Use Attainability Analysis

for

WBID 0321 Grove Creek

Submitted by
Tetra Tech, Inc

To
Missouri Department of Natural Resources
Water Protection Program

Field Data Sheets for Recreational Use Stream Surveys

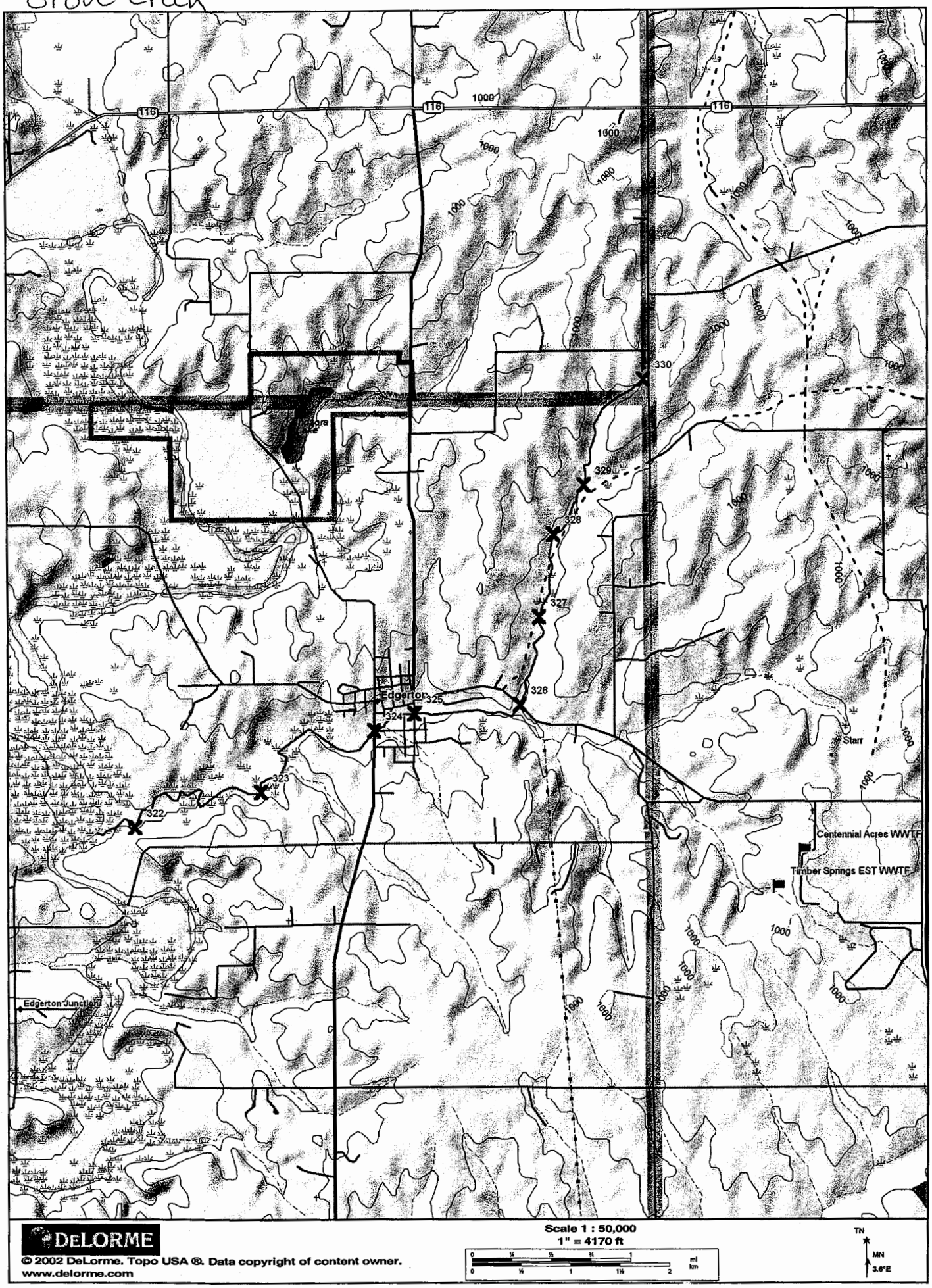
Data Sheet A - Water Body Identification

Water Body Name: (from USGS 7.5' quad)	Grove Creek
8-digit HUC:	10240012
Missouri WBID #:	0321
County:	Clinton
Upstream Legal Description:	
Downstream Legal Description:	
Upstream Coordinates: (UGS 84, ddd.ddddd)	39.52757 ; 94.60118
Downstream Coordinates: (UGS 84, ddd.ddddd)	39.50024 ; 94.63531
Discharger Facility Name(s):	Centennial Acres WWTF
Discharger Permit Number(s):	
Number of Sites Evaluated:	9
Name of Surveyor and Telephone Number:	DB, CG 410-356-8993
Organization:	Tetra Tech, Inc. Baltimore, Md
Position:	Scientists

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: _____ **Date:** 7/4/01

Grove Creek


116
1000
330
329
328
327
326
325
324
323
322
Edgerton
Starr
Centennial Acres WWTF
Timber Springs EST WWTF
Edgerton Junction
DeLORME
Scale 1 : 50,000
1" = 4170 ft
TN
MN
3.6°E
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Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: 0321 (site ID-322)	Site Location Description: Relocated ~~upstream~~ downstream of site ID 324 due to inaccessibility. ~150m from site ID 323
Site GPS Coordinates: 39.50124 ; 94.03531	
Date & Time: 02 July 2005; 9:19am	Facility Name: Centennial Acres WWTF
Personnel: DB CG	Permit Number:
Current Weather Conditions:	Weather Conditions for Past 7 days: Hot, humid, dry, rainy
Photo Ids: Upstream: 2009 / Downstream: 2010	Other: memory card A

Uses Observed*:

☐ 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, frequency of use, photo-documentation of evidence of recreational uses, etc.)

N/A

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	☐ Campgrounds
☐ Boating accesses	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ No trespass sign	☐ Fence	☐ Steep slopes	☐ Other:	

Evidence of Human Use*:

☐ Roads	☐ Foot paths/prints	☐ Dock/platform	☐ Livestock Watering	☐ RV / ATV Tracks
☐ Rope swings	☐ Camping Sites	☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle
☐ Other:				

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

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Page Two – Data Sheet B for WBID # 0321 : (Site ID-322)

Stream Morphology:

Upstream View Physical Dimensions:

☐ Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
☐ Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
☒ Pool	Width (ft): 8m	Length (ft): 20m	Avg. Depth (ft): 0.35m	Max. Depth (ft): 0.45m
☒ Flow	Present? ☒ Yes ☐ No		Estimated (ft³/sec): 17seconds/meter	

Downstream View Physical Dimensions:

☐ Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
☐ Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
☒ Pool	Width (ft): 10m	Length (ft): 20m	Avg. Depth (ft): 0.3m	Max. Depth (ft): 0.65m
☒ Flow	Present? ☒ Yes ☐ No		Estimated (ft³/sec): 10seconds/meter	

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

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

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

N/A

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☒ None	☐ Other:
Color:	☐ Clear	☐ Green	☐ Gray	☐ Milky	☒ Other: BROWN
Bottom Deposit:	☐ Sludge	☐ Solids	☒ Fine sediments	☐ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	☒ None	☐ Other:

Comments: Please attach additional comments (including information from interviews) to this form.

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I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: _____ **Date:** 7/20/-

Organization: Tetra Tech Position: Scientist

QC check: CG

0321_323_US

0321_323_DS

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WRID #: 0321 (Site ID 323)	Site Location Description: Relocated downstream of site ID 24 due to inaccessibility. ~150m from B HWY
Site GPS Coordinates: 39.50140; 94.63455	
Date & Time: 02 July 2005; 9:10am	Facility Name: Centennial Acres WWTF
Personnel: DB, CG	Permit Number:
Current Weather Conditions:	Weather Conditions for Past 7 days: Hot, humid, dry, rainy
Photo Ids: Upstream: 2006 / Downstream: 2007	Other: 2008 memory card A

Uses Observed*:

☐ 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, frequency of use, photo-documentation of evidence of recreational uses, etc.)

N/A

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	☐ Campgrounds
☐ Boating accesses	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ No trespass sign	☐ Fence	☐ Steep slopes	☐ Other:	

Evidence of Human Use*: 2008

☐ Roads	☐ Foot paths/points	☐ Dock/platform	☐ Livestock Watering	☒ RV / ATV Tracks
☐ Rope swings	☐ Camping Sites	☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle
☐ Other:				

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

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Page Two – Data Sheet B for WBID # 0321 : (Site ID - 323)

Stream Morphology:

Upstream View Physical Dimensions:

☐ Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
☐ Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
☒ Pool	Width (ft): 11m	Length (ft): 20m	Avg. Depth (ft): 0.45m	Max. Depth (ft): 0.9m
☒ Flow	Present? ☒ Yes ☐ No		Estimated (ft^3/sec): 13 seconds/meter	

Downstream View Physical Dimensions:

☐ Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
☐ Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
☒ Pool	Width (ft): 5m	Length (ft): 20m	Avg. Depth (ft): 0.3 m	Max. Depth (ft): 0.45m
☒ Flow	Present? ☒ Yes ☐ No		Estimated (ft^3/sec): 9 seconds/meter	

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

25 % Cobble	25 % Gravel	50 % Sand	% Silt	% Mud/Clay	% Bedrock

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

N/A

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☒ None	☐ Other:
Color:	☐ Clear	☐ Green	☐ Gray	☐ Milky	☒ Other: brown
Bottom Deposit:	☐ Sludge	☐ Solids	☒ Fine sediments	☐ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	☒ None	☐ Other:

Comments: Please attach additional comments (including information from interviews) to this form.

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I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: [signature] **Date:** 7/4/05

Organization: Tetra Tech INC **Position:** scientist

QC check : CG

0321_322_US

0321_322_DS

0321_323_ATV Tracks

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: 0321 (site ID-324)	Site Location Description: B Hwy at bridge crossing.
Site GPS Coordinates: 39.50244; 94.63343	
Date & Time: 02 July 2005; 8:55am	Facility Name: Centennial Acres WWTF
Personnel: DB CG	Permit Number:
Current Weather Conditions: Cloudy, comfortable	Weather Conditions for Past 7 days: Hot, humid, dry, rainy
Photo Ids: Upstream: 2004	Downstream: 2005 Other: 2003 memorycard A

Uses Observed*:

☐ 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, frequency of use, photo-documentation of evidence of recreational uses, etc.)

N/A

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	☐ Campgrounds
☐ Boating accesses	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ No trespass sign	☐ Fence	☐ Steep slopes	☒ Other: 2003 park adjacent	

Evidence of Human Use*:

☒ Roads	☐ Foot paths/prints	☐ Dock/platform	☐ Livestock Watering	☐ RV / ATV Tracks
☐ Rope swings	☐ Camping Sites	☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle
☐ Other:				

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

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Page Two – Data Sheet B for WBID # 0321 : (site ID -324)

Stream Morphology:

Upstream View Physical Dimensions:

☐ Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
☐ Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
☒ Pool	Width (ft): 9m	Length (ft): 20m	Avg. Depth (ft): 0.25m	Max. Depth (ft): 0.35m
☒ Flow	Present? ☒ Yes ☐ No		Estimated (ft^3/sec): 8 seconds / meter	

Downstream View Physical Dimensions:

☐ Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
☐ Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
☒ Pool	Width (ft): 10m	Length (ft): 20m	Avg. Depth (ft): 0.5m	Max. Depth (ft): 0.8m
☐ Flow	Present? ☒ Yes ☐ No		Estimated (ft^3/sec): 10 seconds / meter	

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

25 % Cobble	50 % Gravel	25 % Sand	% Silt	% Mud/Clay	% Bedrock

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

N/A

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☒ None	☐ Other:
Color:	☐ Clear	☐ Green	☐ Gray	☐ Milky	☒ Other: brown
Bottom Deposit:	☐ Sludge	☐ Solids	☒ Fine sediments	☐ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	☒ None	☐ Other:

Comments: Please attach additional comments (including information from interviews) to this form.

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I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: _____ **Date:** 7/2/15

Organization: Tetra Tech, INC **Position:** scientist

QC check: CG

0321_324_US

0321_324R_US

0321_324_DS

0321_324R_DS

0321_324_Adjacent Park

0321_324R_Tire

0321_324R_TireTracks

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WRID #: 0321 (site ID-325)	Site Location Description: Clark ave at bridge crossing
Site GPS Coordinates: 39.50373 -94.62868	
Date & Time: 02 July 2005; 9:33am	Facility Name: Centennial Acres WWTF
Personnel: DB, CG	Permit Number:
Current Weather Conditions: Cloudy, comfortable	Weather Conditions for Past 7 days: Hot, humid, dry, rainy
Photo Ids: Upstream: 2012 Downstream: 2013	Other: 2011, 2014 memory card A

Uses Observed*:

☐ 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, frequency of use, photo-documentation of evidence of recreational uses, etc.)

N/A

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	☐ Campgrounds
☐ Boating accesses	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ No trespass sign	☐ Fence	☐ Steep slopes	☒ Other: lawns adjacent to stream 2011, 2014	

Evidence of Human Use*:

☒ Roads	☐ Foot paths/prints	☐ Dock/platform	☐ Livestock Watering	☐ RV / ATV Tracks
☐ Rope swings	☐ Camping Sites	☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle
☐ Other:				

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

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Page Two – Data Sheet B for WBID # 0321 ; (site I.D-325)

Stream Morphology:

Upstream View Physical Dimensions:

☐ Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):	
☐ Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):	
☒ Pool	Width (ft): 8m	Length (ft): 20m	Avg. Depth (ft): 0.3m	Max. Depth (ft): 0.6m	
☒ Flow	Present? ☒ Yes ☐ No		Estimated (ft^3/sec): 7 seconds/meter		

Downstream View Physical Dimensions:

☐ Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):	
☐ Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):	
☒ Pool	Width (ft): 7m	Length (ft): 20m	Avg. Depth (ft): 0.3	Max. Depth (ft): 0.4m	
☒ Flow	Present? ☒ Yes ☐ No		Estimated (ft^3/sec): 4 seconds/meter		

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

20 % Cobble	20 % Gravel	60 % Sand	% Silt	% Mud/Clay	% Bedrock

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

N/A

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☒ None	☐ Other:
Color:	☐ Clear	☐ Green	☐ Gray	☐ Milky	☒ Other: brown
Bottom Deposit:	☐ Sludge	☐ Solids	☒ Fine sediments	☐ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	☒ None	☐ Other:

Comments: Please attach additional comments (including information from interviews) to this form.

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I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: _____ **Date:** 7/6/04

Organization: Tetra Tech, INC **Position:** scientist

QC Check & CG

0321_325_US

0321_325R_US

0321_325_DS

0321_325R_DS

0321_325_Lawns Adjacent to Stream

0321_325_Lawns Adjacent to Stream (2)

0321_325R_Fireworks

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: 0321 (Site ID-326)	Site Location Description: Z Hwy at bridge crossing
Site GPS Coordinates: 39.50433, 94.61671	
Date & Time: 02 July 2005; 9:51 am	Facility Name: Centennial Acres WWTF
Personnel: DB, CG	Permit Number:
Current Weather Conditions: cloudy, comfortable	Weather Conditions for Past 7 days: Hot, humid, dry, rainy
Photo Ids: Upstream: 2017 / Downstream: 2016	Other: 2015, 2018 memory card A-

Uses Observed*:

☐ 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, frequency of use, photo-documentation of evidence of recreational uses, etc.)

N/A

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	☐ Campgrounds
☐ Boating accesses	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ No trespass sign	☐ Fence	☐ Steep slopes	☐ Other:	

Evidence of Human Use*:

☒ Roads	☐ Foot paths/prints	☐ Dock/platform	☒ Livestock Watering 2018	☐ RV / ATV Tracks
☐ Rope swings	☐ Camping Sites	☐ Fire pit/ring	☐ NPDES Discharge	☒ Fishing Tackle 2015
☐ Other:				

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

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Page Two – Data Sheet B for WBID # 0321 : (Site ID - 326)

Stream Morphology:

Upstream View Physical Dimensions:

☐ Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
☐ Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
☒ Pool	Width (ft): 5m	Length (ft): 20m	Avg. Depth (ft): 0.2m	Max. Depth (ft): 0.3m
☒ Flow	Present? ☒ Yes ☐ No		Estimated (ft³/sec): 12 seconds / meter	

Downstream View Physical Dimensions:

☐ Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
☐ Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
☒ Pool	Width (ft): 15m	Length (ft): 20m	Avg. Depth (ft): 0.8m	Max. Depth (ft): 1.2m
☒ Flow	Present? ☐ Yes ☒ No		Estimated (ft³/sec): non-measurable	

Substrate*: (These values should add up to 100%.) CG 7.20.05

% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock
10	90 80				

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

N/A (small amounts of algae).

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☒ None	☐ Other:
Color:	☐ Clear	☐ Green	☐ Gray	☐ Milky	☒ Other: brown
Bottom Deposit:	☐ Sludge	☐ Solids	☒ Fine sediments	☐ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	☒ None	☐ Other:

Comments: Please attach additional comments (including information from interviews) to this form.

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I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: _____ **Date:** 7/2/05

Organization: Tetra Tech INC **Position:** Scientist

QC check: CG

0321_326_US

0321_326R_US

0321_326_DS

0321_326R_DS

0321_326_Livestock Watering

0321_326_Fishing Tackle

0321_326R_Fishing

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: 0321 (Site ID 327)	Site Location Description: ~ 100 meters upstream from site 326.
Site GPS Coordinates: 39.50530; 94.61595	
Date & Time: 02 July 2005, 10:15am	Facility Name: Centennial Acres WWTF
Personnel: DB, CG	Permit Number:
Current Weather Conditions: cloudy, comfortable	Weather Conditions for Past 7 days: Hot, humid, dry, rainy
Photo Ids: Upstream: 2022 / Downstream: 2021	Other: 2020 memory card A

Uses Observed*:

☐ 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, frequency of use, photo-documentation of evidence of recreational uses, etc.)

N/A

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	☐ Campgrounds
☐ Boating accesses	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ No trespass sign	☐ Fence	☐ Steep slopes	☐ Other:	

Evidence of Human Use*: 2020

☐ Roads	☐ Foot paths/prints	☐ Dock/platform	☒ Livestock Watering	☐ RV / ATV Tracks
☐ Rope swings	☐ Camping Sites	☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle
☐ Other:				

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

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Page Two – Data Sheet B for WBID # 0321 : (site ID - 327)

Stream Morphology:

Upstream View Physical Dimensions:

☐ Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
☐ Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
☒ Pool	Width (ft): 4m	Length (ft): 20m	Avg. Depth (ft): 0.2m	Max. Depth (ft): 0.3m
☒ Flow	Present? ☒ Yes ☐ No		Estimated (ft^3/sec):	10 seconds / meter.

Downstream View Physical Dimensions:

☐ Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
☐ Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
☒ Pool	Width (ft): 6m	Length (ft): 20m	Avg. Depth (ft): 0.5m	Max. Depth (ft): 0.7
☒ Flow	Present? ☒ Yes ☐ No		Estimated (ft^3/sec):	19 seconds / meter.

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

% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock
	10	90			

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

small amounts of algae along water edge.

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☒ None	☐ Other:
Color:	☐ Clear	☐ Green	☐ Gray	☐ Milky	☒ Other: brown
Bottom Deposit:	☐ Sludge	☐ Solids	☒ Fine sediments	☐ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	☒ None	☐ Other:

Comments: Please attach additional comments (including information from interviews) to this form.

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I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: _____ **Date:** 7/12/5

Organization: Tetra Tech, INC **Position:** Scientist

QC check: CG

0321_327_US

0321_327_DS

0321_327_Livestock Watering

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: 0321 (site ID-328)	Site Location Description: ~100 m from (upstream) site ID -327.
Site GPS Coordinates: 39.50573; 94.61572	
Date & Time: 02 July 2005; 10:21 am	Facility Name: Centennial Acres WWTF
Personnel: DB, CG	Permit Number:
Current Weather Conditions: cloudy comfortable	Weather Conditions for Past 7 days: Hot, humid, dry, rainy
Photo Ids: Upstream: 2025	Downstream: 2024 Other: 2023 memory card A

Uses Observed*:

☐ 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, frequency of use, photo-documentation of evidence of recreational uses, etc.)

N/A

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	☐ Campgrounds
☐ Boating accesses	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ No trespass sign	☐ Fence	☐ Steep slopes	☐ Other:	

Evidence of Human Use*:

☐ Roads	☐ Foot paths/prints	☐ Dock/platform	☒ Livestock Watering 2023	☐ RV / ATV Tracks
☐ Rope swings	☐ Camping Sites	☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle
☐ Other:				

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

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Page Two – Data Sheet B for WBID # 0321 : (Site ID-328)

Stream Morphology:

Upstream View Physical Dimensions:

☐ Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
☐ Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
☒ Pool	Width (ft): 5m	Length (ft): 20m	Avg. Depth (ft): 0.35m	Max. Depth (ft): 0.5m
☒ Flow	Present? ☒ Yes ☐ No		Estimated (ft³/sec): 18 seconds/meter.	

Downstream View Physical Dimensions:

☐ Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
☐ Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
☒ Pool	Width (ft): 8m	Length (ft): 20m	Avg. Depth (ft): 0.6	Max. Depth (ft): 0.95
☒ Flow	Present? ☐ Yes ☒ No		Estimated (ft³/sec): non-measurable	

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

% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock
5	5	95			

CG 7-20-05

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

small amounts of algae

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☒ None	☐ Other:
Color:	☐ Clear	☐ Green	☐ Gray	☐ Milky	☒ Other: brown
Bottom Deposit:	☐ Sludge	☐ Solids	☒ Fine sediments	☐ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	☒ None	☐ Other:

Comments: Please attach additional comments (including information from interviews) to this form.

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I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: _____ **Date:** 7/21/05

Organization: Tetra Tech, INC Position: Scientist

QC check: CG

0321_328_US

0321_328_DS

0321_328_Livestocking Watering

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: 0321 (Site ID-329)	Site Location Description: ~120m upstream of site ID 328
Site GPS Coordinates:	
Date & Time: 02 July 2005; 10:28am	Facility Name: Centennial Acres WWTF
Personnel: DB, CG	Permit Number:
Current Weather Conditions: Cloudy, comfortable	Weather Conditions for Past 7 days: Hot, humid, dry, rainy
Photo Ids: Upstream: 2029 / Downstream: 2028	Other: 2026, 2027 memory card A

Uses Observed*:

☐ 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, frequency of use, photo-documentation of evidence of recreational uses, etc.)

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	☐ Campgrounds
☐ Boating accesses	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ No trespass sign	☐ Fence	☐ Steep slopes	☐ Other:	

Evidence of Human Use*: 2026 2027 (truck)

☐ Roads	☐ Foot paths/prints	☐ Dock/platform	☒ Livestock Watering	☒ RV / ATV Tracks
☐ Rope swings	☐ Camping Sites	☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle
☐ Other:				

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

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Page Two – Data Sheet B for WBID # 0321 : (site ID - 329)

Stream Morphology:

Upstream View Physical Dimensions:

☐ Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
☐ Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
☒ Pool	Width (ft): 5m	Length (ft): 20m	Avg. Depth (ft): 0.5m	Max. Depth (ft): 0.65 m
☒ Flow	Present? ☒ Yes ☐ No		Estimated (ft³/sec): 20 seconds / meter	

Downstream View Physical Dimensions:

☐ Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
☐ Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
☐ Pool	Width (ft): 6m	Length (ft): 20m	Avg. Depth (ft): 0.45m	Max. Depth (ft): 0.55 m
☐ Flow	Present? ☒ Yes ☐ No		Estimated (ft³/sec): non-measurable	

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

% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock
10	30	50	5	4	1

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

small amounts of algae

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☒ None	☐ Other:
Color:	☐ Clear	☐ Green	☐ Gray	☐ Milky	☒ Other: brown
Bottom Deposit:	☐ Sludge	☐ Solids	☒ Fine sediments	☐ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	☒ None	☐ Other:

Comments: Please attach additional comments (including information from interviews) to this form.

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I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: _____ **Date:** 7/26/05

Organization: Tetra Tech, INC **Position:** Scientist

QC Chucky G

0321_329_US

0321_329_DS

0321_329_ATV Tracks

0321_329_Livestock Watering

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization
(A separate data sheet must be completed for each site)

Missouri WBID #: 0321 (Site ID-330)		Site Location Description: County Line Rd at bridge crossing.	
Site GPS Coordinates: 39.52757; 94.60118			
Date & Time: 02 July 2005; 10:49am		Facility Name: Centennial Acres WWTF	
Personnel: DB, CG		Permit Number:	
Current Weather Conditions: Cloudy, comfortable		Weather Conditions for Past 7 days: Hot, humid, dry, rainy	
Photo Ids: Upstream: 2031	Downstream: 2030	Other:	

memory card A

Uses Observed*:

☐ 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, frequency of use, photo-documentation of evidence of recreational uses, etc.)

N/A

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	☐ Campgrounds
☐ Boating accesses	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ No trespass sign	☐ Fence	☐ Steep slopes	☐ Other:	

Evidence of Human Use*:

☒ Roads	☐ Foot paths/prints	☐ Dock/platform	☐ Livestock Watering	☐ RV / ATV Tracks
☐ Rope swings	☐ Camping Sites	☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle
☐ Other:				

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

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Page Two – Data Sheet B for WBID # 0321 : (Site ID - 330)

Stream Morphology:

Upstream View Physical Dimensions:

☐ Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
☐ Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
☒ Pool	Width (ft): 5m	Length (ft): 20m	Avg. Depth (ft): 0.3m	Max. Depth (ft): 0.5m
☒ Flow	Present? ☐ Yes ☒ No		Estimated (ft³/sec): non - measurable	

Downstream View Physical Dimensions:

☐ Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
☐ Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
☒ Pool	Width (ft): 10m	Length (ft): 20m	Avg. Depth (ft): 0.8m	Max. Depth (ft): 1m
☒ Flow	Present? ☐ Yes ☒ No		Estimated (ft³/sec): non - measurable	

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

% Cobble	% Gravel	100 % Sand	% Silt	% Mud/Clay	% Bedrock

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

N/A

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☒ None	☐ Other:
Color:	☐ Clear	☐ Green	☐ Gray	☐ Milky	☒ Other: brown
Bottom Deposit:	☐ Sludge	☐ Solids	☒ Fine sediments	☐ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	☒ None	☐ Other:

Comments: Please attach additional comments (including information from interviews) to this form.

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I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: _____ **Date:** 7/12/05

Organization: Tetra Tech, INC Position: Scientist

QC Check by CG

0321_330_US

0321_330_DS