



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

January 2019

Data Qualified?

Yes / No

WIN ID/Field ID:



19010085

Date: 3/21/19
(mm/dd/yyyy)

DEEP CR @ US 90

WBID: 2245 Latitude: 30.300272

(Decimal Degrees)

County: ~~Duval~~ Nassau

ORG ID: 21FLA Longitude: 82.030566

(Decimal Degrees)

Receiving Body of Water: St Marys River

RQ - 2019-03-18-17

Sampling Team Members		WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check	Duplicate Collection	Blank Collection
C. Ruben		X	X					
P. O'Connor			X	X	X			

Sampling Equipment		
☒ Sample Container	☐ Van Dorn	☐ Pole
☐ Carboy	☐ Syringe	
☐ Dipper	☐ Other	
Depth Measured with: PRO DSS		
Equipment ID: ORTNO #44		

Collection Method	
☒ Wading	☐ Canoe/Kayak
☐ From Shore	☐ Electric Motor
☐ Other	☐ Gasoline Motor

Water Level: Dry/ Pooled/ Low/ <u>Normal</u> / High/ Flooded	Meter ID# PRO DSS	Matrix: <u>Fresh</u> Marine / DI
Photos: <u>Yes</u> / No	Flow: No Flow / Intestinal / <u>Flowing</u> / NA	Tide: Rising/ Falling/ Slack/ <u>NA</u>
Tide Times: High		Low

Field Sample

(Bracket Sample Time)

Time Zone	Time	Total Depth (m)	Sample Depth (m)	Secchi Disk (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (ppt)	Sp COND (µmhos/cm)	Temp. (C°)
EST	0940	0.2	0.1	0.2	7.56	73.2%	6.82	0.07	142	13.9
CEN				5						

Biological Samples Collected: None HA SCI RPS Algae ID LVS LVI Other:

SBIO ID Numbers: SBIO-ID: HA-ID: RPS-ID: Macrophyte-ID: LIMS#:

Parameter Suite	Parameter Methods	Preservation	Lot#	Expiration	pH Check
Preserved Nutrients	☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	☒ Ice ☒ H2SO4	SA8274050	10/19	☒ <2
Metals	☒ W-ICPMS ☒ W-ICP	☒ Ice ☒ HNO3	NA-8080070	3/19	☒ <2
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 µm Filter	☒ Ice	RBKA17522		
Chlorophyll	☒ CHLSUITE-W	☒ Ice			
Physical/Aggregate (Fresh)	☒ Alkalinity W-F / W-TSS / TURBIDITY / W-CI-IC / W-COLOR / W-SO4-IC / W-TDS	☒ Ice			
Physical/Aggregate (Marine)	☐ Alkalinity / W-BR-IC / W-F / W-TSS / TURBIDITY	☐ Ice			
Macroinvertebrates	☒ MI-FW-QLDC	☒ Formalin			
Periphyton	☐ ALGAE-ID	☐ Ice			
Microbiology	☒ E Coli ☐ F Coli ☐ Enterococci	☒ Ice			
Molecular	☐ PCR-FILTER ☐ PCR-BacR ☐ PCR-GULL2 ☐ PCR-HF183 ☐ PCR-DG3 ☐ PCR-GFD	☐ Ice			
Tracers	☒ W-E3821-MS ☒ W-E32821-DI	☒ Ice			
Pesticides	☒ W-PSNP-TQ ☐ W-E3821-MS ☐ W-CT-CL-R ☐ W-PCL-SQ-R ☐ W-E3821-DI ☐ W-CAR8-AA	☒ Ice			
Phytoplankton	☐ DTY-QN-C ☐ PKD-QN-C	☐ Ice			

Contains: 1:1 H2SO4
Lot N: SA8274050
Exp: 10/01/19
Exp: Data Sheet (SDS)
See Safe

Contains: 1:1 Nitric Acid
Lot N: NA-8080070
Exp: 03/21/19
See SDS

Contains: 1:1 Formalin
Lot N: RBKA17522
Exp: 03/21/19
See SDS

Event 2019-03-21 JP LIMS 3/25/19

BT 3/28/19

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

Waterbody:	Deepcreek OUS90	Date:	03-21-14	County:	Baker	Storet Number:	19010085
Analyst:	PO Connor	Signature:	PO Connor				
Comments:	TURBID water						

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

Debra@US90 19010085

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

79275

SAMPLE ID: Baker ORG ID: 21FLA LATITUDE: _____
 COUNTY: Baker STORET #: 19010085 LONGITUDE: _____
 DATE: 03-21-19 TIME: 0946 SAMPLING AGENCY: DEAR NED ROX
 SITE NAME: Deep Creek @ USA 90
 FIELD ID/NAME: _____ RECEIVING BODY OF WATER: _____

RIPARIAN ZONE / STREAM FEATURES

Meter ID: DEP # 154181

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category):

Forest/Natural	Silviculture	Field/Pasture	Agricultural	Residential	Commercial	Industry	Other (Specify)
<u>65</u>	<u>10</u>				<u>5</u>		<u>20</u>

Landscape Development Intensity Index (LDI)

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: >18 Right Bank: >18

Hydrologic Modification Score (per FT 3101)

High Water Mark: 0.6 + 0.3 = 0.9
 (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%)

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

3.0 m wide

0.2 m/s 0.3 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

	% Coverage	# Times Sampled	PERI # Times Sampled
Woody Debris (Snags)	<u>5</u>	<u>7</u>	
Undercut Banks / Roots	<u>10</u>	<u>7</u>	
Leaf Packs or Mat			
Aquatic Vegetation			
Rock or Shell Rubble			
Sand			
Mud / Muck / Silt	<u>85</u>	<u>6</u>	
Other			
Other			

WATER QUALITY

	Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)
Top								<u>0.23</u>
Mid	<u>0.2</u>	<u>13.9</u>	<u>6.82</u>	<u>7.56</u>	<u>73.2</u>	<u>142</u>	<u>0.07</u>	<u>0.2</u>
Bottom								

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

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

Water Surface Oils Normal ☒ Sheen ☐ Globbs ☐ Slick ☐ Other ☐

Water Sample Taken? ☒ Yes ☐ No

Sample Preserved? ☐ Yes ☐ No

Lot Number: 5824030 Exp: 10-01-19

Algae Sample Taken? ☒ Yes ☐ No

Sample Preserved? ☐ Yes ☐ No

Lot Number: _____ Exp: _____

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:	☐	☒	☐	☐

AMBIENT FIELD CONDITIONS / NOTES: Stream is much more turbid / silt deposition than previous assessments / SCI chomovers? DOT?

Hydrologic Disturbance Scoring ☐ 1-2 ☐ 3-4 ☐ 5-6 ☐ 7-8 ☐ 9-10

☒ The antecedent hydrologic conditions have been met to my best knowledge.

SAMPLING TEAM Co Ruben, P. O'Conner

SIGNATURE: P. O'Conner

03-21-19

79275

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Deep Creek US90 County: Baker Date: 03-21-19 Investigators:

Transect (m)	Point 1=right	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover	Transect (m)	Point 1=right	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover	
0	1	N			60	1	N			
	2					2				
	3					3				
	4					4				
	5			96		5			96	
	6					6				
	7					7				
	8					8				
	9					9				
10	1	N			70	1	N			
	2					2				
	3					3				
	4					4				
	5			96		5			96	
	6					6				
	7					7				
	8					8				
	9					9				
20	1	N			80	1	N			
	2					2				
	3					3				
	4					4				
	5			80		5			92	
	6					6				
	7					7				
	8					8				
	9					9				
30	1	N			90	1	N			
	2					2				
	3					3				
	4					4				
	5			96		5			84	
	6					6				
	7					7				
	8					8				
	9					9				
40	1	N			100	1	N			
	2					2				
	3					3				
	4					4				
	5			96		5			96	
	6					6				
	7					7				
	8					8				
	9					9				
50	1	N				1	N			
	2					2				
	3					3				
	4					4				
	5			96		5				
	6					6				
	7					7				
	8					8				
	9					9				

STORET Station Number:

19010085

Secchi depth
Estimated?

points ranked 4-6
total points assessed
% points ranked 4-6

Check accompanying data collected at same site/date.

Algal mat sample
Linear Veg Survey
Habitat Assessment
SCI/Biocon
Water sample

RQ-2019-03-18-13

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 9000-5 Stream/River Habitat Assessment Field Sheet

AK 79275 ✓

SAMPLING AGENCY: NE ROC		STORET STATION NUMBER: 19010085	DATE (MM/DD/YY): 03-21-19	RECEIVING BODY OF WATER: SMR
REMARKS: TURBID	COUNTY: Baker	LOCATION: Deep Cr @ US90		FIELD ID/NAME:

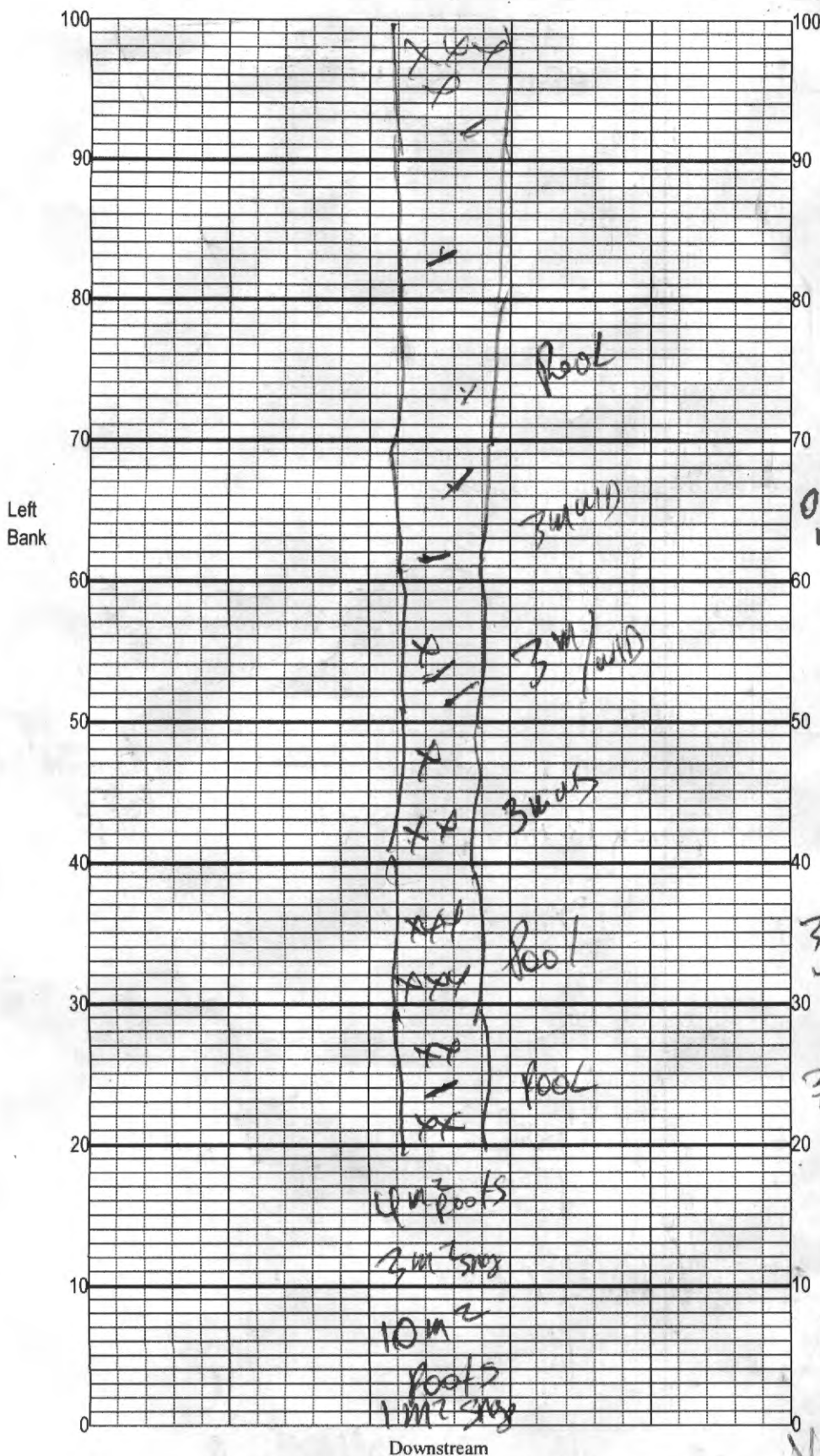
Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components	Four or more major productive habitats present (snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock)	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh 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>9</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability <u>9</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 6	Less than 5% major productive habitat 5 4 3 2 1
Water Velocity <u>14</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 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>43</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 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 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 <u>5</u> Left Bank <u>5</u>	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 <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>69</u>	10 9	8 7 6	5 4	3 2 1

112 TOTAL SCORE

Date: 03-21-19	Analyst: P O Connor	Signature: P O Connor
----------------	---------------------	-----------------------

PATRICK O'CONNOR

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: Deep CR
WUS 90
Date: 03-21-19
Sampler: P O'Connor

100 m: Latitude _____
Longitude _____

0 m: Latitude _____
Longitude _____

Substrates: Code key, draw proportionate habitat abundance.

		%
☒	Snags	5
☒	Roots/undercut banks	10
☐	Leaf Packs (or mats)	0
☐	Aquatic Macrophytes	0
☐		
☐		
☐	Pools	total # observed = 3 # range expected =

Average width 2 m
Average depth 0.3 m

Velocity measured at 0 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:

< 2 M of Macrophytes was observed while doing the LVS? YES or NO

0.3 m/s

Very TURBID
Compared to other
assessments @
this site

Request Number: RQ-2019-03-18-17

SCI Deep 2245, Ryal 2302

Florida Department of Environmental Protection

Central Laboratory Submittal Form

Page 1 of 3

last revised Jan 25, 2018

Customer: NE-DIST

Project ID: SMP

Requester: Jeremy M. ParrishField Report Prepared By: Cheyame RubenCollected By: C. Ruben / P. OconnorSampling Agency: FDEP DEAR NE ROC

Location	☐ Comp ☒ Grab	Collection (comp begin or grab) Date <u>3/21/19</u> Time	☒ Eastern ☐ Central	Composite end Date Time	Bottle Group(s) (See pg 2)
Field ID WIN ID/Field ID:  19010085	Matrix (type, e.g., Salt, Fresh, etc) <u>Fresh</u>	Diss. Oxygen <u>7.56</u>	☒ mg/L ☐ % sat	Total Res. Chlorine (mg/L) <u>—</u>	<u>A/B</u>
WIN/S <u>DEEP CR @ US 90</u>	Temp (C) <u>13.9</u>	pH <u>6.82</u>	Sample Depth <u>0.1</u>	Sp. Conductance (umho/cm) <u>142</u>	
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt) <u>0.07</u>	Comments <u>3/21/19</u>		

Location	☐ Comp ☐ Grab	Collection (comp begin or grab) Date Time	☐ Eastern ☐ Central	Composite end Date Time	Bottle Group(s)
Field ID	Matrix (type, e.g., Salt, Fresh, etc)	Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)	
WIN/STORET #	Temp (C)	pH	Sample Depth ☐ ft ☐ m	Sp. Conductance (umho/cm)	
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments		

Location	☐ Comp ☐ Grab	Collection (comp begin or grab) Date Time	☐ Eastern ☐ Central	Composite end Date Time	Bottle Group(s)
Field ID	Matrix (type, e.g., Salt, Fresh, etc)	Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)	
WIN/STORET #	Temp (C)	pH	Sample Depth ☐ ft ☐ m	Sp. Conductance (umho/cm)	
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments		

Location	☐ Comp ☐ Grab	Collection (comp begin or grab) Date Time	☐ Eastern ☐ Central	Composite end Date Time	Bottle Group(s)
Field ID	Matrix (type, e.g., Salt, Fresh, etc)	Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)	
WIN/STORET #	Temp (C)	pH	Sample Depth ☐ ft ☐ m	Sp. Conductance (umho/cm)	
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments		

Relinquished By: <u>Cheyame</u>	Date/Time: <u>3/21/19 1400</u>	Shipping Method: <u>Fedex</u>	Number of Coolers Shipped: <u>1</u>	Received By:	Date/Time:
---------------------------------	--------------------------------	-------------------------------	-------------------------------------	--------------	------------

Group: A	Bottle Type:	P-1L	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab	1
	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	1
	CHLSUITE-W						
Group: A	Bottle Type:	P-250ML-WI-THI	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab	1 to ALS JAX
	NE-ALS-ECQ						
Group: A	Bottle Type:	BG-500ML	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab	1
	W-E8321-DI						
	W-E8321-MS						
Group: A	Bottle Type:	P-500ML	# of Bottles: 2	Preservative:	HNO3	Enter Number of Bottles Sent to Lab	1
	W-ICP						
	W-ICPMS						
Group: A	Bottle Type:	P-500ML	# of Bottles: 2	Preservative:	ICE And H2SO4	Enter Number of Bottles Sent to Lab	1
	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	1
	W-PO4-F						
Group: A	Bottle Type:	BG-1L	# of Bottles: 6	Preservative:	ICE	Enter Number of Bottles Sent to Lab	3
	W-PSNP-TQ						
Group: B	Bottle Type:	PT-50ML	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab	1
	ALGAL_ID						
Group: B	Bottle Type:	PJ-2L	# of Bottles: 4	Preservative:	Formalin	Enter Number of Bottles Sent to Lab	2
	MI-FW-QLDC						