Missouri
Department of
Natural Resources

Use Attainability Analysis

for

WBID 0934 East Bear Creek

Submitted by
SES, Inc.

To
Missouri Department of Natural Resources
Water Protection Program

On

October 14, 2008

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): East Bear Creek
Missouri Water Body Identification (WBID) Number: 934
8-digit HUC: 10300104
County(ies), Listed Upstream to Downstream: Johnson
Upstream Legal Description (from Table H): T46N R25W Sec 33
Downstream Legal Description (from Table H): T46N R25W Sec 32
Number of sites evaluated: 3
List all site numbers, consecutively upstream to downstream: 1, 2, 3
Include a Site Location Map(s). The map must include all requirements detailed in the *Missouri Recreational Use Attainability Analyses: Water Body Survey and Assessment Protocol* (Section IV.D.8.a).

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

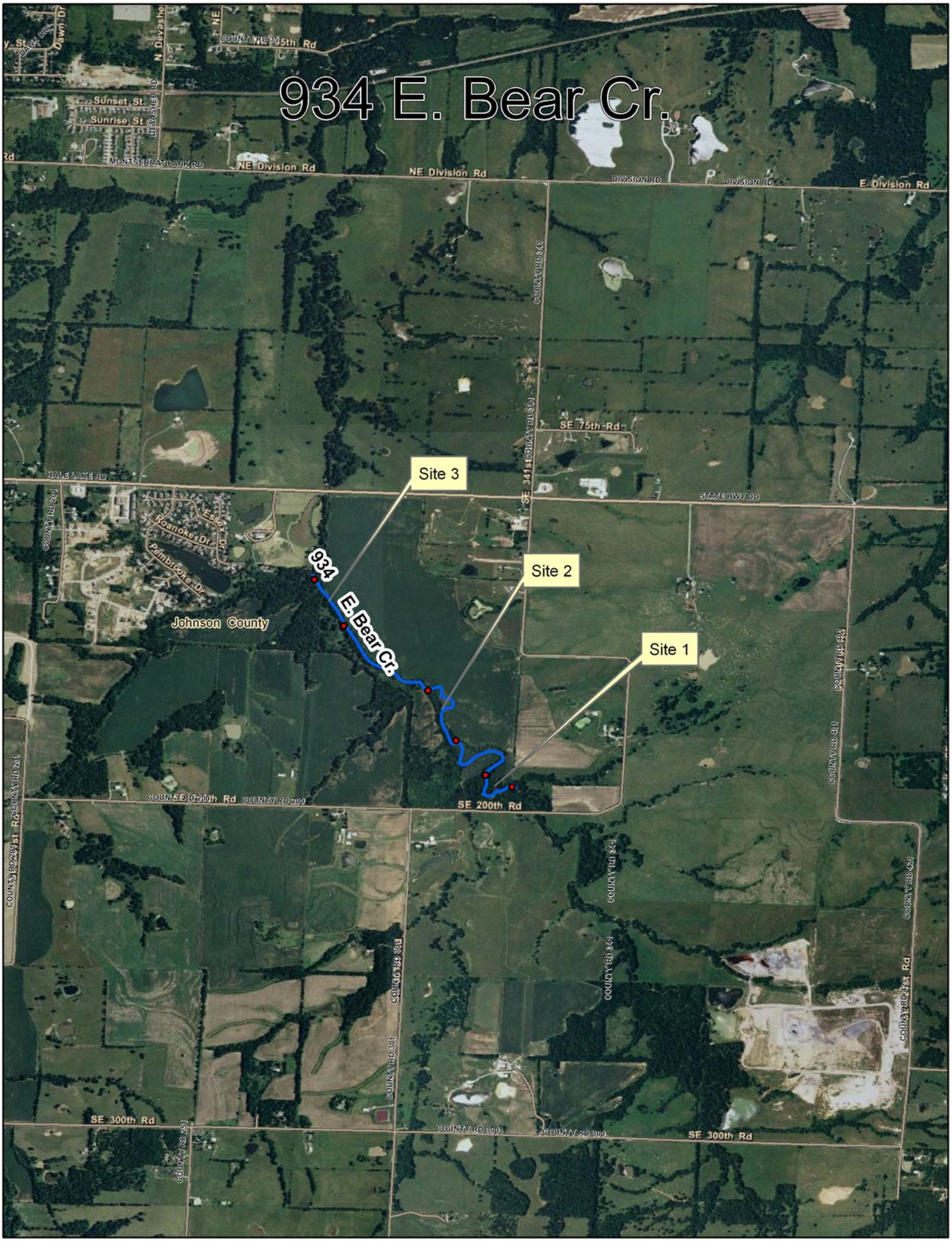
Facility Name(s) and Permit Number(s): Show Me Regional Landfill MO 0116254

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

Name of Surveyor: Gilisa Gould	Telephone Number: 913-307-0046
Organization/Employer: SES, Inc.	

Please verify that you have completed all sections of all data sheets, checked all applicable boxes, provided a map (that includes all requirments listed in the *Missouri Recreational Use Attainability Analysies: Water Body Survey and Assessment Protocol*) and that this form is complete.

Signed: Gilisa Gould **Date:** 9/15/08


934 E. Bear Cr.
Site 3
Site 2
Site 1
934
E. Bear Cr.
Johnson County
NE Division Rd
DIVISION RD
E Division Rd
SE 75th Rd
HALE LAKE RD
STATE HWY DD
SE 200th Rd
SE 300th Rd
COUNTY RD 300
COUNTY RD 200
COUNTY RD 441
COUNTY RD 401
COUNTY RD 301
COUNTY RD 201
COUNTY RD 341
Roanoke Dr
Pembroke Dr
Sunset St
Sunrise St
MONTSERRAT PARK RD

WBID # ___934___

Site # ____1_____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)

(must be completed for each site)

Date & Time: 9/10/08 17:06	Location Description (e.g., road crossing): North of 200th Rd.
Stream Name: E. Bear Cr.	
Current Weather Conditions: Cloudy	Facility Name(s): Show Me Regional Landfill
Weather Conditions for Past 10 days: 6.22 cm	Permit Number(s): MO 0116254
Official Drought Conditions at time of this survey (search DNR home page for "drought"): No drought ☑; Phase I ☐; Phase II ☐; Phase III ☐; Phase IV ☐; Unknown ☐	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)				
Site 01	Easting (UTM X): 0440405	Northing (UTM Y): 4287099	Horizontal Accuracy: (EPE / FOM / PDOP)	9 Meters
Site 11	Easting (UTM X): 0440299	Northing (UTM Y): 4287161	Horizontal Accuracy: (EPE / FOM / PDOP)	10 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
41	Downstream	42	Foot print	43	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*: (Uses actually observed at the time of survey.)

☐ Swimming	☐ Skin diving	☐ SCUBA diving	☐ Tubing	☐ Water skiing
☐ Wind surfing	☐ Kayaking	☐ Boating	☐ Wading	☐ Rafting
☐ Hunting	☐ Trapping	☐ Fishing	☑ None of the above	☐ 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.)

Stream Name & WBID # E. Bear Cr. 934 Date of Survey 9/10/08

Site # 1

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 2 of 3)

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

☐ City/county parks	☐ Playgrounds	☐ MDC conservation lands	☐ Urban areas	☑ Rural Residential
☐ Campgrounds	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ Boating accesses	☐ Fence	☐ No trespass sign	☐ Steep slopes	☐ Other:
Comments:				

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

☐ Roads	☑ Foot paths/prints	☐ Dock/platform	☐ Camping Sites	☐ Rope swings
☐ RV / ATV Tracks	☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle	☐ Livestock Watering
☐ None of the above	Comments / Other:			

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

% Cobble	30% Gravel	50% Sand	% Silt	20% Mud/Clay	% Bedrock

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

None

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☑ None	☐ Other:
Color:	☑ Clear	☐ Green	☐ Gray	☑ Milky	☐ Other:
Bottom Deposit:	☐ Sludge	☐ Solids	☐ Fine sediments	☑ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	☑ None	☐ 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 affect another use.

Stream Name & WBID # _E. Bear Cr._____934_____ Date of Survey __9/10/08_____

Site # ____1_____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 3 of 3)

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)
Pool	100 meters	6	8 meters	0.8 meters	1+ meters

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.

Printed Names of Personnel Collecting Data: Bryan Deimeke and Gilisa Gould_____

Surveyor's Signature: Gilisa Gould__ _____ Date of Survey: 9/10/08_____

Organization: SES, Inc._____ Position: Field Team Leader_____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: E. Bear Cr. Waterbody ID: 934 Site #: 1

Estimated Channel Incision: 2 (m) (height between low bank width and water)

GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM)

01 UTM X: 0440405 UTM Y: 4287099 +/- 9 (meters)

11 UTM X: 0440299 UTM Y: 4287161 +/- 10 (meters)

Average Stream Width: 5 (meters) Length of Survey Segment: 150 (meters)

(To determne Length of Reach) (20x average stream width)

Field Staff: Bryan Deimeke and Gilisa Gould

Dissolved Oxygen

Date: 9/10/2008 Time: 17:06

Dissolved Oxygen: 10.7 (mg/L)

Dissolved Oxygen: (% sat)

Specific Cond: (µS/cm)

Water Temperature: 20.0 (°C)

Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	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	0.10	0.01	0.10	0.01	0.20	0.01	0.30	0.05	0.40	0.10	0.30	0.05	0.30	0.05	0.50	0.05	0.30	0.05	0.20	0.01	0.40	0.05
2	0.20	0.01	0.20	0.05	0.40	0.05	0.60	0.05	0.80	0.10	0.60	0.10	0.60	0.05	1.00	0.10	0.60	0.05	0.40	0.05	0.80	0.10
3	0.30	0.05	0.30	0.05	0.60	0.05	0.90	0.05	1.20	0.25	0.90	0.15	0.90	0.05	1.50	0.25	0.90	0.10	0.60	0.05	1.20	0.20
4	0.40	0.01	0.40	0.10	0.80	0.05	1.20	0.10	1.60	0.45	1.20	0.15	1.20	0.05	2.00	0.35	1.20	0.15	0.80	0.10	1.60	0.30
5	0.50	0.01	0.50	0.15	1.00	0.05	1.50	0.15	2.00	0.55	1.50	0.25	1.50	0.05	2.50	0.40	1.50	0.25	1.00	0.10	2.00	0.25
6	0.60	0.05	0.60	0.10	1.20	0.10	1.80	0.25	2.40	0.65	1.80	0.30	1.80	0.10	3.00	0.40	1.80	0.30	1.20	0.10	2.40	0.20
7	0.70	0.01	0.70	0.05	1.40	0.10	2.10	0.30	2.80	0.60	2.10	0.25	2.10	0.05	3.50	0.25	2.10	0.30	1.40	0.01	2.80	0.10
8	0.80	0.01	0.80	0.05	1.60	0.05	2.40	0.20	3.20	0.40	2.40	0.10	2.40	0.05	4.00	0.15	2.40	0.25	1.60	0.01	3.20	0.05
9	0.90	0.01	0.90	0.01	1.80	0.05	2.70	0.15	3.60	0.25	2.70	0.05	2.70	0.01	4.50	0.05	2.70	0.10	1.80	0.01	3.60	0.01
Right Bank	1.00	0.00	1.00	0.00	2.00	0.00	3.00	0.00	4.00	0.00	3.00	0.00	3.00	0.00	5.00	0.00	3.00	0.00	2.00	0.00	4.00	0.00
Feature Type (riffle, run, or pool)	riffle		pool		pool		pool		pool		pool		pool		pool		pool		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 bv dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.1 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: Gilisa Gould Date: 9/15/2008

09/10/2008

09/10/2008

09/10/2008

WBID # ___934___

Site # _____2____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)

(must be completed for each site)

Date & Time: 9/10/08 16:32	Location Description (e.g., road crossing): Midway sites 1 & 3
Stream Name: E. Bear Cr.	
Current Weather Conditions: Cloudy	Facility Name(s): Show Me Regional Landfill
Weather Conditions for Past 10 days: 6.22 cm	Permit Number(s): MO 0116254
Official Drought Conditions at time of this survey (search DNR home page for "drought"): No drought ☑; Phase I ☐; Phase II ☐; Phase III ☐; Phase IV ☐; Unknown ☐	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)				
Site 01	Easting (UTM X): 0440183	Northing (UTM Y): 4287338	Horizontal Accuracy: (EPE / FOM / PDOP)	9 Meters
Site 11	Easting (UTM X): 0440074	Northing (UTM Y): 4287591	Horizontal Accuracy: (EPE / FOM / PDOP)	7 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
38	Upstream	39	Foot print	40	Downstream
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 the time of survey.)

☐ Swimming	☐ Skin diving	☐ SCUBA diving	☐ Tubing	☐ Water skiing
☐ Wind surfing	☐ Kayaking	☐ Boating	☐ Wading	☐ Rafting
☐ Hunting	☐ Trapping	☐ Fishing	☑ None of the above	☐ 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.)

Stream Name & WBID # __E. Bear Cr.___934_ Date of Survey __9/10/08_____

Site # ____2_____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 2 of 3)

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

☐ City/county parks	☐ Playgrounds	☐ MDC conservation lands	☐ Urban areas	☑ Rural Residential
☐ Campgrounds	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ Boating accesses	☐ Fence	☐ No trespass sign	☐ Steep slopes	☐ Other:
Comments:				

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

☐ Roads	☑ Foot paths/prints	☐ Dock/platform	☐ Camping Sites	☐ Rope swings
☐ RV / ATV Tracks	☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle	☐ Livestock Watering
☐ None of the above	Comments / Other:			

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

% Cobble	60% Gravel	40% Sand	% Silt	% Mud/Clay	% Bedrock

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

None

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☑ None	☐ Other:
Color:	☑ Clear	☐ Green	☐ Gray	☐ Milky	☐ Other:
Bottom Deposit:	☐ Sludge	☐ Solids	☐ Fine sediments	☑ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	☑ None	☐ 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 affect another use.

Stream Name & WBID # __E. Bear Cr.___934_____ Date of Survey __9/10/08_____

Site # ____2_____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 3 of 3)

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.

Printed Names of Personnel Collecting Data: Bryan Deimeke and Gilisa Gould_____

Surveyor's Signature: Gilisa Gould_____ Date of Survey: 9/10/08_____

Organization: SES, Inc._____ Position: Field Team Leader_____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: E. Bear Cr. Waterbody ID: 934 Site #: 2

Estimated Channel Incision: 2 (m) (height between low bank width and water)

GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM)

01 UTM X: 0440183 UTM Y: 4287338 +/- 9 (meters)

11 UTM X: 0440074 UTM Y: 4287591 +/- 7 (meters)

Average Stream Width: 4 (meters) Length of Survey Segment: 150 (meters)

(To determne Length of Reach) (20x average stream width)

Field Staff: Bryan Deimeke and Gilisa Gould

Dissolved Oxygen

Date: 9/10/2008 Time: 16:32

Dissolved Oxygen: 9.8 (mg/L)

Dissolved Oxygen: (% sat)

Specific Cond: (µS/cm)

Water Temperature: 20.1 (°C)

Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	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	0.20	0.01	0.20	0.01	0.20	0.01	0.30	0.05	0.60	0.05	0.30	0.05	0.40	0.05	0.30	0.01	0.50	0.05	0.20	0.01	0.30	0.01
2	0.40	0.01	0.40	0.05	0.40	0.01	0.60	0.10	1.20	0.15	0.60	0.10	0.80	0.10	0.60	0.05	1.00	0.05	0.40	0.01	0.60	0.05
3	0.60	0.01	0.60	0.01	0.60	0.05	0.90	0.10	1.80	0.30	0.90	0.15	1.20	0.20	0.90	0.05	1.50	0.05	0.60	0.05	0.90	0.05
4	0.80	0.01	0.80	0.05	0.80	0.05	1.20	0.30	2.40	0.25	1.20	0.15	1.60	0.20	1.20	0.10	2.00	0.05	0.80	0.05	1.20	0.10
5	1.00	0.01	1.00	0.05	1.00	0.05	1.50	0.30	3.00	0.20	1.50	0.20	2.00	0.15	1.50	0.05	2.50	0.05	1.00	0.10	1.50	0.15
6	1.20	0.01	1.20	0.05	1.20	0.05	1.80	0.20	3.60	0.25	1.80	0.15	2.40	0.20	1.80	0.05	3.00	0.10	1.20	0.05	1.80	0.20
7	1.40	0.01	1.40	0.01	1.40	0.05	2.10	0.10	4.20	0.20	2.10	0.10	2.80	0.15	2.10	0.05	3.50	0.10	1.40	0.05	2.10	0.25
8	1.60	0.01	1.60	0.01	1.60	0.01	2.40	0.05	4.80	0.10	2.40	0.05	3.20	0.15	2.40	0.01	4.00	0.10	1.60	0.05	2.40	0.20
9	1.80	0.01	1.80	0.01	1.80	0.01	2.70	0.05	5.40	0.01	2.70	0.01	3.60	0.10	2.70	0.01	4.50	0.05	1.80	0.01	2.70	0.15
Right Bank	2.00	0.00	2.00	0.00	2.00	0.00	3.00	0.00	6.00	0.00	3.00	0.00	4.00	0.00	3.00	0.00	5.00	0.00	2.00	0.00	3.00	0.00
Feature Type (riffle, run, or pool)	riffle		pool		pool		pool		pool		pool		pool		pool		pool		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 bv dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.1 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: Gilisa Gould Date: 9/15/2008

09/10/2008

09/10/2008

09/10/2008

WBID # __934____

Site # _____3_ ___

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)

(must be completed for each site)

Date & Time: 9/10/08 16:00	Location Description (e.g., road crossing): South of Hwy DD at mouth entering Bear Cr.
Stream Name: E. Bear Cr.	
Current Weather Conditions: Cloudy	Facility Name(s): Show Me Regional Landfill
Weather Conditions for Past 10 days: 6.22 cm	Permit Number(s): MO 0116254
Official Drought Conditions at time of this survey (search DNR home page for "drought"): No drought ☑; Phase I ☐; Phase II ☐; Phase III ☐; Phase IV ☐; Unknown ☐	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)				
Site 01	Easting (UTM X): 0439741	Northing (UTM Y): 4287925	Horizontal Accuracy: (EPE / FOM / PDOP)	7 Meters
Site 11	Easting (UTM X): 0439626	Northing (UTM Y): 4288158	Horizontal Accuracy: (EPE / FOM / PDOP)	3 Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
35	Upstream	36	Footprint	37	Downstream
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 the time of survey.)

☐ Swimming	☐ Skin diving	☐ SCUBA diving	☐ Tubing	☐ Water skiing
☐ Wind surfing	☐ Kayaking	☐ Boating	☐ Wading	☐ Rafting
☐ Hunting	☐ Trapping	☐ Fishing	☑ None of the above	☐ 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.)

Stream Name & WBID # __E. Bear Cr. 934 Date of Survey _9/10/08_____

Site # ___3_____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 2 of 3)

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

☐ City/county parks	☐ Playgrounds	☐ MDC conservation lands	☐ Urban areas	☑ Rural Residential
☐ Campgrounds	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ Boating accesses	☐ Fence	☐ No trespass sign	☐ Steep slopes	☐ Other:
Comments:				

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

☐ Roads	☑ Foot paths/prints	☐ Dock/platform	☐ Camping Sites	☐ Rope swings
☐ RV / ATV Tracks	☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle	☐ Livestock Watering
☐ None of the above	Comments / Other:			

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

% Cobble	60% Gravel	40% Sand	% Silt	% Mud/Clay	% Bedrock

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

None

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☑ None	☐ Other:
Color:	☑ Clear	☐ Green	☐ Gray	☐ Milky	☐ Other:
Bottom Deposit:	☐ Sludge	☐ Solids	☐ Fine sediments	☑ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	☑ None	☐ 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 affect another use.

Stream Name & WBID # __E. Bear Cr._____934_____ Date of Survey _9/10/08_____

Site # ___3_____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 3 of 3)

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.

Printed Names of Personnel Collecting Data: Bryan Deimeke and Gilisa Gould_____

Surveyor's Signature: Gilisa Gould_____ Date of Survey: 9/10/08_____

Organization: SES, Inc._____ Position: Field Team Leader_____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: E. Bear Cr. Waterbody ID: 934 Site #: 3

Estimated Channel Incision: 2 (m) (height between low bank width and water)

GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM)

01 UTM X: 0439741 UTM Y: 4287925 +/- 7 (meters)

11 UTM X: 0439626 UTM Y: 4288158 +/- 3 (meters)

Average Stream Width: 3 (meters) Length of Survey Segment: 150 (meters)

(To determne Length of Reach) (20x average stream width)

Field Staff: Bryan Deimeke and Gilisa Gould

Dissolved Oxygen

Date: 9/10/2008 Time: 16:00

Dissolved Oxygen: 7.4 (mg/L)

Dissolved Oxygen: _____ (% sat)

Specific Cond: _____ (µS/cm)

Water Temperature: 19.2 (°C)

Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	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	0.10	0.01	0.20	0.15	0.40	0.05	0.20	0.01	0.30	0.05	0.40	0.05	0.30	0.05	0.40	0.10	0.05	0.01	0.30	0.01	0.20	0.01
2	0.20	0.01	0.40	0.15	0.80	0.15	0.40	0.01	0.60	0.20	0.80	0.10	0.60	0.05	0.80	0.20	0.10	0.01	0.60	0.05	0.40	0.01
3	0.30	0.01	0.60	0.20	1.20	0.10	0.60	0.05	0.90	0.20	1.20	0.20	0.90	0.10	1.20	0.35	0.15	0.01	0.90	0.05	0.60	0.01
4	0.40	0.05	0.80	0.25	1.60	0.15	0.80	0.05	1.20	0.20	1.60	0.25	1.20	0.05	1.60	0.25	0.20	0.01	1.20	0.10	0.80	0.01
5	0.50	0.05	1.00	0.25	2.00	0.40	1.00	0.15	1.50	0.20	2.00	0.25	1.50	0.10	2.00	0.25	0.25	0.01	1.50	0.05	1.00	0.01
6	0.60	0.05	1.20	0.25	2.40	0.70	1.20	0.15	1.80	0.10	2.40	0.15	1.80	0.10	2.40	0.25	0.30	0.01	1.80	0.05	1.20	0.01
7	0.70	0.05	1.40	0.15	2.80	0.75	1.40	0.10	2.10	0.05	2.80	0.10	2.10	0.05	2.80	0.25	0.35	0.01	2.10	0.01	1.40	0.01
8	0.80	0.01	1.60	0.10	3.20	0.60	1.60	0.05	2.40	0.05	3.20	0.10	2.40	0.05	3.20	0.10	0.40	0.01	2.40	0.01	1.60	0.05
9	0.90	0.01	1.80	0.05	3.60	0.60	1.80	0.01	2.70	0.01	3.60	0.05	2.70	0.01	3.60	0.05	0.45	0.01	2.70	0.01	1.80	0.01
Right Bank	1.00	0.00	2.00	0.00	4.00	0.00	2.00	0.00	3.00	0.00	4.00	0.00	3.00	0.00	4.00	0.00	0.50	0.00	3.00	0.00	2.00	0.00
Feature Type (riffle, run, or pool)	pool		pool		pool		pool		pool		pool		pool		pool		riffle		pool		riffle	

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

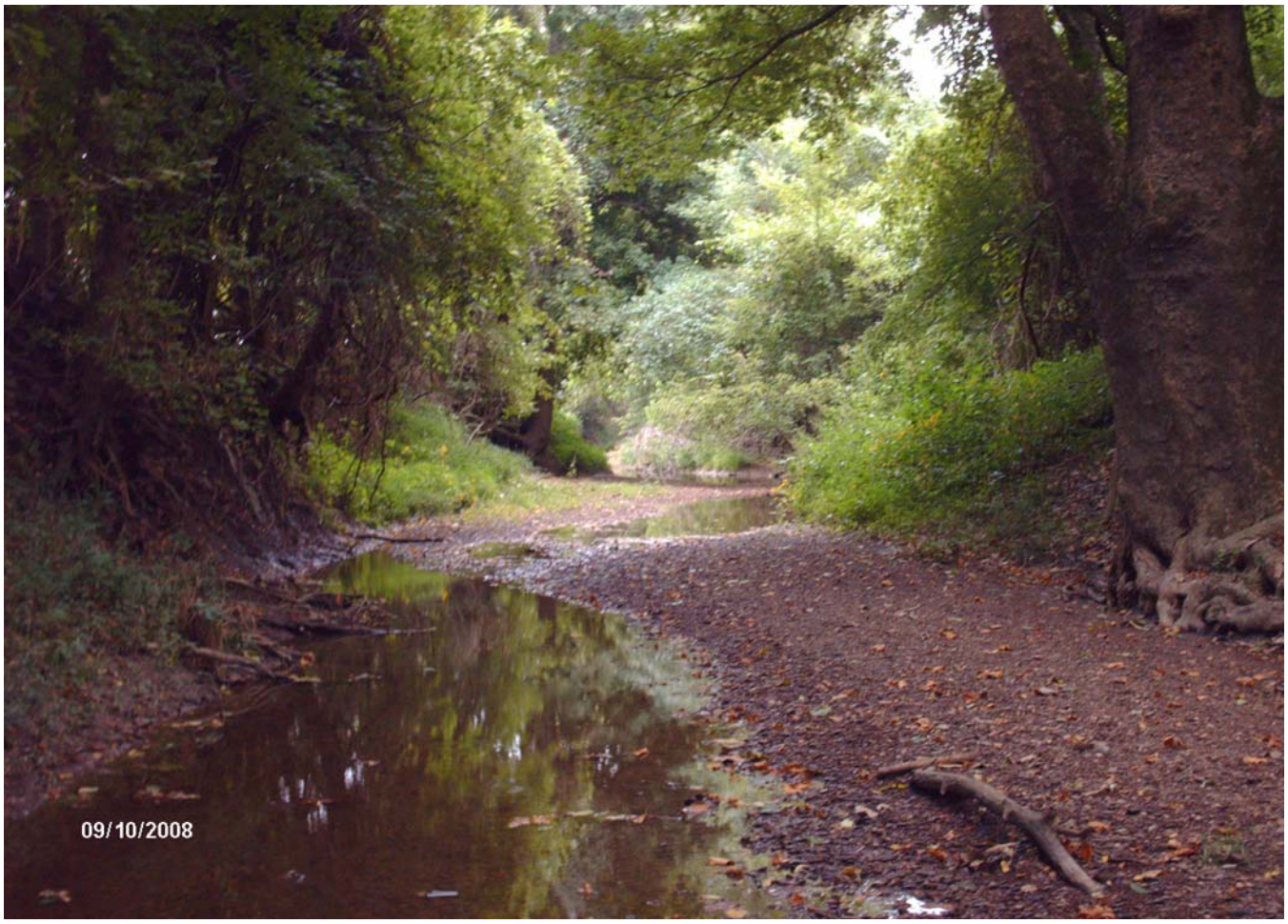
GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine bv dividing wetted width by ten)

Mark dry depth measurements as 0; record actual measurements to 0.1 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: Gilisa Gould Date: 9/15/2008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