

RQ-2019-04-08-31

Data Management (to be completed by field personnel)

- ☒ Date sampled Date: 05/28/2019 initials: mw
- ☒ Entered into MAT Date: 05/28/2019 initials: mw
- ☒ In SMP Tracker Date: 05/29/2019 initials: mw
- ☐ RQ Sheet – from LIMS (display/print request)

Ready for folder system (top)

LIMS processing (to be completed by field/office personnel)

- ☒ Field Sheets scanned into local folder and
initialed/dated on Field Sheets Date: 5/29/19 initials: mw
- ☐ New Field IDs created (when appropriate) Date: _____ initials: _____ ☒ NA
- ☐ Field parameters entered into LIMS Date: _____ initials: _____
- ☐ Date submitted for QA/QC Date: _____ initials: _____
- ☐ Create entry in SMP Station Creation File if new station is used

Digital Archiving

- ☐ Digital field Sheets put into archive Date: _____ initials: _____
- ☐ Photos put into archive Date: _____ initials: _____ ☐ NA
- ☐ Lab results put into archive (CB/WB) Date: _____ initials: _____

WINS processing (Cheryl/Whitney)

- ☐ Field parameters QA/QC in LIMS Date: _____ initials: _____
- ☐ Data migrated to WINS Date: _____ initials: _____
- ☐ Update "Data Tracker" in SMP Tracker

Notes:

Date of Request: 19-MAR-2019
 Created By: KING_M On: 19-MAR-2019
 Modified By: JASROTIA_P On: 25-MAR-2019
 Customer: NW-DIST
 Project: SMP
 Division: Division of Environmental Assessment and Restoration
 District: Northwest District NWROC
 Sampling Event: SMP Bioassessment

Send Coolers To:

Phone: 850-595-0605
 160 Government Center
 Suite 208
 Pensacola, FL 32502-5794
 Attn: Michael King

Program Module Number:

Priority: 3
 Event Status: R
 Criminal Investigation: NO
 Chemistry Request Reviewed By: WATTS_J On: 19-MAR-2019
 Biology Request Reviewed By: JASROTIA_P On: 25-MAR-2019
 Sampling Kit Required: YES Ship on: 29-MAR-2019
 Sampling Kit Shipped: YES On: 27-MAR-2019
 Sampling Kit Packed By: REYNOLDS_T
 Preservatives Needed: NO
 Date to Receive Samples: 08-APR-2019
 Received By: KLUG_K On: 29-MAY-2019

Send Final Report To:

160 Government Center
 Suite 208
 Pensacola, FL 32502-5794
 Attn: Cheryl Bunch

Report Type: Final Only
 FTP Data: NO
 QC Report: YES
 Date Log: NO
 Authorization Log: NO

Comments: Group A:
 (WBID 673 SANDERS BRANCH)
 Nutrients, Metals, Tracers, Full PESTICIDES

 Group B: SCI, Algae_ID

 Group C:
 (WBID LITTLE ROCKY CREEK)
 Nutrients, Metals, Tracers, PSNP-TQ

Bottle Group A (Water) With 1 Samples:

Bottle Type: P-1L	Number of Bottles: 1	Preserved With: ICE
ALKALINITY	Template: DEFAULT	(SM 2320 B-97) Alkalinity in aqueous matrices as mg CaCO ₃ /L
Total Alkalinity		
TURBIDITY	Template: DEFAULT	(EPA 180.1 Rev. 2.0) Turbidity in aqueous matrices
Turbidity		
W-CL-IC	Template: DEFAULT	(EPA 300.0 Rev. 2.1) Chloride in aqueous matrices
Chloride		
W-COLOR	Template: DEFAULT	(SM 2120 B) True Color measured at 450 nm
Color (true)		
W-F	Template: DEFAULT	(SM 4500 F-C-97) Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)
Fluoride		
W-SO4-IC	Template: DEFAULT	(EPA 300.0 Rev. 2.1) Sulfate in aqueous matrices
Sulfate		
W-TDS	Template: DEFAULT	(SM 2540 C-97) Total Dissolved Solids in aqueous matrices
TDS		
W-TSS	Template: DEFAULT	(SM 2540 D-97) Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample
TSS		
Bottle Type: BG-1L	Number of Bottles: 4	Preserved With: ICE
W-PSNP-TQ	Template: DEFAULT	(EPA 8270E) Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS
*Dimethenamid		

Bottle Group A (Water) With 1 Samples:

Bottle Type: BG-1L Number of Bottles: 4 Preserved With: ICE
 W-PSNP-TQ Template: DEFAULT (EPA 8270E) Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS

*Dithiopyr
 *Fipronil Desulfinyl
 *Oxadiazon
 *Prodiamine
 *Tebuconazole
 Acetochlor
 Alachlor
 Ametryn
 Atrazine
 Atrazine Desethyl
 Azinphos Methyl
 Bromacil
 Butylate
 Chlorpyrifos Ethyl
 Chlorpyrifos Methyl
 Cyanazine
 Demeton
 Diazinon
 Disulfoton
 EPTC
 Ethion
 Ethoprop
 Fenamiphos
 Fipronil
 Fipronil Sulfide
 Fipronil Sulfone
 Fonofos
 Hexazinone
 Malathion
 Metalaxyl
 Metolachlor
 Metribuzin
 Mevinphos
 Molinate
 Norflurazon
 Parathion Ethyl
 Parathion Methyl
 Pendimethalin
 Phorate
 Prometon
 Prometryn
 Simazine
 Terbufos
 Terbutylazine

Bottle Type: BP-1L Number of Bottles: 1 Preserved With: ICE
 CHLSUITE-W Template: DEFAULT (SM 10200 H (mod.)) Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry

Chlorophyll-a, Corrected
 Chlorophyll-a, Uncorrected
 Phaeophytin-a

Bottle Type: TEST HAS NO Number of Bottles: 1 Preserved With: ICE
 NW-UWF-ECQ Template: DEFAULT (SM 9223 B Quanti-Tray) E. coli by Colilert-18/QT by UWF in Pensacola
 Escherichia Coli-Quanti-Tray

Bottle Type: BG-500ML Number of Bottles: 1 Preserved With: CH₂ClCOOH Pre-Preserved
 W-CARB-AA Template: DEFAULT (EPA 8321B) Carbamates in water matrices by HPLC/MS/MS
 3-Hydroxycarbofuran
 Aldicarb
 Aldicarb Sulfone
 Aldicarb Sulfoxide

Bottle Group A (Water) With 1 Samples:

Bottle Type: BG-500ML Number of Bottles: 1 Preserved With: CH₂ClCOOH Pre-Preserved
 W-CARB-AA Template: DEFAULT (EPA 8321B) Carbamates in water matrices by HPLC/MS/MS

Carbaryl
 Carbofuran
 Methiocarb
 Methomyl
 Oxamyl
 Propoxur

Bottle Type: BG-500ML Number of Bottles: 4 Preserved With: ICE
 W-CT-Cl-R Template: DEFAULT (EPA 8276) Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization

Chlordane
 Toxaphene

W-PCL-SQ-R Template: DEFAULT (EPA 8270E) Organochlorine pesticides in water matrices by GC/MS-SIM

*Bifenthrin
 *Cis-Nonachlor
 *Ethalfuralin
 *Hexachlorobenzene
 *Trans-Nonachlor
 Aldrin
 Alpha-BHC
 Alpha-Chlordane
 Beta-BHC
 Carbophenothion
 Chlorothalonil
 Cypermethrin
 DDD-p,p'
 DDE-p,p'
 DDT-p,p'
 Delta-BHC
 Dicofof
 Dieldrin
 Endosulfan I
 Endosulfan II
 Endosulfan Sulfate
 Endrin
 Endrin Aldehyde
 Endrin Ketone
 Gamma-BHC
 Gamma-Chlordane
 Heptachlor
 Heptachlor Epoxide
 Methoxychlor
 Mirex
 Permethrin
 Trifluralin

Bottle Type: BG-500ML Number of Bottles: 1 Preserved With: ICE
 W-E8321-DI Template: DEFAULT (EPA 8321B) Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS

*Acesulfame K
 *AMPA
 *Endothall
 *Glufosinate
 *Glyphosate
 *Sucralose

W-E8321-MS Template: DEFAULT (EPA 8321B) Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS

*Acetaminophen
 *Carbamazepine
 *Fluridone
 *Hydrocodone
 *Ibuprofen
 *Imazapyr

Bottle Group A (Water) With 1 Samples:

Bottle Type: BG-500ML Number of Bottles: 1 Preserved With: ICE
 W-E8321-MS Template: DEFAULT (EPA 8321B) Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS

*Naproxen
 *Primidone
 *Pyraclostrobin
 *Triclopyr
 2,4-D
 Bentazon
 Diuron
 Fenuron
 Imidacloprid
 Linuron
 MCPP

Bottle Type: P-500ML Number of Bottles: 1 Preserved With: HNO3
 W-ICP Template: (EPA 200.7 Rev. 4.4) Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects

Barium
 Calcium
 Iron
 Magnesium
 Potassium
 Sodium
 Zinc

W-ICPMS Template: (EPA 200.8 Rev. 5.4) Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects

*Boron
 Aluminum
 Antimony
 Arsenic
 Cadmium
 Chromium
 Copper
 Lead
 Nickel
 Selenium
 Silver
 Thallium

Bottle Type: P-500ML Number of Bottles: 1 Preserved With: ICE And H2SO4
 W-NH3 Template: DEFAULT (EPA 350.1 Rev. 2.0) Ammonia in aqueous matrices as mg N/L
 Ammonia-N
 W-NO2NO3 Template: DEFAULT (EPA 353.2 Rev. 2.0) Nitrite/Nitrate in aqueous matrices as mg N/L
 NO2NO3-N
 W-S-A-TP Template: DEFAULT (EPA 365.1 Rev. 2.0) Total Phosphorus in aqueous matrices as mg P/L
 Total-P
 W-TKN Template: DEFAULT (EPA 351.2 Rev. 2.0) Total Kjeldahl Nitrogen in aqueous matrices
 Kjeldahl Nitrogen
 W-TOC Template: DEFAULT (SM 5310 B-00) Nonpurgeable Organic Carbon in aqueous matrices
 Organic Carbon

Bottle Type: P-125ML Number of Bottles: 1 Preserved With: FILTER-ICE
 W-PO4-F Template: DEFAULT (EPA 365.1 Rev. 2.0) Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L
 O-Phosphate-P

Bottle Group B (Biological) With 2 Samples:

Bottle Type: PT-50ML Number of Bottles: 2 Preserved With: ICE
 ALGAL_ID Template: DEFAULT (SOP-AB05) Qualitative assessment of algal taxa present without counts
 *Dominant sample taxon

Bottle Type: PJ-2L Number of Bottles: 4 Preserved With: Formalin
 MI-FW-QLDC Template: DEFAULT (SOP-IZ06) No. Taxa of FW macroinverts, qual samp, 20 dipnets.
 *Macroinvert-FW-Qual-DipnetX20-#Taxa-Rep2
 *Stream Condition Index (SCI)

Bottle Group C (Water) With 1 Samples:

Bottle Group C (Water) With 1 Samples:

Bottle Type: P-1L	Number of Bottles: 1	Preserved With: ICE
ALKALINITY	Template: DEFAULT	(SM 2320 B-97) Alkalinity in aqueous matrices as mg CaCO ₃ /L
Total Alkalinity		
TURBIDITY	Template: DEFAULT	(EPA 180.1 Rev. 2.0) Turbidity in aqueous matrices
Turbidity		
W-CL-IC ³	Template: DEFAULT	(EPA 300.0 Rev. 2.1) Chloride in aqueous matrices
Chloride		
W-COLOR	Template: DEFAULT	(SM 2120 B) True Color measured at 450 nm
Color (true)		
W-F	Template: DEFAULT	(SM 4500 F-C-97) Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)
Fluoride		
W-SO4-IC	Template: DEFAULT	(EPA 300.0 Rev. 2.1) Sulfate in aqueous matrices
Sulfate		
W-TDS	Template: DEFAULT	(SM 2540 C-97) Total Dissolved Solids in aqueous matrices
TDS		
W-TSS	Template: DEFAULT	(SM 2540 D-97) Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample
TSS		
Bottle Type: BP-1L	Number of Bottles: 1	Preserved With: ICE
CHLSUITE-W	Template: DEFAULT	(SM 10200 H (mod.)) Phytoplankton chlorophyll-a corrected, uncorrected, and phaeophytin by spectrophotometry
Chlorophyll-a, Corrected		
Chlorophyll-a, Uncorrected		
Phaeophytin-a		
Bottle Type: TEST HAS NO	Number of Bottles: 1	Preserved With: ICE
NW-UWF-ECQ	Template: DEFAULT	(SM 9223 B Quanti-Tray) E. coli by Colilert-18/QT by UWF in Pensacola
Escherichia Coli-Quanti-Tray		
Bottle Type: BG-500ML	Number of Bottles: 1	Preserved With: ICE
W-E8321-DI	Template: DEFAULT	(EPA 8321B) Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS
*Acesulfame K		
*AMPA		
*Endothall		
*Glufosinate		
*Glyphosate		
*Sucralose		
W-E8321-MS	Template: DEFAULT	(EPA 8321B) Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS
*Acetaminophen		
*Carbamazepine		
*Fluridone		
*Hydrocodone		
*Ibuprofen		
*Imazapyr		
*Naproxen		
*Primidone		
*Pyraclostrobin		
*Triclopyr		
2,4-D		
Bentazon		
Diuron		
Fenuron		
Imidacloprid		
Linuron		
MCP		
Bottle Type: P-500ML	Number of Bottles: 1	Preserved With: HNO ₃
W-ICP	Template:	(EPA 200.7 Rev. 4.4) Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects
Barium		
Calcium		
Iron		
Magnesium		

Bottle Group C (Water) With 1 Samples:

Bottle Type: P-500ML	Number of Bottles: 1	Preserved With: HNO3
W-ICP	Template:	(EPA 200.7 Rev. 4.4) Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects
Potassium		
Sodium		
Zinc		
W-ICPMS	Template:	(EPA 200.8 Rev. 5.4) Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects
*Boron		
Aluminum		
Antimony		
Arsenic		
Cadmium		
Chromium		
Copper		
Lead		
Nickel		
Selenium		
Silver		
Thallium		
Bottle Type: P-500ML	Number of Bottles: 1	Preserved With: ICE And H2SO4
W-NH3	Template: DEFAULT	(EPA 350.1 Rev. 2.0) Ammonia in aqueous matrices as mg N/L
Ammonia-N		
W-NO2NO3	Template: DEFAULT	(EPA 353.2 Rev. 2.0) Nitrite/Nitrate in aqueous matrices as mg N/L
NO2NO3-N		
W-S-A-TP	Template: DEFAULT	(EPA 365.1 Rev. 2.0) Total Phosphorus in aqueous matrices as mg P/L
Total-P		
W-TKN	Template: DEFAULT	(EPA 351.2 Rev. 2.0) Total Kjeldahl Nitrogen in aqueous matrices
Kjeldahl Nitrogen		
W-TOC	Template: DEFAULT	(SM 5310 B-00) Nonpurgeable Organic Carbon in aqueous matrices
Organic Carbon		
Bottle Type: P-125ML	Number of Bottles: 1	Preserved With: FILTER-ICE
W-PO4-F	Template: DEFAULT	(EPA 365.1 Rev. 2.0) Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L
O-Phosphate-P		
Bottle Type: BG-1L	Number of Bottles: 2	Preserved With: ICE
W-PSNP-TQ	Template: DEFAULT	(EPA 8270E) Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS
*Dimethenamid		
*Dithiopyr		
*Fipronil Desulfinyl		
*Oxadiazon		
*Prodiamine		
*Tebuconazole		
Acetochlor		
Alachlor		
Ametryn		
Atrazine		
Atrazine Desethyl		
Azinphos Methyl		
Bromacil		
Butylate		
Chlorpyrifos Ethyl		
Chlorpyrifos Methyl		
Cyanazine		
Demeton		
Diazinon		
Disulfoton		
EPTC		
Ethion		
Ethoprop		
Fenamiphos		
Fipronil		

Bottle Group C (Water) With 1 Samples:

Bottle Type: BG-1L Number of Bottles: 2 Preserved With: ICE
W-PSNP-TQ Template: DEFAULT (EPA 8270E) Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS

- Fipronil Sulfide
- Fipronil Sulfone
- Fonofos
- Hexazinone
- Malathion
- Metalaxyl
- Metolachlor
- Metribuzin
- Mevinphos
- Molinate
- Norflurazon
- Parathion Ethyl
- Parathion Methyl
- Pendimethalin
- Phorate
- Prometon
- Prometryn
- Simazine
- Terbufos
- Terbutylazine

* - The laboratory is not NELAP certified for this analyte/method, or certification is not applicable.



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2019

Data Qualified?

Yes / No

WIN Station Name: Sanders Branch Below Ruckle Drive

Date: 05/28/19
(mm/dd/yyyy)

WIN/ Field ID: G3NW0013

WBID: 673

Latitude: 30.51864

County: Okaloosa

ORG ID: 21FLPNS

Longitude: -86.45014
(Decimal Degrees)

Receiving Body of Water: Rocky Bayou

RQ-2019- 04-08-31
(Decimal Degrees)

Sampling Team Members					WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
M. King									
S. Slade									
M. Clark									

Sampling Equipment		
☒ Sample Container	☐ Van Dorn	☐ Pole
☐ Carboy	☒ Syringe	
☐ Dipper	☐ Other	
Depth Measured with <u>meter</u>		
Equipment ID		

Collection Method		
☒ Wading	☐ Canoe/Kayak	
☐ From Shore	☐ Electric Motor	
☐ Other	☐ Gasoline Motor	

Water Level: Dry/ Pooled/ Low Normal / High / Flooded
Photos: Yes No / No Flow / Intestinal / Flowing / NA
Meter ID# 154172 Matrix: Fresh Marine / DI
Tide: Rising/ Falling/ Slack/ NA Tide Times: High Low

Time Zone	Time	Total Depth (m)	Sample Depth (m)	Secchi Disk (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (PPT)	Sp COND (µmhos/cm)	Temp. (C°)
EST	1315	0.3	0.15	0.3	6.71	89.2	7.27	0.06	141.0	30.6
CEN				5						

Biological Samples Collected: None HA SCI RPS Algae ID LVS LVI Other:
SBIO ID Numbers: SBIO-ID: HA-ID: RPS-ID: Macrophyte-ID: LIMS#:

Parameter Suite	Parameter Methods	Preservation	Lot#	Expiration	pH Check
Preserved Nutrients	☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	☒ Ice ☐ P ₂ SO ₄	SA 8274080	10/01/19	☒ <2
Metals	☒ W-ICPMS ☒ W-ICP	☒ Ice ☒ HNO ₃	NA 8244050	12/10/19	☒ <2
Filtered Nutrients	☒ W-PO4-F ☐ Field Filtered 0.45 µm Filter	☐ Ice	15159049		
Chlorophyll	☒ CHL-SUITE-W	☒ Ice			
Physical/Aggregate (Fresh)	☐ Alkalinity / W-F / W-TSS / TURBIDITY / W-Cl-IC / W-COLOR / W-SO4-IC / W-TDS	☒ Ice			
Physical/Aggregate (Marine)	☐ Alkalinity / W-BR-IC / W-F / W-TSS / TURBIDITY	☐ Ice			
Macroinvertebrates	☒ M-IW-QLOC	☐ Formalin			
Periphyton	☐ ALGAE-ID	☒ Ice			
Microbiology	☒ E Coli ☐ F Coli ☐ Enterococci	☒ Ice			
Molecular	☐ PCR-FILTER ☐ PCR-BacR ☐ PCR-GULL2 ☐ PCR-HF183 ☐ PCR-DG3 ☐ PCR-GFD	☐ Ice			
Tracers	☐ W-E8321-DI ☒ W-E8321-MS	☒ Ice			
Pesticides	☒ W-PSNP-TQ	☒ Ice			
Phytoplankton	☐ DTY-QN-C ☐ PKD-QN-C				

Notes:

Field/WIN ID → G3NW0013

Location: Sanders Branch Below Ruckle Drive

Signature: Date: 5/28/19

LIMS EVENT ID: WIN Import ID: Enter Field Parameters, Verify Station ID In LIMS DMT: QC Station ID, Field Parameters In LIMS DMT: Scan/Save Field Sheets (Initials/Date) Migrate Data to WIN: (Initials/Date) Verify Data In WIN: (Initials/Date)

Dup

1320

FB

1325

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>Sanders Branch</u>					County: <u>OKLAHOMA</u>		Date: <u>5/28/19</u>		Investigators: <u>M. KING / S. SLADE / M. CLARKE</u>	
STORER Station Number: <u>63NW00104 G3NW0013</u>										

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover	Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover	
0	1	N	N		60	1	N	N		
	2					2				
	3					3				
	4					4				
	5			90		5			89	
	6					6				
	7					7				
	8					8				
	9	X				9	X			
10	1	X			70	1	X			
	2					2				
	3					3				
	4			88		4			82	
	5					5				
	6					6				
	7					7				
	8					8				
	9	X				9	X			
20	1	N			80	1	X			
	2					2				
	3					3				
	4			90		4			88	
	5					5				
	6					6				
	7					7				
	8					8				
	9	X				9	X			
30	1	N			90	1	X			
	2					2				
	3					3				
	4			13		4			92	
	5					5				
	6					6				
	7					7				
	8					8				
	9	X				9	X			
40	1	N			100	1	X			
	2					2				
	3					3				
	4			90		4			89	
	5					5				
	6					6				
	7					7				
	8					8				
	9	X				9	X			
50	1	N				1	X			
	2					2				
	3					3				
	4					4				
	5			87		5				
	6					6				
	7					7				
	8					8				
	9	X				9	X			

Record "N" and check "Estimated" for points deeper than the Secchi depth; algae are presumed absent. Check "Estimated" if thickness estimated for deep points which can be seen but not reached.

Record "X" for points shallower than Secchi depth for which substrate cannot be seen or reached with the hand. No estimated rank.

Record canopy cover as the number of small densiometer quadrants (out of 96) that HAVE canopy cover. Measure facing upstream at point 4, 5, or 6.

Collect algal mat sample following DEP SOP FS 7240 if the percentage of total sampled points with a thickness rank of 4, 5, or 6 is >20%.

Secchi depth	0.3
Estimated?	Y

# points ranked 4-6	0
total points assessed	99
% points ranked 4-6	0

Check accompanying data collected at same site/date.	
Algal mat sample	
Linear Veg Survey	X
Habitat Assessment	X
SCI/Biorecon	
Water sample	X
RQ- 2019-04-68-31	

Algal Thickness Rank	
N	rough, no algae, slimy, algae up to 1mm
3	>1mm - 6mm
4	>6mm - 20mm
5	>20mm - 10 cm
6	>10 cm

G 3NW0013



DEP Form FD 9000-3 Physical/Chemical Characterization Field Sheet

SAMPLE ID _____ ORG ID 21FLPNS LATITUDE 30.51864
 COUNTY OKLAHOMA STORET # G3NW0013 LONGITUDE 86.45014
 DATE 5/28/19 TIME 1315 SAMPLING AGENCY FDEP NW ROC
 SITE NAME SANDERS BRANCH
 FIELD ID/NAME G3NW0013 RECEIVING BODY OF WATER ROCKY BAYOU

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural ☐ Silviculture ☐ Field/Pasture ☐ Agricultural ☐ Residential ☒ Commercial ☐ Industry ☐ Other (Specify) <u>GALE COURSE</u>								Landscape Development Intensity Index (LDI) ☐
Local Watershed Erosion (select one): ☐ None ☐ Slight ☐ Moderate ☒ Heavy Local Watershed NPS Pollution: ☐ No evidence ☐ Slight ☐ Moderate ☒ Heavy								Typical Width (m) Depth (m)/Velocity (m/sec) Transect <u>2.5</u> m wide
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>718</u> Right Bank: <u>718</u>				Hydrologic Modification Score (per FT 3101) ☐		0.2 m/s <u>1/5</u> 0.125 m/s <u>1/9</u> 0.14 m/s <u>1/7</u> 0.1 m deep 0.1 m deep 0.1 m deep		
High Water Mark: <u>0.4</u> + <u>0.1</u> = <u>0.5</u> (m) (above present water level) (present depth) (above bed)				Artificially Impounded ☒ Yes ☐ No				
Artificially ☒ No ☐ Mostly recovered, more sinuous Channelized: ☐ Some recovery ☐ Recent, severe				Canopy Cover % ☐ Open ☐ Lightly Shaded (11-45%) ☒ Heavily Shaded ☐ Moderate Shaded (46-80%)				

SEDIMENT / SUBSTRATE

Sediment Oils ☒ Absent ☐ Slight ☐ Moderate ☐ Profuse		Sediment Odors ☒ Normal ☐ Sewage ☐ Petroleum ☐ Chemical ☐ Anaerobic ☐ Other (Specify):		Smothering of Substrates Sand Smothering: None ☐ Slight ☐ Moderate ☐ Severe ☒ Silt Smothering: None ☐ Slight ☐ Moderate ☐ Severe ☒ Algae Smothering: None ☒ Slight ☐ Moderate ☐ Severe ☐	
SUBSTRATE TYPE Assessment Tool: ☐ SCI ☒ RPS ☒ LVS ☐ LCI ☐ BioRecon Invert PERI % Coverage # Times # Times Sampled Sampled Woody Debris (Snags) <u>1.5</u> Undercut Banks / Roots <u>0.75</u> Leaf Packs or Mat <u>0.09</u> Aquatic Vegetation <u>0</u> Rock or Shell Rubble.. <u>0</u> Sand..... <u>68</u> Mud / Muck / Silt <u>29</u> Other Other			WATER QUALITY Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat (%) Cond. (UMHO/CM) Salinity (PPT) SECCHI (M) Top: <u>0.3</u> <u>30.6</u> <u>7.27</u> <u>6.71</u> <u>89.2</u> <u>141.0</u> <u>0.06</u> <u>0.3</u> Mid: ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☒ VOB Bottom: ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ Meter ID: <u>154179</u> TOTAL DEPTH <u>0.3</u>		
Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐		Water Surface Oils Normal ☒ Sheen ☐ Globbs ☐ Slick ☐ Other ☐		Color Tannic ☒ Green (Algae) ☐ Clear ☐ Other (Specify) ☐	
Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: <u>5198274080</u> Exp: <u>10A 834465</u>		Algae Sample Taken? ☐ Yes ☒ No Sample Preserved? ☐ Yes ☐ No Lot Number: _____ Exp: _____		Clarity Clear ☐ Slightly Turbid ☒ Turbid ☐ Opaque ☐	
ABUNDANCE Not Obs. Rare Common Abundant Periphyton: ☐ ☒ ☐ ☐ Fish: ☐ ☐ ☒ ☐ Aquatic Plants: ☐ ☒ ☐ ☐ Iron/Sulfur Bacteria: ☐ ☐ ☒ ☐			System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) ☐ AMBIENT FIELD CONDITIONS / NOTES: ☒ The antecedent hydrologic conditions have been met to my best knowledge.		

SAMPLING TEAM Myranda Clark, Stophor Slade, Mike King **SIGNATURE:** Myranda Clark **DATE:** 5/28/19

DEP Form FD 9000-5 Stream/River Habitat Assessment Field Sheet

SAMPLING AGENCY: <u>FDEP NW RDC</u>		STORET STATION NUMBER: <u>G3NW0013</u>	DATE (MM/DD/YY): <u>05/28/19</u>	RECEIVING BODY OF WATER: <u>Rocky Bayou</u>
REMARKS:	COUNTY: <u>OKALOOSA</u>	LOCATION: <u>SANDERS BRANCH BELOW PICKLE DRIVE</u>		FIELD ID/NAME: <u>G3NW0013</u>

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components	Four or more major productive habitats present (snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock)	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh leaves or snags)	Two major productive habitats present. Less than desirable habitat, frequently disturbed or removed	One or less major productive habitat. Lack of habitat is obvious, substrates unstable or smothered
Substrate Diversity <u>7</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 <u>7</u> 6	5 4 3 2 1
Substrate Availability <u>6</u>	Greater than 30% major productive habitat present at site 20 19 18 17 16	16% to 30% major productive habitat, by aerial extent 15 14 13 12 11	6% to 15% major productive habitat 10 9 8 7 <u>6</u>	Less than 5% major productive habitat 5 4 3 2 1
Water Velocity <u>12</u>	Max. observed at typical transect: > 0.25 m/sec. But < 1 m/sec ≥0.33 0.31 0.29 0.27 >0.25 20 19 18 17 16	Max. observed at typical transect: >0.1 to 0.25 m/sec 0.25 0.21 0.17 0.13 >0.1 15 14 13 <u>12</u> 11	Max. observed at typical transect: 0.05 to 0.1 m/sec 0.1 0.09 0.07 0.06 0.05 10 9 8 7 6	Max. observed at typical transect: <0.05 m/sec; or spate occurring: > 1 m/sec <0.05 0.04 0.03 0.01 <0.01 5 4 3 2 1
Habitat Smothering <u>2</u> ----- Primary Score <u>27</u>	Adequate number of stable pools (1-2 per 12 times width) and <25% of habitats affected by sand, silt, or algae. 20 19 18 17 16	Adequate number of stable pools (1-2 per 12 times width) and >25% of habitats affected by sand, silt, or algae. 15 14 13 12 11	Does not have required number of stable pools (1-2 per 12 x width) and/or has shallow pools (<2 x prevailing depth). 10 9 8 7 6	Stable pools are absent. Most habitats affected by sand, silt, or algae accumulation. 5 4 3 <u>2</u> 1
Secondary Habitat Components Artificial Channelization <u>17</u>	Expected sinuosity given the stream width. No evidence of dredging or artificial straightening. No spoil banks. 20 19 18 <u>17</u> 16	Good sinuosity within old channelized area. Evidence of dredging or straightening in the past (>25 yrs) but mostly recovered. <u>15</u> 14 13 12 11	Straightened with trapezoidal cross section, but has a small degree of sinuosity developed within channelized area. 10 9 8 7 6	Straightened or engineered by dredging, has trapezoidal or box cut cross section, lacks required pools. May have spoil banks. 5 4 3 2 1
Bank Stability Right Bank <u>9</u> Left Bank <u>9</u>	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankfull to top of bank. Bankfull is within or above the woody root zone with few raw, eroded areas. 10 <u>9</u>	Only meets 2 of the 3 requirements for optimal bank stability. 8 7 6	Only meets 1 of the 3 requirements for optimal bank stability. 5 4	Bankfull < 60% of bank height. Slope of bank > 60°. Bankfull is below the woody root zone with raw, eroded areas. 3 2 1
Riparian Buffer Zone Width Right Bank <u>10</u> Left Bank <u>10</u>	Width of vegetation greater than 18 m <u>10</u> 9	Width of vegetation >12 to 18m 8 7 6	Width of vegetation 6 to 12 m. human activities close to system 5 4	Less than 6 m of buffer zone due to intensive human activities 3 2 1
Riparian Zone Vegetation Quality Right Bank <u>9</u> Left Bank <u>9</u> ----- Secondary Score <u>74</u> <u>72</u>	Over 80% of riparian surfaces consist of normal, expected plant community for given sunlight & habitat conditions (e.g., native plants; tree, shrub, and forbs represented, if appropriate). Minimal disturbance. 10 <u>9</u>	>50% to 80% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Some disruption in community observed. 8 7 6	25% to 50% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Disruption obvious. 5 4	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). 3 2 1

101

TOTAL SCORE

Date: <u>5/28/19</u>	Analyst: <u>Myranda Clark/Mike King</u>	Signature: <u>Myranda Clark</u>
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DEP FORM FD 9000-32: LINEAR VEGETATION SURVEY FIELD SHEET

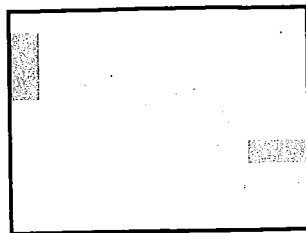
Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1m² of taxa present). Note in the boxes below if no dominant are selected, and note total macrophyte abundance rank for each section. Only the most common taxa are listed, so use blank spaces for additional taxa names.

[illegible]

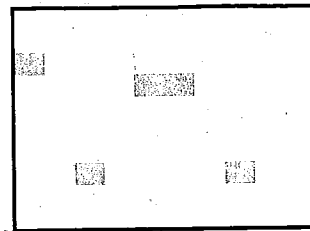
FDEP FORM FD 9000-32 LINEAR VEGETATION SURVEY FIELD SHEET

Percent Cover Categories for macrophytes in a 10 m segment of a stream 5 m wide

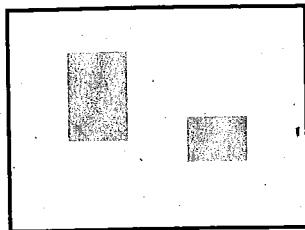
5% Macrophyte Coverage



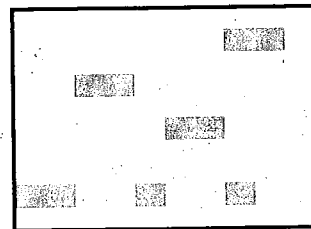
5% Macrophyte Coverage



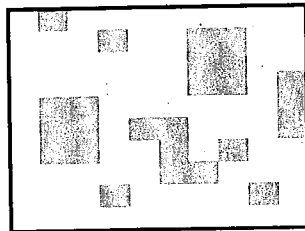
10% Macrophyte Coverage



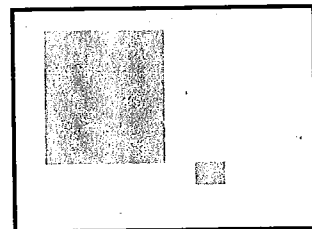
10% Macrophyte Coverage



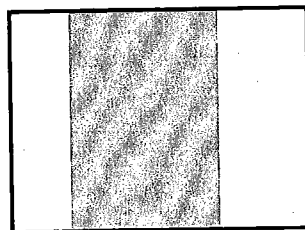
25% Macrophyte Coverage



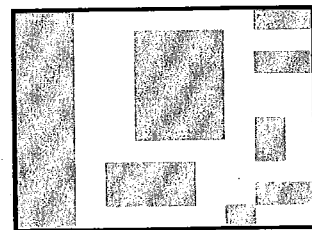
25% Macrophyte Coverage



50% Macrophyte Coverage



50% Macrophyte Coverage



CALIBRATION AND VERIFICATION LOG (FDEP SOP FT 1000-FT 1500, FD 1000-FD 4000)

Boldly "X" this box if there are qualified data on this page.

Meter ID: 154179

RQ: 2019-04-08-31

Project: SMP

- Notes: (1) Always wait for meter to stabilize before recording any readings.
 (2) Report all digits displayed. Do not round before reporting measurements. (See special instructions for depth).
 (3) For Calibrations, record calibrated meter reading. Do not record initial meter reading before calibration.

Temperature (Quarterly) FT 1400

Date of Last Temperature Verification _____

DO DEP SOP FT 1500	Name	Date	Time CT-ET	Temp °C	Baro-meter mmHg	D.O. Chart mg/L	Meter D.O. mg/L	% DO	Probe Charge	Probe Gain	Pass / Fail	Lab / Field
Calibr.											P / F	L / F
ICV											P / F	L / F
CCV	MC	5/28/19	7:31	27.8	765.3	7.86	7.48	99.6			P / F	L / F
CCV	MC	5/28/19	16:13	24.8	764.0	8.35	8.31	99.7			P / F	L / F

DO Acceptance criteria from Table ± 0.3 mg/L.

Rapid-Pulse Sensors: DO Gain Range 0.7 to 1.4; DO Charge Range 25-75.

Optical: DO gain range 0.85 to 1.15 (Pro DSS 0.75 to 1.50); DO charge N/A. Steady-state & Galvanic Sensors: DO Gain & Charge N/A.

Spec. Cond. FT 1200	Name	Date	Time CT-ET	Lot #	Expir. Date	Standard μ mos/cm	Meter Reading μ mos/cm	Pass / Fail	Lab / Field
Calibr.	MC	5/28/19	7:33	190116A	1/20	1000	1000	P / F	L / F
ICV	MC	5/28/19	7:39	180517A	5/19	100	104.6	P / F	L / F
CCV	MC	5/28/19	16:19	190116A	1/20	1000	1007	P / F	L / F
CCV								P / F	L / F

Conductivity Acceptance criteria $\pm 5\%$

pH DEP SOP FT 1100	Name	Date	Time CT-ET	Lot #	Expir. Date	pH Buffer SU	Temp °C	Meter reading SU	mV	Pass / Fail	Lab / Field
Calibr.	MC	5/28/19	7:42	2811403	10/20	7.	28.0	7.001	-85.4	P / F	L / F
Calibr.	↓	5/28/19	7:44	4812966	11/20	4.	27.2	4.01	132.4	P / F	L / F
Calibr.	↓	5/28/19	7:46	2804020	10/19	10.	26.7	10.0	-24.2	P / F	L / F
ICV	MC	5/28/19	7:48	4812966	11/20	4.0	26.4	3.99	130.1	P / F	L / F
CCV	MC	5/28/19	16:21	2804020	10/19	10.0	21.8	10.06	-22.4	P / F	L / F
CCV										P / F	L / F

pH Acceptance criteria ± 0.2 SU; mV pH 7 Range 0 ± 50 ; mV pH 4 Range $+180 \pm 50$; mV pH 10 Range -180 ± 50 ;

If mV are recorded: slope from 7 to 10 163.8, slope from 4 to 7 198.2 (both must be between 165 and 180 mV)

Does meter have a depth sensor that will be used to measure total depth & sample depth? **YES** / NO / NA (not surf. water project)

If YES, complete daily Calibr. & ICV below and list date of last quarterly depth verification: _____

If NO, what will be used? (circle one) Secchi Disk Line / Sonar Unique ID: _____; Date of last verification: _____

Depth Sensor (Daily Calibration & ICV)	Name	Date	Time CT-ET	Calibrated Value (0.00 or Offset), meters	ICV Value, meters	Pass / Fail	Lab / Field
Pressure mode in air	MC	5/28/19	7:50	0.00	0.00	P / F	L / F

Report two decimal places. Round numbers ≤ 4 down, ≥ 5 up. ICV acceptance criteria $\pm 5\%$ or ± 0.05 m, whichever is greater.

COMMENTS:



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2019

Data Qualified?
☒ Yes ☐ No

NO-cab

WIN Station Name: Little Rocky Creek upstream of Eglin Rd 515 Date: _____
WIN/ Field ID: G3NW0104 G3NW0103 cab WBID: 476 (mm/dd/yyyy)
County: Okaloosa ORG ID: 21FLPNS Latitude: 30.59035 30.59083
Receiving Body of Water: Rocky Creek Longitude: 86.59035 86.41315
RQ-2019- 04-08-31 (Decimal Degrees)

Sampling Team Members					WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
MIKE KING					☒	☒	☒	☒	☒
STOFFER SCODE					☐	☐	☐	☐	☐
MYRAUNDA CLARKE					☐	☐	☐	☐	☐

Sampling Equipment		
☒ Sample Container	☐ Van Dorn	☐ Pole
☐ Carboy	☒ Syringe	
☐ Dipper	☐ Other	
Depth Measured with <u>water</u>		
Equipment ID		

Collection Method		
☒ Wading	☐ Canoe/Kayak	
☐ From Shore	☐ Electric Motor	
☐ Other	☐ Gasoline Motor	

Water Level: Dry/ Pooled/ Low Normal/ High / Flooded Meter ID# 154179 Matrix: Fresh / Marine / DI
Photos: Yes/ No Flow: No Flow / Intestinal / Flowing / NA Tide: Rising/ Falling/ Slack NA Tide Times: High Low

Time Zone	Time	Total Depth (m)	Sample Depth (m)	Secchi Disk (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (PPT)	Sp COND (umhos/cm)	Temp. (C°)
EST	12:10	0.8	0.3	0.8(S) VDB	8.44	96.7	5.28	0.00	12.2	22.4
CEN										

Biological Samples Collected: None HA SCI RIS Algae ID LVS LVI Other:
SBIO ID Numbers: SBIO-ID: HA-ID: RPS-ID: Macrophyte-ID: LIMS#:

Parameter Suite	Parameter Methods	Preservation	Lot#	Expiration	pH Check
Preserved Nutrients	☐ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	☒ Ice ☐ H2SO4	SA 8274050	10/01/19	☒ <2
Metals	☒ W-ICPMS ☒ W-ICP	☒ Ice ☐ HNO3	NA 8344050	12/10/19	☒ <2
Filtered Nutrients	☒ W-PO4-F ☐ Field Filtered 0.45 um Filter	☐ Ice	15159049		
Chlorophyll	☐ CHLSUITE-W	☒ Ice			
Physical/Aggregate (Fresh)	☐ Alkalinity / W-F / W-TSS / TURBIDITY / W-CI-IC / W-COLOR / W-SO4-IC / W-TDS	☒ Ice			
Physical/Aggregate (Marine)	☐ Alkalinity / W-BR-IC / W-F / W-TSS / TURBIDITY	☐ Ice			
Macroinvertebrates	☒ MI-FW-QLDC	☒ Formalin			
Periphyton	☐ ALGAE-ID	☐ Ice			
Microbiology	☒ E Coll ☐ F Coll ☐ Enterococci	☐ Ice			
Molecular	☐ PCR-FILTER ☐ PCR-Back ☐ PCR-GULL2 ☐ PCR-HF183 ☐ PCR-DG3 ☐ PCR-GFD	☐ Ice			
Tracers	☒ W-E8321-DI ☒ W-E8321-MS	☒ Ice			
Pesticides	☒ W-PSNP-TQ	☒ Ice			
Phytoplankton	☐ DTY-QN-C ☐ PKD-QN-C	☐ Ice			

Notes: _____

Place Label Here

Signature: _____ Date: 5/22

LIMS EVENT ID: _____ WIN Import ID: _____
Enter Field Parameters, Verify Station ID in LIMS DMT: _____ QC Station ID, Field Parameters in LIMS DMT: _____
Scan/Save Field Sheets _____ Migrate Data to WIN: _____ Verify Data in WIN: _____
(Initials/Date) (Initials/Date) (Initials/Date)



DEP Form FD 9000-3 Physical/Chemical Characterization Field Sheet

SAMPLE ID _____ ORG ID 21FLPNS LATITUDE 30.59021
 COUNTY OKALOOSA STORET # G3NW0104 LONGITUDE 86.41290
 DATE 5/28/19 TIME 1210 SAMPLING AGENCY FDEP NW ROC
 SITE NAME LITTLE ROCKY CREEK UPSTREAM OF Egin Rd 515
 FIELD ID/NAME G3NW0104 RECEIVING BODY OF WATER ROCKY CREEK

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural ☒ Silviculture ☐ Field/Pasture ☐ Agricultural ☐ Residential ☒ Commercial ☐ Industry ☐ Other (Specify) <u>erosion control Restoration project</u> AIR FORCE BASE						Landscape Development Intensity Index (LDI) ☐
Local Watershed Erosion (select one): ☐ None ☒ Slight ☐ Moderate ☐ Heavy Local Watershed NPS Pollution: ☐ No evidence ☒ Slight ☐ Moderate ☐ Heavy						Typical Width (m) Depth (m)/Velocity (m/sec) Transect <u>3.0</u> m wide <u>0.25</u> m/s <u>0.5</u> m/s <u>0.33</u> m/s <u>0.4</u> m deep <u>0.8</u> m deep <u>0.4</u> m deep
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>718</u> Right Bank: <u>>18</u>			Hydrologic Modification Score (per FT 3101) ☐			
High Water Mark: <u>1.2</u> + <u>0.5</u> = <u>1.7</u> (m) (above present water level) (present depth) (above bed)			Artificially Impounded ☐ Yes ☒ No			
Artificially ☒ No ☐ Mostly recovered, more sinuous Channelized: ☐ Some recovery ☐ Recent, severe			Canopy Cover % ☐ Open ☐ Lightly Shaded (11-45%) ☐ Heavily Shaded ☒ Moderate Shaded (46-80%)			

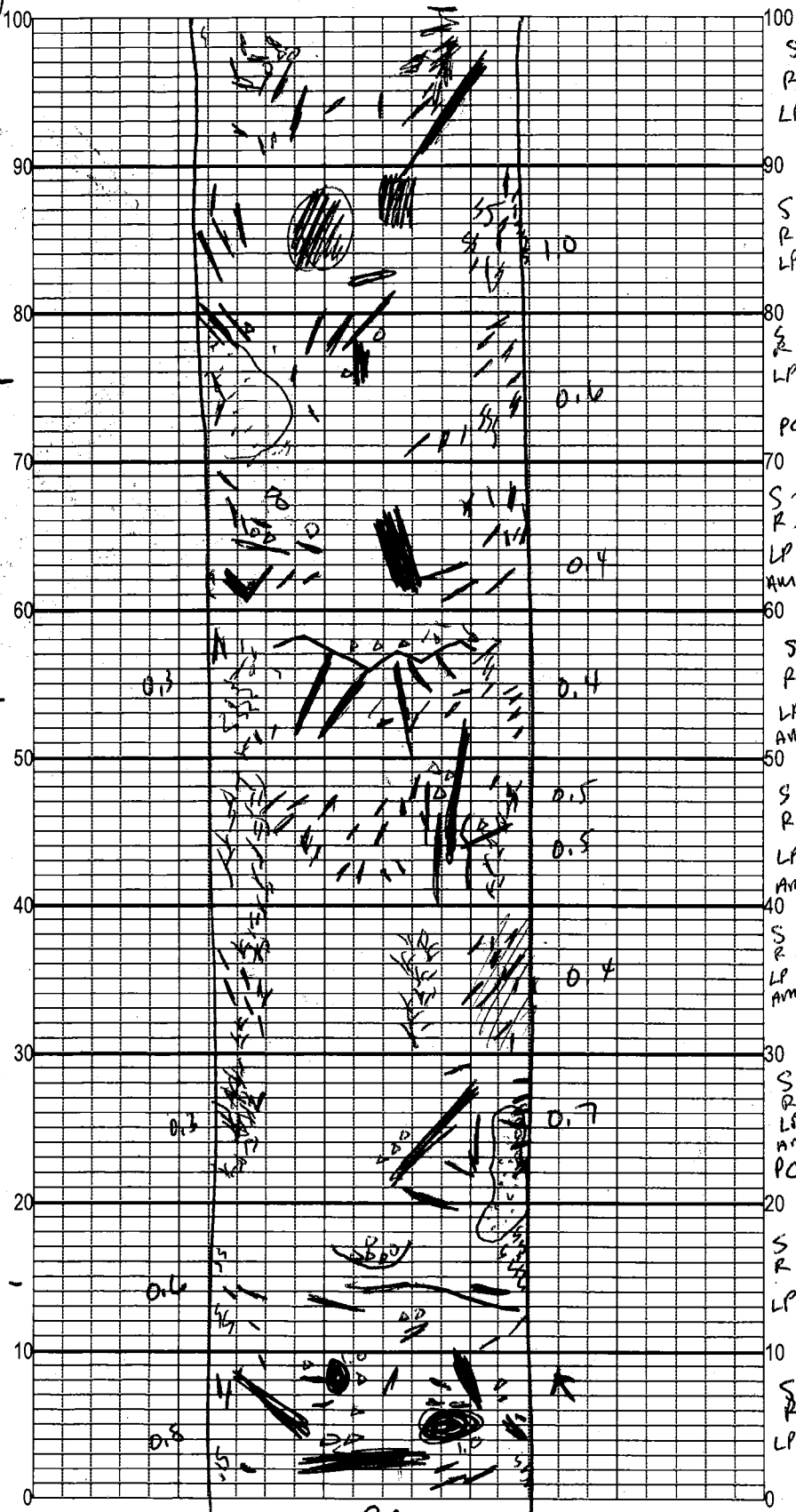
SEDIMENT / SUBSTRATE

Sediment Oils ☒ Absent ☐ Slight ☐ Moderate ☐ Profuse			Sediment Odors ☒ Normal ☐ Sewage ☐ Petroleum ☐ Chemical ☐ Anaerobic ☐ Other (Specify): _____			Smothering of Substrates Sand Smothering: None ☐ Slight ☒ Moderate ☐ Severe ☐ Silt Smothering: None ☐ Slight ☒ Moderate ☐ Severe ☐ Algae Smothering: None ☒ Slight ☐ Moderate ☐ Severe ☐		
SUBSTRATE TYPE Assessment Tool: ☐ SCI ☒ RPS ☒ LVS ☐ LCI ☐ BioRecon % Coverage INVERT # Times Sampled PERI # Times Sampled Woody Debris (Snags) <u>31</u> <u>4</u> Undercut Banks / Roots <u>6</u> <u>4</u> Leaf Packs or Mat <u>4</u> <u>4</u> Aquatic Vegetation <u>6.5</u> <u>4</u> Rock or Shell Rubble.. <u> </u> <u> </u> Sand..... <u>52</u> <u>3</u> Mud / Muck / Silt <u> </u> <u> </u> Other <u>pipe clay</u> <u>1</u> Other <u> </u> <u> </u>			WATER QUALITY Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat (%) Cond. (UMHO/CM) Salinity (PPT) SECCHI (M) Top: <u>0.3</u> <u>22.4</u> <u>5.28</u> <u>8.44</u> <u>96.7</u> <u>12.2</u> <u>9.00</u> <u> </u> Mid: <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> Bottom: <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> Meter ID: <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> TOTAL DEPTH <u>0.8</u>					
ABUNDANCE Not Obs. Rare Common Abundant Periphyton: ☐ ☒ ☐ ☐ Fish: ☐ ☐ ☒ ☐ Aquatic Plants: ☐ ☐ ☒ ☐ Iron/Sulfur Bacteria: ☐ ☒ ☐ ☐			Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐			Water Surface Oils Normal ☒ Sheen ☐ Globbs ☐ Slick ☐ Other ☐		
Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☐ Yes ☐ No Lot Number: _____ Exp: _____			Color Tannic ☐ Green (Algae) ☐ Clear ☐ Other (Specify) ☐			Clarity Clear ☒ Slightly Turbid ☐ Turbid ☐ Opaque ☐		
System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) ☐			AMBIENT FIELD CONDITIONS / NOTES: ☒ The antecedent hydrologic conditions have been met to my best knowledge.					
SAMPLING TEAM <u>M. KING S. SLADE M. CLARK</u>			SIGNATURE _____			DATE: <u>5/28/19</u>		

BF
SLOPE
VEG

DEP Form FD 9000-4 Stream/River Habitat Assessment Sketch Sheet

Left Bank



Length of grid represents 100 m of stream (not linear meters).
(Horizontal scale is double vertical scale, draw proportionately).

S 11
R 1
LP 0.5

Location: Little Rocky Esplanade

Date: 5/28/19

Sampler: Mike King / S. Slade / M. Clapp

S 12
R 3
LP 0.5

100 m: Latitude 30.59083
Longitude 86.41315
0 m: Latitude 30.59021
Longitude 86.41290

S 12
R 3
LP 0.5

Substrates: Code key, draw proportionate habitat abundance.

	Snags	94	31
	Roots/undercut banks	19	6.3
	Leaf Packs (or mats)	11	3.8
	Aquatic Macrophytes	10.5	6.5
	gravel		
	pipe clay		
	Pools	total # observed = 11 # range expected =	

PC 9
S 16
R 1
LP 2
AM 1

Average width 3 m
Average depth 0.5 m

S 14
R 3
LP 2
AM 1

Velocity measured at 90 meter mark.

S 10
R 1
LP 3
AM 1

WQ & chemistry taken at 0 meter mark.

S 10
R 1
LP 3
AM 1

Habitat Smothering:
Note areas (on map) where sand or silt is smothering substrates, limiting habitability.

S 10
R 1
LP 3
AM 1

Bank Stability:
Note areas (on map) with unstable, eroding banks.

S 10
R 1
LP 3
AM 1

Riparian Buffer Width:
Note areas (on map) where natural vegetation is altered or eliminated.

S 10
R 1
LP 3
AM 1

Plants observed / other notes:

S 7
R 5
LP 1

R. maple
pinus
red titi
American Honey
xyris
sun dew
Potodendron
panicum sp
vitis
tulip poplar
wolly witch grass
rubus
Hypericum

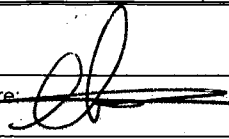
DEP Form FD 9000-5 Stream/River Habitat Assessment Field Sheet

G3NW0103

SAMPLING AGENCY: FDEP NW ROC		STORET STATION NUMBER: G3NW0104 cab	DATE (MM/DD/YY): 05/28/2019	RECEIVING BODY OF WATER: ROCKY CREEK
REMARKS:	COUNTY: OKALOOSA	LOCATION: LITTLE ROCKY CREEK	FIELD ID/NAME: G3NW0104	

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components Substrate Diversity <u>18</u>	Four or more major productive habitats present [snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock] 20 19 <u>18</u> 17 16	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh leaves or snags) 15 14 13 12 11	Two major productive habitats present. Less than desirable habitat, frequently disturbed or removed 10 9 8 7 6	One or less major productive habitat. Lack of habitat is obvious, substrates unstable or smothered 5 4 3 2 1
Substrate Availability <u>19</u>	Greater than 30% major productive habitat present at site 20 <u>19</u> 18 17 16	16% to 30% major productive habitat, by aerial extent 15 14 13 12 11	6% to 15% major productive habitat 10 9 8 7 6	Less than 5% major productive habitat 5 4 3 2 1
Water Velocity <u>20</u>	Max. observed at typical transect: > 0.25 m/sec. But < 1 m/sec ≥ 0.33 0.31 0.29 0.27 > 0.25 <u>20</u> 19 18 17 16	Max. observed at typical transect: > 0.1 to 0.25 m/sec 0.25 0.21 0.17 0.13 > 0.1 15 14 13 12 11	Max. observed at typical transect: 0.05 to 0.1 m/sec 0.1 0.09 0.07 0.06 0.05 10 9 8 7 6	Max. observed at typical transect: < 0.05 m/sec; or spate occurring: > 1 m/sec < 0.05 0.04 0.03 0.01 < 0.01 5 4 3 2 1
Habitat Smothering <u>18</u> ----- Primary Score <u>75</u>	Adequate number of stable pools (1-2 per 12 times width) and < 25% of habitats affected by sand, silt, or algae. 20 19 <u>18</u> 17 16	Adequate number of stable pools (1-2 per 12 times width) and > 25% of habitats affected by sand, silt, or algae. 15 14 13 12 11	Does not have required number of stable pools (1-2 per 12 x width) and/or has shallow pools (< 2 x prevailing depth). 10 9 8 7 6	Stable pools are absent. Most habitats affected by sand, silt, or algae accumulation. 5 4 3 2 1
Secondary Habitat Components Artificial Channelization <u>19</u>	Expected sinuosity given the stream width. No evidence of dredging or artificial straightening. No spoil banks. 20 <u>19</u> 18 17 16	Good sinuosity within old channelized area. Evidence of dredging or straightening in the past (> 25 yrs) but mostly recovered. 15 14 13 12 11	Straightened with trapezoidal cross section, but has a small degree of sinuosity developed within channelized area. 10 9 8 7 6	Straightened or engineered by dredging, has trapezoidal or box cut cross section, lacks required pools. May have spoil banks. 5 4 3 2 1
Bank Stability Right Bank <u>9</u> Left Bank <u>9</u>	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankfull to top of bank. Bankfull is within or above the woody root zone with few raw, eroded areas. 10 <u>9</u>	Only meets 2 of the 3 requirements for optimal bank stability. 8 7 6	Only meets 1 of the 3 requirements for optimal bank stability. 5 4	Bankfull < 60% of bank height. Slope of bank > 60°. Bankfull is below the woody root zone with raw, eroded areas. 3 2 1
Riparian Buffer Zone Width Right Bank <u>10</u> Left Bank <u>10</u>	Width of vegetation greater than 18 m <u>10</u> 9	Width of vegetation > 12 to 18 m 8 7 6	Width of vegetation 6 to 12 m. human activities close to system 5 4	Less than 6 m of buffer zone due to intensive human activities 3 2 1
Riparian Zone Vegetation Quality Right Bank <u>10</u> Left Bank <u>10</u> ----- Secondary Score <u>77</u>	Over 80% of riparian surfaces consist of normal, expected plant community for given sunlight & habitat conditions (e.g., native plants; tree, shrub, and forbs represented, if appropriate). Minimal disturbance. <u>10</u> 9	> 50% to 80% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Some disruption in community observed. 8 7 6	25% to 50% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Disruption obvious. 5 4	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). 3 2 1

152 TOTAL SCORE

Date: <u>5/29/19</u>	Analyst: <u>MIKE KING</u>	Signature: 
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DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>LITTLE ROCKY CREEK</u>					County: <u>OKLAHOMA</u>		Date: <u>5/28/2019</u>		Investigators: <u>NEUNG/SILADE / M CLARKE</u>		
Transect (m)					Transect (m)					STORET Station Number: <u>G3NW0103</u> cab	
Point 1=right 9=left					Point 1=right 9=left					G3NW0103	
Algal Thickness Rank (N-6, X)					Algal Thickness Rank (N-6, X)						
Estimated					Estimated						
Canopy Cover					Canopy Cover						
0					60					Secchi depth <u>0.8</u>	
1					1					Estimated? ☒	
2					2					# points ranked 4-6 <u>0</u>	
3					3					total points assessed <u>99</u>	
4					4					% points ranked 4-6 <u>0</u>	
5					5					Check accompanying data collected at same site/date.	
6					6					Algal mat sample ☐	
7					7					Linear Veg Survey ☒	
8					8					Habitat Assessment ☒	
9					9					SOI/Biorecon ☐	
10					70					Water sample ☒	
1					1					RQ- 2019-04-08-31	
2					2						
3					3						
4					4						
5					5						
6					6						
7					7						
8					8						
9					9						
20					80						
1					1						
2					2						
3					3						
4					4						
5					5						
6					6						
7					7						
8					8						
9					9						
30					90						
1					1						
2					2						
3					3						
4					4						
5					5						
6					6						
7					7						
8					8						
9					9						
40					100						
1					1						
2					2						
3					3						
4					4						
5					5						
6					6						
7					7						
8					8						
9					9						
50											
1					1						
2					2						
3					3						
4					4						
5					5						
6					6						
7					7						
8					8						
9					9						

Record "N" and check "Estimated" for points deeper than the Secchi depth; algae are presumed absent. Check "Estimated" if thickness estimated for deep points which can be seen but not reached.

Record "X" for points shallower than Secchi depth for which substrate cannot be seen or reached with the hand. No estimated rank.

Record canopy cover as the number of small densiometer quadrants (out of 96) that HAVE canopy cover. Measure facing upstream at point 4, 5, or 6.

Collect algal mat sample following DEP SOP FS 7240 if the percentage of total sampled points with a thickness rank of 4, 5, or 6 is >20%.

DEP FORM FD 9000-32: LINEAR VEGETATION SURVEY FIELD SHEET

Waterbody: <u>LITTLE ROCKY CREEK</u>	Date: <u>5/28/19</u>	County: <u>OKALOSHO</u>	Storet Number: <u>G73NW0104</u>
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County: OKLAHOMA

Storet Number: <i>G73NW0104</i>

Analyst: MIKE KING Signature:

Signature: _____

Comments: _____

Instructions: Note taxa growing in the water with a checkmark if present; "D" if dominant, and "C" if codominant (dominance only if 1m² of taxa present). Note in the boxes below if no dominant are selected, and note total macrophyte abundance rank for each section. Only the most common taxa are listed, so use blank spaces for additional taxa names.

[illegible]

