

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

SAMPLE ID 79875 ORG ID 21FLWG 6P LATITUDE 30.12828
COUNTY Taylor STORET # TAY15 ROC01 LONGITUDE -83.64534
DATE 5/2/19 TIME 1350 SAMPLING AGENCY DEP A6QAS
SITE NAME Rocky Creek
FIELD ID/NAME ROCKY WDS RD RECEIVING BODY OF WATER Fenholoway River

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>1.9</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 <u>0.16</u> m/s <u>0.2</u> m/s <u>0.2</u> m/s <u>1</u> m deep <u>1</u> m deep <u>1</u> m deep		
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>0.5</u> + <u>1</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 <table border="1"> <thead> <tr> <th></th> <th>Depth (M)</th> <th>Temp. (°C)</th> <th>pH (SU)</th> <th>D.O. (MG/L)</th> <th>D.O. Sat (%)</th> <th>Cond. (UMHO/CM)</th> <th>Salinity (PPT)</th> <th>SECCHI (M)</th> </tr> </thead> <tbody> <tr> <td>Top:</td> <td><u>0.2</u></td> <td><u>21.1</u></td> <td><u>7.3</u></td> <td><u>5.73</u></td> <td><u>64</u></td> <td><u>404</u></td> <td></td> <td></td> </tr> <tr> <td>Mid:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>☒ VOB</td> </tr> <tr> <td>Bottom:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>							Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)	Top:	<u>0.2</u>	<u>21.1</u>	<u>7.3</u>	<u>5.73</u>	<u>64</u>	<u>404</u>			Mid:								☒ VOB	Bottom:								
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Mid:								☒ VOB																																				
Bottom:																																												
Woody Debris (Snags) <u>2</u> Undercut Banks / Roots <u>0.5</u> Leaf Packs or Mat <u>22</u> Aquatic Vegetation <u>22</u> Rock or Shell Rubble <u>22</u> Sand <u>22</u> Mud / Muck / Silt <u>22</u> Other <u>22</u> Other <u>22</u>			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>8/13/19</u>			Color Tannic ☒ Green (Algae) ☐ Clear ☐ Other (Specify) ☐																																						
			Algae Sample Taken? ☐ Yes ☒ No Sample Preserved? ☐ Yes ☐ No Lot Number: <u>101246</u> Exp: <u>8/13/19</u>			Clarity Clear ☐ Slightly Turbid ☒ Turbid ☐ Opaque ☐																																						
ABUNDANCE <table border="1"> <thead> <tr> <th></th> <th>Not Obs.</th> <th>Rare</th> <th>Common</th> <th>Abundant</th> </tr> </thead> <tbody> <tr> <td>Periphyton:</td> <td>☒</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>Fish:</td> <td>☐</td> <td>☐</td> <td>☒</td> <td>☐</td> </tr> <tr> <td>Aquatic Plants:</td> <td>☐</td> <td>☒</td> <td>☐</td> <td>☐</td> </tr> <tr> <td>Iron/Sulfur Bacteria:</td> <td>☒</td> <td>☐</td> <td>☐</td> <td>☐</td> </tr> </tbody> </table>				Not Obs.	Rare	Common	Abundant	Periphyton:	☒	☐	☐	☐	Fish:	☐	☐	☒	☐	Aquatic Plants:	☐	☒	☐	☐	Iron/Sulfur Bacteria:	☒	☐	☐	☐	System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☐																
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AMBIENT FIELD CONDITIONS / NOTES: ☒ The antecedent hydrologic conditions have been met to my best knowledge.																																												
SAMPLING TEAM <u>SP, SP, NW, Sarah Dragon</u>			SIGNATURE: <u>[Signature]</u>			DATE: <u>5/2/19</u>																																						

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

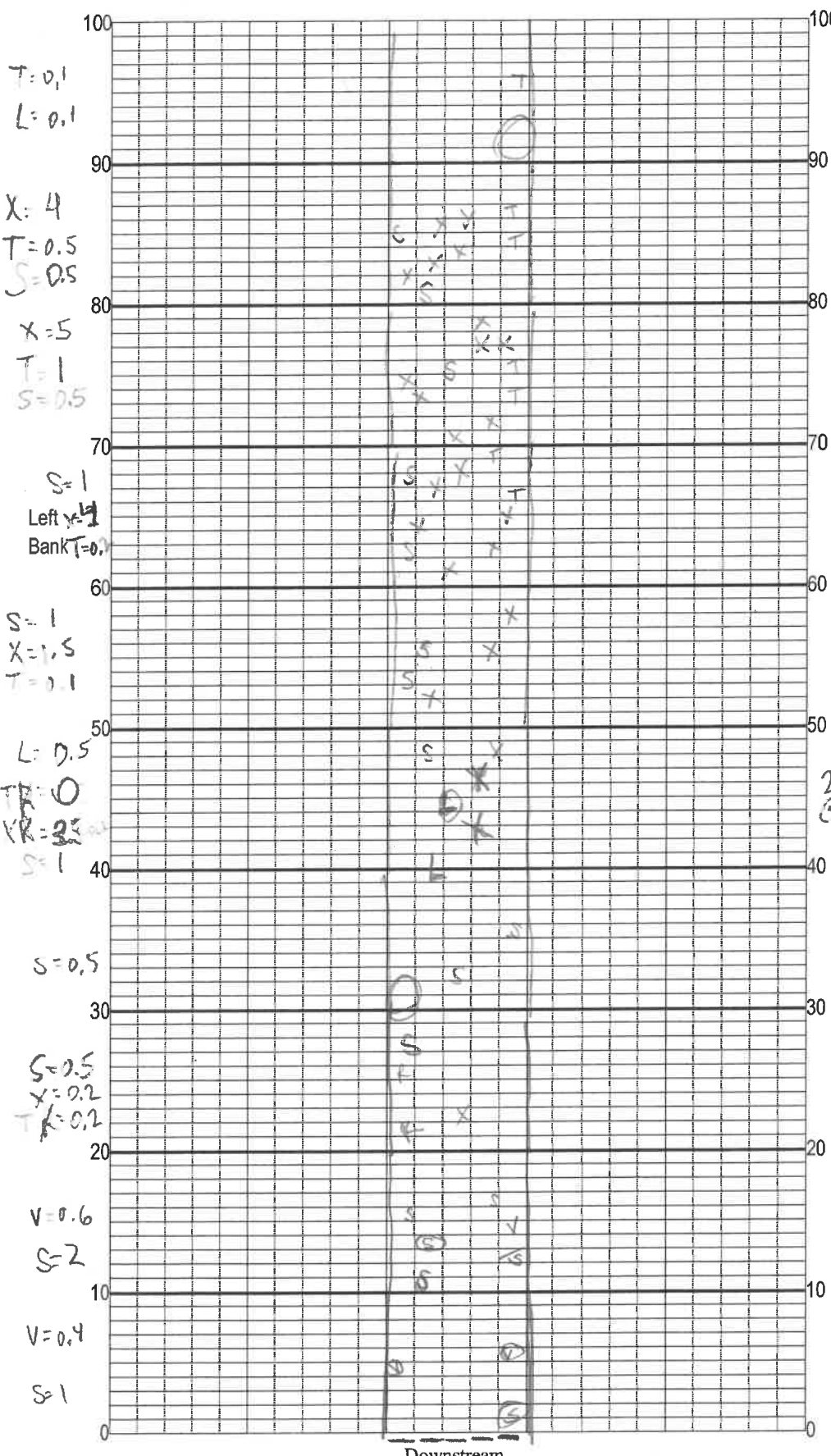
SAMPLING AGENCY: DEP AEDAS		STORET STATION NUMBER:	DATE (MM/DD/YY): 5/2/19	RECEIVING BODY OF WATER: Fenholloway R.
REMARKS:	COUNTY: Taylor	LOCATION: Rocky Creek		FIELD ID/NAME: ROCKYWD5RD

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 14	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability 13	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 3 2 1
Water Velocity 14	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 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 16 Primary Score 51	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 2 1
Secondary Habitat Components	Expected sinuosity given the stream width. No evidence of dredging or artificial straightening. No spoil banks.	Good sinuosity within old channelized area. Evidence of dredging in the past (>25 yrs) but mostly recovered.	Straightened with trapezoidal cross section, but has a small degree of sinuosity developed within channelized area.	Straightened or engineered by dredging, has trapezoidal or box cut cross section, lacks required pools. May have spoil banks.
Artificial Channelization 14	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Bank Stability	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.	Only meets 2 of the 3 requirements for optimal bank stability.	Only meets 1 of the 3 requirements for optimal bank stability.	Bankfull < 60% of bank height. Slope of bank > 60°. Bankfull is below the root zone with raw, eroded areas.
Right Bank 1 Left Bank 10	10 9	8 7 6	5 4	3 2 1
Riparian Buffer Zone Width	Width of vegetation greater than 18 m	Width of vegetation >12 to 18m	Width of vegetation 6 to 12 m. human activities close to system	Less than 6 m of buffer zone due to intensive human activities
Right Bank 10 Left Bank 10	10 9	8 7 6	5 4	3 2 1
Riparian Zone Vegetation Quality	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.	>50% to 80% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Some disruption in community observed.	25% to 50% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Disruption obvious.	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions).
Right Bank 10 Left Bank 9 Secondary Score 70	10 9	8 7 6	5 4	3 2 1

TOTAL SCORE

Date: 5/2/2019	Analyst: S. Noble	Signature: <i>[Signature]</i>
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DEP Form FD 9000-4 Stream/River Habitat Assessment Sketch Sheet



Location: Rocky Creek
 Date: 5/2/19
 Sampler: SP, JP, NW, RD

100 m: Latitude _____
 Longitude _____
 0 m: Latitude _____
 Longitude _____

Substrates: Code key, draw proportionate habitat abundance. %

☒ S	Snags 8/500	1.6
☒ T	Roots/undercut banks 2.1/500	0.4
☐	Leaf Packs (or mats)	
☒ V	Aquatic Macrophytes ^{M. non}	1 m ²
☒ X	Rock 18.2/500	3.6
☐	+ Rock	3.4
☐	Pools	
		total # observed = _____
		# range expected = _____

Average width 5 m
 Average depth 0.7 m

Velocity measured at 20 meter mark.

WQ & chemistry taken at 10 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:
 Secchi 0.7 VOB

Bank S. = 10, 9
 width 5m
 sweeps:
 5 - Rock
 2 - Snag
 2 - Root
 Minor leaf
 - Vfg < 2m²

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

* Velocity ① 0.6 ② 0.5 ③ 0.5 Sec
 0.16 0.2 0.2

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>Rodney Creek</u>					County: <u>Taylor</u>		Date: <u>5/21/19</u>		Investigators: <u>JP, SP</u>		
Transect (m)					Transect (m)					STORET Station Number: <u>TAY15 ROC01</u>	
Point 1=right 9=left					Point 1=right 9=left						
Algal Thickness Rank (N-6, X)					Algal Thickness Rank (N-6, X)						
Estimated					Estimated						
Canopy Cover					Canopy Cover						

0	1	N			60	1	N		
	2	N				2	N		
	3	N				3	N		
	4	X				4	X		
	5	X		82 VOB		5	X		96
	6	X				6	X		
	7	X				7	X		
	8	X				8	N		0.6m deep
	9	N				9	N		
10	1	N			70	1	N		
	2	N				2	N		
	3	N				3	N		
	4	X		82 VOB		4	N		
	5	X				5	N		96
	6	X				6	N		
	7	X				7	N	✓	2.4m deep
	8	X				8	N		
	9	N				9	N		
20	1	N			80	1	N		
	2	N				2	N		
	3	N				3	N		
	4	X				4	X		
	5	X		76 VOB		5	X		96
	6	X				6	X		
	7	X				7	N		1m deep
	8	X				8	N		
	9	N				9	N		
30	1	N			90	1	N		
	2	N				2	X		
	3	N				3	X		
	4	X				4	X		
	5	X		75		5	X		96
	6	X				6	X		
	7	X				7	X		
	8	X				8	X		1m deep
	9	N				9	N		
40	1	X			100	1	X		
	2	X				2	X		
	3	X				3	X		
	4	X				4	X		
	5	X		96		5	X		96
	6	N	✓			6	X		
	7	N	✓			7	X		
	8	N	✓			8	N		1.1m deep
	9	N	✓			9	N		
50	1	X				1	X		
	2	X				2	X		
	3	X				3	X		
	4	X				4	X		
	5	X		90		5	X		
	6	N	✓	VOB		6	X		
	7	N	✓			7	X		
	8	N	✓			8	N		
	9	N	✓			9	N		

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	
Estimated?	17' VOB

# points ranked 4-6	0
total points assessed	44
% 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-	

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>Rocky Creek</u>	Date: <u>5/3/19</u>	County: <u>Taylor</u>	Storet Number: <u>TAY15R001</u>
Analyst: <u>Samir Noble</u>	Signature: <u>Samir Noble</u>		
Comments: <u>L2 M2 Vegetation</u>			

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	
Altemanthera philoxeroides												Micranthemum glomeratum											
Bacopa caroliniana												Micranthemum umbrosum											
Bacopa monneri												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											
Ischnanthes caroliniana												Samolus parviflora											
Landoltia punctata												Saururus cernuus											
Lychnis												Sparganium americanum											
Lychnophila sessiflora												Typha											
Lythrum leptocarpa												Vallisneria americana											
Lythrum palustris												Zizania aquatica											
Lythrum peruviana																							
Lythrum repens																							
Lythrum fluitans																							

SITE NAME: Rocky Creek DATE: 5/2/19 TIME: 1350 EST CST DEPTH: 0.1 ft FIELD ID: _____
 (military)

SAMPLING TEAM MEMBERS	WQ MEASUREMENTS	DOCUMENTATION	SAMPLE COLLECTION	PRESERVATION	PRESERVATION CHECK
Sarah Noble			✓		
Jessica Patronis		✓			
Rachel Dragon (training)					
Nia Wellendorf	✓			✓	✓

SAMPLING EQUIPMENT	
☒ Sample Container	☐ Tubing type: _____
☐ Pole	☐ Other _____
☐ Pump ID#: _____	☐ Other _____
WATER QUALITY MEASUREMENTS	
Instrument ID: <u>154185</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	101232	☒ <2	1
Filtered Nutrients	☒ OP ☐ Other: _____	SW	☒ Ice ☒ 0.45 um Filter	exp 10/13/19		
Unpreserved Nutrients	☐ NO ₂ ☐ NO ₃ ☐ SO ₄ ☐ Other: _____	W	☐ Ice			
Physical/Aggregate Properties	☒ TDS ☒ TSS ☐ TS ☒ Turbidity ☒ Alk ☒ Color ☒ Other: <u>chl, F, SDy</u>	SW	☒ Ice			1
Chlorophyll	☒ CHL-PPTN-W	SW	☒ Ice			1
BOD	☐ BOD-INHB ☐ BOD-UNIN	W	☐ Ice			
Microbiology <i>quantifrag</i>	☒ MF: ☒ E coli ☐ T Coli ☐ F Coli ☐ Entero ☐ F Strep	SW	☐ Ice			2
Macroinvertebrates	☒ MI-FW-QLDC ☐ MI-FW-QLBR ☐ MI-FW-QNNC ☐ MI-MN-QNNC	SW	☒ 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	SW	☒ HNO ₃ <u>ice</u>	101246	☒ <2	1
Filtered Metals	☐ W-ICP-F ☐ W-FIAS-F ☐ W-ICPMS-F ☐ W-ICP-Tr-F	W	☐ HNO ₃ ☐ 0.45 um Filter	8/20/19	☐ <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 ☐ 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 ☐ HCl			
Bioassay	Specify Test: _____	W	☐ Ice			
OTHER	<u>W-E8321-D1 W-E8321-MS</u> <u>W-PSNP-TQ</u>	SW	☒ Other: <u>ice</u>			1
		SW	<u>ice</u>			3

 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)