



Missouri  
Department of  
Natural Resources

Use Attainability Analysis

for

WBID 0704 Logan 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): <u>Logan CR</u>	
Missouri Water Body Identification (WBID) Number: <u>0704</u>	
8-digit HUC: <u>20081002</u>	County: <u>Callaway</u>
Upstream Legal Description (from Table H): <u>30,46N,7W</u>	
Downstream Legal Description (from Table H): <u>MOUTH</u>	
Number of sites evaluated <u>4</u>	
List all sites numbers, listed consecutively upstream to downstream: Site 1: <u>walked in 50m east of Cty Rd 448</u> site 3 <u>low water crossing off Cty Rd 468</u> Site 2: <u>Cty Rd 468</u> site 4 <u>Cty Rd 464</u>	

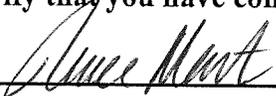
#### II. Discharger Facility Information (list all permitted dischargers on the stream)

Discharger Facility Name(s): <u>AMERENUE, CALLAWAY PP</u>
Discharger Permit Number(s): <u>MO 0098001</u>

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

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

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

Signed:  Date: 09/27/07

RMC      10-16-07

WBID # 0704

Site # 01

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

**Data Sheet B – Site Characterization**

(must be completed for each site)

Date & Time: <u>9/25/07 10:10</u>	Site Location Description (e.g., road crossing): <u>walked in County Rd 448 - 50m east of City Rd</u>
Personnel (Data Collectors): <u>JH/JF</u>	
Current Weather Conditions: <u>overcast</u>	Facility Name: <u>AMBERN VE, CALLAWAY PP</u>
Weather Conditions for Past 10 days: <u>rainy/clear</u>	Permit Number: <u>MD 0098001</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>4287789</u>	Northing (UTM Y): <u>0607995</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>24</u> <sup>JH</sup> Meters <sup>ft</sup>
Site 11	Easting (UTM X): <u>4287677</u>	Northing (UTM Y): <u>0607940</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>22</u> <sup>JH</sup> Meters <sup>ft</sup>

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>101-220</u>	<u>downstream</u>	<u>101-221</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 # 0704

Site # 021  
4/21

**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%.)

<u>25</u> % Cobble	<u>25</u> % Gravel	<u>25</u> % Sand	% Silt	<u>25</u> % Mud/Clay	% Bedrock
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**Aquatic Vegetation\*:** (Note amount of vegetation or algal growth at the assessment site)

<u>Coontail</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 type="checkbox"/> Other:
Bottom Deposit:	<input checked="" type="checkbox"/> Sludge	<input checked="" type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other: <u>Deep Muck</u>
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 # 0704

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: *Jennifer Thabot* Date of Survey: 9/25/07  
Organization: AE Solutions Position: Env. Specialist

*auc 10-16-07*

# Recreational Use Attainability Analysis Field Survey Sheet

Waterbody ID: 0704 Site #: 0704-01  
 (WBID\_Site#)

Estimated Channel Incision: 1 (m) (height between low bank width and water)

GPS Location (taken at transect 1):  
 UTM X: 4287789 UTM Y: 0607995  
 Horizontal Accuracy Estimate (GPS Data Quality): +/- 24 (feet)

GPS Location (taken at transect 11):  
 UTM X: 4287617 UTM Y: 0607940  
 Horizontal Accuracy Estimate (GPS Data Quality): +/- 22 (feet)

Average Stream Width: 3.2 (meters) Length of Survey Segment: 150 (meters)  
 (To determine Length of Reach) (20x average stream width)

Field Staff: JH/JF

**Dissolved Oxygen**

Date: 9/25/07 Time: 10:10

Dissolved Oxygen: 1.63 (mg/L)

Dissolved Oxygen: 18.5 (% sat)

Specific Cond: 478.0 (µS/cm)

Water Temp.: 22.0 (°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	
1		0.40	0.04	0.40	0.04	0.28	0.04	0.28	0.0	0.28	0.0	0.30	0.0	0.23	0.0	0.14	0.0	0.15	0.0	0.29	0.14	0.50	0.06
2		0.80	0.06	1.20	0.14	0.56	0.0	0.56		0.56		0.60		0.46		0.28		0.30		0.58	0.22	1.00	0.11
3		1.20	0.08	1.80	0.20	0.84		0.84		0.84		0.90		0.69		0.42		0.45		0.87	0.23	1.50	0.08
4		1.60	0.08	2.40	0.28	1.12		1.12		1.12		1.20		0.92		0.56		0.60		1.16	0.26	2.00	0.15
5		2.00	0.12	3.00	0.41	1.40		1.40		1.40		1.50		1.15		0.70		0.75		1.45	0.24	2.50	0.07
6		2.40	0.19	3.60	0.40	1.68		1.68		1.68		1.80		1.38		0.84		0.9		1.74	0.22	3.00	0.05
7		2.80	0.11	4.20	0.30	1.96		1.96		1.96		2.10		1.61		0.98		1.05		2.03	0.20	3.50	0.20
8		3.20	0.12	4.80	0.22	2.24		2.24		2.24		2.40		1.84		1.12		1.20		2.32	0.15	4.00	0.16
9		3.60	0.10	5.40	0.11	2.52		2.52		2.52		2.70		2.07		1.26		1.35		2.61	0.08	4.50	0.15
Right Bank		4.0	0	6.0	0	2.85	0	2.80	0	2.80	0	3.0	0	2.30	0	1.40	0	1.50	0	2.90	0	5.0	0
Feature Type (riffle, run, or pool)																							
		pool		pool		dry		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.

Signed: \_\_\_\_\_

Jennifer Thabert

Date: 10/5/07

Run 10-16-07

WBID # 0704

Site # 02

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

**Data Sheet B – Site Characterization**

(must be completed for each site)

Date & Time: <u>9/25/07 10:35</u>	Site Location Description (e.g., road crossing):
Personnel (Data Collectors): <u>JH/JF</u>	<u>County Rd 468</u>
Current Weather Conditions: <u>overcast</u>	Facility Name: <u>AMEREN VE, CALLAWAY PP</u>
Weather Conditions for Past 10 days: <u>rainy/clear</u>	Permit Number: <u>mo 0098001</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>4286151</u>	Northing (UTM Y): <u>0606958</u>	Horizontal Accuracy: <u>25 Meters</u> <sup>JRH</sup> <u>ft</u>
Site 11	Easting (UTM X): <u>4286020</u>	Northing (UTM Y): <u>0606859</u>	Horizontal Accuracy: <u>25 Meters</u> <sup>JRH</sup> <u>ft</u>

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>101-222</u>	<u>upstream-bridge work</u>	<u>101-223</u>	<u>dnstream</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 # 0704

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 checked="" 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: <u>Reform CA</u>				

**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%.)

<u>10</u> % Cobble	<u>20</u> % Gravel	<u>30</u> % Sand	% Silt	<u>40</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 checked="" type="checkbox"/> Sludge <sup>(1)</sup>	<input checked="" type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other: <sup>(1)</sup> <u>DEEP MUCK</u>
Surface Deposit:	<input checked="" type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input 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 # 0704

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.)

Bridge is out on Cty Rd 468 - doing construction.  
Captured in picture # ~~101-122~~<sup>SL</sup>  
101-222

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

Surveyor's Signature: Jennifer Thabth Date of Survey: 9/25/07

Organization: AE Solutions Position: Env. Specialist

AUC 10-16-07



WBID # 0704

Site # 03

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

**Data Sheet B – Site Characterization**

(must be completed for each site)

Date & Time: <u>9/25/07 11:00</u>	Site Location Description (e.g., road crossing): <u>Low water Crossing off City Rd 468</u>
Personnel (Data Collectors): <u>JH/JF</u>	
Current Weather Conditions: <u>overcast</u>	Facility Name: <u>AMBERN VE, CALAWAY PD</u>
Weather Conditions for Past 10 days: <u>rainy/clear</u>	Permit Number: <u>MO 0098001</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>4285733</u>	Northing (UTM Y): <u>0606383</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>22</u> <sup>JRH</sup> Meters <u>ft</u>
Site 11	Easting (UTM X): <u>4285631</u>	Northing (UTM Y): <u>0606249</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>21</u> <sup>JRH</sup> Meters <u>ft</u>

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>101.224</u>	<u>dnstream</u>	<u>101.225</u>	<u>upstream - low water crossing</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 <i>Data Sheet D- Recreational Use Interview</i> when conducting interviews.)				

WBID # 0704

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 checked="" 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: <u>Reform CA</u>				

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

<input checked="" 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>low water crossing</u>				

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

% Cobble	<u>5</u>	% Gravel	<u>50</u>	% Sand	% Silt	<u>45</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 checked="" type="checkbox"/> Sludge	<input checked="" type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other: <u>Deep Muck</u>
Surface Deposit:	<input checked="" type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input 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 # 0704

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.)

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

Surveyor's Signature: Jennifer Thabot Date of Survey: 9/25/07

Organization: AE Solutions Position: Env. Specialist

RUC 10-16-07



WBID # 0704

Site # 04

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

**Data Sheet B – Site Characterization**

(must be completed for each site)

Date & Time: <u>9/25/07 11:40</u>	Site Location Description (e.g., road crossing): <u>City Rd 464</u>
Personnel (Data Collectors): <u>JH/JF</u>	
Current Weather Conditions: <u>partly cloudy</u>	Facility Name: <u>AMEREN VE, CALLAWAY PP</u>
Weather Conditions for Past 10 days: <u>rainy/clear</u>	Permit Number: <u>MO 0098001</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>4285298</u>	Northing (UTM Y): <u>0608190</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>15 Meters</u> <sup>224</sup> <u>A</u>
Site 11	Easting (UTM X): <u>4285305</u>	Northing (UTM Y): <u>0608453</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>20 Meters</u> <sup>224</sup> <u>A</u>

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>101-226</u>	<u>downstream</u>	<u>101-227</u>	<u>upstream</u>		

**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 <i>Data Sheet D- Recreational Use Interview</i> when conducting interviews.)				

WBID # 0704  
 Site # 04

**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:  <i>none</i>				

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

% Cobble	% Gravel	<i>10</i> % Sand	% Silt	<i>90</i> % Mud/Clay	% Bedrock
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**Aquatic Vegetation\*:** (Note amount of vegetation or algal growth at the assessment site)

<i>none</i>
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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 type="checkbox"/> Clear	<input checked="" type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: <i>Brown</i>
Bottom Deposit:	<input checked="" type="checkbox"/> Sludge <sup>①</sup>	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other: <sup>①</sup> <i>Deep Muck</i>
Surface Deposit:	<input checked="" type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input 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 # 0704  
Site # 04

**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: Jennifer Thabitt Date of Survey: 9/25/07  
Organization: AE Solutions Position: Env. Specialist

auc 10-16-07

# Recreational Use Attainability Analysis Field Survey Sheet

Waterbody ID: 0704 Site #: 0704-04  
 (WBID\_Site#)  
 Estimated Channel Incision: 2.5 (m) (height between low bank width and water)  
 GPS Location (taken at transect 1):  
 UTM X: 4285298 UTM Y: 0608196  
 Horizontal Accuracy Estimate (GPS Data Quality): +/- 15 (feet)  
 GPS Location (taken at transect 11):  
 UTM X: 4285305 UTM Y: 0608453  
 Horizontal Accuracy Estimate (GPS Data Quality): +/- 20 (feet)  
 Average Stream Width: 10.0 (meters) Length of Survey Segment: 200 (meters)  
 (To determine Length of Reach) (20x average stream width)  
 Field Staff: JH/JF

**Dissolved Oxygen**

Date: 9/25/07 Time: 11:40  
 Dissolved Oxygen: 2.37 (mg/L)  
 Dissolved Oxygen: 78.0 (% sat)  
 Specific Cond: 642.0 (µS/cm)  
 Water Temp.: 22.5 (°C)

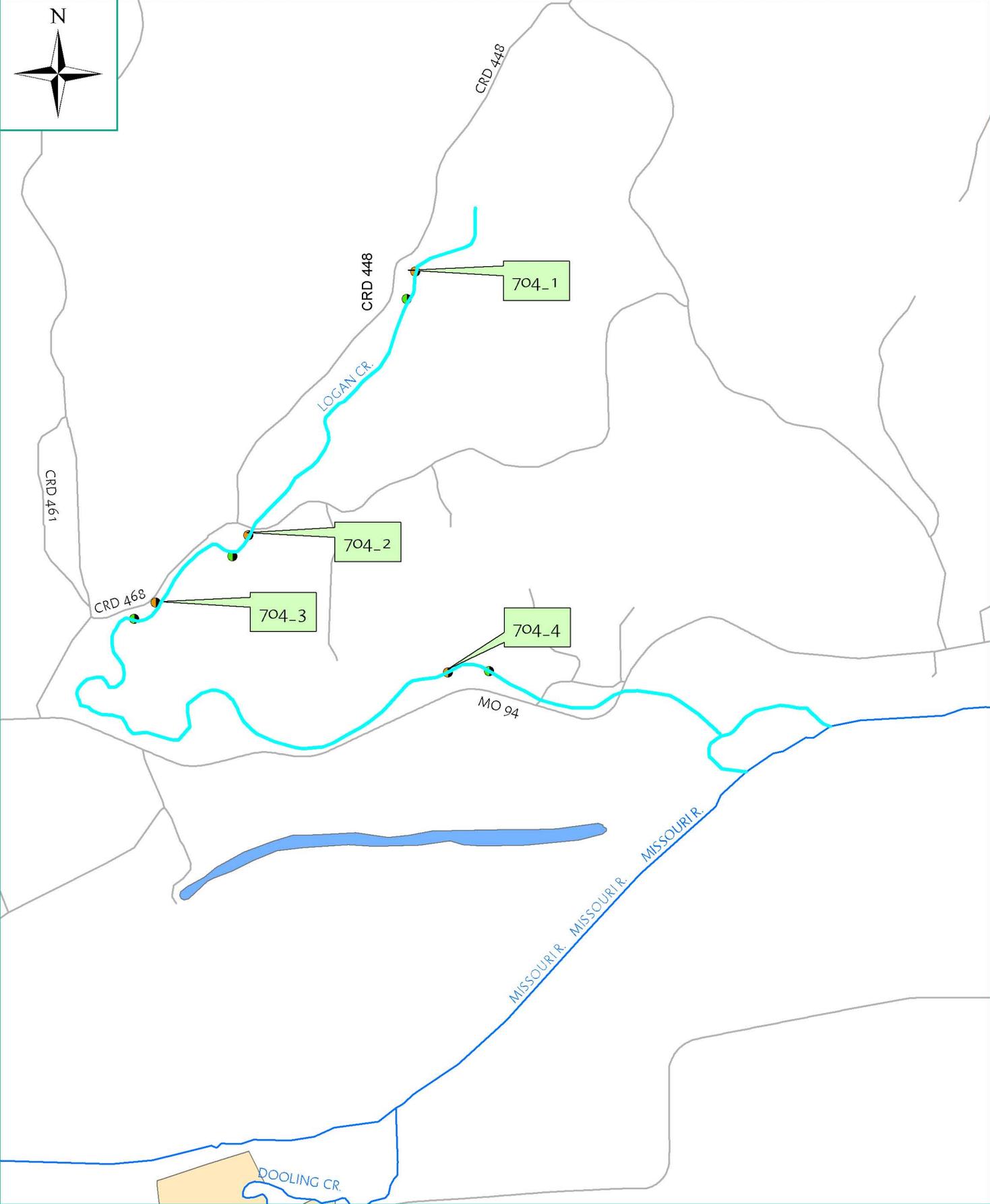
## Transect Cross-Section

		01		02		03		04		05		06		07		08		09		10		11	
Station	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	1.00	0.13	1.02	0.19	0.99	0.42	1.00	0.16	1.12	0.42	1.01	0.04	1.05	0.31	1.02	0.21	0.98	0.20	0.99	0.29	1.00	0.31	
2	2.00	0.21	2.04	0.31	1.98	0.71	2.00	0.29	2.24	0.91	2.02	0.04	2.10	0.72	2.04	0.52	1.96	0.51	1.98	0.61	2.00	0.42	
3	3.00	0.22	3.06	0.39	2.97	0.83	3.00	0.40	3.36	0.70	3.03	0.06	3.15	>1	3.06	0.79	2.94	0.70	2.97	0.97	3.00	0.61	
4	4.00	0.25	4.08	0.54	3.96	1.0	4.00	0.28	4.48	0.63	4.04	0.20	4.20	>1	4.08	>1	3.92	0.98	3.96	>1	4.00	>1	
5	5.00	0.33	5.10	0.82	4.95	0.92	5.00	0.38	5.60	0.61	5.05	0.55	5.25	0.97	5.10	>1	4.90	>1	4.95	>1	5.00	>1	
6	6.00	0.35	6.12	0.70	5.94	0.70	6.00	0.45	6.72	0.60	6.06	0.57	6.30	0.89	6.12	>1	5.88	>1	5.94	0.79	6.00	0.97	
7	7.00	0.40	7.14	0.60	6.93	0.46	7.00	0.40	7.84	0.50	7.07	0.54	7.35	0.65	7.14	0.82	6.86	0.86	6.93	0.50	7.00	0.89	
8	8.00	0.40	8.16	0.45	7.92	0.35	8.00	0.31	8.96	0.33	8.08	0.54	8.40	0.43	8.16	0.65	7.84	0.55	7.92	0.35	8.00	0.50	
9	9.00	0.25	9.18	0.25	8.91	0.20	9.00	0.15	10.08	0.20	9.09	0.50	9.45	0.25	9.18	0.35	8.82	0.33	8.91	0.15	9.00	0.30	
Right Bank	10.0	0	10.20	0	9.90	0	10.0	0	11.20	0	10.10	0.3	10.50	0	10.20	0	9.85	0	9.95	0	10.0	0	
Feature Type (riffle, run, or 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.

Signed: Jennifer Habibi Date: 10/5/07  
 RWC 10-16-07

# Logan Creek ( WBID 704)



- Upstream Boundary
- Downstream Boundary





