

Use Attainability Analysis

for

WBID 0491 Campbell Creek

Submitted by  
SES Inc.

to

Missouri Department of Natural Resources  
Water Protection Program

Date received: November 14, 2007

**Field Data Sheets for Recreation 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):	Campbell Cr.
Missouri Water Body Identification (WBID) Number:	491
8 digit HUC code: 10280101	County: Gentry
Upstream Legal Description (from Table H):	T61N R30N SEC 18
Downstream Legal Description (from Table H):	T61N R30W SEC 7
Number of sites evaluated:	3
List all site numbers, listed consequently upstream to downstream: 1, 2, 3	

**Site Locations Map(s):** Attach a map of the entire segment with assessment sites clearly labeled.  
Mark any other items that may be of interest.

**II. Facility Information** (list all permitted discharges to the water body segment)

Facility Name(s) and Permit Number(s):  CGC Campbell Creek Farm  MO0118460
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**III. UAA Surveyor** (please print legibly)

Name of Surveyor: Gilisa Gould	Telephone Number: 913-307-0054
Organization/Employer: SES, Inc	

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

**Signed:** gilisa gould **Date:** 11.12.07

491

430 - GRAND R.

491 - CAMPBELL CR.

Darlington

McFall

Site 3

Site 2

Site 1

STATE HWY V

STATE HWY T

STATE HWY T

STATE HWY H

STATE HWY Z

STATE HWY A

BERLIN RD PRIVATE DR

KING RD

MAPLE RD

LAKESITE RD

GRANT RD

KING RD

LEE RD

Dekalb

HEDGE RD

ELLSWORTH RD

COOK RD

KING RD

KING RD

KING RD

PLEASANT RD

PLEASANT RD

STAR RD

PLEASANT RD

BAKER RD

ELLSWORTH RD

STATE HWY D

HARRIS RD

HEIMBAUGH RD

COUNTY RD

COUNTY RD

PRIVATE DR

COUNTY RD

COUNTY RD

STATE HWY EE

PRIVATE DR

COUNTY RD

PRIVATE DR

STATE HWY A

COUNTY RD

COUNTY RD

COUNTY RD

PRIVATE DR

Gentry

COUNTY RD

PRIVATE DR

PRIVATE DR

COUNTY RD

PRIVATE DR

PRIVATE DR

COUNTY RD

PRIVATE DR

STATE HWY H

BERLIN RD

COUNTY RD

STATE HWY A

PRIVATE DR

STATE HWY Z

COUNTY RD

COUNTY RD

BERLIN RD

BERLIN RD PRIVATE DR

KING RD

MAPLE RD

LAKESITE RD

GRANT RD

KING RD

LEE RD

Dekalb

HEDGE RD

ELLSWORTH RD

COOK RD

KING RD

KING RD

KING RD

PLEASANT RD

PLEASANT RD

STAR RD

PLEASANT RD

BAKER RD

ELLSWORTH RD

STATE HWY D

HARRIS RD

HEIMBAUGH RD

WBID # 491  
 Site # 1

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

**Data Sheet B-Site Characterization**

Date & Time: 9.28.07          10:46	Site Location Description (e.g. road crossing):
Personnel: Drew Dodson, Gilisa Gould	Farthest Upstream
Current Weather Conditions: clear	Facility Name: CGC Campbell Creek Farms
Weather conditions for the past 10 days: no precip.	Permit Number: MO0118460
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):	Northing (UTM Y):	Horizontal Accuracy:
	0386714	4439648	23 feet
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:
	0386713	4439503	13 feet

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
51	downstream	52	upstream		
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:**

<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:				

WBID # 491  
 Site # 1

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

**Data Sheet B- Site Characterization (Continued)**

**Surrounding Conditions:**

<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/walkways
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input checked="" type="checkbox"/> Other:
Comments: crops				

**Evidence of Human Use:**

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/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: None				

**Substrate:**

% Cobble	% Gravel	30	% Sand	20	% Silt	40	% Mud/Clay	10	% Bedrock
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**Aquatic Vegetation:**

30% duckweed all other vegetation is on banks only
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**Water Characteristics:**

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: brown
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" 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:

WBID # 491  
Site # 1

**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.)

None

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

Surveyor's Signature: gilisa gould Date of Survey: 9.28.07

Organization: SES, Inc. Position: field team leader

## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet C - Field Survey Results

Waterbody ID: <u>491</u> Site #: <u>1</u>  Estimated Channel Incision: <u>1</u> (m) (height between low bank width and water)  GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) <b>01</b> UTM X: <u>0386714</u> UTM Y: <u>4439648</u> +/- <u>23</u> ft <b>11</b> UTM X: <u>0386713</u> UTM Y: <u>4439503</u> +/- <u>13</u> ft  Average Stream Width: <u>5.2</u> (meters)                      Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach)                      (20x average stream width)  Field Staff: <u>Drew Dodson, Gilisa Gould</u>	<b>Dissolved Oxygen</b>  Date: <u>9.28.07</u> Time: <u>10:47</u>  Dissolved Oxygen: <u>6.7</u> (mg/L)  Dissolved Oxygen: _____ (% sat)  Specific Cond: _____ (µS/cm)  Water Temperature: <u>22.3</u> (°C)
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#### Transect Cross-Section

		01		02		03		04		05		06		07		08		09		10		11	
Station		Distance (m)	Depth (m)																				
<b>Left Bank</b>		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1		0.64	0.15	0.64	0.10	0.64	0.10	0.55	0.15	0.55	0.05	0.55	0.05	0.55	0.05	0.46	0.20	0.37	0.10	0.73	0.05	0.09	0.01
2		1.28	0.35	1.28	0.25	1.28	0.35	1.10	0.40	1.10	0.30	1.10	0.30	1.10	0.50	0.92	0.60	0.74	0.15	1.46	0.15	0.18	0.01
3		1.92	0.55	1.92	0.55	1.92	0.50	1.65	0.50	1.65	0.55	1.65	0.40	1.65	0.60	1.38	0.55	1.11	0.05	2.19	0.20	0.27	0.01
4		2.56	0.75	2.56	0.60	2.56	0.55	2.20	0.55	2.20	0.60	2.20	0.50	2.20	0.60	1.84	0.50	1.48	0.10	2.92	0.40	0.36	0.05
5		3.20	0.80	3.20	0.60	3.20	0.60	2.75	0.60	2.75	0.65	2.75	0.55	2.75	0.65	2.30	0.45	1.85	0.20	3.65	0.50	0.45	0.05
6		3.84	0.70	3.84	0.60	3.84	0.60	3.30	0.65	3.30	0.65	3.30	0.50	3.30	0.55	2.76	0.40	2.22	0.25	4.38	0.60	0.54	0.01
7		4.48	0.60	4.48	0.30	4.48	0.60	3.85	0.60	3.85	0.60	3.85	0.35	3.85	0.35	3.22	0.35	2.59	0.15	5.11	0.55	0.63	0.01
8		5.12	0.30	5.12	0.20	5.12	0.30	4.40	0.20	4.40	0.30	4.40	0.15	4.40	0.15	3.68	0.20	2.96	0.10	5.84	0.45	0.72	0.01
9		5.76	0.10	5.76	0.10	5.76	0.05	4.95	0.10	4.95	0.10	4.95	0.05	4.95	0.05	4.14	0.05	3.33	0.01	6.57	0.15	0.81	0.01
<b>Right Bank</b>		6.4	0	6.4	0	6.4	0	5.5	5	5.5	0	5.5	0	5.5	0	4.6	0	3.7	0	7.3	0	0.9	0
<b>Feature Type</b> <small>(riffle, run, or pool)</small>		run		run		run		run		run		run		run		run		run		run		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 locations corresponds to Transect 01 and 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: gilisa gould                      Date: 11.12.07

WBID # 491  
 Site # 2

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

**Data Sheet B-Site Characterization**

Date & Time: 9.28.07 9:54	Site Location Description (e.g. road crossing):
Personnel: Drew Dodson, Gilisa Gould	Midway sites 3 and 1
Current Weather Conditions: sunny	Facility Name: CGC Campbell Creek Farms
Weather conditions for the past 10 days: no precip.	Permit Number: MO0118460
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):	Northing (UTM Y):	Horizontal Accuracy:
	0386719	4438952	12 feet
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:
	0386735	4438831	5 feet

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
49	downstream	50	upstream		
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:**

<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:				

WBID # 491  
 Site # 2

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

**Data Sheet B- Site Characterization (Continued)**

**Surrounding Conditions:**

<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/walkways
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input checked="" type="checkbox"/> Other:
Comments: crops				

**Evidence of Human Use:**

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/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: None				

**Substrate:**

10 % Cobble	% Gravel	40	% Sand	40	% Silt	10	% Mud/Clay	% Bedrock
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**Aquatic Vegetation:**

only on banks (common forbs and grasses)

**Water Characteristics:**

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: black
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input checked="" type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Other:

WBID # 491  
Site # 2

**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.)

None

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

Surveyor's Signature: gilisa gould Date of Survey: 9.28.07

Organization: SES, Inc. Position: field team leader

## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet C - Field Survey Results

Waterbody ID: <u>491</u> Site #: <u>2</u>  Estimated Channel Incision: <u>0</u> (m) (height between low bank width and water)  GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) <b>01</b> UTM X: <u>0386719</u> UTM Y: <u>4438952</u> +/- <u>12</u> ft <b>11</b> UTM X: <u>0386735</u> UTM Y: <u>4438831</u> +/- <u>5</u> ft  Average Stream Width: <u>3.3</u> (meters)                      Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach)                      (20x average stream width)  Field Staff: <u>Drew Dodson, Gilisa Gould</u>	<b>Dissolved Oxygen</b>  Date: <u>9.28.07</u> Time: <u>9:55</u>  Dissolved Oxygen: <u>5.9</u> (mg/L)  Dissolved Oxygen: _____ (% sat)  Specific Cond: _____ (µS/cm)  Water Temperature: <u>19.8</u> (°C)
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#### Transect Cross-Section

		01		02		03		04		05		06		07		08		09		10		11	
Station		Distance (m)	Depth (m)																				
<b>Left Bank</b>		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	0.09	0.01	0.46	0.01	0.64	0.05	0.37	0.01	0.55	0.01	0.18	0.01	0.37	0.01	0.64	0.01	0.09	0.01	0.18	0.01	0.09	0.01
	2	0.18	0.01	0.92	0.01	1.28	0.20	0.74	0.20	1.10	0.20	0.36	0.10	0.74	0.01	1.28	0.05	0.18	0.01	0.36	0.01	0.18	0.01
	3	0.27	0.05	1.38	0.05	1.92	0.45	1.11	0.30	1.65	0.20	0.54	0.10	1.11	0.00	1.92	0.10	0.27	0.01	0.54	0.01	0.27	0.01
	4	0.36	0.05	1.84	0.05	2.56	0.50	1.48	0.35	2.20	0.35	0.72	0.10	1.48	0.00	2.56	0.05	0.36	0.00	0.72	0.01	0.36	0.01
	5	0.45	0.05	2.30	0.10	3.20	0.45	1.85	0.35	2.75	0.40	0.90	0.10	1.85	0.00	3.20	0.00	0.45	0.00	0.90	0.01	0.45	0.01
	6	0.54	0.05	2.76	0.05	3.84	0.45	2.22	0.25	3.30	0.30	1.08	0.05	2.22	0.00	3.84	0.00	0.54	0.01	1.08	0.01	0.54	0.01
	7	0.63	0.05	3.22	0.10	4.48	0.40	2.59	0.15	3.85	0.20	1.26	0.01	2.59	0.01	4.48	0.00	0.63	0.01	1.26	0.01	0.63	0.01
	8	0.72	0.05	3.68	0.05	5.12	0.25	2.96	0.05	4.40	0.10	1.44	0.01	2.96	0.01	5.12	0.10	0.72	0.01	1.44	0.01	0.72	0.01
	9	0.81	0.10	4.14	0.01	5.76	0.15	3.33	0.05	4.95	0.05	1.62	0.01	3.33	0.01	5.76	0.05	0.81	0.01	1.62	0.01	0.81	0.01
<b>Right Bank</b>		0.9	0	4.6	0	6.4	0	3.7	5	5.5	0	1.8	0	3.7	0	6.4	0	0.9	0	1.8	0	0.9	0
<b>Feature Type</b>		riffle		pool		pool		run		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 locations corresponds to Transect 01 and 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: gilisa gould                      Date: 10.04.07

WBID # 491  
 Site # 3

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

**Data Sheet B-Site Characterization**

Date & Time: 9.28.07 9:07	Site Location Description (e.g. road crossing):
Personnel: Drew Dodson, Gilisa Gould	most downstream site
Current Weather Conditions: sunny	Facility Name: CGC Campbell Creek Farms
Weather conditions for the past 10 days: no precip.	Permit Number: MO0118460
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):	Northing (UTM Y):	Horizontal Accuracy:
	0386451	4438108	27 feet
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy:
	0386422	4437982	12 feet

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
47	downstream	48	upstream		
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:**

<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:				

WBID # 491  
 Site # 3

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

**Data Sheet B- Site Characterization (Continued)**

**Surrounding Conditions:**

<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/walkways
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input checked="" type="checkbox"/> Other:
Comments: crops				

**Evidence of Human Use:**

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/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: None				

**Substrate:**

70 % Cobble	% Gravel	30	% Sand	% Silt	% Mud/Clay	% Bedrock
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**Aquatic Vegetation:**

banks are vegetated 15% algae on substrate
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**Water Characteristics:**

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 type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" 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:

WBID # 491  
Site # 3

**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.)

None

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

Surveyor's Signature: gilisa gould Date of Survey: 9.28.07

Organization: SES, Inc. Position: field team leader

## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet C - Field Survey Results

Waterbody ID: <u>491</u> Site #: <u>3</u>  Estimated Channel Incision: <u>0.5</u> (m) (height between low bank width and water)  GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) <b>01</b> UTM X: <u>0386451</u> UTM Y: <u>4438108</u> +/- <u>8.2</u> (meters) <b>11</b> UTM X: <u>0386422</u> UTM Y: <u>4437982</u> +/- <u>3.7</u> (meters)  Average Stream Width: <u>6.2</u> (meters)                      Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach)                      (20x average stream width)  Field Staff: <u>Drew Dodson, Gilisa Gould</u>	<b>Dissolved Oxygen</b>  Date: <u>9.28.07</u> Time: <u>9:10</u>  Dissolved Oxygen: <u>6.3</u> (mg/L)  Dissolved Oxygen: _____ (% sat)  Specific Cond: _____ (µS/cm)  Water Temperature: <u>21.7</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)																				
<b>Left Bank</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	0.05	0.00	0.73	0.00	0.73	0.00	0.09	0.01	0.55	0.00	0.55	0.00	0.64	0.00	0.73	0.00	0.82	0.00	0.91	0.01	1.01	0.05	
2	0.10	0.00	1.46	0.00	1.46	0.00	0.18	0.01	1.10	0.00	1.10	0.00	1.28	0.00	1.46	0.00	1.64	0.00	1.82	0.05	2.02	0.20	
3	0.15	0.00	2.19	0.00	2.19	0.00	0.27	0.01	1.65	0.00	1.65	0.00	1.92	0.00	2.19	0.00	2.46	0.00	2.73	0.10	3.03	0.30	
4	0.20	0.00	2.92	0.00	2.92	0.00	0.36	0.01	2.20	0.00	2.20	0.00	2.56	0.00	2.92	0.00	3.28	0.00	3.64	0.10	4.04	0.45	
5	0.25	0.00	3.65	0.00	3.65	0.00	0.45	0.05	2.75	0.00	2.75	0.00	3.20	0.00	3.65	0.00	4.10	0.00	4.55	0.10	5.05	0.45	
6	0.30	0.00	4.38	0.00	4.38	0.00	0.54	0.01	3.30	0.00	3.30	0.00	3.84	0.00	4.38	0.00	4.92	0.00	5.46	0.10	6.06	0.30	
7	0.35	0.00	5.11	0.00	5.11	0.00	0.63	0.01	3.85	0.00	3.85	0.00	4.48	0.00	5.11	0.00	5.74	0.00	6.37	0.10	7.07	0.20	
8	0.40	0.00	5.84	0.00	5.84	0.00	0.72	0.01	4.40	0.00	4.40	0.00	5.12	0.00	5.84	0.00	6.56	0.00	7.28	0.05	8.08	0.10	
9	0.45	0.00	6.57	0.00	6.57	0.00	0.81	0.01	4.95	0.00	4.95	0.00	5.76	0.00	6.57	0.00	7.38	0.00	8.19	0.05	9.09	0.01	
<b>Right Bank</b>	0.5	0	7.3	0	7.3	0	0.9	5	5.5	0	5.5	0	6.4	0	7.3	0	8.2	0	9.1	0	10.1	0	
<b>Feature Type</b> <small>(riffle, run, or pool)</small>	run		run		run		pool		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 locations corresponds to Transect 01 and 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: gilisa gould                      Date: 10.04.07

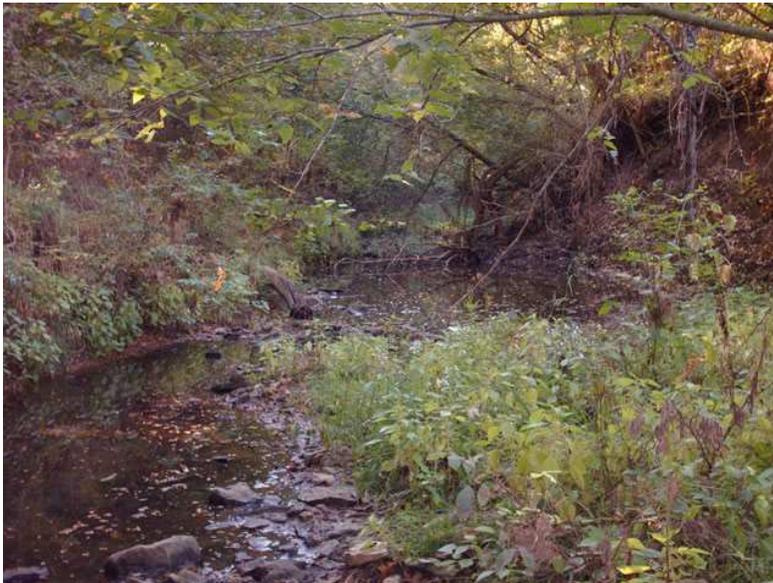
**WBID# 0491**



**Site# 1 Photo ID# 51, Downstream**



**Site# 1 Photo ID# 52, Upstream**



**Site# 2 Photo ID# 49, Downstream**



**Site# 2 Photo ID# 50, Upstream**

**WBID# 0491**



**Site# 3 Photo ID# 47, Downstream**



**Site# 3 Photo ID# 48, Upstream**