



Missouri  
Department of  
Natural Resources

Use Attainability Analysis

for

WBID 0224 Spencer Creek

Submitted by

MEC Water Resources

To

Missouri Department of Natural Resources

Water Protection Program

On

December 1, 2007

**Field Data Sheets for Recreational Use Stream Surveys**

Data Sheet A - Water Body Identification

**I. Water Body Information** (For water body being surveyed)

Water Body Name (from USGS 7.5' quad):	Spencer CR		
Missouri Water Body Identification (WBID) Number:	0224		
8-digit HUC:	20080515	County:	St. Charles
Upstream Legal Description (from Table H):	Swr 735, 47N, 4E		
Downstream Legal Description (from Table H):	Mouth		
Number of sites evaluated	3		
List all sites numbers, listed consecutively upstream to downstream:	Site 1 = Spencer Rd Site 2 = 100 m dn stream of site 1 Site 3 = 100 m dn stream of Site 2		

**II. Discharger Facility Information** (list all permitted dischargers on the stream)

Discharger Facility Name(s):	Megellan Terminals Holdns.
Discharger Permit Number(s):	MO 0117226

**III. UAA Surveyor** (please print legibly)

Name of Surveyor	Renee Martin	Telephone Number:	573-875-7844
Organization/Employer:	AE Solutions		
Position:	Env. Specialist		

Please verify that you have completed all sections, checked all applicable boxes and that everything is complete.

Signed: Renee Martin Date: 10/2/07  
ORC 10-17-07

WBID # 0224

Site # 01

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization**

(must be completed for each site)

Date & Time: <u>10/02/07 07:55</u>	Site Location Description (e.g., road crossing): <u>Spencer Rd</u>
Personnel (Data Collectors): <u>JH/JF</u>	
Current Weather Conditions: <u>clear</u>	Facility Name: <u>MEGELLAN TERMINALS HOLDINGS</u>
Weather Conditions for Past 10 days: <u>CLEAR RAIN</u>	Permit Number: <u>MO 0117226</u>
Drought Conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

**Site Location:**

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): <u>4298508</u>	Northing (UTM Y): <u>0708479</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>19</u> Meters
Site 11	Easting (UTM X): <u>4298628</u>	Northing (UTM Y): <u>0708576</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>21</u> Meters

**Photos:**

*0224-1-  
Upstream*

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>101-327</u>	<u>upstream</u>	<u>0224-1-downstream</u>	<u>dn stream</u>		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

**Uses Observed\*:** (Uses actually observed at time of survey.)

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use Data Sheet D- Recreational Use Interview when conducting interviews.)

WBID # 0224

Site # 01

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization (continued)**

**Surrounding Conditions\*:** (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments:				

**Evidence of Human Use\*:** (Attach photos and reference in "Photos" section)

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV / ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock Watering
Comments / Other:  <u>none</u>				

**Substrate\*:** (These values should add up to 100%.)

% Cobble	% Gravel	% Sand	% Silt	<u>100</u>	% Mud/Clay	% Bedrock
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**Aquatic Vegetation\*:** (Note amount of vegetation or algal growth at the assessment site)

<u>willows</u>
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**Water Characteristics\*:** (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: <u>Brown</u>
Bottom Deposit:	<input type="checkbox"/> Sludge	<input checked="" type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

\*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

WBID # 0724

Site # 01

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization (continued)**

**Additional Stream Morphology:** (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

**Comments:** (Please record any additional comments here.)

**Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.**

Surveyor's Signature: *[Signature]* Date of Survey: 10/02/07  
Organization: AE Solutions Position: Field Technician

*auc 10-17-07*

## Recreational Use Attainability Analysis Field Survey Sheet

Waterbody ID: <u>0224</u> Site #: <u>0224-01</u> (WBID_Site#) Estimated Channel Incision: <u>3</u> (m) (height between low bank width and water) GPS Location (taken at transect 1): UTM X: <u>4296508</u> UTM Y: <u>0708479</u> <u>19</u> Horizontal Accuracy Estimate (GPS Data Quality): +/- _____ (feet)  GPS Location (taken at transect 11): UTM X: <u>4298628</u> UTM Y: <u>0708576</u> <u>24</u> Horizontal Accuracy Estimate (GPS Data Quality): +/- <u>150</u> (feet)  Average Stream Width: <u>5.8</u> (meters)      Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach)      (20x average stream width)  Field Staff: <u>JH/JF</u>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2" style="text-align: center;">Dissolved Oxygen</th> </tr> <tr> <td>Date: <u>10/02/07</u></td> <td>Time: <u>1755</u></td> </tr> <tr> <td>Dissolved Oxygen: <u>10.4</u> (mg/L)</td> <td></td> </tr> <tr> <td>Dissolved Oxygen: <u>120.2</u> (% sat)</td> <td></td> </tr> <tr> <td>Specific Cond: <u>1314</u> (µS/cm)</td> <td></td> </tr> <tr> <td>Water Temp.: <u>21.4</u> (°C)</td> <td></td> </tr> </table>	Dissolved Oxygen		Date: <u>10/02/07</u>	Time: <u>1755</u>	Dissolved Oxygen: <u>10.4</u> (mg/L)		Dissolved Oxygen: <u>120.2</u> (% sat)		Specific Cond: <u>1314</u> (µS/cm)		Water Temp.: <u>21.4</u> (°C)	
Dissolved Oxygen													
Date: <u>10/02/07</u>	Time: <u>1755</u>												
Dissolved Oxygen: <u>10.4</u> (mg/L)													
Dissolved Oxygen: <u>120.2</u> (% sat)													
Specific Cond: <u>1314</u> (µS/cm)													
Water Temp.: <u>21.4</u> (°C)													

### Transect Cross Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)																				
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.46	0.20	0.51	0.08	0.52	0.02	0.48	0.08	0.52	0.10	0.46	0.10	0.44	0.15	0.66	0.18	0.65	0.30	0.64	0.24	0.62	0.28
2	0.93	0.21	1.02	0.14	1.05	0.10	0.96	0.10	1.05	0.21	0.93	0.18	1.29	0.25	1.32	0.26	1.31	0.35	1.23	0.28	1.25	0.30
3	1.39	0.20	1.53	0.24	1.56	0.11	1.44	0.11	1.57	0.29	1.39	0.16	1.93	0.34	1.98	0.30	1.96	0.35	1.92	0.30	1.87	0.32
4	1.86	0.14	2.04	0.26	2.08	0.16	1.92	0.14	2.10	0.26	1.86	0.30	2.58	0.36	2.64	0.27	2.62	0.37	2.56	0.34	2.5	0.38
5	2.32	0.14	2.55	0.16	2.60	0.24	2.4	0.17	2.62	0.28	2.32	0.50	3.22	0.38	3.30	0.22	3.27	0.38	3.2	0.41	3.12	0.44
6	2.79	0.15	3.04	0.17	3.12	0.28	2.88	0.19	3.15	0.39	2.79	0.50	3.87	0.44	3.76	0.31	3.93	0.35	3.81	0.45	3.75	0.48
7	3.25	0.17	3.57	0.23	3.44	0.25	3.34	0.20	3.67	0.41	3.25	0.48	4.51	0.40	4.62	0.30	4.58	0.35	4.48	0.42	4.37	0.48
8	3.72	0.15	4.08	0.28	4.16	0.18	3.84	0.24	4.2	0.40	3.7	0.50	5.16	0.20	5.28	0.25	5.24	0.35	5.12	0.34	5.00	0.40
9	4.18	0.02	4.59	0.29	4.68	0.24	4.32	0.25	4.72	0.39	4.18	0.26	5.80	0.22	5.94	0.24	5.89	0.24	5.76	0.31	5.62	0.11
Right Bank	4.65	0	5.10	0	5.20	0	4.80	0	5.25	0	4.65	0	6.45	0	6.60	0	6.55	0	6.40	0	6.25	0
Feature Type (riffle, run, or pool)	run	run	run	run	run	run	run	run	pool	pool												

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width.  
 GPS location corresponds to Transect 01 and Transect 11. Transects ordered in upstream to downstream order.  
 Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten).  
 Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1).  
 All measurements to be taken to the nearest 0.01 meter.

Date: 10-02-07

Signed: [Signature]      Date: 10/02/07

WBID # 0224  
 Site # 02

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization**  
 (must be completed for each site)

Date & Time: <u>10/02/07 08:30</u>	Site Location Description (e.g., road crossing): <u>100m downstream of Site 01</u>
Personnel (Data Collectors): <u>JH/JF</u>	Facility Name: <u>MEGELLAN TERMINAL HOLDNS</u>
Current Weather Conditions: <u>clear</u>	Permit Number: <u>MD 0117226</u>
Weather Conditions for Past 10 days: <u>RAINY/WEAR</u>	
Drought Conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

**Site Location:**

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): <u>4298716</u>	Northing (UTM Y): <u>0708654</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>18</u> Meters <sup>JF</sup> <u>A</u>
Site 11	Easting (UTM X): <u>4298855</u>	Northing (UTM Y): <u>0708787</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>24</u> Meters <sup>JF</sup> <u>A</u>

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>0224-2-downstream</u>	<u>downstream</u>	<u>0224-2-upstream</u>	<u>upstream</u>		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

**Uses Observed\*:** (Uses actually observed at time of survey.)

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use Data Sheet D- Recreational Use Interview when conducting interviews.)

WBID # 0724

Site # 02

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization (continued)**

**Surrounding Conditions\*:** (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments:				

**Evidence of Human Use\*:** (Attach photos and reference in "Photos" section)

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV / ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock Watering
Comments / Other: <del>none</del> City water pipe @ Trans 04 field chain @ Trans 04				

**Substrate\*:** (These values should add up to 100%.)

% Cobble	% Gravel	% Sand	% Silt	100	% Mud/Clay	% Bedrock
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**Aquatic Vegetation\*:** (Note amount of vegetation or algal growth at the assessment site)

none

**Water Characteristics\*:** (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: <u>Brown</u>
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

\*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

WBID # 0274

Site # 02

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization (continued)**

**Additional Stream Morphology:** (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

**Comments:** (Please record any additional comments here.)

**Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.**

Surveyor's Signature: *Jeff P. Felt* Date of Survey: 10/02/07

Organization: AE Solutions Position: Field Tech.

*ORC 10-17-07*

## Recreational Use Attainability Analysis Field Survey Sheet

Waterbody ID: <u>0224</u> Site #: <u>0224-02</u> (WBID_Site#) Estimated Channel Incision: <u>3.5</u> (m) (height between low bank width and water) GPS Location (taken at transect 1): UTM X: <u>4298716</u> UTM Y: <u>0708654</u> Horizontal Accuracy Estimate (GPS Data Quality): +/- <u>18</u> (feet)  GPS Location (taken at transect 11): UTM X: <u>4298855</u> UTM Y: <u>0708787</u> Horizontal Accuracy Estimate (GPS Data Quality): +/- <u>24</u> (feet)  Average Stream Width: <u>6.9</u> (meters)      Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach)      (20x average stream width)  Field Staff: <u>JH/JF</u>	<b style="text-align: center;">Dissolved Oxygen</b> Date: <u>10/02/07</u> Time: <u>0830</u>  Dissolved Oxygen: <u>7.56</u> (mg/L)  Dissolved Oxygen: <u>85.7</u> (% sat)  Specific Cond: <u>134.7</u> (µS/cm)  Water Temp.: <u>21.1</u> (°C)
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### Transect Cross Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)																				
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.29	0.21	0.62	0.22	0.59	0.32	0.63	0.16	0.64	0.10	0.68	0.23	0.69	0.15	0.67	0.31	0.68	0.30	0.71	0.14	0.69	0.12
2	1.19	0.36	1.21	0.36	1.13	0.39	1.24	0.31	1.28	0.22	1.37	0.41	1.39	0.29	1.35	0.49	1.37	0.44	1.42	0.25	1.39	0.27
3	1.78	0.51	1.84	0.51	1.77	0.49	1.89	0.38	1.92	0.38	2.05	0.57	2.09	0.32	2.02	0.52	2.05	0.49	2.13	0.38	2.08	0.41
4	2.38	0.55	2.48	0.61	2.36	0.52	2.52	0.45	2.54	0.45	2.74	0.65	2.79	0.31	2.7	0.57	2.74	0.56	2.81	0.47	2.78	0.50
5	2.97	0.56	3.10	0.65	2.95	0.55	3.15	0.64	3.2	0.59	3.42	0.70	3.49	0.48	3.37	0.61	3.42	0.66	3.55	0.56	3.47	0.69
6	3.57	0.48	3.72	0.52	3.54	0.50	3.78	0.70	3.81	0.61	4.11	0.68	4.18	0.61	4.05	0.66	4.11	0.71	4.26	0.60	4.19	0.57
7	4.16	0.32	4.34	0.48	4.13	0.45	4.41	0.59	4.48	0.54	4.79	0.58	4.88	0.56	4.72	0.57	4.79	0.51	4.97	0.60	4.86	0.41
8	4.76	0.29	5.90	0.32	4.72	0.39	5.04	0.40	5.12	0.37	5.48	0.40	5.58	0.40	5.40	0.51	5.48	0.32	5.68	0.51	5.54	0.39
9	5.35	0.17	5.58	0.16	5.31	0.35	5.67	0.19	5.74	0.19	6.16	0.20	6.28	0.31	6.07	0.32	6.16	0.17	6.39	0.31	6.25	0.22
Right Bank	5.95	0	6.20	0	5.90	0	6.30	0	6.40	0	6.85	0	6.98	0	6.75	0	6.85	0	7.10	0	6.95	0
Feature Type (riffle, run, or pool)	RUN																					

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width.  
 GPS location corresponds to Transect 01 and Transect 11. Transects ordered in upstream to downstream order.  
 Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten).  
 Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1).  
 All measurements to be taken to the nearest 0.01 meter.

RWC 10-17-07

Signed: Jennifer Drabek      Date: 10/02/07

WBID # 0224  
 Site # 03

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization**  
 (must be completed for each site)

Date & Time: <u>10/02/07 09:00</u>	Site Location Description (e.g., road crossing): <u>100 m downstream of site 02</u>
Personnel (Data Collectors): <u>JH/JF</u>	
Current Weather Conditions: <u>Clear</u>	Facility Name: <u>MEKELLAN TERMINALS HARBOUR</u>
Weather Conditions for Past 10 days: <u>RAINY / CLEAR</u>	Permit Number: <u>MO 0117224</u>
Drought Conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

**Site Location:**

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): <u>4298967</u>	Northing (UTM Y): <u>0708851</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>19</u> Meters <u>17</u>
Site 11	Easting (UTM X): <u>4299085</u>	Northing (UTM Y): <u>0708916</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>28</u> Meters <u>17</u>

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>0224-3-downstream</u>	<u>down stream</u>	<u>0224-3-upstream</u>	<u>upstream</u>		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

**Uses Observed\*:** (Uses actually observed at time of survey.)

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use Data Sheet D- Recreational Use Interview when conducting interviews.)

WBID # 0224

Site # 03

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization (continued)**

**Surrounding Conditions\*:** (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments:				

**Evidence of Human Use\*:** (Attach photos and reference in "Photos" section)

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV / ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock Watering
Comments / Other: <u>none</u>				

**Substrate\*:** (These values should add up to 100%.)

% Cobble	% Gravel	% Sand	% Silt	<u>100</u> % Mud/Clay	% Bedrock
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**Aquatic Vegetation\*:** (Note amount of vegetation or algal growth at the assessment site)

<u>none</u>
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**Water Characteristics\*:** (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: <u>Brown</u>
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

\*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

WBID # 0224

Site # 03

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization (continued)**

**Additional Stream Morphology:** (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

**Comments:** (Please record any additional comments here.)

large beaver dam @ Trans. 10 - made huge pool in previous transects.

Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.

Surveyor's Signature:  Date of Survey: 10/02/07

Organization: AE Solutions Position: Field Tech.

AHC 10-17-07

## Recreational Use Attainability Analysis Field Survey Sheet

Waterbody ID: <u>0224</u> Site # <u>0224-03</u> (WBID_Site#) Estimated Channel Incision: <u>3.5</u> (m) (height between low bank width and water) GPS Location (taken at transect 1): UTM X: <u>429967</u> UTM Y: <u>0708857</u> Horizontal Accuracy Estimate (GPS Data Quality): +/- <u>19</u> (feet)  GPS Location (taken at transect 11): UTM X: <u>4299085</u> UTM Y: <u>0708916</u> <u>28</u> Horizontal Accuracy Estimate (GPS Data Quality): +/- <u>28</u> (feet)  Average Stream Width: <u>7.5</u> (meters)      Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach)      (20x average stream width)  Field Staff: <u>JH/JF</u>	<h3 style="text-align: center; margin: 0;">Dissolved Oxygen</h3> Date: <u>10/02/07</u> Time: <u>0900</u>  Dissolved Oxygen: <u>9.09</u> (mg/L) Dissolved Oxygen: <u>97.2</u> (% sat) Specific Cond: <u>135.2</u> (µS/cm) Water Temp.: <u>20.9</u> (°C)
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Transect Cross-Section																							
Station		01		02		03		04		05		06		07		08		09		10		11	
		Distance (m)	Depth (m)																				
Left Bank		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1		0.15	0.35	0.72	0.29	0.70	0.21	0.74	0.31	0.75	0.40	0.72	0.40	0.73	0.30	0.76	0.31	0.76	0.31	0.35	0.78	0.8	0.50
2		1.43	0.46	1.41	0.38	1.40	0.37	1.48	0.36	1.51	0.60	1.44	0.45	1.47	0.42	1.52	0.47	1.53	0.48	0.51	1.57	1.6	0.45
3		2.14	0.51	2.16	0.41	2.10	0.49	2.22	0.42	2.26	0.70	2.10	0.52	2.20	0.47	2.28	0.53	2.29	0.50	0.55	2.35	2.4	0.38
4		2.80	0.62	2.80	0.56	2.80	0.56	2.96	0.51	2.96	0.82	2.88	0.68	2.91	0.59	3.01	0.61	3.00	0.52	0.62	3.14	3.2	0.27
5		3.57	0.63	3.60	0.72	3.50	0.65	3.70	0.62	3.77	0.83	3.6	0.71	3.47	0.61	3.8	0.68	3.82	0.82	0.85	3.92	4.0	0.11
6		4.21	0.70	4.32	0.69	4.20	0.68	4.44	0.69	4.53	0.71	4.32	0.59	4.41	0.69	4.56	0.52	4.59	0.76	0.78	4.71	4.8	0.06
7		5.00	0.72	5.01	0.68	4.90	0.62	5.18	0.50	5.28	0.54	5.04	0.46	5.14	0.53	5.35	0.48	5.35	0.71	0.59	5.49	5.6	0.04
8		5.72	0.40	5.76	0.56	5.60	0.58	5.92	0.41	6.06	0.39	5.76	0.39	5.88	0.41	6.12	0.26	6.12	0.47	0.54	6.78	6.4	0.07
9		6.43	0.36	6.48	0.21	6.30	0.32	6.66	0.21	6.79	0.30	6.48	0.30	6.61	0.32	6.86	0.19	6.88	0.21	0.45	7.04	7.2	0.15
Right Bank		7.15	0	7.20	0	7.00	0	7.40	0	7.55	0	7.20	0	7.35	0	7.60	0	7.65	0	7.85	8.00	8.00	0
Feature Type (riffle, run, or pool)		pool		pool		pool		pool		pool		pool		pool		pool		pool		pool		run	

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width.  
 GPS location corresponds to Transect 01 and Transect 11. Transects ordered in upstream to downstream order.  
 Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten).  
 Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1).  
 All measurements to be taken to the nearest 0.01 meter.

Signed: [Signature]      Date: 10/02/07

BWC-10-17-07

# Spencer Creek ( WBID 224)



- Upstream Boundary
- Downstream Boundary





