MDEQ-REM	C9-C12 Aliphatics	Y	2.9	100		mg/kg	no
ST-072011-CV1		Field	Soil_Surface	MA-EPH-MDEQ-REM	C9-C18 Aliphatics	Y	64	200		mg/kg	no
ST-072011-CV1		Field	Soil_Surface	8260B	Dibromofluoromethane	Y	88	NA		%	no
ST-072011-CV1		Field	Soil_Surface	8270C	Nitrobenzene-D5	Y	84	NA		%	no
ST-072011-CV1		Field	Soil_Surface	MA-EPH-MDEQ-REM	Octadecane, 1-chloro-	Y	95	NA		%	no
ST-072011-CV1		Field	Soil_Surface	8270C	o-Fluorophenol	Y	80	NA		%	no
ST-072011-CV1		Field	Soil_Surface	8015M-MDEQ-REM	o-Terphenyl	Y	86	NA		%	no
ST-072011-CV1		Field	Soil_Surface	MA-EPH-MDEQ-REM	o-Terphenyl	Y	90	NA		%	no

Detections in Samples Collected in SCAT Area A04

NA - Not Available

Detected Above Screening Level

Sample Num	Date	Sample Type	Matrix	Analytical Method	Analyte	Detected	Result	Screening Level	Result Qualifier	Units	Above?
ST-072011-CV1		Field	Soil_Surface	8260B	p-Bromofluorobenzene	Y	100	NA		%	no
ST-072011-CV1		Field	Soil_Surface	8270C	Phenol-d5	Y	83	NA		%	no
ST-072011-CV1		Field	Soil_Surface	8270C	Terphenyl-d14	Y	83	NA		%	no
ST-072011-CV1		Field	Soil_Surface	8260B	Toluene-d8	Y	94	NA		%	no
ST-072011-CV1		Field	Soil_Surface	MA-EPH-MDEQ-REM	Total Extractable Hydrocarbons	Y	**488**	200		mg/kg	YES
ST-072011-CV1		Field	Soil_Surface	8015M-MDEQ-REM	Total Extractable Hydrocarbons	Y	**621**	200		mg/kg	YES
ST-072011-CV1		Field	Soil_Surface	MA-VPH-MDEQ-REM	Total Purgeable Hydrocarbons	Y	8.2	200		mg/kg	no
ST-072011-CV2		Field	Soil_Surface	8260B	1,2-Dichloroethane-d4	Y	78	NA		%	no
ST-072011-CV2		Field	Soil_Surface	8270C	2,4,6-Tribromophenol	Y	122	NA		%	no
ST-072011-CV2		Field	Soil_Surface	MA-EPH-MDEQ-REM	2-Bromonaphthalene	Y	92	NA		%	no
ST-072011-CV2		Field	Soil_Surface	MA-EPH-MDEQ-REM	2-Fluorobiphenyl	Y	87	NA		%	no
ST-072011-CV2		Field	Soil_Surface	8270C	2-Fluorobiphenyl	Y	94	NA		%	no
ST-072011-CV2		Field	Soil_Surface	MA-EPH-MDEQ-REM	C11-C22 Aromatics	Y	149	400		mg/kg	no
ST-072011-CV2		Field	Soil_Surface	MA-EPH-MDEQ-REM	C19-C36 Aliphatics	Y	205	20000		mg/kg	no
ST-072011-CV2		Field	Soil_Surface	MA-EPH-MDEQ-REM	C9-C18 Aliphatics	Y	34	200		mg/kg	no
ST-072011-CV2		Field	Soil_Surface	8260B	Dibromofluoromethane	Y	86	NA		%	no
ST-072011-CV2		Field	Soil_Surface	8270C	Nitrobenzene-D5	Y	104	NA		%	no
ST-072011-CV2		Field	Soil_Surface	MA-EPH-MDEQ-REM	Octadecane, 1-chloro-	Y	94	NA		%	no
ST-072011-CV2		Field	Soil_Surface	8270C	o-Fluorophenol	Y	84	NA		%	no
ST-072011-CV2		Field	Soil_Surface	MA-EPH-MDEQ-REM	o-Terphenyl	Y	79	NA		%	no
ST-072011-CV2		Field	Soil_Surface	8015M-MDEQ-REM	o-Terphenyl	Y	81	NA		%	no
ST-072011-CV2		Field	Soil_Surface	8260B	p-Bromofluorobenzene	Y	94	NA		%	no
ST-072011-CV2		Field	Soil_Surface	8270C	Phenol-d5	Y	88	NA		%	no
ST-072011-CV2		Field	Soil_Surface	8270C	Terphenyl-d14	Y	91	NA		%	no
ST-072011-CV2		Field	Soil_Surface	8260B	Toluene-d8	Y	91	NA		%	no
ST-072011-CV2		Field	Soil_Surface	MA-EPH-MDEQ-REM	Total Extractable Hydrocarbons	Y	**477**	200		mg/kg	YES
ST-072011-CV2		Field	Soil_Surface	8015M-MDEQ-REM	Total Extractable Hydrocarbons	Y	**615**	200		mg/kg	YES

Detections in Samples Collected in SCAT Area A04

NA - Not Available

Detected Above Screening Level

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

Appendix B

Initial SCAT Survey Forms and Sketches

Sc

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

1 GENERAL INFORMATION	Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: A4 Left Bank / Right Bank / Island	11-Jul-2011		low - mean - bankfull - overbank
Operations Division: A		1106 hrs to 1107 hrs	falling - steady – rising
Survey by: Foot / ATV / Boat / Helicopter / Overlook / _____	Sun / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp + / - 29.4 deg C

2 SURVEY TEAM # 2 & 4

name	organization	contact phone number
Andrew Milanes	Polaris	
Tom Freeman	Polaris	
Andrew Johnson	USCG	
Travis Olson	USCG	

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 492 m

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

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

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

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

Sediment Bank: Clay/Mud_____ Sand_____ Mixed S___ Pebble/Cobble_____ Boulder_____ Peat/Organic_____ | Vegetated Bank: P___ | Wooded Upland: S___

Sediment Flat: Clay/Mud_____ Sand_____ Mixed/Coarse_____ | Other: _____ | If snow and ice use Winter River SOS

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

Cliff or Bluff:____Est Height _____m | canyon_____ manmade_____ meander _____ confined or leveed _____ | Substrate Type: mixed

Sloped:___(>5°)(15°)(30°) | straight P___ braided S___ oxbow_____ flood plain valley_____ | Forested / Vegetated / Bare

4C RIVER CHANNEL CHARACTER circle or select as appropriate

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

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

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

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

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

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

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

OIL ZONE ID	RIVER BANK ZONE				OIL COVER			OIL THICKNESS					OIL CHARACTER								SUBST. TYPE(S)
					Length	Width	Distrib.														
	MS	LB	UB	OB	m	m	%	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR	AP	NO	
156 A			X		492	1														X	Grass, trees, debris

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

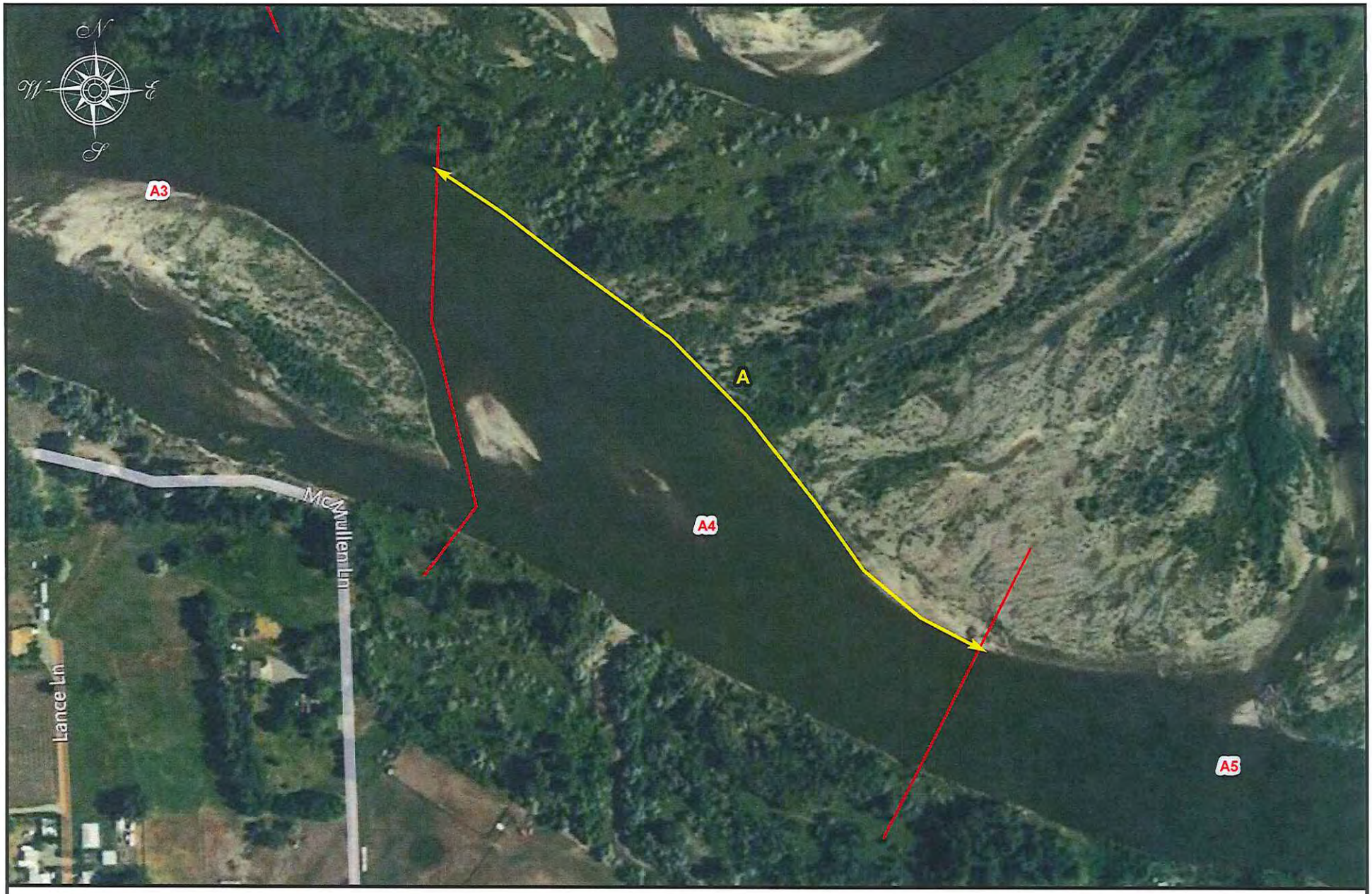
TRENCH or PIT NO.	RIVER BANK ZONE				MAX. PIT DEPTH	OILED ZONE	SUBSURFACE OIL CHARACTER							WATER TABLE	SHEEN COLOUR	CLEAN BELOW	SUBST. TYPE(S)
	MS	LB	UB	OB	cm	cm-cm	SAP	OP	PP	OR	OF	TR	NO	cm	B, R, S, N	Yes / No	

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

Cleanup Recommendations: No oil observed along river channel margin

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

Sketch (Yes/No) Photos (Yes/No) (Roll # _____ Frames_____) Video Tape Yes/No (tape#_____



SCAT Teams 2 & 4 Survey

Segment A4 Left Bank

11-Jul-2011

300 0 300 Feet

Legend

Oil Zones

Segment Boundaries

DB

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

Page 1 of 1

1 GENERAL INFORMATION	Date (dd/mm/yy)	Time (24h): std / daylight	Water Level
Segment/Reach ID: A4 (Left Bank) / Right Bank / Island	20/07/11	1000 hrs to 1400 hrs	low - mean - bankfull - overbank
Operations Division: A			(falling) - steady - rising
Survey by: (Foot) / ATV / Boat / Helicopter / Overlook / _____	(Sun) / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp + / - 20 deg C

2 SURVEY TEAM # 485 394	name	organization	contact phone number
John Williams	[signature]	Cardno ENTRIX	361 676 8138
Joe Boyle	[signature]	Cardno ENTRIX	356 214 6858
Courtney Tyree	[signature]	FWP	406 860 7814
Mike Ruggles	[signature]	FWP	406 671 8863
Gary Riley	[signature]	EPA	415 215 0690

3 SEGMENT Total Segment/Reach Length 480 m Segment/Reach Length Surveyed 480 m

Start GPS: LATITUDE 45 deg. 39.381 min. LONGITUDE 108 deg. 44.806 min. Datum: WGS84

End GPS: LATITUDE 45 deg. 39.211 min. LONGITUDE 108 deg. 44.394 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: ____

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

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

Cliff or Bluff:____ Est Height____ m | canyon____ manmade____ meander S confined or leveed____ | Substrate Type: Mud

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

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

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

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

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

Debris (Y)/N oiled Y/(N) amount____ bags or____ trucks | access restrictions

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

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

OIL ZONE ID	RIVER BANK ZONE MS	LB	UB	OB	OIL COVER Length m	Width m	Distrib. %	OIL THICKNESS TO	CV	CT	ST	FL	OIL CHARACTER FR	MS	TB	PT	TC	SR	AP	NO	SUBST. TYPE(S)
381 A				P	480	275	0													P	Veg

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

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

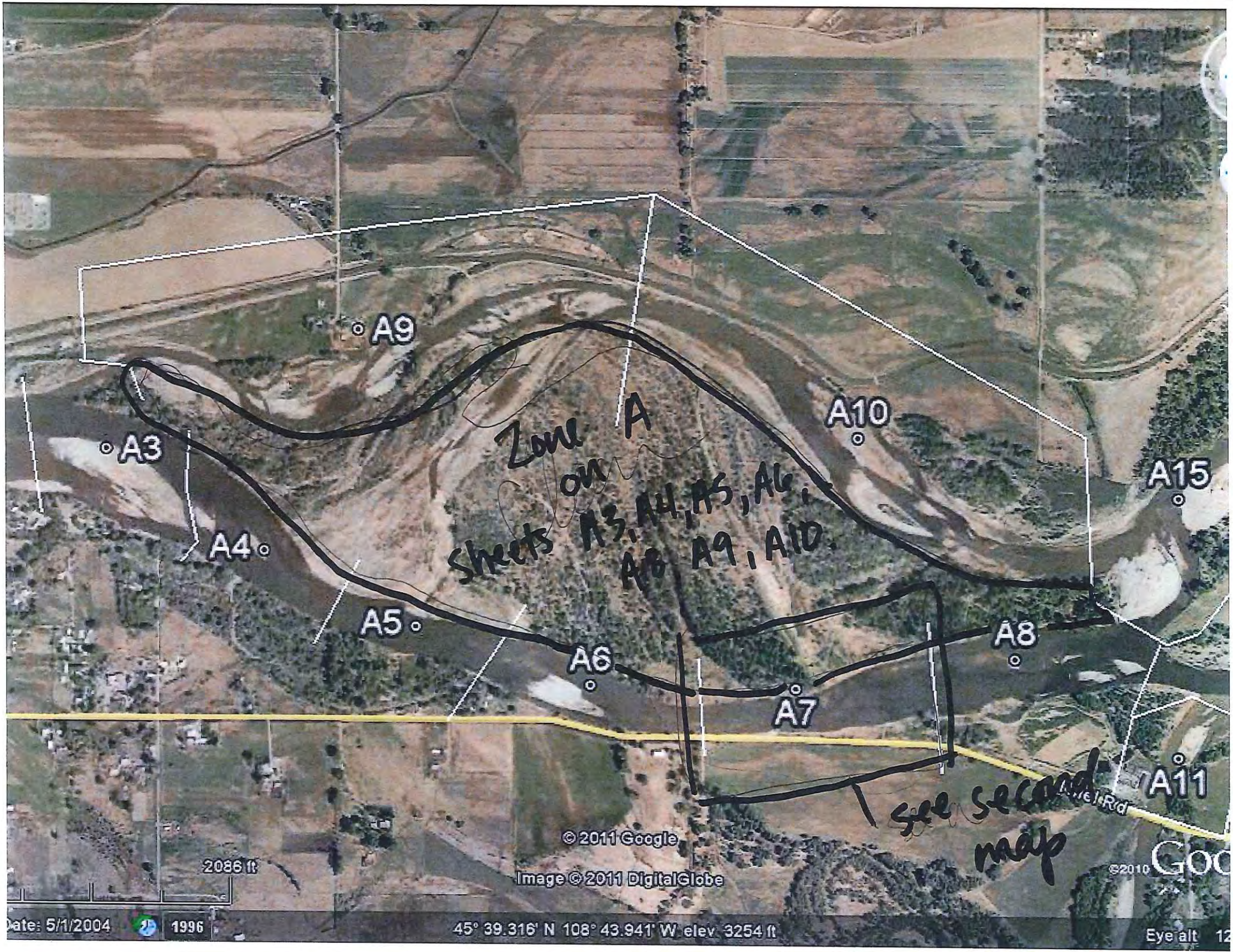
8 COMMENTS ecological/recreational/cultural/economic constraints - shorezone biota and wildlife observations - cleanup recommendations

name	organization	contact phone number
Janice Witul [signature]	EPA	415 816 6582

No recommendations for oil zone A.

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

Sketch (Yes)/No Photos (Yes)/No (Roll # NA Frames____) Video Tape Yes/(No) (tape#


A9
A3
A10
A15
A4
A5
A6
A7
A8
A11
Zone A
on
sheets A3, A4, A5, A6,
A8, A9, A10.
see second map
© 2011 Google
Image © 2011 DigitalGlobe
2086 ft
Date: 5/1/2004
1996
45° 39.316' N 108° 43.941' W elev 3254 ft
Eye alt

DB16

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION

Segment/Reach ID: A 4 Left Bank / Right Bank / Island

Operations Division: A

Date (dd/mm/yy): 03/09/11

Time (24h): std / daylight 1000 hrs to 1330 hrs

Water Level: low - mean - bankfull - overbank; falling - steady – rising

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

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

Air Temp + / - 22 deg C

2 SURVEY TEAM # 2

Name	Organization	Signature
Pete Lee	Polaris	PBLee
Larry Alheim	MTDEQ	L. Alheim
Stephen Ball	USEPA	Stephen Ball

3 SEGMENT Total Segment/Reach Length 490 m Segment/Reach Length Surveyed 490 m

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

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

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

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

Sediment Bank: Clay/Mud_____ Sand_____ Mixed X___ Pebble/Cobble_____ Boulder_____ Peat/Organic_____ | Vegetated Bank: P___ | Wooded Upland: S___

Sediment Flat: Clay/Mud_____ Sand_____ Mixed/Coarse_____ | Other: _____ | If snow and ice use Winter River SOS

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

Cliff or Bluff:___Est Height _____m | canyon_____ manmade___ meander ____ confined or leveed _____ | Substrate Type: _____

Sloped:___(>5°)(15°)(30°) | straight_____ braided (X) P oxbow_____ flood plain valley X___ | Forested / Vegetated / Bare

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width : < 1m 1–10 m (10–100 m) >100m m

est. water depth : <1 m (1-3 m) >10 m _____ m

shoal(s) present (Y) / N point bar present Y / (N)

bar-shoal substrate : silt / (sand / gravel / cobble) / boulder / bedrock / debris

seasonal water level: low / (mean) / bank full / overbank flow

est. change over next 7 days : falling — same — rising

5 OPERATIONAL FEATURES

Suitable backshore staging Y / (N)

Access: Direct from backshore Y / (N) Alongshore from next segment (Y) / N

Debris (Y) / N oiled Y / (N) amount _____bags or _____trucks

Access restrictions: 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 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	
2042 A				X	490	10														X	Grass, trees, debris

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

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

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

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

Oil height:

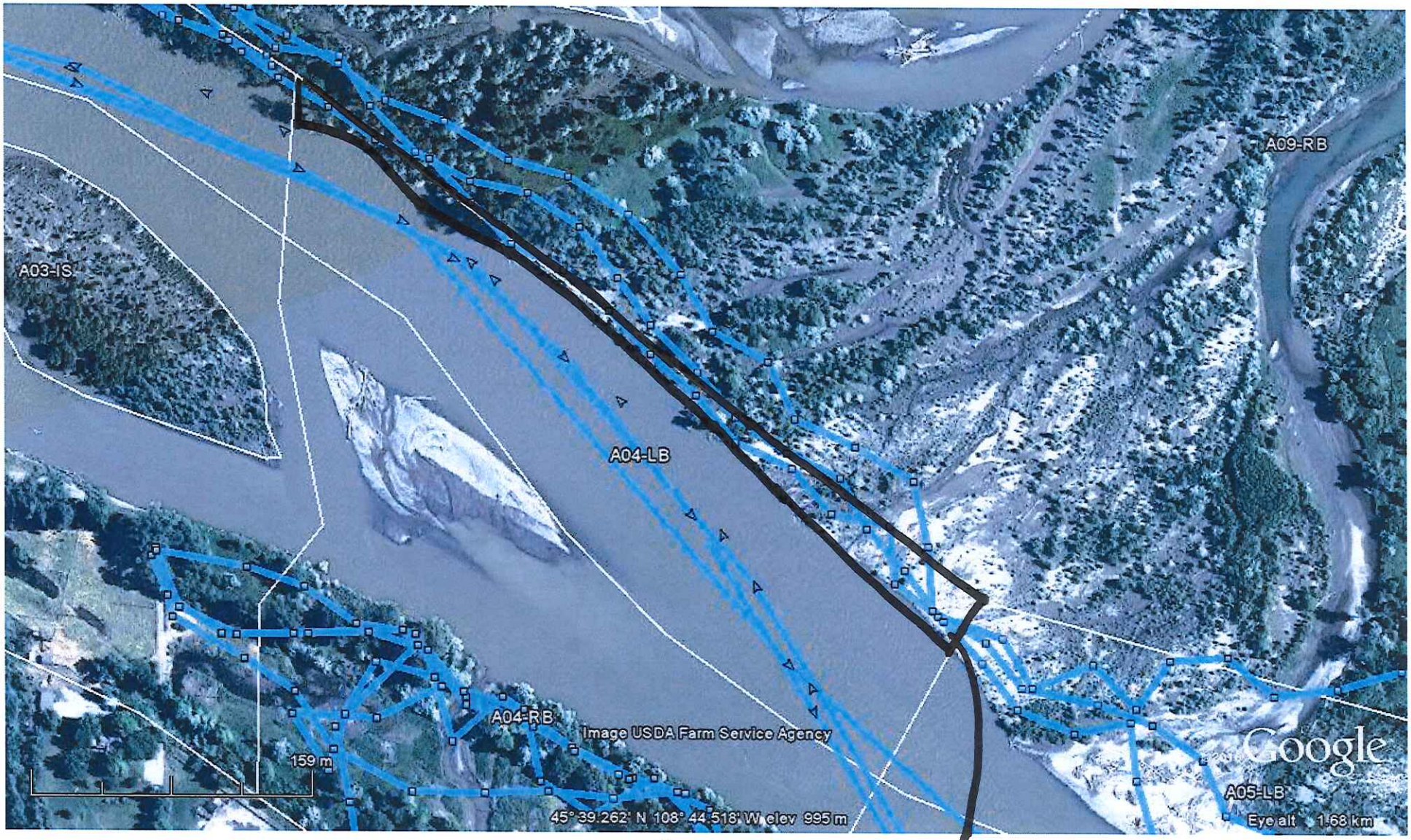
Treatment recommendations:

Zone A : No oil ; no treatment required

Zone :

Private landowner

Sketch Yes / No Photos Yes / No Frames_____ Photographer_____



A4 LB

A: NO

T2 9/3/11

OB/G/SC

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: A4 Left Bank / **Right Bank** / Island	11-Jul-2011		low - mean - bankfull - **overbank**
Operations Division: A		1106 hrs to 1107 hrs	**falling** - steady – rising
Survey by: Foot / ATV / **Boat** / Helicopter / Overlook / _____	**Sun** / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp + / - **29.4** deg C

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

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 347 m

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

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

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

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

Sediment Bank: Clay/Mud_____ Sand_____ Mixed S___ Pebble/Cobble_____ Boulder_____ Peat/Organic_____ | **Vegetated Bank:** P | **Wooded Upland:** S

Sediment Flat: Clay/Mud_____ Sand_____ Mixed/Coarse_____ | **Other:** _____ | If snow and ice use Winter River SOS

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

Cliff or Bluff:____ Est Height _____m | canyon_____ manmade_____ meander _____ confined or leveed _____ | Substrate Type: mixed

Sloped:___(>5°)(15°)(30°) | straight X___ braided _____ oxbow_____ flood plain valley_____ | Forested / **Vegetated** / Bare

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

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

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

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

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

Debris: **Y** / N oiled **Y** / N amount _____bags or 1 ____trucks access restrictions

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

6 SURFACE OILING CONDITIONS *begin with "A" in the lowest tidal zone - circle the 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		347	1	95			X	X		X								Grass, trees, debris

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

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

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

Oiled Band Heights: Zone A - 20cm

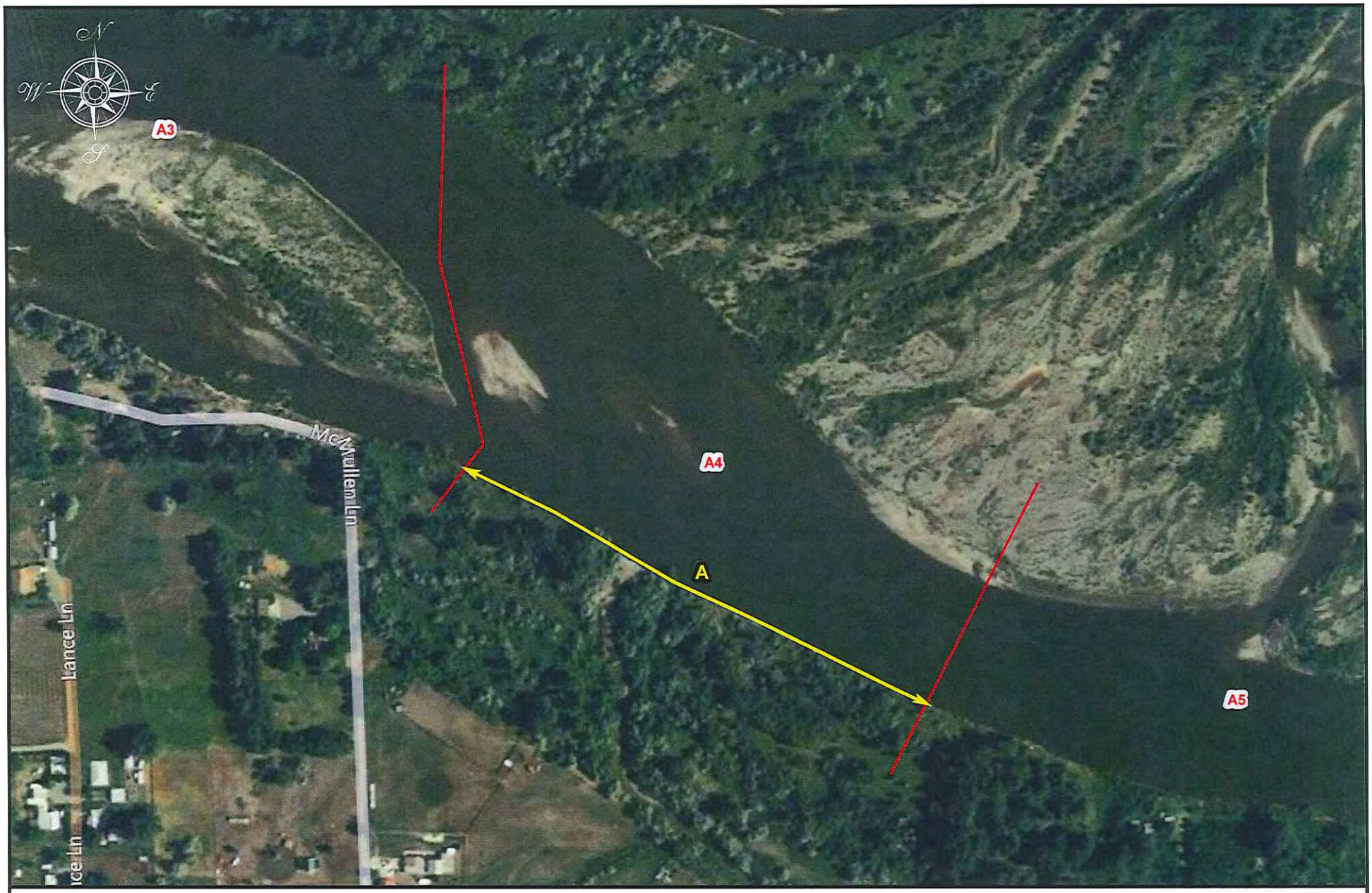
Due to survey platform (jet-drive boat) oil band width and heights are estimates. Unable to verify by foot.

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

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

Sketch Yes/No **Photos** Yes/No (Roll # _____ Frames_____) **Video Tape** Yes/No (tape#

3547 - 3554



SCAT Teams 2 & 4 Survey

Segment A4 Right Bank

11-Jul-2011

300 0 300 Feet

Legend

Oil Zones

Segment Boundaries

D3 | G | Sc

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: A4 Left Bank / **Right Bank**/Island	16/07/2011		low - mean - bankfull - **overbank**
Operations Division: A		1000 hrs to 1200 hrs	**falling** - steady – rising
Survey by: **Foot** / ATV / Boat / Helicopter / Overlook / _____	**Sun** / Clouds / Fog / Rain / Snow / Windy / Calm		Air Temp + / - 27 deg C

2 SURVEY TEAM # 3	name	organization	contact phone number
Richard Marty	Richard Marty	Polaris	208-360-0733
Jenni Nelson		Polaris	
Andrew Johnson		US Coast Guard	S. Mellott
Mike Ruggles		Montana Fish Wildlife and Parks	
Ned Balcon		Exxon-Mobile	

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 230 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* | *complete for primary*

Cliff or Bluff:____Est Height _____m | canyon_____ manmade_____ meander P___ confined or leveed _____ | Substrate Type: Mud

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 150 m **est. water depth :** <1 m 1-3 m **3-10 m** >10 m ____ m

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

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

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

Debris: **Y** / N **oiled** **Y** / N amount 20 bags or __trucks access restrictions Area is wet and a fence separates the area and road

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	
235 ~~236~~ A				x	32	64	20				x		x								Veg.
~~237~~ B				x	170	20	10		x				x								Veg.
~~238~~ C				x	30	30	0.5		x				x								Veg.
236																					
237																					

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

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

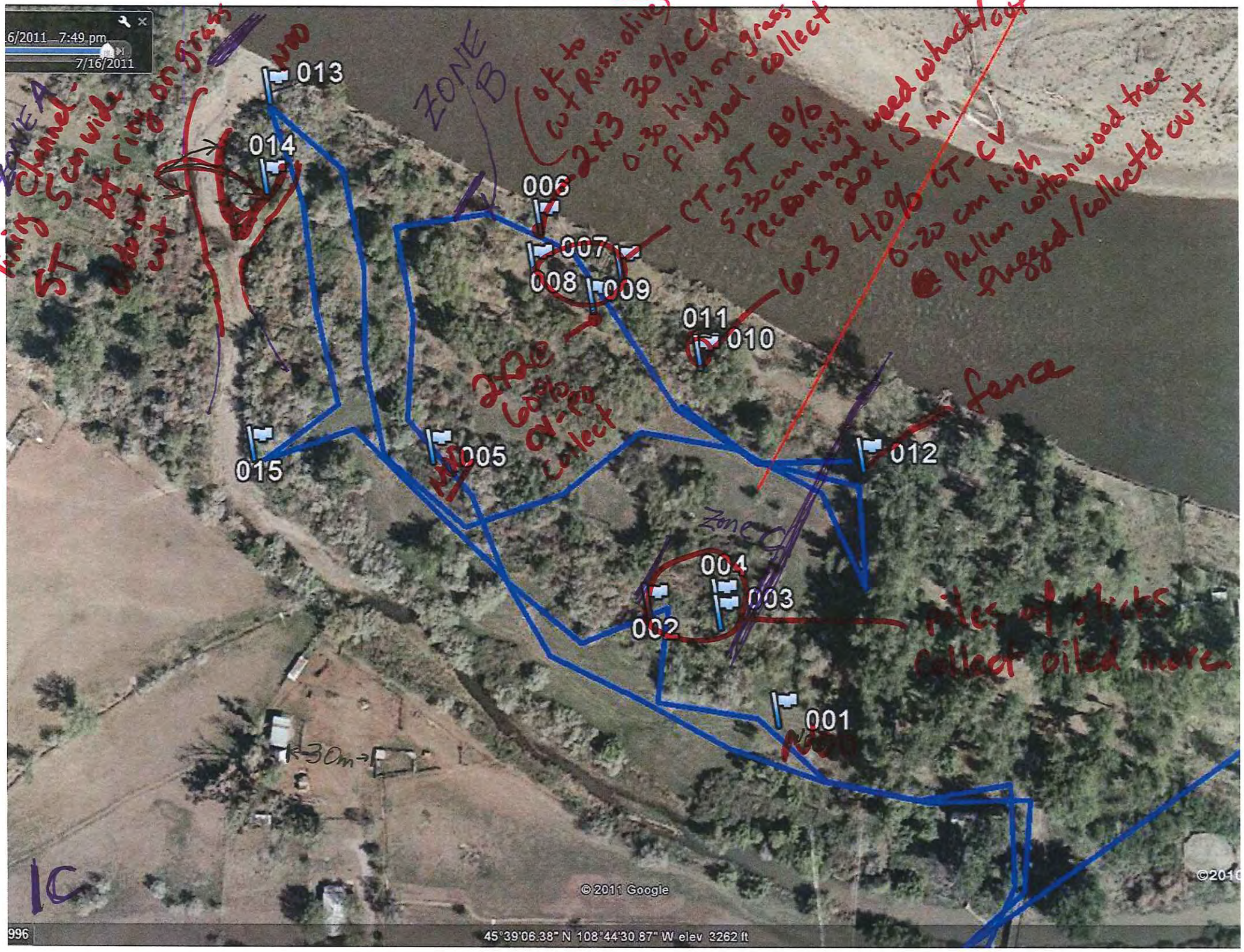
8 COMMENTS *ecological/recreational/cultural/economic constraints - shorezone biota and wildlife observations - cleanup recommendations*

OPERATIONS AREA 1C. Zone A is oil on vegetation with a 5 cm thick zone approximately 25 cm up plant stems. Zone B is oiled vegetation close to the river bank. Zone C consist of residual oiled vegetation and debris.

NFT for vegetation in Zone A because cutting of vegetation is expected to increase erosion of the channel banks. Oiled vegetation of Zone B should be cut, bagged, and disposed. Oiled debris and vegetation of Zone C should be recovered to the extent practicable.

(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#_____



16/2011 7:49 pm
7/16/2011
013
014
006
007
008
009
011
010
015
005
012
004
003
002
001
ZONE A
ZONE B
ZONE C
ok to cut Russ. olive
2x3 30% CV
0-30 high on grass flagged - collect
CT-ST 8%
5-30 cm high
recommend weed whack/cut
20x15 m
6x3 40% CT-CV
0-20 cm high
@ pallan cottonwood tree
flagged/collect & cut
2x2 @ 60% CV-PO collect
fence
piles of sticks collect oiled more
30m
1C
© 2011 Google
45°39'06.38" N 108°44'30.87" W elev 3262 ft

D13/G

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

1 GENERAL INFORMATION

Segment/Reach ID: A04 Left Bank / Right Bank / Island

Operations Division: Right Bank

Date (dd/mm/yy): 20/08/11

Time (24h): std / daylight 950 hrs to 1030 hrs

Water Level: low - mean - bankfull - overbank; falling - steady - rising

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

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

Air Temp + / - ____ deg C

2 SURVEY TEAM # 3

Name	Organization	Signature
Todd Farrar	Polaris	
Lisa Gerencher	Entrix	
Jeffrey Herrick	DEQ	
Rachelle Thompson	EPA	
Ethan Stapp	DNRC	

3 SEGMENT Total Segment/Reach Length _____ m Segment/Reach Length Surveyed 198 m

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

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

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

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

Sediment Bank: Clay/Mud____ Sand____ Mixed S Pebble/Cobble P Boulder____ Peat/Organic____ | Vegetated Bank:____ | Wooded Upland: ____

Sediment Flat: Clay/Mud____ 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:____ Est Height ____m | canyon____ manmade____ meander ____ confined or leveed ____ | Substrate Type: _____

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

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

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

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

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

Debris: Y / N oiled Y / N amount ____bags or ____trucks | access restrictions OWNER ACESS ISSUES

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	
734 A		x			198	62														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	OILED ZONE	SUBSURFACE OIL CHARACTER							WATER TABLE	SHEEN COLOUR	CLEAN BELOW	SUBST. TYPE(S)
	MS	LB	UB	OB	cm	cm-cm	SAP	OP	PP	OR	OF	TR	NO	cm	B, R, S, N	Yes / No	

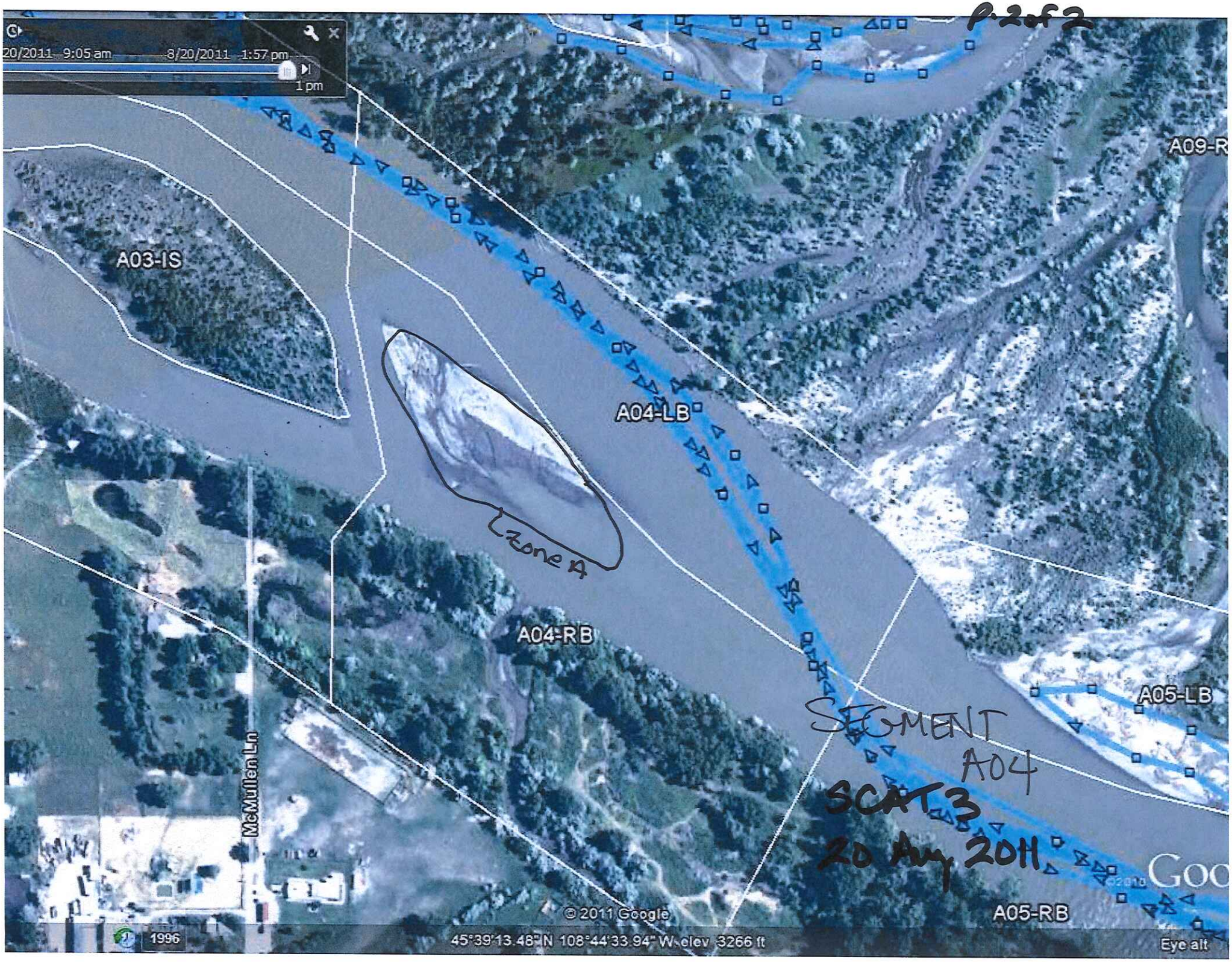
8 COMMENTS ecological/recreational/cultural/economic constraints - shorezone biota and wildlife observations - cleanup recommendations

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

Zone A –

NOO. NPT

Sketch Yes / No Photos Yes / No Frames_____ Photographer_____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8/20/2011 1:57 pm
1 pm
A09-R
A03-IS
A04-LB
Zone A
A04-RB
A05-LB
SEGMENT
A04
SCAT 3
20 Aug 2011
McMullen Ln
© 2011 Google
A05-RB
1996
45°39'13.48" N 108°44'33.94" W elev 3266 ft
Eye alt

Appendix C

Applicable Compiled Treatment Recommendations

Compiled Treatment Recommendations – 5 (A04-R through A06-R)

SCAT Segments Covered:

A04 (Right Bank), A05 (Right Bank), A06 (Right Bank)

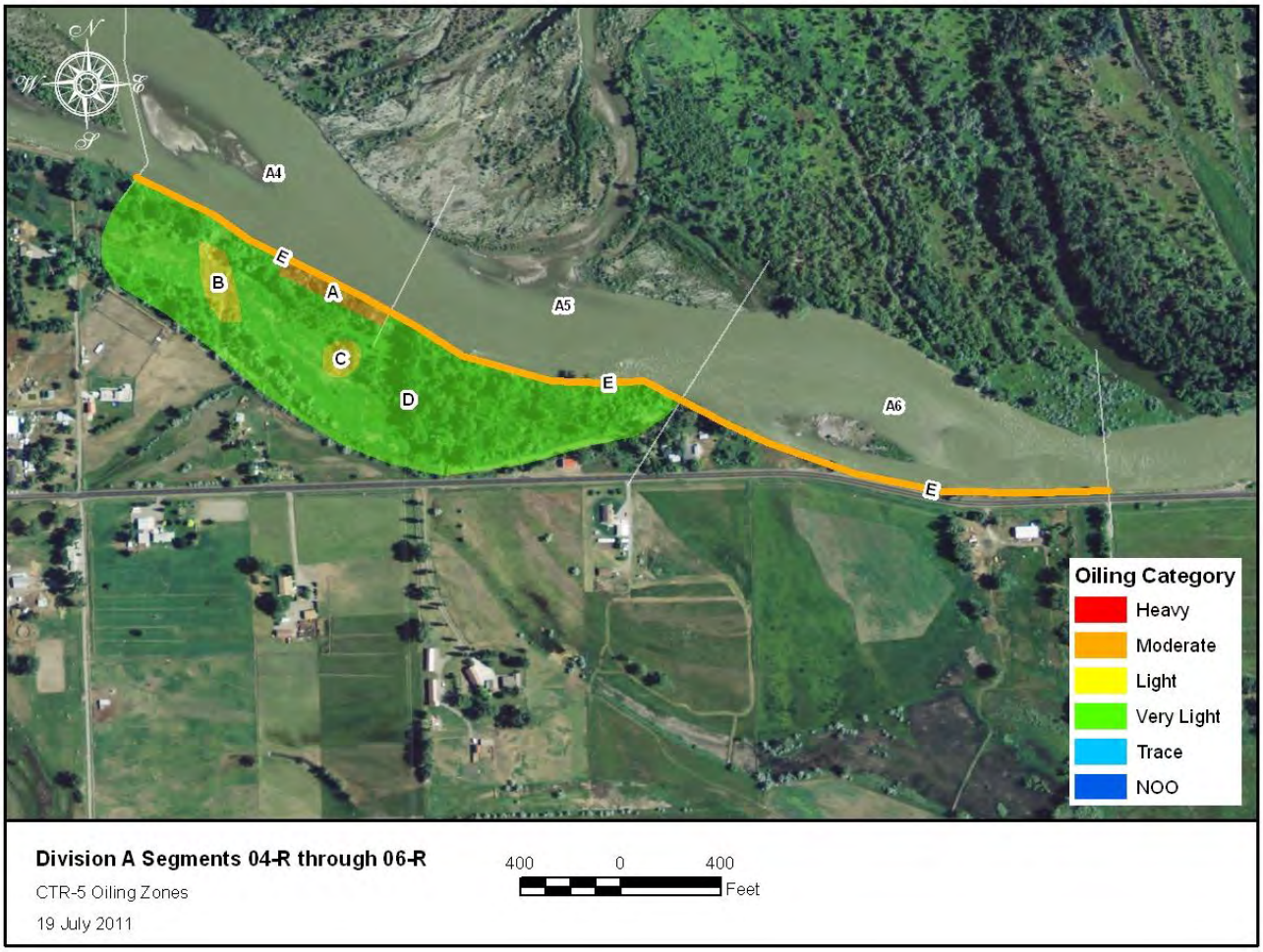
SCAT Survey Dates: 11-Jul-2011, 16-Jul-2011 (See attached Riverine SCAT Forms)

Ops Sites Covered:

NA

Refer to current approved treatment methods:

#1 Cutting of Vegetation, #2 Dead Vegetation and Small Debris, #3 Large Woody Debris



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Zone A:

Primary Oiling Conditions: In backshore, ~10% distribution of oiled debris (coat/cover), oil coat/stain on vegetation.

Cleanup Recommendations: Cut and remove oil coated vegetation smaller than 1" diameter. Do not cut grasses shorter than 2" from the ground. Remove oil coated debris smaller than 4" diameter. Wipe larger oil coated vegetation and debris.

Zones B & C:

Primary Oiling Conditions: ~10-20% distribution of oiled debris (coat) and oil coat/stain on vegetation.

Cleanup Recommendations: Cut and remove oil coated vegetation smaller than 1" diameter. Wipe oil coated vegetation larger than 1" diameter. Only remove oil coated debris smaller than 4" diameter. Wipe oil-coated debris larger than 4" diameter.

Zone D:

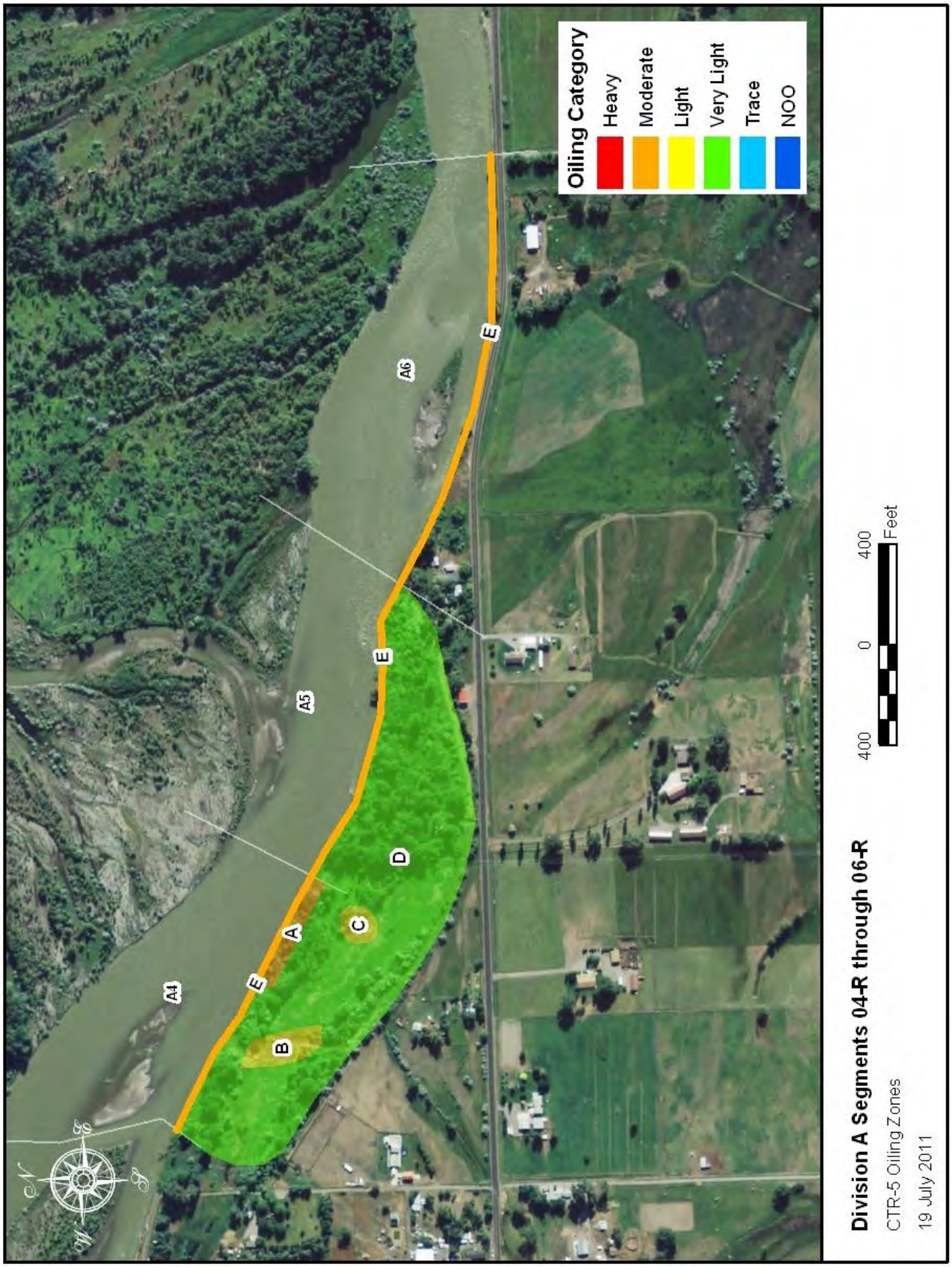
Primary Oiling Conditions: In backshore, ~<1% distribution of oiled debris (coat/cover), oil coat/stain on vegetation.

Cleanup Recommendations: No further treatment required.

Zone E:

Primary Oiling Conditions: Along shoreline of main river channel, oiled (coat/stain) vegetation.

Cleanup Recommendations: Cut and remove oil coated vegetation smaller than 1" diameter. Do not cut grass shorter than 2" from the ground. Remove oil coated debris smaller than 4" diameter. Wipe larger oil coated vegetation and debris.


Oiling Category
Heavy
Moderate
Light
Very Light
Trace
NOO
A1
A5
A6
A
B
C
D
E
E
E
400
0
400
Feet
Division A Segments 04-R through 06-R
CTR-5 Oiling Zones
19 July 2011

Compiled Treatment Recommendations – 10

SCAT Segments Covered:

A3 (Left Bank), A4 (Left Bank), A5 (Left Bank), A6 (Left Bank), A7 (Left Bank), A8 (Left Bank), A9 (Right Bank), A10 (Right Bank), A15 (Island)

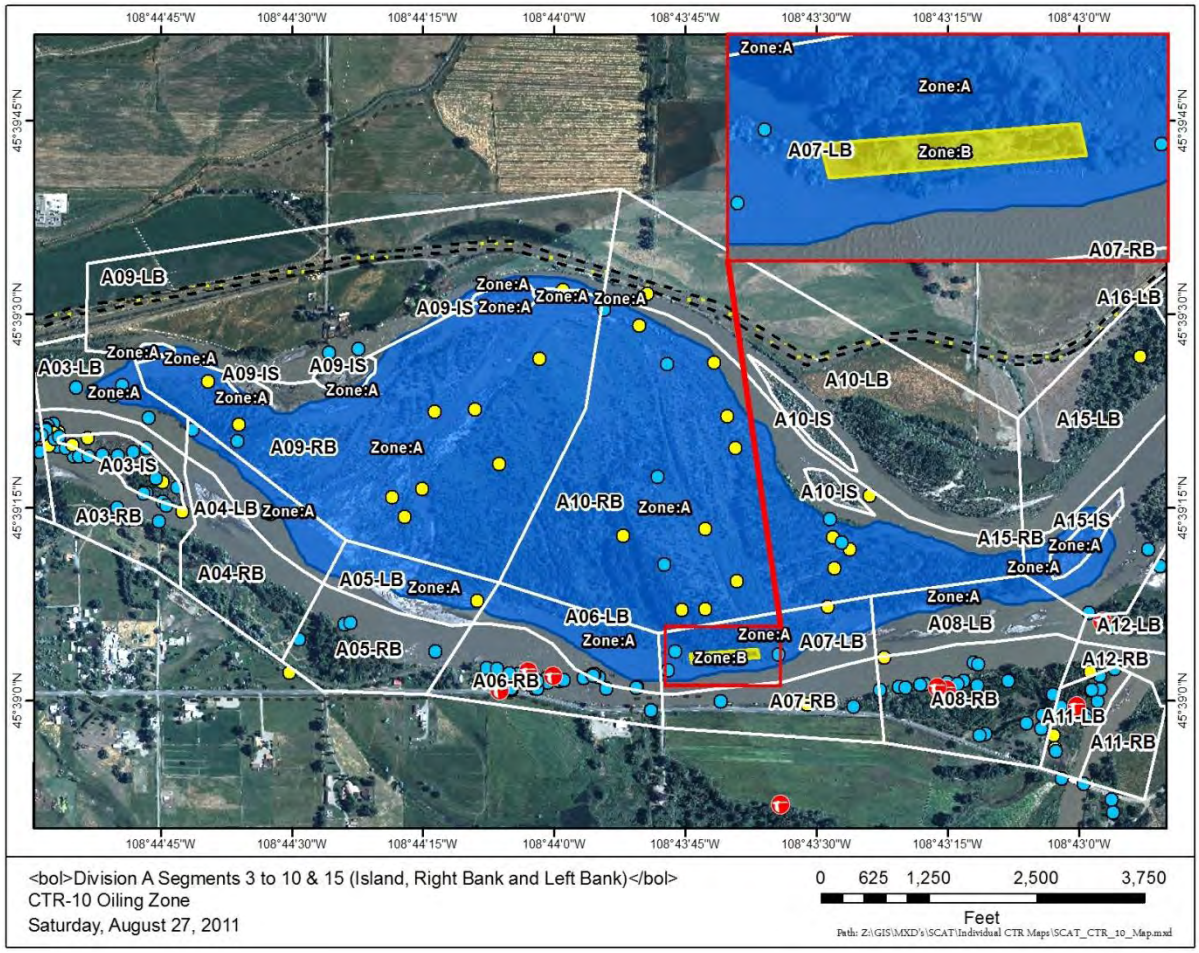
SCAT Survey Dates: 20-July-2011 (See attached Riverine SCAT Forms)

Ops Sites Covered:

3b

Refer to current approved treatment methods:

#6 Sorbent Use



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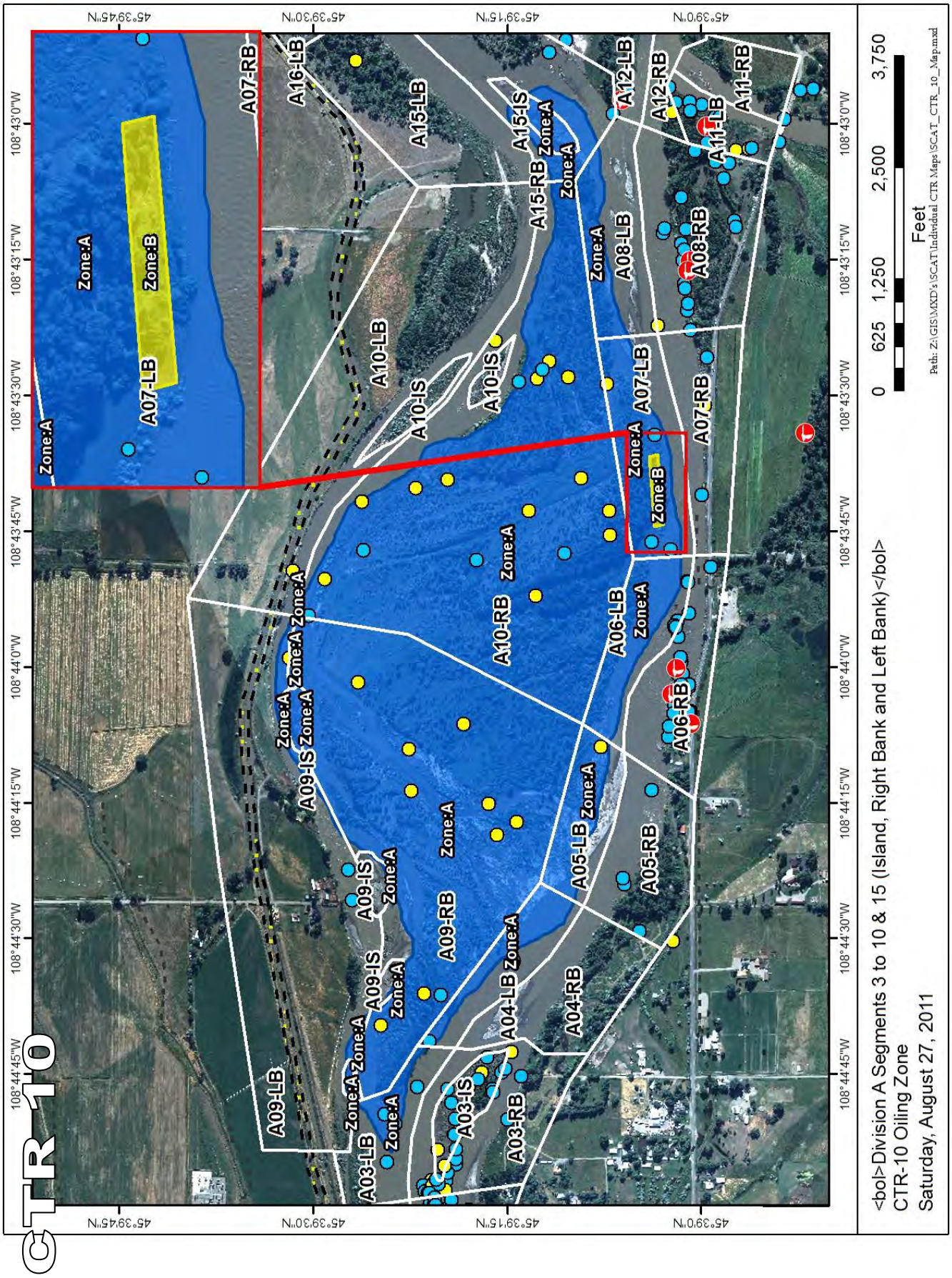
Zone A:

Primary Oiling Conditions: No Oil Observed

Cleanup Recommendations: No Further Treatment

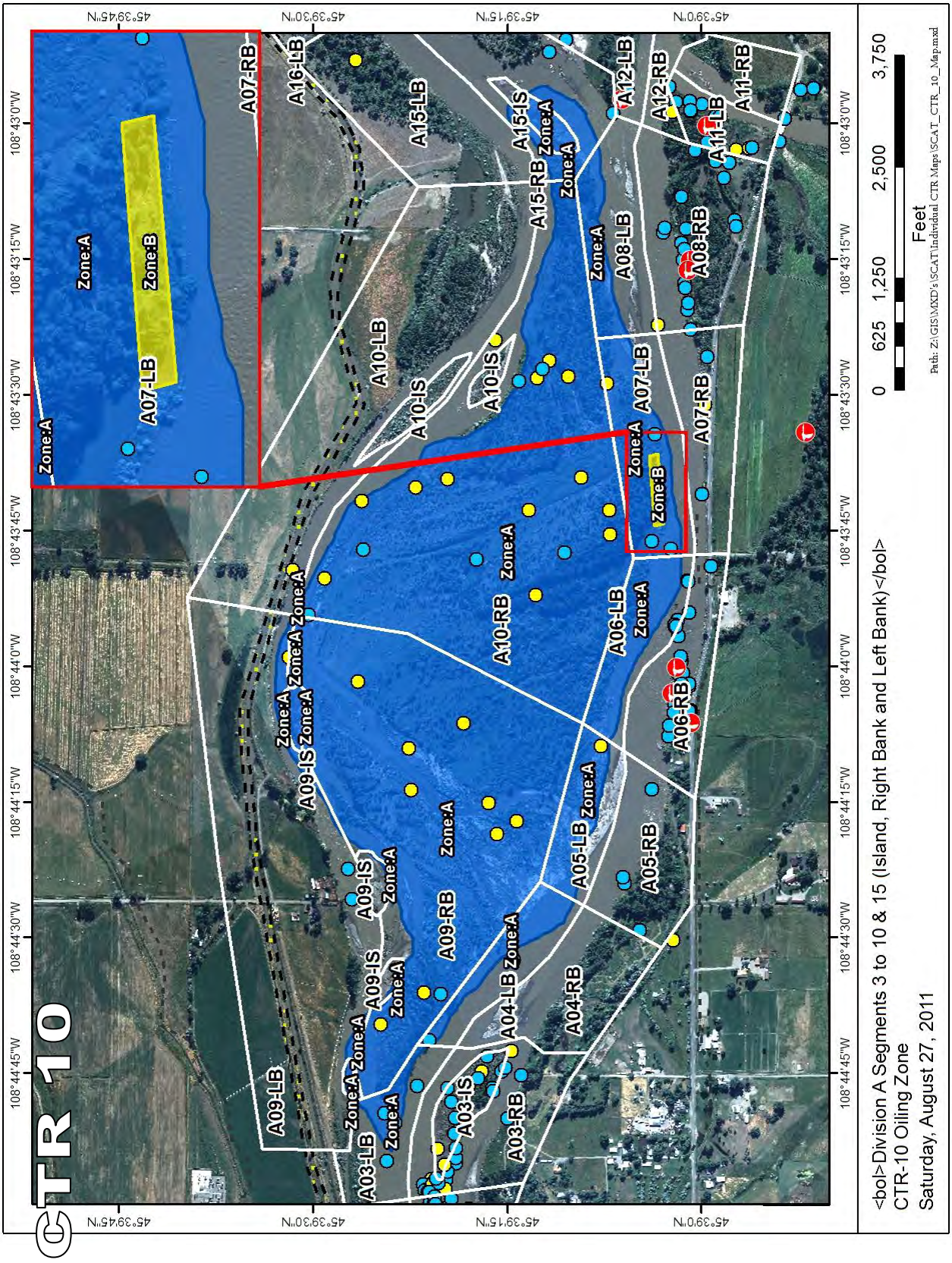

CTR 10
A07-LB
A07-RB
A16-LB
A15-LB
A15-IS
A15-RB
A12-LB
A12-RB
A11-LB
A11-RB
A08-LB
A08-RB
A10-LB
A10-IS
A10-RB
A07-LB
A06-LB
A06-RB
A05-LB
A05-RB
A04-LB
A04-RB
A09-LB
A09-IS
A09-RB
A03-LB
A03-IS
A03-RB
Zone:A
Zone:B
108°44'45"W
108°44'30"W
108°44'15"W
108°44'0"W
108°43'45"W
108°43'30"W
108°43'15"W
108°43'0"W
45°39'45"N
45°39'30"N
45°39'15"N
45°39'0"N
0 625 1,250 2,500 3,750
Feet
Path: Z:\GIS\MXD's\SCAT\Individual CTR Maps\SCAT_CTR_10_Map.mxd
<bol>Division A Segments 3 to 10 & 15 (Island, Right Bank and Left Bank)</bol>
CTR-10 Oiling Zone
Saturday, August 27, 2011

Zone B:

An area approximately 200m in width near the shoreline centered around N45°39.038',W108°43.689'

Primary Oiling Conditions: ~15% distribution of fresh oil debris (coat) on water surface.

Cleanup Recommendations: Deploy sorbents on water surface.



<bol>Division A Segments 3 to 10 & 15 (Island, Right Bank and Left Bank)</bol>
CTR-10 Oiling Zone
Saturday, August 27, 2011

Appendix D

Pre-Inspection Survey Transmittal

SCAT – Pre Inspection Survey Transmittal (PIST) Memo

Survey Date: _August 22, 2011_

Segment: _A-4_ RB

Team: RPSCAT Liaison _Gary Reiter____ Signed: GA Reiter

Segment meets criteria? YES _X_ NO ____

RBOS attached? YES ____ NO _X_

If NO:

Location Sketch attached? YES ____ NO ____

CTR continue? YES ____ NO ____

Comments:

This is claim property and does not require re-SCAT. Mr. Kennedy owns entire segment and has agreed with claim SCAT that he is happy with cleanup with addition of restacking of wood into one pile on his property.

Appendix E

Post-Inspection Survey Transmittal

ARCADIS

A Post-Inspection Survey was not conducted for this area

Appendix F

Final SCAT Survey Forms and Sketches

DB

R

RIVER BANK OILING SUMMARY FORM for Silvertip Pipeline Incident

Page 1 of 1

1 GENERAL INFORMATION

Segment/Reach ID: A4 Left Bank / Right Bank / Island

Operations Division: A

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

Date (dd/mm/yy): 24/08/11

Time (24h): std / daylight 0945 hrs to 1445 hrs

Water Level: low - mean - bankfull - overbank; falling - steady – rising

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

Air Temp + / - 34 deg C

2 SURVEY TEAM # 2

Name	Organization	Signature
Joe Boyle	Cardno ENTRIX	[signature]
John Brown	MDEQ	[signature]
Dave Hergenrider	MT FWP	Dave Hergenrider
Lance Richman	USEPA	[signature]

3 SEGMENT Total Segment/Reach Length 350 m Segment/Reach Length Surveyed 350 m

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

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

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

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

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

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

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

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

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

4C RIVER CHANNEL CHARACTER circle or select as appropriate

est. width: < 1m 1–10 m 10–100 m >100m 160m 150 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 11 bags or ____ trucks access restrictions

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

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

OIL ZONE ID	RIVER BANK ZONE MS	LB	UB	OB	OIL COVER Length m	Width m	Distrib. %	OIL THICKNESS TO	CV	CT	ST	FL	OIL CHARACTER FR	MS	TB	PT	TC	SR	AP	NO	SUBST. TYPE(S)
1827 A		S	S	P	350	140	<1		S	P	S						X				Veg

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

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

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

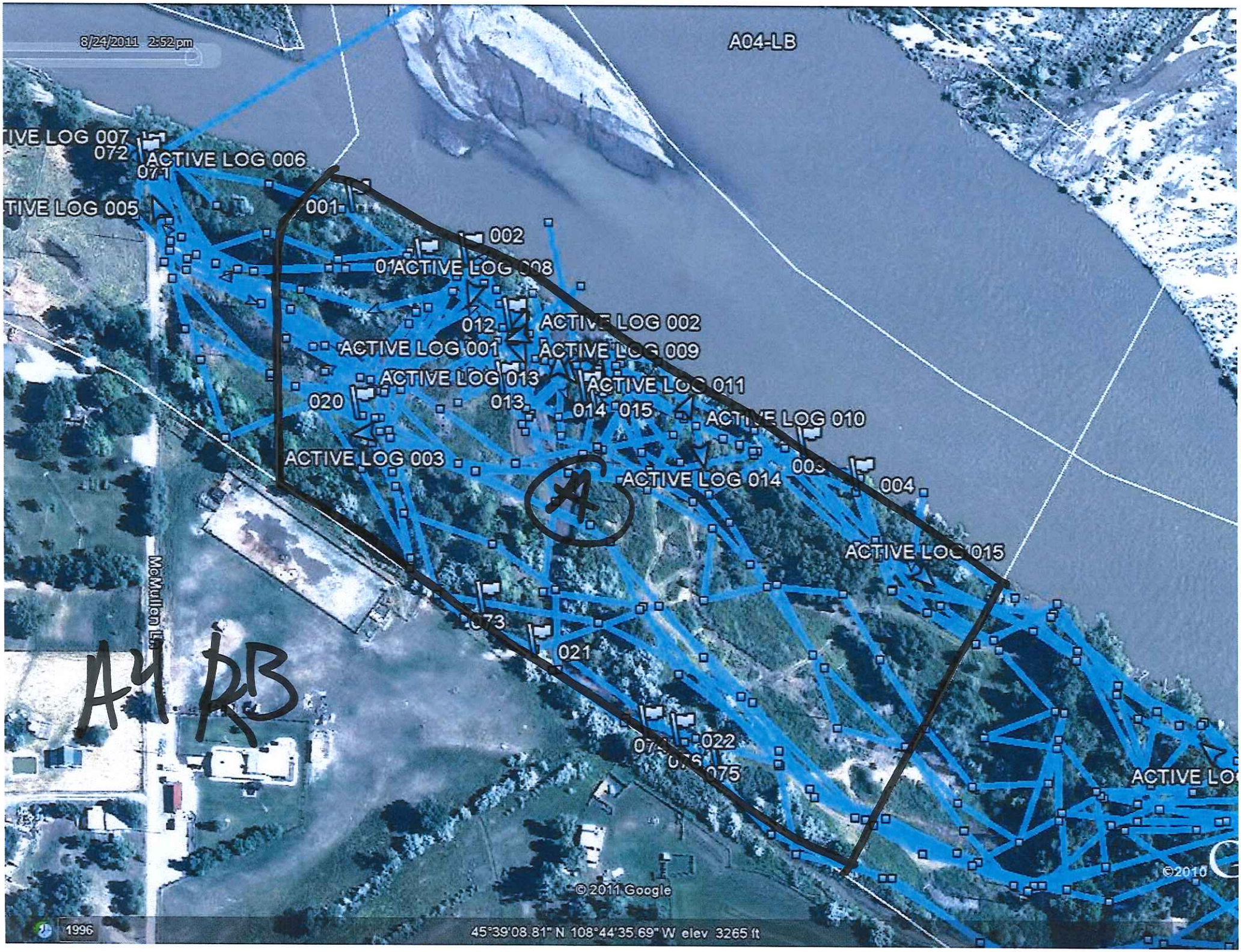
Overbank Survey Required Y / N Overbank Survey Completed Y / N Shoreline Survey Completed Y / N

Zone A: sporadic distr oil coated/stained/covered veg & debris.
hotshot crew removed all material requested by SCAT

NFT

ReScat

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


8/24/2011 2:52 pm
A04-LB
ACTIVE LOG 007
072
071
ACTIVE LOG 006
ACTIVE LOG 005
001
002
ACTIVE LOG 008
012
ACTIVE LOG 002
ACTIVE LOG 001
ACTIVE LOG 009
ACTIVE LOG 013
ACTIVE LOG 011
020
013
014
015
ACTIVE LOG 010
ACTIVE LOG 003
ACTIVE LOG 014
004
ACTIVE LOG 015
McMullen Ln
021
022
075
A4 RB
©2011 Google
©2010
1996
45°39'08.81" N 108°44'35.69" W elev 3265 ft

Appendix G

Completed SCAT Segment Sign-Off Forms

Silvertip Pipeline Spill
SCAT Segment Sign-Off Sheet

COMPLETED

Operations Division:	A X	B	C
SCAT Area Number (i.e. A12):	04		
SCAT Segment Number (i.e. A12-LB/IS/RB):	A4 RB		

Complete

Check if Complete:

1. **Completion Date for Initial SCAT Assessment:** 11JUL11 ED ☐
2. **Combined Treatment Recommendations (CTRs) Developed/Issued:** Yes/No

   List CTRs Applicable to SCAT Segment: CTR 5

3. **Clean-Up Operations Conducted:** ☑
4. **Inspection (CTR Objectives and CTR Addendums Complete):** ☑

RP Representative (SCAT/Ops Liaison Contractor) Date

5. **SCAT Reassessment:** Yes/No

Lance Rehman 8/24/11
Federal Representative (EPA/USCG) Date

John Brown 8/24/11
State Representative (DEQ/FWP) Date

Joseph Boyle 08/24/11
RP Representative (SCAT Contractor) Date

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

Revised: 8.3.2011