

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

SAMPLE ID Black Creek ORG ID 21 FLWQSP LATITUDE 30.32555 N
COUNTY Leon STORET # 22020063 LONGITUDE -84.69391 W
DATE 5.9.17 TIME 0936 SAMPLING AGENCY FAEP/Biology
SITE NAME Black Creek @ 375
FIELD ID/NAME BK375Ref RECEIVING BODY OF WATER Ochlocknee River

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural <u>100</u> Silviculture <u>0</u> Field/Pasture <u>0</u> Agricultural <u>0</u> Residential <u>0</u> Commercial <u>0</u> Industry <u>0</u> Other (Specify) <u>0</u>								Landscape Development Intensity Index (LDI) <u>0</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>3</u> m wide <u>.33</u> m/s <u>.33</u> m/s <u>.33</u> m/s <u>.3</u> m deep <u>.3</u> m deep <u>.3</u> m deep			
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>219</u> Right Bank: <u>218</u>				Hydrologic Modification Score (per FT 3101) <u>1-2</u>					
High Water Mark: <u>1m</u> + <u>.3m</u> = <u>1.3</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>3</u> <u>###</u> Undercut Banks / Roots <u>1</u> <u>###</u> Leaf Packs or Mat <u>2</u> <u>###</u> Aquatic Vegetation <u>0</u> <u>###</u> Rock or Shell Rubble <u>.1</u> <u>1</u> Sand <u>0</u> <u>###</u> Mud / Muck / Silt <u>0</u> <u>###</u> Other <u>0</u> <u>###</u> Other <u>0</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>0.1</u> <u>17.4</u> <u>4.48</u> <u>8.57</u> <u>89.2</u> <u>35.3</u> <u>0.3</u> Mid: <u>0</u> <u>0</u> <u>0</u> <u>0</u> <u>0</u> <u>0</u> <u>0</u> Bottom: <u>0</u> <u>0</u> <u>0</u> <u>0</u> <u>0</u> <u>0</u> <u>0</u> Meter ID: <u>0.3</u> Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐ Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: <u>7093010</u> Exp: <u>0</u> Algae Sample Taken? ☐ Yes ☒ No Sample Preserved? ☐ Yes ☒ No Lot Number: <u>0</u> Exp: <u>0</u> Water Surface Oils Normal ☒ Sheen ☐ Globs ☐ Slick ☐ Other ☐ Color Tannic ☒ Green (Algae) ☐ Clear ☐ Other (Specify) ☐ 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

Blake Spencer, Lisa Homann, Jade Buttrick, Amelia Rankin

SIGNATURE:

[Signature]

DATE:

5/9/17

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

SAMPLING AGENCY: <i>FOEP/Biology</i>		STORET STATION NUMBER: <i>22020063</i>	DATE (MM/DD/YY): <i>5/9/17</i>	RECEIVING BODY OF WATER: <i>Ochlocknee</i>
REMARKS:	COUNTY: <i>Leon</i>	LOCATION: <i>Black Creek @ 375</i>	FIELD ID/NAME: <i>BLK375Ref</i>	

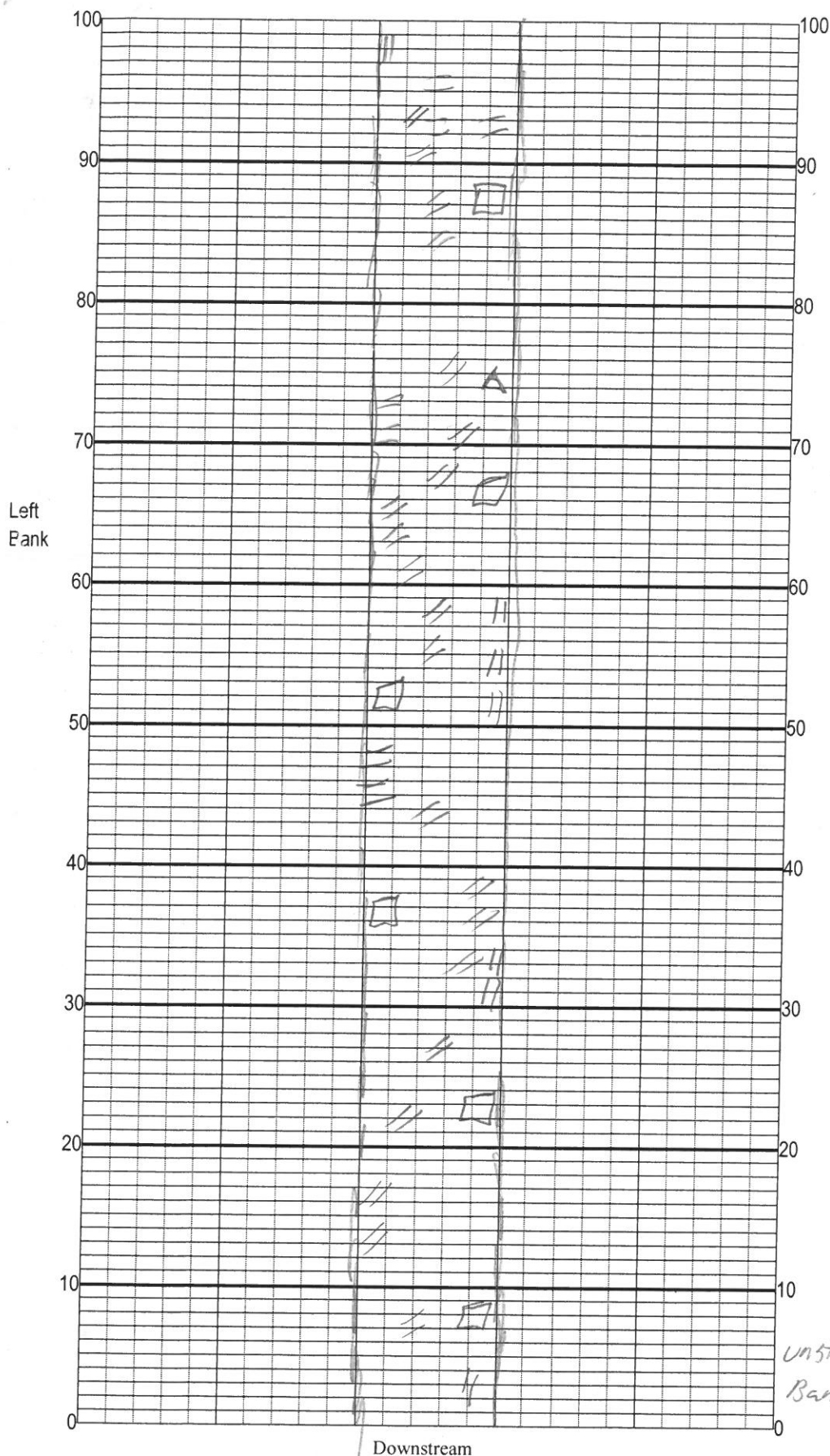
Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components	Four or more major productive habitats present (snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock)	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh 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 <i>13</i>	20 19 18 17 16	15 14 <i>13</i> 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability <i>6</i>	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 <i>6</i>	Less than 5% major productive habitat 5 4 3 2 1
Water Velocity <i>20</i>	Max. observed at typical transect: > 0.25 m/sec. But < 1 m/sec ≥0.33 0.31 0.29 0.27 >0.25 <i>20</i> 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 <i>16</i> ----- Primary Score <i>55</i>	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 <i>16</i>	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 <i>20</i>	Expected sinuosity given the stream width. No evidence of dredging or artificial straightening. No spoil banks. <i>20</i> 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 <i>4</i> Left Bank <i>4</i>	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 <i>4</i>	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 <i>10</i> Left Bank <i>10</i>	Width of vegetation greater than 18 m <i>10</i> 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 <i>10</i> Left Bank <i>10</i> ----- Secondary Score <i>68</i>	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. <i>10</i> 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

123

TOTAL SCORE

Date: <i>5/9/17</i>	Analyst: <i>Blake Spencer</i>	Signature: <i>[Signature]</i>
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DEP Form FD 9000-4 Stream/River Habitat Assessment Sketch Sheet



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

Location: Black Creek @ 375
Date: 5/9/17
Sampler: Blake Spencer

100 m: Latitude _____
Longitude _____

0 m: Latitude _____
Longitude _____

Substrates: Code key, draw proportionate habitat abundance. %

	Snags	<u>3</u>
	Roots/undercut banks	<u>1</u>
	Leaf Packs (or mats)	<u>2</u>
	Aquatic Macrophytes	<u>0</u>
	_____	<u>.1</u>
	_____	_____
	Pools	total # observed = <u>6</u> # range expected = _____

Average width 3 m
Average depth .3 m

Velocity measured at 20 meter mark.

WQ & chemistry taken at 20 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:

unstable
Banks

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>Black Creek @ 375</u>					County: <u>Leon</u>		Date: <u>5/9/17</u>		Investigators: <u>Blake Spencer & Lisa Homann</u>	
STORET Station Number:										

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			60	1	N			
	2					2				
	3					3				
	4					4				
	5			94		5			94	
	6					6				
	7					7				
	8					8				
	9					9				
10	1	N			70	1	N			
	2					2				
	3					3				
	4					4				
	5			94		5			92	
	6					6				
	7					7				
	8					8				
	9					9				
20	1	N			80	1	N			
	2					2				
	3					3				
	4					4				
	5			93		5			94	
	6					6				
	7					7				
	8					8				
	9					9				
30	1	N			90	1	N			
	2					2				
	3					3				
	4					4				
	5			93		5			92	
	6					6				
	7					7				
	8					8				
	9					9				
40	1	N			100	1	N			
	2					2				
	3					3				
	4					4				
	5			92		5			94	
	6					6				
	7					7				
	8					8				
	9					9				
50	1	N				1	N			
	2					2				
	3					3				
	4					4				
	5			90		5				
	6					6				
	7					7				
	8					8				
	9					9				

VOR

Secchi depth	13
Estimated?	
# 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	✓
Habitat Assessment	✓
SCI/Biorecon	✓
Water sample	✓
RQ- 2017-05-08-51	

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 9000-32: LINEAR VEGETATION SURVEY FIELD SHEET

Waterbody: <i>Black Creek @ 375</i>	Date: <i>6/9/17</i>	County: <i>Leon</i>	Storet Number: <i>22020063</i>
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Analyst: Blake Spencer Signature: Blake Spencer

Comments:

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.

[illegible]

62-160,800, F.A.C.

SITE NAME: Black Creek @ 375 DATE: 5/9/17 TIME 0935 EST CST DEPTH: 1 ft m FIELD ID: _____
 (military)

SAMPLING TEAM MEMBERS	WQ MEASUREMENTS	DOCUMENTATION	SAMPLE COLLECTION	PRESERVATION	PRESERVATION CHECK
Amelia Rankin			X		
Jade Burtchett			X		
Lisa Hermann			X		
Blake Spencer	X	X	X	X	X

SAMPLING EQUIPMENT	
☒ Sample Container	☐ Tubing type: _____
☐ Pole	☐ Other: _____
☐ Pump ID#: _____	☐ Other: _____
WATER QUALITY MEASUREMENTS	
Instrument ID: <u>VSI-1483</u>	
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 ☒ NOx ☒ NH3 ☒ TOC ☐ Total N ☐ Other: _____	SW	☒ Ice ☒ H ₂ SO ₄	7093010	☒ <2	1
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: _____	SW	☒ Ice			1
Chlorophyll	☒ CHL-PPTN-W	SW	☒ Ice			1
BOD	☐ BOD-INHB ☐ BOD-UNIN	W	☐ Ice			
Microbiology	MF: ☐ E coli ☐ T Coli ☐ F Coli ☐ Enteroc ☐ F Strep	W	☐ Ice			
Macroinvertebrates	☒ MI-FW-QLDC ☐ MI-FW-QLBR ☐ MI-FW-QNNC ☐ MI-MN-QNNC	SW	☒ Formalin			3
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	SW	☒ HNO ₃	6302040	☒ <2	1
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				
Base/Neutral / Acid Extractable	☐ W-BNA ☐ W-AE ☐ W-BN ☐ W-PAH ☐ W-FL-PRO ☐ W ☐ Other: _____	W	☐ Ice			
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-CARB	W	☐ Ice			
Purgeables	☐ W-VOC-MS ☐ W-VOC-MS-A	W	☐ Ice ☐ HCl			
Bioassay <u>Sucrose</u>	Specify Test: <u>W-SUC-AA-R</u> <u>W-UHERB-A</u> <u>W-AHERB-AA</u>	SW	☒ Ice			1
OTHER <u>PCR-HF-183</u>		SW	☒ Other: <u>Ice</u>			2

Notes: _____

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

^Enter "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)