



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION ING PROGRAM FIELD SHEET

Date Qualified?

Yes / No

WIN / Field ID:



21030145

January 2018

Date: 5/8/2018

(mm/dd/yyyy)

SANTA FE RIVER @ HOLLINGSWORTH BLUFF

WBID: 36058

Latitude: 29.869075

(Decimal Degrees)

County: Suwannee

ORG ID: 21FLA

Longitude: -82.744547

(Decimal Degrees)

Receiving Body of Water: Suwannee River

RQ-2018-0430-48

Sampling Team Members					WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
B. K.									
J. Penick									

Sampling Equipment		
☒ Sample Container	☐ Van Dorn	☐ Pole
☐ Carboy	☐ Syringe	
☐ Dipper	☐ Other	
Depth Measured with 152 ft		
Equipment ID 04507		

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

Water Level: Dry / Pooled / Low / Normal / High / Flooded	Meter ID# 152 ft	Matrix: Fresh / Marine / DI
Photos: Yes / No	Flow: No Flow / Interstitial / 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	11:30	2.4	0.3	15	5.27	61	7.42	0.19	401	22.4
CEN			1.5		5.31	61.2	7.41	0.19	401	22.4

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 ☒ H2SO4	7541020	12/7/18	☒ <2
Metals	☐ W-ICPMS ☐ W-ICP	☐ Ice ☐ HNO3			☐ <2
Filtered Nutrients	☒ W-PO4-F ☐ Field Filtered 0.45 um Filter	☒ Ice	R7HA24559		
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-F / W-TSS / TURBIDITY	☐ Ice			
Macroinvertebrates	☐ MI-FW-QLDC	☐ Formalin			
Periphyton	☐ ALGAE-ID	☐ Ice			
Microbiology	☒ E Coli ☐ F Coli ☐ Enterococci	☒ Ice			
Molecular	☐ PCR-FILTER ☐ PCR-HF183 ☐ PCR-BacR ☐ PCR-GULL2 ☐ PCR-GFD	☐ Ice			
Tracers	☐ W-SUC-AA-R ☐ W-UHERB-AA ☐ W-AHERB-AA	☐ Ice			
Pesticides	☐ W-PSNP-TQ ☐ W-UHERB-AA ☐ W-AHERB-AA ☐ W-CARB-AA ☐ W-PCL-SQ-R ☐ W-PYR-AA-R ☐ W-GLYPH ☐ W-SUC-AA-R	☐ Ice ☐ Other			

Notes:	Place Label Here
--------	------------------

Signature: [Signature] Date: 5/8/18

Enter Field Parameters, Verify Station ID In LIMS DMT: [Signature] QC Station ID, Field Parameters In LIMS DMT: [Signature]

Scan/Save Field Sheets [Signature] Migrate Data to WIN: [Signature] Verify Data In WIN: [Signature]

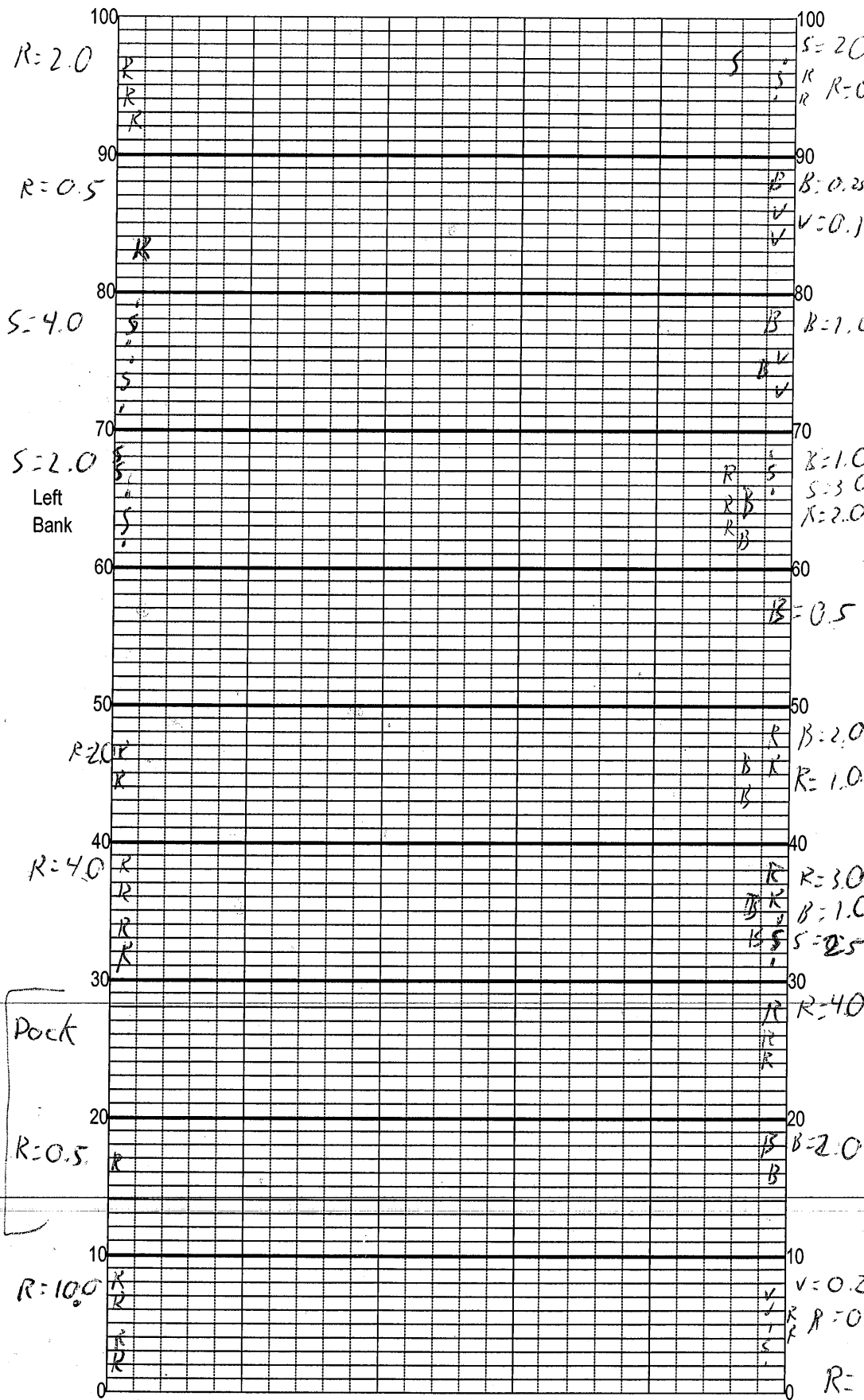
(Initials/Date)

(Initials/Date)

(Initials/Date)

(Initials/Date)

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



Location: Santa Fe @ Hollingsworth
 Date: 5/8/18
 Sampler: B. Voss

100 m: Latitude _____	
Longitude _____	
0 m: Latitude _____	
Longitude _____	
Substrates: Code key, draw proportionate habitat abundance. %	
☐ S	Snags <1
☐ R	Roots/undercut banks <1
☒ K	Leaf Packs (or mats) 24
☐ V	Aquatic Macrophytes <1
☐ B	Rock <1
☐	
☐	Pools total # observed = _____ # range expected = _____

Average width <u>50</u> m
Average depth <u>2.4</u> m
Velocity measured at <u>0</u> meter mark.
WQ & chemistry taken at <u>100</u> meter mark.
Habitat Smothering: Note areas (on map) where sand or silt is smothering substrates, limiting habitability.
Bank Stability: Note areas (on map) with unstable, eroding banks.
Riparian Buffer Width: Note areas (on map) where natural vegetation is altered or eliminated.

Plants observed / other notes:
 <2 M of Macrophytes was observed while doing the LVS? YES or NO NO

R=30 ~ 0.5%
 B=10.25
 S=14.5
 V=71.0

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

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

SAMPLING AGENCY: NE ROC		STORET STATION NUMBER: <u>21020145</u>	DATE (MM/DD/YY): <u>5/8/18</u>	RECEIVING BODY OF WATER: <u>Saugus River</u>
REMARKS:	COUNTY: <u>Saugus</u>	LOCATION: <u>Schaffers @ Hollingsworth</u>	FIELD ID/NAME:	

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>14</u>	20 19 18 17 16	15 <u>14</u> 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability <u>3</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 6	Less than 5% major productive habitat 5 4 <u>3</u> 2 1
Water Velocity <u>19</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 <u>19</u> 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>10</u> Primary Score <u>46</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). <u>10</u> 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>20</u>	Expected sinuosity given the stream width. No evidence of dredging or artificial straightening. No spoil banks. <u>20</u> 19 18 17 16	Good sinuosity within old channelized area. Evidence of dredging 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>8</u> Left Bank <u>10</u>	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankfull to top of bank. Bankfull is within or above the root zone with few raw, eroded areas. 10 9	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 root zone with raw, eroded areas. 3 2 1
Riparian Buffer Zone Width Right Bank <u>7</u> Left Bank <u>3</u>	Width of vegetation greater than 18 m 10 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>10</u> Left Bank <u>8</u> Secondary Score _____	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 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

112

TOTAL SCORE

Date: <u>5/8/18</u>	Analyst: <u>B. D.</u>	Signature: <u>Brian Davis</u>
---------------------	-----------------------	-------------------------------

78385

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Santa Fe Hallingsworth County: _____ Date: 5/8/18 Investigators: _____

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	
	2	N	N	
	3	N	N	
	4	X	X	
	5	X	X	
	6	X	X	
	7	N	N	
	8	N	N	
	9	N	N	
10	1	N	N	
	2	N	N	
	3	N	N	
	4	X	X	
	5	X	X	
	6	X	X	
	7	N	N	
	8	N	N	
	9	N	N	
20	1	N	N	
	2	N	N	
	3	N	N	
	4	X	X	
	5	X	X	
	6	X	X	
	7	N	N	
	8	N	N	
	9	N	N	
30	1	N	N	
	2	N	N	
	3	N	N	
	4	X	X	
	5	X	X	
	6	X	X	
	7	N	N	
	8	N	N	
	9	N	N	
40	1	N	N	
	2	N	N	
	3	N	N	
	4	X	X	
	5	X	X	
	6	X	X	
	7	N	N	
	8	N	N	
	9	N	N	
50	1	N	N	
	2	N	N	
	3	N	N	
	4	X	X	
	5	X	X	
	6	X	X	
	7	N	N	
	8	N	N	
	9	N	N	

STORET Station Number: 21030145

Secchi depth _____ Estimated? _____

points ranked 4-6 2
total points assessed 99
% points ranked 4-6 _____

Check accompanying data collected at same site/date
Algal mat sample _____
Linear Veg Survey _____
Habitat Assessment _____
SCI/Biorecon _____
Water sample _____
RQ- _____

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

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 9000-3 Physical/Chemical Characterization Field Sheet

SAMPLE ID _____ ORG ID 21FLA LATITUDE 29.869075
 COUNTY Surgeon STORET # 21030145 LONGITUDE -82.744547
 DATE 5/8/18 TIME 1130 SAMPLING AGENCY NED DEAR
 SITE NAME Santa Fe e Hollingsworth
 FIELD ID/NAME _____ RECEIVING BODY OF WATER Surgeon River

RIPARIAN ZONE / STREAM FEATURES

Meter ID: YSI 14

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural ☐ Silviculture ☐ Field/Pasture ☐ Agricultural ☐ Residential ☐ Commercial ☐ Industry ☐ Other (Specify) ☐								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 50 m wide m/s 0.3 m/s m deep 2.4 m deep	
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>4.6m</u> Right Bank: <u>4.6m</u>				Hydrologic Modification Score (per FT 3101) ☐					
High Water Mark: <u>1m</u> + <u>2.4</u> = <u>4.4</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 % # Times # Times Coverage Sampled Sampled Woody Debris (Snags) <u><1</u> <u>5</u> Undercut Banks / Roots <u><1</u> <u>5</u> Leaf Packs or Mat Aquatic Vegetation <u><1</u> <u>1</u> Rock or Shell Rubble.. <u><1</u> <u>5</u> Sand..... <u>96</u> <u>4</u> Mud / Muck / Silt 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>22.1</u> <u>7.42</u> <u>5.27</u> <u>61</u> <u>401</u> <u>0.19</u> <u>15</u> Mid: <u>0.3</u> <u>22.1</u> <u>7.42</u> <u>5.27</u> <u>61</u> <u>401</u> <u>0.19</u> <u>15</u> Bottom: <u>2.4</u> <u>22.1</u> <u>7.42</u> <u>5.27</u> <u>61</u> <u>401</u> <u>0.19</u> <u>2.4</u> System Type: Stream ☐ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☐			Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐ Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☐ Yes ☐ No Lot Number: _____ Exp: _____ Algae Sample Taken? ☐ Yes ☒ No Sample Preserved? ☐ Yes ☐ No Lot Number: _____ Exp: _____		
ABUNDANCE Not Obs. Rare Common Abundant Periphyton: ☐ ☐ ☒ ☐ Fish: ☐ ☐ ☒ ☐ Aquatic Plants: ☐ ☐ ☒ ☐ Iron/Sulfur Bacteria: ☐ ☒ ☐ ☐			Water Surface Oils Normal ☒ Sheen ☐ Globbs ☐ Slick ☐ Other ☐ Color Tannic ☒ Green (Algae) ☐ Clear ☐ Other (Specify) ☐ Clarity Clear ☒ Slightly Turbid ☐ Turbid ☐ Opaque ☐			AMBIENT FIELD CONDITIONS / NOTES: Hydrologic Disturbance Scoring ☐ 1-2 ☐ 3-4 ☐ 5-6 ☐ 7-8 ☐ 9-10 ☐ The antecedent hydrologic conditions have been met to my best knowledge.		
SAMPLING TEAM <u>Joann</u> <u>BT</u>			SIGNATURE: <u>BT</u>					

Florida Department of Environmental Protection
Central Laboratory Submittal Form

Customer: NE-DIST

Requester: Jeremy M. Parrish

Field Report Prepared By: B. Davis

Project ID: SMP

Collected By: B. Davis

Sampling Agency: WEB BEAR

WIN / Field ID:	Collection (comp begin or grab)	Time	Eastern Composite end	Time	Bottle Group(s)
Matrix (type, e.g., Salt, Fresh, etc)	Diss. Oxygen	mg/L	Total Res. Chlorine		(See pg 2)
SANTA FE RIVER @ HOLLINGSWORTH BLUFF	Fresh	1130	5.27		A
Temp (C) 22.4	pH 7.42	Sample Depth 0.3	ft Sp. Conductance (umho/cm) 401		
Salinity (ppt) 0.19	Comments				
WIN / Field ID: COW CREEK AT SR 138	Collection (comp begin or grab)	Time	Eastern Composite end	Time	Bottle Group(s)
Matrix (type, e.g., Salt, Fresh, etc)	Diss. Oxygen	mg/L	Total Res. Chlorine		
Fresh	6.60	1255			B
Temp (C) 20.26	pH 7.41	Sample Depth 0.1	ft Sp. Conductance (umho/cm) 228		
Salinity (ppt) 0.13	Comments				
Location	Collection (comp begin or grab)	Time	Eastern Composite end	Time	Bottle Group(s)
Field ID	Matrix (type, e.g., Salt, Fresh, etc)	Diss. Oxygen	mg/L	Total Res. Chlorine	
WIN/STORET #	Temp (C)	pH	Sample Depth	ft Sp. Conductance (umho/cm)	
Latitude	Salinity (ppt)	Comments			
Location	Collection (comp begin or grab)	Time	Eastern Composite end	Time	Bottle Group(s)
Field ID	Matrix (type, e.g., Salt, Fresh, etc)	Diss. Oxygen	mg/L	Total Res. Chlorine	
WIN/STORET #	Temp (C)	pH	Sample Depth	ft Sp. Conductance (umho/cm)	
Latitude	Salinity (ppt)	Comments			
Location	Collection (comp begin or grab)	Time	Eastern Composite end	Time	Bottle Group(s)
Field ID	Matrix (type, e.g., Salt, Fresh, etc)	Diss. Oxygen	mg/L	Total Res. Chlorine	
WIN/STORET #	Temp (C)	pH	Sample Depth	ft Sp. Conductance (umho/cm)	
Latitude	Salinity (ppt)	Comments			
Relinquished By: B. Davis	Date/Time: 5/8/18 1630	Shipping Method: FedEx	Number of Coolers Shipped: 2	Received By:	Date/Time:

Group: A	Bottle Type: ALKALINITY TURBIDITY W-CL-IC W-COLOR W-F W-SO4-IC W-TDS W-TSS	P-1L	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab	/
Group: A	Bottle Type: CHLSUITE-W	BP-1L	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab	1
Group: A	Bottle Type: NED-AEG-EC	P-120ML-WC-THI	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab	1 to AEL
Group: A	Bottle Type: W-NH3 W-NO2NO3 W-S-A-TP W-TKN W-TOC	P-500ML	# of Bottles: 1	Preservative:	ICE And H2SO4	Enter Number of Bottles Sent to Lab	1
Group: A	Bottle Type: W-PO4-F	P-125ML	# of Bottles: 1	Preservative:	FILTER-ICE	Enter Number of Bottles Sent to Lab	1
Group: B	Bottle Type: ALKALINITY TURBIDITY W-CL-IC W-COLOR W-F W-SO4-IC W-TDS W-TSS	P-1L	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab	/
Group: B	Bottle Type: CHLSUITE-W	BP-1L	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab	1
Group: B	Bottle Type:	P-120ML-WC-THI	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab	1

Group: B	Bottle Type: NED-AEG-EC	P-120ML-WC-THI	# of Bottles: 1	Preservative: ICE	Enter Number of Bottles Sent to Lab	1 to AEL
Group: B	Bottle Type: PCR-FILTER	QPCR-P-500ML	# of Bottles: 1	Preservative: ICE	Enter Number of Bottles Sent to Lab	1
Group: B	Bottle Type: W-E8321-DI W-E8321-MS	BG-500ML	# of Bottles: 1	Preservative: ICE	Enter Number of Bottles Sent to Lab	1
Group: B	Bottle Type: W-NH3 W-NO2NO3 W-S-A-TP W-TKN W-TOC	P-500ML	# of Bottles: 1	Preservative: ICE And H2SO4	Enter Number of Bottles Sent to Lab	1
Group: B	Bottle Type: W-PO4-F	P-125ML	# of Bottles: 1	Preservative: FILTER-ICE	Enter Number of Bottles Sent to Lab	1
Group: C	Bottle Type: MI-FW-QLDC	PJ-2L	# of Bottles: 2	Preservative: Formalin	Enter Number of Bottles Sent to Lab	2



Tallahassee: 2039 North Monroe Street, Suite D • Tallahassee, FL 32303 • 850.219.6274 • Fax 850.219.6275

Tampa: 9610 Princess Palm Ave. • Tampa, FL 33619 • 813.630.9616 • Fax 813.630.4937

[illegible]