

74779
FDEP FORM FD 9000-3: PHYSICAL/CHEMICAL CHARACTERIZATION FIELD SHEET

SAMPLE ID CALHOUN ORG ID 21 FLWQSP LATITUDE 30°33'4.21" N
 COUNTY Jackson AD STORET # 31020012 LONGITUDE 85°10'17.00" W
 DATE 8/19/15 TIME 1220 PM SAMPLING AGENCY FDEP
 SITE NAME CHIPOLA RIVER
 FIELD ID/NAME CHIPOREF 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)

Local Watershed Erosion (select one): ☐ None ☒ Slight ☐ Moderate ☐ Heavy
Local Watershed NPS Pollution: ☐ No evidence ☒ Slight ☐ Moderate ☐ Heavy

Width of Riparian Vegetation (m) on Each Buffer Side
 Left Bank: >18m Right Bank: 718m

Hydrologic Modification Score (per FT 3101) _____

High Water Mark: 0.5 + 1.5 = 2.0
 (m) (above present water level) (present depth) (above bed)

Artificially Impounded: ☐ Yes ☒ No

Artificially: ☒ No ☐ Some recovery ☐ Mostly recovered, more sinuous ☐ Recent, severe

Channelized: ☐ Some recovery ☐ Recent, severe

Canopy Cover %: ☒ Open ☐ Lightly Shaded (11-45%)
☐ Heavily Shaded ☐ Moderate Shaded (46-80%)

Landscape Development Intensity Index (LDI): 1.82

Typical Width (m) Depth (m)/Velocity (m/sec) Transect

Width	Depth	Velocity
<u>~50</u> m wide		
<u>7.33</u> m/s	<u>>33</u> m/s	<u>2.33</u> m/s
<u>1.3</u> m deep	<u>1.5</u> m deep	<u>1.0</u> m deep

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 Sampled # Times Sampled

Woody Debris (Snags) 20.5 4 swamp
 Undercut Banks / Roots 20.5 4
 Leaf Packs or Mat
 Aquatic Vegetation 150 4
 Rock or Shell Rubble.. 80 4
 Sand..... 5 4
 Mud / Muck / Silt
 Other
 Other

730% coverage/availability

ABUNDANCE

Not Obs. Rare Common Abundant

Periphyton: ☐ ☐ ☐ ☒
 Fish: ☐ ☐ ☒ ☐
 Aquatic Plants: ☐ ☐ ☐ ☒
 Iron/Sulfur Bacteria: ☒ ☐ ☐ ☐

WATER QUALITY

Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)
Top: <u>0.1m</u>	<u>24.71</u>	<u>7.79</u>	<u>8.13</u>	<u>98.0</u>	<u>231</u>	<u>.11</u>	<u>1m</u>
Mid: <u>0.5</u>	<u>24.72</u>	<u>7.86</u>	<u>8.13</u>	<u>97.9</u>	<u>230</u>	<u>.11</u>	☒ VOB
Bottom: <u>1m</u>	<u>24.72</u>	<u>7.89</u>	<u>8.15</u>	<u>98.2</u>	<u>230</u>	<u>.11</u>	<u>1m</u>

Meter ID: #7

Water Odors Normal ☒ Petroleum ☐
 Sewage ☐ Chemical ☐ Other ☐

Water Sample Taken? ☒ Yes ☐ No
 Sample Preserved? ☒ Yes ☐ No
 Lot Number: 5113230 Exp: 4/23/16

Algae Sample Taken? ☐ Yes ☒ No
 Sample Preserved? ☐ Yes ☐ No
 Lot Number: _____ Exp: _____

System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) ☐

AMBIENT FIELD CONDITIONS / NOTES:

cloud cover, 80s temp, light shower
 swift flow 7.33 m/s
 D.O. & COND J qualified
☒ The antecedent hydrologic conditions have been met to my best knowledge.

SAMPLING TEAM

Jackson, Olney, O'Neal

SIGNATURE: Ashley Olney

DATE: 8/19/15

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

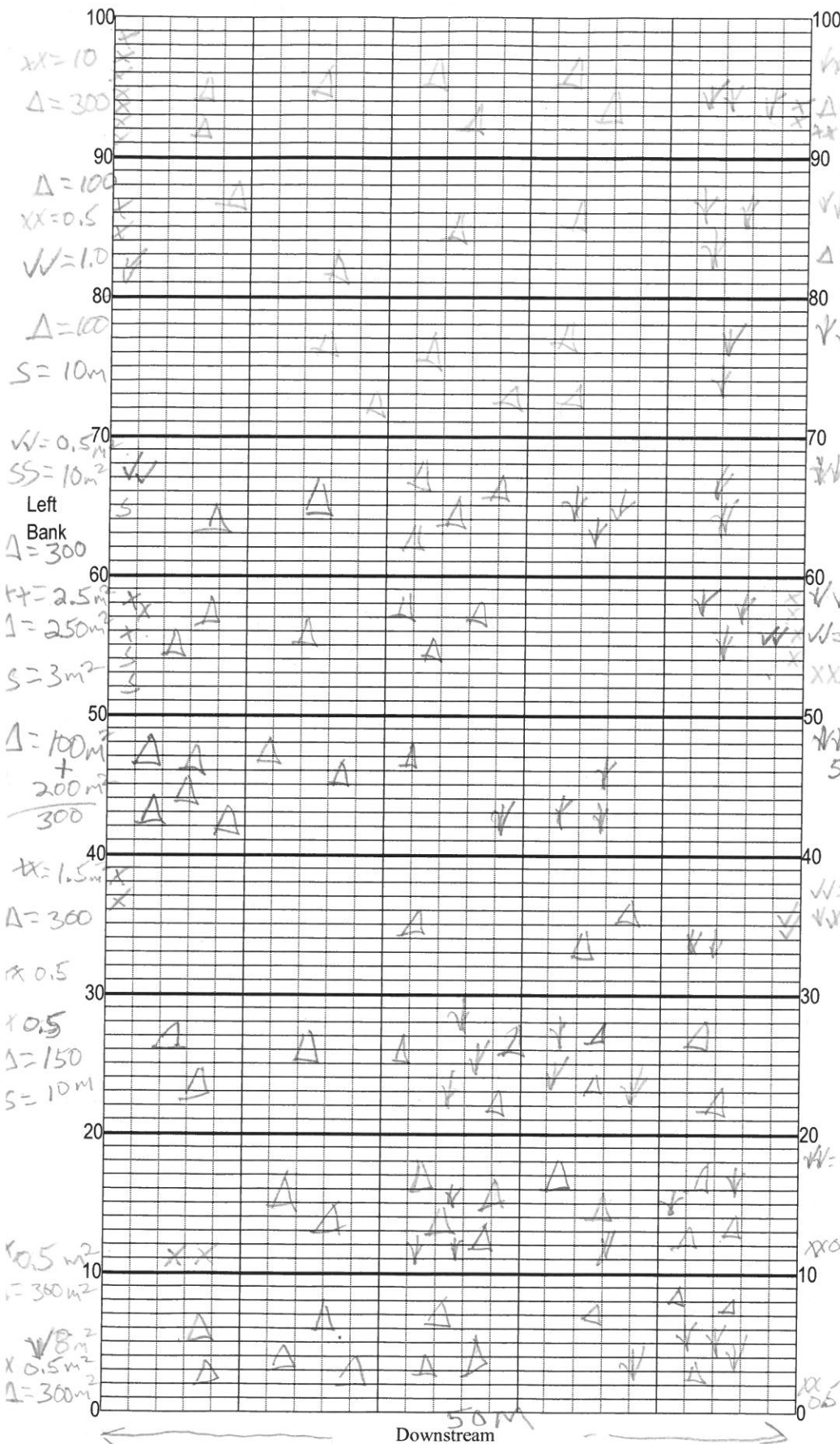
SAMPLING AGENCY: <u>FDEP</u>		STORET STATION NUMBER: <u>310 20012</u>	DATE (MM/DD/YY): <u>8/19/15</u>	RECEIVING BODY OF WATER:
REMARKS: <u>cloud cover light shower 80s</u>	COUNTY: <u>AL CALHOUN</u>	LOCATION: <u>CHIPOLA RIVER</u>	FIELD ID/NAME: <u>CHIPOREF</u>	

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>18</u>	20 19 <u>18</u> 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability <u>20</u>	Greater than 30% major productive habitat present at site 20 19 <u>18</u> 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 20 19 <u>18</u> 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>17</u> Primary Score <u>77</u> <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 18 <u>17</u> 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>20</u>	Expected sinuosity given the stream width. No evidence of dredging or artificial straightening. No spoil banks. 20 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>9</u> Left Bank <u>10</u> Secondary Score <u>79</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

154 TOTAL SCORE

Date: <u>8/19/15</u>	Analyst: <u>L.O./JJ./AO</u>	Signature: <u>[Signature]</u>
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DEP Form FD 9000-4 Stream/Run Habitat Assessment Sketch Sheet



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

Location: CHIPOREF
Date: 8/19/15
Sampler: LO, TJ, AO

100 m: Latitude 30° 33' 4.2" N
Longitude 85° 10' 17.0" W
0 m: Latitude _____
Longitude _____

Substrates: Code key, draw proportionate habitat abundance.		%
☒ VV	Snags	< 0.5
☒ XX	Roots/undercut banks	> 0.5
☒ S	SAND	20
☒ V	Leaf Packs (or mats)	20
☒ Δ	Aquatic Macrophytes	20
☒ ▽	Rock	50
☒ □	Pools	total # observed = _____ # range expected = _____

Average width 50 m
Average depth 1.5 m

Velocity measured at 5.33m/s meter mark.

WQ & chemistry taken at 100 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:

xx=0.5
Snag = 1111
Root 1111
Aq mac 1111
Rock 1111
SAND = 1111

DEP FORM FD 9000-25 Rapid Phyton Survey Field Sheet										
Site: CH1 POREF					County: JACKSON		Date: 8/19/15		Investigators: JJ, AO, LO	
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: 31020012
0	1	N			60	1	X			
	2	A0 X 10				2	X			
	3	Z				3	X			
	4	Z				4	N			
	5	Z		0		5	N		0	
	6	Z				6	4			
	7	X				7	2			
	8	X				8	4			
	9	X				9	N			
10	1	6mm			70	1	5			
	2	6mm				2	6			
	3	6mm				3	6			
	4	6mm				4	3			
	5	6mm		0		5	6		0	
	6	X				6	3			
	7	X				7	4			
	8	X				8	6			
	9	X				9	6			
20	1	6mm			80	1	5			
	2	6mm				2	X			
	3	6mm				3	X			
	4	6mm				4	X			
	5	6mm		0		5	X		0	
	6	X				6	X			
	7	X				7	X			
	8	X				8	6			
	9	X				9	N			
30	1	6mm	EV		90	1	5			
	2	6mm				2	6			
	3	6mm				3	X			
	4	6mm				4	X			
	5	6mm		0		5	X		0	
	6	X				6	X			
	7	X				7	X			
	8	X				8	X			
	9	X				9	N			
40	1	6mm			100	1	6			
	2	6mm				2	N			
	3	6mm				3	Z			
	4	6mm				4	X			
	5	6mm		0		5	X		0	
	6	X				6	X			
	7	X				7	X			
	8	X				8	X			
	9	X				9	N			
50	1	6mm			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 densimeter 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	6mm								
	3	6mm								
	4	6mm								
	5	6mm		0						
	6	X								
	7	X								
	8	X								
	9	X								

Secchi depth	V03
Estimated?	

# points ranked 4-6	34
total points assessed	77
% points ranked 4-6	44

Check accompanying data collected at same site/date.
 Algal mat sample ☒
 Linear Veg Survey ☒
 Habitat Assessment ☒
 SC/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

>20 = HHT HHT HHT HHT
HHT HHT HHT

99
-22
77

34 / 77 =
72%
algae w/
sample collected

ATION SURVE EL
CALHOUN A0

Waterbody: Chipola River

Date: 8/19/5

County: ~~Tackson~~ Co

Storet Number: 31620012

Analyst: J. Jackson, L Olney, A O'Neal

Signature: Ashla Oned

Comments: velocity 7.33, high % of veg in 100m reach, all shallowness

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.

HERBACEOUS SPECIES	Meter Mark										Specimen collected (check)	HERBACEOUS SPECIES	Meter Mark										Specimen collected (check)
	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100			0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	
Alternanthera philoxeroides												Micranthemum glomeratum											
Bacopa caroliniana												Micranthemum umbrosum											
Bacopa monnieri												Myriophyllum aquaticum											
Bidens mitis												Najas guadelupensis											
Boehmeria cylindrica												Nuphar luteum											
Centella asiatica												Orontium aquaticum											
Ceratophyllum demersum												Panicum hemitomon											
Chara												Panicum repens											
Cicuta maculata												Panicum rigidulum											
Cladium jamaicense												Pistia stratioides											
Colocasia esculenta												Polygonum glabra											
Commelina diffusa												Polygonum hydropiperoides											
Commelina virginica												Polygonum punctatum											
Crinum americanum												Pontedaria cordata											
Diodia virginiana												Potamogeton illinoensis											
Eichhornia crassipes												Ruellia simplex											
Eleocharis (wispy viviparous)												Sacciolepis striata											
Hydrilla verticillata												Sagittaria kurziana											
Hydrocotyle												Sagittaria lancifolia											
Hygrophila polysperma												Sagittaria latifolia											
Hymenocallis												Salvinia minima											
Lachnanthes caroliniana												Samolus parviflora											
Landoltia punctata												Saururus cernuus											
Lemna												Sparganium americanum											
Limnophila sessiflora												Typha											
Ludwigia leptocarpa												Vallisneria americana											
Ludwigia palustris												Zizania aquatica											
Ludwigia peruviana																							
Ludwigia repens																							
Luziola fluitans																							

SITE NAME: CHIPOLCA DATE: 8/19/15 TIME 1220 EST CST DEPTH: 1 ft m FIELD ID: CHIPOREF
 (military)

SAMPLING TEAM MEMBERS	WQ MEASUREMENTS	DOCUMENTATION	SAMPLE COLLECTION	PRESERVATION	PRESERVATION CHECK
Larry Olney			X	X	X
Ashley O'Neal	X	X			

SAMPLING EQUIPMENT	
☒ Sample Container	☐ Tubing type: _____
☐ Pole	☐ Other: _____
☐ Pump ID#: _____	☐ Other: _____
WATER QUALITY MEASUREMENTS	
Instrument ID: <u>VSI # 7</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 ☒ NO _x ☒ NH ₃ ☒ TOC ☐ Total N ☐ Other: _____	S W	☒ Ice ☐ H ₂ SO ₄	5113230	☒ <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: _____	S W	☒ Ice			1
Chlorophyll	☒ CHL-PPTN-W	S W	☒ Ice			1
BOD	☐ BOD-INHB ☐ BOD-UNIN	W	☐ Ice			
Microbiology	MF: ☒ E coli ☐ T Coli ☒ F Coli ☐ Enteroc ☐ F Strep	S W	☒ Ice			2
Macroinvertebrates	☒ MI-FW-QLDC ☐ MI-FW-QLBR ☐ MI-FW-QNNC ☐ MI-MN-QNNC	S W	☒ Formalin			2
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-CARB	W	☐ Ice ☐ H ₂ SO ₄ ☐ Ice ☐ MCAA			
Purgeables	☐ W-VOC-MS ☐ W-VOC-MS-A	W	☐ Ice ☐ HCl			
Bioassay	Specify Test: _____	W	☐ Ice			
OTHER	<u>SUCRALOSE W-SUC-AA-R</u>	S W	☒ Other: <u>Ice</u>			1

 Notes: → cloud cover, light shower while sampling temp. 80s
→ H₂SO₄ Exp 4/23/16
→ velocity > .33, swift

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)