

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

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SAMPLE ID 78368 ORG ID 21FLWQSP LATITUDE N 30.141057
 COUNTY Bay STORET # 32030002 LONGITUDE W - 85.407241
 DATE 5/9/2018 TIME 1515 SAMPLING AGENCY FDEP/AEQA
 SITE NAME Sandy Creek @ 22 NBID 1111
 FIELD ID/NAME Sandy 22 * Ref RECEIVING BODY OF WATER E. Bay / St. Andrew's Bay

RIPARIAN ZONE / STREAM FEATURES

RQ-2018-05-07-70

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural <u>10</u> Silviculture <u>90</u> Field/Pasture <u>1</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>1.41</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>6</u> m wide <u>0.25</u> m/s <u>0.25</u> m/s <u>0.25</u> m/s			
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: <u>>18m</u> Right Bank: <u>>18m</u>				Hydrologic Modification Score (per FT 3101) <u>2</u>			
High Water Mark: <u>0.7</u> + <u>0.3</u> = <u>1.0</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%) <u>5P</u> ☒ 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							
Invert ☐ PERI ☐ Coverage % # Times Sampled # Times Sampled			Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)
Woody Debris (Snags)			Top:							<u>0.3</u>
Undercut Banks / Roots			Mid:	<u>0.1</u>	<u>24.45</u>	<u>5.94</u>	<u>8.22</u>	<u>92.9</u>	<u>34</u>	☒ VOB
Leaf Packs or Mat			Bottom:							
Aquatic Vegetation			Meter ID:							<u>0.3</u>
Rock or Shell Rubble			Water Odors Normal ☒ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐			Water Surface Oils Normal ☒ Sheen ☐ Globbs ☐ Slick ☐ Other ☐				
Sand			Water Sample Taken? ☒ Yes ☐ No Sample Preserved? ☒ Yes ☐ No Lot Number: Exp:			Color Tannic ☐ Green (Algae) ☐ Clear ☒ Other (Specify) ☐				
Mud / Muck / Silt			Algae Sample Taken? ☐ Yes ☒ No Sample Preserved? ☐ Yes ☐ No Lot Number: Exp:			Clarity Clear ☒ Slightly Turbid ☐ Turbid ☐ Opaque ☐				
Other			System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other (Specify) ☐							
Other			AMBIENT FIELD CONDITIONS / NOTES: ☒ The antecedent hydrologic conditions have been met to my best knowledge.							

ABUNDANCE Not Obs. Rare Common Abundant
 Periphyton: ☐ ☒ ☐ ☐
 Fish: ☐ ☒ ☐ ☐
 Aquatic Plants: ☐ ☒ ☐ ☐
 Iron/Sulfur Bacteria: ☒ ☐ ☐ ☐

SAMPLING TEAM S. Panek, A. O'Neal, J. Patronis, R. Dragon **SIGNATURE:** S. Panek **DATE:** 5/9/2018

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

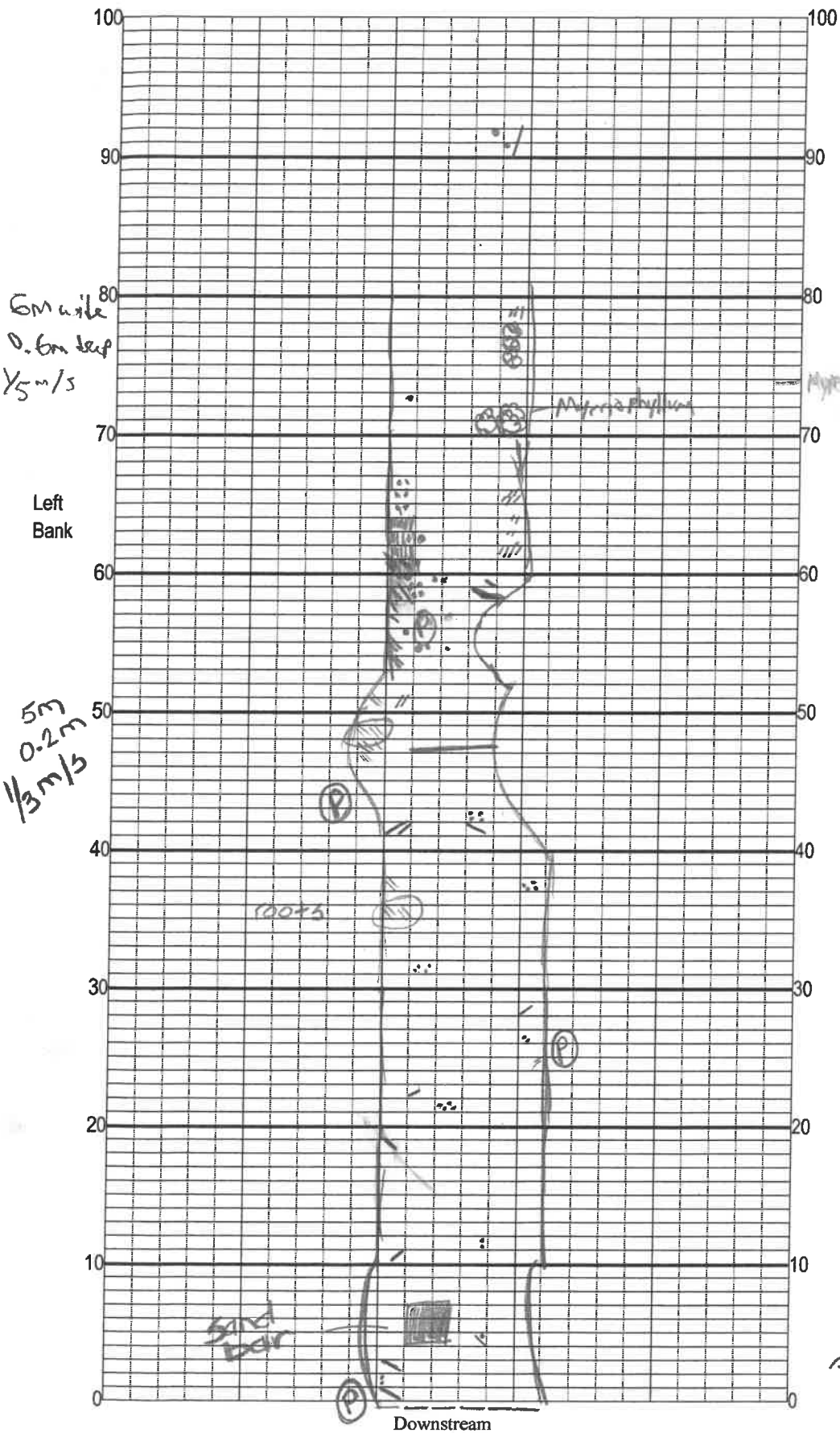
SAMPLING AGENCY: <u>FDEP, AEQA</u>		STORET STATION NUMBER: <u>32030002</u>	DATE (MM/DD/YY): <u>5/9/18</u>	RECEIVING BODY OF WATER: <u>E. Bay/St. Andrew's</u>
REMARKS:	COUNTY: <u>Bay</u>	LOCATION: <u>sandy cr.</u>	FIELD ID/NAME: <u>Sandy 22* Ref</u>	

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>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>16</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 18 17 <u>16</u>	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>16</u> Primary Score <u>46 56</u> <u>5P</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 <u>16</u>	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 <u>19</u>	20 <u>19</u> 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 <u>6</u> Left Bank <u>5</u>	10 9	8 7 <u>6</u>	<u>5</u> 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 <u>10</u> Left Bank <u>10</u>	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 <u>10</u> Left Bank <u>10</u> Secondary Score <u>70</u>	10 9	8 7 6	5 4	3 2 1

5P 46 126 TOTAL SCORE

Date: <u>5/9/2018</u>	Analyst: <u>J. Parack</u>	Signature: <u>Jarah C PL</u>
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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: Sandy Creek

Date: 5/9/2018

Sampler: S. Panek

100 m: Latitude _____

Longitude _____

0 m: Latitude _____

Longitude _____

Substrates: Code key, draw proportionate habitat abundance.	%
1. <i>Salmon</i>	10
2. <i>Salmon</i>	10
3. <i>Salmon</i>	10
4. <i>Salmon</i>	10
5. <i>Salmon</i>	10
6. <i>Salmon</i>	10
7. <i>Salmon</i>	10
8. <i>Salmon</i>	10
9. <i>Salmon</i>	10
10. <i>Salmon</i>	10
11. <i>Salmon</i>	10
12. <i>Salmon</i>	10
13. <i>Salmon</i>	10
14. <i>Salmon</i>	10
15. <i>Salmon</i>	10
16. <i>Salmon</i>	10
17. <i>Salmon</i>	10
18. <i>Salmon</i>	10
19. <i>Salmon</i>	10
20. <i>Salmon</i>	10
21. <i>Salmon</i>	10
22. <i>Salmon</i>	10
23. <i>Salmon</i>	10
24. <i>Salmon</i>	10
25. <i>Salmon</i>	10
26. <i>Salmon</i>	10
27. <i>Salmon</i>	10
28. <i>Salmon</i>	10
29. <i>Salmon</i>	10
30. <i>Salmon</i>	10
31. <i>Salmon</i>	10
32. <i>Salmon</i>	10
33. <i>Salmon</i>	10
34. <i>Salmon</i>	10
35. <i>Salmon</i>	10
36. <i>Salmon</i>	10
37. <i>Salmon</i>	10
38. <i>Salmon</i>	10
39. <i>Salmon</i>	10
40. <i>Salmon</i>	10
41. <i>Salmon</i>	10
42. <i>Salmon</i>	10
43. <i>Salmon</i>	10
44. <i>Salmon</i>	10
45. <i>Salmon</i>	10
46. <i>Salmon</i>	10
47. <i>Salmon</i>	10
48. <i>Salmon</i>	10
49. <i>Salmon</i>	10
50. <i>Salmon</i>	10
51. <i>Salmon</i>	10
52. <i>Salmon</i>	10
53. <i>Salmon</i>	10
54. <i>Salmon</i>	10
55. <i>Salmon</i>	10
56. <i>Salmon</i>	10
57. <i>Salmon</i>	10
58. <i>Salmon</i>	10
59. <i>Salmon</i>	10
60. <i>Salmon</i>	10
61. <i>Salmon</i>	10
62. <i>Salmon</i>	10
63. <i>Salmon</i>	10
64. <i>Salmon</i>	10
65. <i>Salmon</i>	10
66. <i>Salmon</i>	10
67. <i>Salmon</i>	10
68. <i>Salmon</i>	10
69. <i>Salmon</i>	10
70. <i>Salmon</i>	10
71. <i>Salmon</i>	10
72. <i>Salmon</i>	10
73. <i>Salmon</i>	10
74. <i>Salmon</i>	10
75. <i>Salmon</i>	10
76. <i>Salmon</i>	10
77. <i>Salmon</i>	10
78. <i>Salmon</i>	10
79. <i>Salmon</i>	10
80. <i>Salmon</i>	10
81. <i>Salmon</i>	10
82. <i>Salmon</i>	10
83. <i>Salmon</i>	10
84. <i>Salmon</i>	10
85. <i>Salmon</i>	10
86. <i>Salmon</i>	10
87. <i>Salmon</i>	10
88. <i>Salmon</i>	10
89. <i>Salmon</i>	10
90. <i>Salmon</i>	10
91. <i>Salmon</i>	10
92. <i>Salmon</i>	10
93. <i>Salmon</i>	10
94. <i>Salmon</i>	10
95. <i>Salmon</i>	10
96. <i>Salmon</i>	10
97. <i>Salmon</i>	10
98. <i>Salmon</i>	10
99. <i>Salmon</i>	10
100. <i>Salmon</i>	10

 Snags 3

	Roots/undercut banks	<u>2</u>
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 Leaf Packs (or mats) 2

 Aquatic Macrophytes 1

☐ 8%

total # observed = _____

range expected = _____

Average width 6 m

Average depth 0.3 m

Velocity measured at 0.50, 1.00 meter mark.

WQ & chemistry taken at 0 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:

snag 10 5 - 15 17/600
root 6 1 - 13
veg 6
leaf 5.5 5 - 10.5 11

shifty sand
6m wide
0.2 depth
0.25m/s velocity

RPS ID: 8993

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>Sandy Creek</u>					County: <u>Bay</u>		Date: <u>5/9/2018</u>		Investigators: <u>S. Panek, R. Dragon</u>	
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: <u>32030002</u>
0	1	2			60	1	N			86
	2	2				2	N			
	3	2				3	N			
	4	2				4	N			
	5	2		51		5	N			
	6	2				6	N			
	7	2				7	N			
	8	2				8	N			
	9	2				9	N			
10	1	2			70	1	N			15
	2	2				2	N			
	3	2				3	N			
	4	2				4	N			
	5	2		96		5	N			
	6	2				6	N			
	7	2				7	N			
	8	2				8	N			
	9	2				9	N			
20	1	2			80	1	N			21
	2	2				2	N			
	3	2				3	N			
	4	2				4	N			
	5	2		87		5	N			
	6	2				6	N			
	7	2				7	N			
	8	2				8	N			
	9	2				9	N			
30	1	2			90	1	N			7
	2	2				2	N			
	3	2				3	N			
	4	2				4	N			
	5	2		94		5	N			
	6	2				6	N			
	7	2				7	N			
	8	2				8	N			
	9	2				9	N			
40	1	2			100	1	N			22
	2	2				2	N			
	3	2				3	N			
	4	2				4	N			
	5	2		32		5	N			
	6	2				6	N			
	7	2				7	N			
	8	2				8	N			
	9	2				9	N			
50	1	2			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	2								
	3	2								
	4	2								
	5	2		77						
	6	2								
	7	2								
	8	2								
	9	2								

Secchi depth	<u>YOB</u>	<u>0.3</u>
Estimated?		

# points ranked 4-6	<u>1</u>
total points assessed	<u>99</u>
% points ranked 4-6	<u>1</u>

Check accompanying data collected at same site/date.	
Algal mat sample	
Linear Veg Survey	☒
Habitat Assessment	☒
SCI/Biorecon	☒
Water sample	☒
RQ- <u>2018-05-07-70</u>	

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

DEP FORM FD 9000-32: LINEAR VEGETATION SURVEY FIELD SHEET

Storet Number: 32030002

Signature: *hayan / P. no*

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.

Revision Date: March 1, 2014

SAMPLING EQUIPMENT	
☒ Sample Container	☐ Tubing type: _____
☐ Pole	☐ Other _____
☐ Pump ID#: _____	☐ Other _____

WATER QUALITY MEASUREMENTS
Instrument ID: <u>0361481</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: _____	5 W	☐ Ice ☒ H ₂ SO ₄		☒ <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: <u>PR-IC, F, CI-IC, SA-IC</u>	5 W	☒ Ice			1
Chlorophyll	☒ CHL-PPTN-W	5 W	☒ Ice			1
BOD	☐ BOD-INHB ☐ BOD-UNIN	W	☐ Ice			
Microbiology	MF: ☒ E coli ☐ T Coli ☐ F Coli ☐ Enteroc ☐ F Strep	5 W	☒ Ice			1
Macroinvertebrates	☒ MI-FW-QLDC ☐ MI-FW-QLBR ☐ MI-FW-QNNC ☐ MI-MN-QNNC	5 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	5 W	☒ HNO ₃		☒ <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				
BaseNeutral / 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	☐ Ice			
	☐ W-NP-AA-SF ☐ W-PC-AA-SF ☐ W-PSHRB-NP	W	☐ Ice			
	☐ W-SLFN-UREA ☐ W-SULFN-LC ☐ Other: _____	W	☐ Ice			
	☐ W-ACIDHERB	W	☐ Ice ☐ H ₂ SO ₄			
	☐ W-CARB	W	☐ Ice ☐ MCAA			
Purgeables	☐ W-VOC-MS	W	☐ Ice			
	☐ W-VOC-MS-A	W	☐ Ice ☐ HCl			
Bioassay	Specify Test: _____	W	☐ Ice			
OTHER	<u>PCR BACR GFD HP183</u>	5 W	☒ Other: <u>Ice</u>			1

Contains
1:1
Nitric Acid
NA-7341010
EXP: 12/7/18
See SDS

Contains: 1:1 H₂SO₄
Lot No.: SA734102
Expires: 12/07/18
See Safety Data Sheet (SDS)

W-F8321-D1 W-F8321-MS

ice

1

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

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