

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

SAMPLE ID 79874 ORG ID ZIFLWQSP LATITUDE 30.43422
 COUNTY MADISON STORET # 22040130 LONGITUDE -83.72214
 DATE 4/30/19 TIME 1110 SAMPLING AGENCY FOEP/AEQA
 SITE NAME AVICULA RIVER @ 7 BRIDGE RD
 FIELD ID/NAME AUC @ 7 Bridge RECEIVING BODY OF WATER _____

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) ☐								Landscape Development Intensity Index (LDI) <u>1.3</u>
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>5</u> m wide				
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>18</u> Right Bank: <u>18</u>				Hydrologic Modification Score (per FT 3101) <u>1-2</u>				
High Water Mark: <u>0.9</u> + <u>0.6</u> = <u>1.5</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			WATER QUALITY					
% Coverage Woody Debris (Snags) <u>2.7</u> <u>5</u> Undercut Banks / Roots <u>.7</u> <u>5</u> Leaf Packs or Mat <u>minor</u> Aquatic Vegetation <u>1.7</u> <u>5</u> Rock or Shell Rubble <u>minor</u> <u>4</u> Sand <u>minor</u> <u>4</u> Mud / Muck / Silt <u>minor</u> <u>4</u> Other <u>minor</u> <u>4</u> Other <u>minor</u> <u>4</u>			Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat (%) Cond. (UMHO/CM) Salinity (PPT) SECCHI (M) Top: <u>0.1</u> <u>20.0</u> <u>10.2</u> <u>5.35</u> <u>58.4</u> <u>175.9</u> Mid: _____ Bottom: _____ Meter ID: <u>154185</u> <u>0.6</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 ☐ Globs ☐ Slick ☐ Other ☐		
Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: <u>101232</u> Exp: <u>10/13/19</u>			Color Tannic ☒ Green (Algae) ☐ Clear ☐ Other (Specify) ☐			Clarity Clear ☐ Slightly Turbid ☐ Turbid ☒ Opaque ☐		
Algae Sample Taken? ☐ Yes ☒ No Sample Preserved? ☐ Yes ☐ No Lot Number: <u>101246</u> Exp: <u>8-20-20</u>			System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) ☐					
AMBIENT FIELD CONDITIONS / NOTES: Field blank collected. I qualify pH - will not stabilize in field. WATER LEVEL A LITTLE HIGHER THAN PREVIOUS VISIT. ☒ The antecedent hydrologic conditions have been met to my best knowledge.								
SAMPLING TEAM <u>A oneal J Jackson S Noble</u>			SIGNATURE: <u>J Jackson</u>			DATE: <u>4/30/19</u>		

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

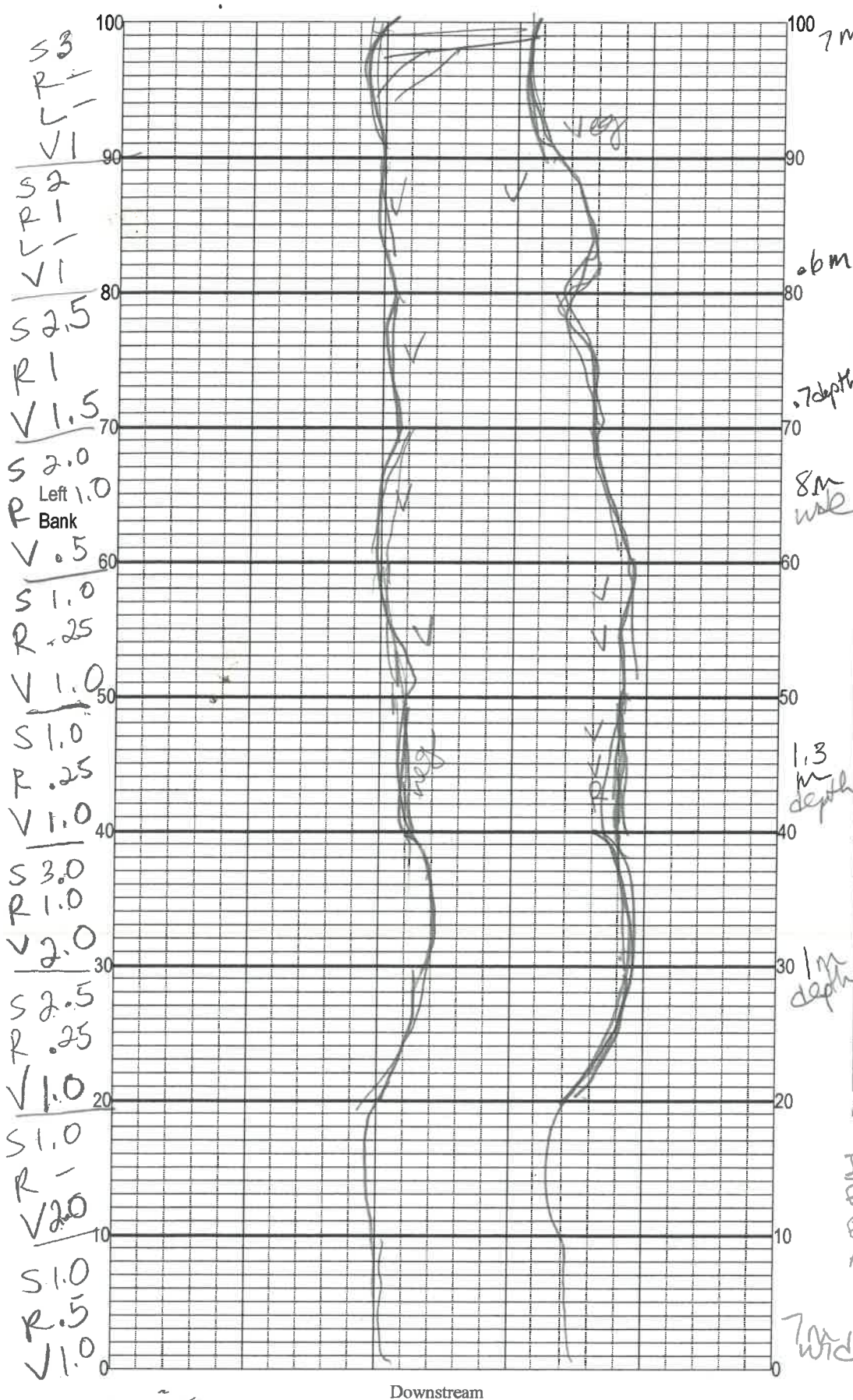
SAMPLING AGENCY: <u>FDEP Jackson, Noble, O'Neal</u>		STORET STATION NUMBER: <u>22040130</u>	DATE (MM/DD/YY): <u>4/30/19</u>	RECEIVING BODY OF WATER: <u>Apalachec Bay</u>
REMARKS: <u>very dark, hard to see</u>	COUNTY: <u>Madison</u>	LOCATION: <u>Aucilla at 7 Bridges Rd.</u>	FIELD ID/NAME: <u>Auc@7Bridg</u>	

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components Substrate Diversity <u>13</u> <u>SR</u>	Four or more major productive habitats present (snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock) <u>not enough</u> 20 19 18 17 16	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh leaves or snags) 15 14 <u>13</u> 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>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>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>11</u> ----- Primary Score <u>49</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 <u>11</u>	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>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>10</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. <u>10</u> 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>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>10</u> Left Bank <u>10</u> ----- Secondary Score <u>80</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 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

129 **TOTAL SCORE**

Date: <u>4/30/2019</u>	Analyst: <u>AO'Neal</u>	Signature: <u>Ashley O'Neal</u>
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DEP Form FD 9000-4 Stream/River Habitat Assessment Sketch Sheet



Location: Avilla@76 bridge
 Date: 4/30/2019
 Sampler: AO Neal

100 m: Latitude	<u>30.43422</u>
Longitude	<u>-83.72214</u>
0 m: Latitude	
Longitude	
Substrates: Code key, draw proportionate habitat abundance. %	
☐ S	Snags
☐ R	Roots/undercut banks
☐ L	Leaf Packs (or mats)
☐ V	Aquatic Macrophytes
☐	
☐	
☐ 3	Pools
total # observed = <u>3</u> # range expected = <u>1-4</u>	
Average width	<u>7</u> m
Average depth	<u>0.8</u> m
Velocity measured at <u>30</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:

In water:
 Egeria Myriophyllum aquaticum
 Eic crag. Osmunda regalis
 Alt phi
 Pongora
Banks:
 Acer sac
 I tea
 Ulmus
 Fraxinus
 water dark
 somewhat turbid

Length of grid represents 100 m of stream (not linear meters).
 (Horizontal scale is double vertical scale, draw proportionately).
 12x7
 84
 36m ~ 700
 5.18
 19 S
 5 R
 12 V

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: AUC 7 Bridge County: _____ Date: 4/30/19 Investigators: S. Noble

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	STORET Station Number:
0	1	N	✓	96	60	1	N	✓	96	
	2		✓							
	3		✓							
	4		✓							
	5		✓							
	6		✓							
	7		✓							
	8	N								
	9	N								
10	1	N	✓	96	70	1	N	✓	96	
	2		✓							
	3		✓							
	4		✓							
	5		✓							
	6		✓							
	7		✓							
	8	N								
	9	N								
20	1	N	✓	96	80	1	N	✓	84	
	2		✓							
	3		✓							
	4		✓							
	5		✓							
	6		✓							
	7		✓							
	8		✓							
	9	N								
30	1	N	✓	96	90	1	N	✓	94	
	2		✓							
	3		✓							
	4		✓							
	5		✓							
	6		✓							
	7		✓							
	8		✓							
	9	N								
40	1	N	✓	96	100	1	N	✓	96	
	2		✓							
	3		✓							
	4		✓							
	5		✓							
	6		✓							
	7		✓							
	8		✓							
	9	N								
50	1	N	✓	96	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%.					
	2		✓							
	3		✓							
	4		✓							
	5		✓							
	6		✓							
	7		✓							
	8		✓							
	9		✓							

Secchi depth _____
Estimated? _____

points ranked 4-6 _____
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

Waterbody: <u>Anailla @ 7 Bridge</u>	Date: <u>4/30/19</u>	County: _____	Storet Number: _____
Analyst: <u>AONeal</u>	Signature: <u>Ashlea Onand</u>		

Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1 m² 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.

RPS
80m-84 cover
90m-94 cover

SITE NAME: _____ DATE: _____ TIME _____ EST CST DEPTH^A: _____ ft m FIELD ID: _____
 (military)

SAMPLING TEAM MEMBERS	WQ MEASUREMENTS	DOCUMENTATION	SAMPLE COLLECTION	PRESERVATION	PRESERVATION CHECK

SAMPLING EQUIPMENT	
☐ Sample Container	☐ Tubing type: _____
☐ Pole	☐ Other _____
☐ Pump ID#: _____	☐ Other _____
WATER QUALITY MEASUREMENTS	
Instrument ID: _____	
COLLECTION MODE	
☐ Wading	☐ Via Boat
☐ Diving	☐ Canoe
☐ From Shore	☐ Electric Motor
☐ Other	☐ Gasoline Motor

Parameter Suite	Parameter(s)/Method	Matrix Code*	Preservation**	Preservative Lot #	pH Check	# Bottles ***
Preserved Nutrients	☐ TKN ☐ TP ☐ NO _x ☐ NH ₃ ☐ TOC ☐ Total N ☐ Other: _____	W	☐ Ice ☐ H ₂ SO ₄		☐ <2	
Filtered Nutrients	☐ oP ☐ Other: _____	W	☐ Ice ☐ .45 um Filter			
Unpreserved Nutrients	☐ NO ₂ ☐ NO ₃ ☐ SO ₄ ☐ Other: _____	W	☐ Ice			
Physical/Aggregate Properties	☐ TDS ☐ TSS ☐ TS ☐ Turbidity ☐ Alk ☐ Color ☐ Other: _____	W	☐ Ice			
Chlorophyll	☐ CHL-PPTN-W	W	☐ Ice			
BOD	☐ BOD-INHB ☐ BOD-UNIN	W	☐ Ice			
Microbiology	MF: ☐ E coli ☐ T Coli ☐ F Coli ☐ Entero ☐ F Strep	W	☐ Ice			
Macroinvertebrates	☐ MI-FW-QLDC ☐ MI-FW-QLBR ☐ MI-FW-QNNC ☐ MI-MN-QNNC	W	☐ Formalin			
Phytoplankton	☐ PKD-QN-C ☐ DTY-QN-C	W	☐ Lugol's			
Periphyton	☐ PRN-QL-C ☐ DTM-QL-C ☐ PRN-QN-C ☐ DTM-QN-C	W	☐ Formalin			
AGP	☐ AA-AGP ☐ AA-LIM-NUT	W	☐ Ice			
Metals	☐ W-ICP ☐ W-FIAS ☐ W-ICPMS ☐ W-ICP-Tr	W	☐ HNO ₃		☐ <2	
Filtered Metals	☐ W-ICP-F ☐ W-FIAS-F ☐ W-ICPMS-F ☐ W-ICP-Tr-F	W	☐ HNO ₃ ☐ .45 um Filter		☐ <2	
Mercury	☐ W-HG-AF	W				
BaseNeutral / Acid Extractable	☐ W-BNA ☐ W-AE ☐ W-BN ☐ W-PAH ☐ W-FL-PRO ☐ W ☐ Other: _____	W	☐ Ice ☐ H ₂ SO ₄		☐ <2	
Pesticides	☐ W-PEST-CL ☐ W-PCB ☐ W-PEST-NP ☐ W-PSCL-PCB ☐ W-NP-AA-SF ☐ W-PC-AA-SF ☐ W-PSHRB-NP ☐ W-SLFN-UREA ☐ W-SULFN-LC ☐ Other: _____ ☐ W-ACIDHERB	W	☐ Ice			
Purgeables	☐ W-VOC-MS ☐ W-VOC-MS-A	W	☐ Ice ☐ H ₂ SO ₄			
Bioassay	Specify Test: _____	W	☐ Ice			
OTHER		W	☐ Other: _____			

 Notes: Nitric # 101246 exp. 8/20/20
#1504 # 101232 exp. 10/13/19
Field blank collected.

Use one line for each set of sample (as supplied by the laboratory) containers. Use separate sheet for field or laboratory duplicate or blank or different water depth

^AEnter "S" for surface if collected at a depth less than or equal to 1 foot

*Matrix Codes (Insert prefix): SW = Surface Water GW = Groundwater DW = Drinking Water WW = Wastewater O = Other: _____

**PRESERVATIVES: 1 ml added unless otherwise noted

***Enter number of containers supplied by the laboratory for the test (e.g., 3 for volatile organics, etc.)

DEP Bureau of Laboratories Water Sample Collection Record

(Use with FDEP SOP-001/01 Form FD 9000-3 Physical/Chemical Characterization Field Sheet)

Group: A	Bottle Type:	P-1L	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab	2
	ALKALINITY						
	TURBIDITY						
	W-CL-IC						
	W-COLOR						
	W-F						
	W-SO4-IC						
	W-TDS						
	W-TSS						
Group: A	Bottle Type:	BP-1L	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab	2
	CHLSUITE-W						
Group: A	Bottle Type:	P-250ML-WO-THI	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab	2
	ECOLI-18QT						
Group: A	Bottle Type:	QPCR-P-500ML	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab	2
	PCR-BACR						
	PCR-GFD						
	PCR-HF183						
Group: A	Bottle Type:	BG-500ML	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab	2
	W-E8321-DI						
	W-E8321-MS						
Group: A	Bottle Type:	P-500ML	# of Bottles: 2	Preservative:	HNO3	Enter Number of Bottles Sent to Lab	2
	W-ICP						
	W-ICPMS						
Group: A	Bottle Type:	P-500ML	# of Bottles: 2	Preservative:	ICE And H2SO4	Enter Number of Bottles Sent to Lab	2
	W-NH3						
	W-NO2NO3						
	W-S-A-TP						
	W-TKN						
	W-TOC						
Group: A	Bottle Type:	P-125ML	# of Bottles: 2	Preservative:	FILTER-ICE	Enter Number of Bottles Sent to Lab	2
	W-PO4-F						
Group: A	Bottle Type:	BG-1L	# of Bottles: 6	Preservative:	ICE	Enter Number of Bottles Sent to Lab	6
	W-PSNP-TQ						

Group: B	Bottle Type: MI-FW-QLDC	PJ-2L	# of Bottles: 4	Preservative:	Formalin	Enter Number of Bottles Sent to Lab	5
Group: C	Bottle Type: W-CL-IC W-F W-SO4-IC	P-250ML	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab	1
Group: C	Bottle Type: W-E8321-DI W-E8321-MS	BG-500ML	# of Bottles: 1	Preservative:	ICE	Enter Number of Bottles Sent to Lab	1
Group: C	Bottle Type: W-ICP W-ICPMS	P-500ML	# of Bottles: 1	Preservative:	HNO3	Enter Number of Bottles Sent to Lab	1
Group: C	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: C	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: W-PSNP-TQ	BG-1L	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab	2