

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

19855
BLACK CREEK ORG ID **21FLWQSP** LATITUDE _____
LEON STORET # **22020063** LONGITUDE _____
4-23-19 TIME **1330** SAMPLING AGENCY **FDEP/AEQA**
 E NAME **BLACK CREEK 375**
 FIELD ID/NAME **BUK375REF** RECEIVING BODY OF WATER **OCHLOCKNEE 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) 1.1
Local Watershed Erosion (select one): ☒ None ☐ Slight ☐ Moderate ☐ Heavy				Typical Width (m) Depth (m)/Velocity (m/sec) Transect 5 m wide				
Local Watershed NPS Pollution: ☒ No evidence ☐ Slight ☐ Moderate ☐ Heavy				.31 m/s .31 m/s .31 m/s				
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: 718m Right Bank: 718m				Hydrologic Modification Score (per FT 3101) 1-2				
High Water Mark: 1.3 + 0.8 = 2.1 (m) (above present water level) (present depth) (above bed)				Artificially Impounded ☐ Yes ☒ No				
Artificially ☒ No ☐ Mostly recovered, more sinuous				Canopy Cover % ☐ Open ☐ Lightly Shaded (11-45%)				
Channelized: ☐ Some recovery ☐ Recent, severe				☒ 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 42m ☐ LCI ☐ BioRecon			WATER QUALITY Depth (M) Temp. (°C) pH (SU) D.O. (MG/L) D.O. Sat (%) Cond. (UMHO/CM) Salinity (PPT) SECCHI (M) Top: 0.1 18.0 5.79 8.11 85.6 30.0 Mid: Bottom: Meter ID: 1483 dff 154/83 TOTAL DEPTH 0.8					
Woody Debris (Snags) 10 5 Undercut Banks / Roots 2 5 Leaf Packs or Mat 3 5 Aquatic Vegetation Rock or Shell Rubble Sand 85 5 Mud / Muck / Silt Other Other			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: 101232 Exp: 10-13-19			Color Tannic ☒ Green (Algae) ☐ Clear ☐ Other (Specify)			Clarity Clear ☒ Slightly Turbid ☐ Turbid ☐ Opaque		
Algae Sample Taken? ☐ Yes ☒ No Sample Preserved? ☐ Yes ☐ No Lot Number: 101246 Exp: 8-22-20			System Type: Stream ☒ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify)					
ABUNDANCE Not Obs. Rare Common Abundant Periphyton: ☒ ☐ ☐ ☐ Fish: ☒ ☐ ☐ ☐ Aquatic Plants: ☒ ☐ ☐ ☐ Iron/Sulfur Bacteria: ☒ ☐ ☐ ☐			AMBIENT FIELD CONDITIONS / NOTES: CALM, LOW/MID 80'S, WATER LEVEL SLIGHTLY HIGHER THAN PREVIOUS BUT STILL APPROPRIATE. SOME DOWNED TREES ☒ The antecedent hydrologic conditions have been met to my best knowledge.					
SAMPLING TEAM JACKSON, ADNER, SNOBLE			SIGNATURE: Jackson			DATE: 4.23.19		

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

SAMPLING AGENCY:		STORET STATION NUMBER:	DATE (MM/DD/YY): 4.23.19	RECEIVING BODY OF WATER:
REMARKS: REF STREAM	COUNTY: LEON	LOCATION: BLACK CREEK 375		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>14</u>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1
Substrate Availability <u>10</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 <u>10</u> 9 8 7 6	Less than 5% major productive habitat 5 4 3 2 1
Water Velocity <u>19</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>17</u> Primary Score <u>60</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>20</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>6</u>	10 9 8 7 6	8 7 6 5 4	5 4 3 2 1	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>71</u>	10 9	8 7 6	5 4	3 2 1

131

TOTAL SCORE

Date: <u>4.23.19</u>	Analyst: <u>J. JACKSON</u>	Signature: <u>J. Jackson</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: _____

Date: _____

Sampler: _____

100 m: Latitude _____
Longitude _____

0 m: Latitude _____
Longitude _____

Substrates: Code key, draw proportionate habitat abundance. %

☐ Snags _____

☐ Roots/undercut banks _____

☐ Leaf Packs (or mats) _____

☐ Aquatic Macrophytes _____

☐ _____

☐ _____

☐ Pools total # observed = _____
range expected = _____

Average width _____ m

Average depth _____ m

Velocity measured at _____ meter mark.

WQ & chemistry taken at _____ meter mark.

Habitat Smothering:
Note areas (on map) where sand or silt is smothering substrates, limiting habitability.

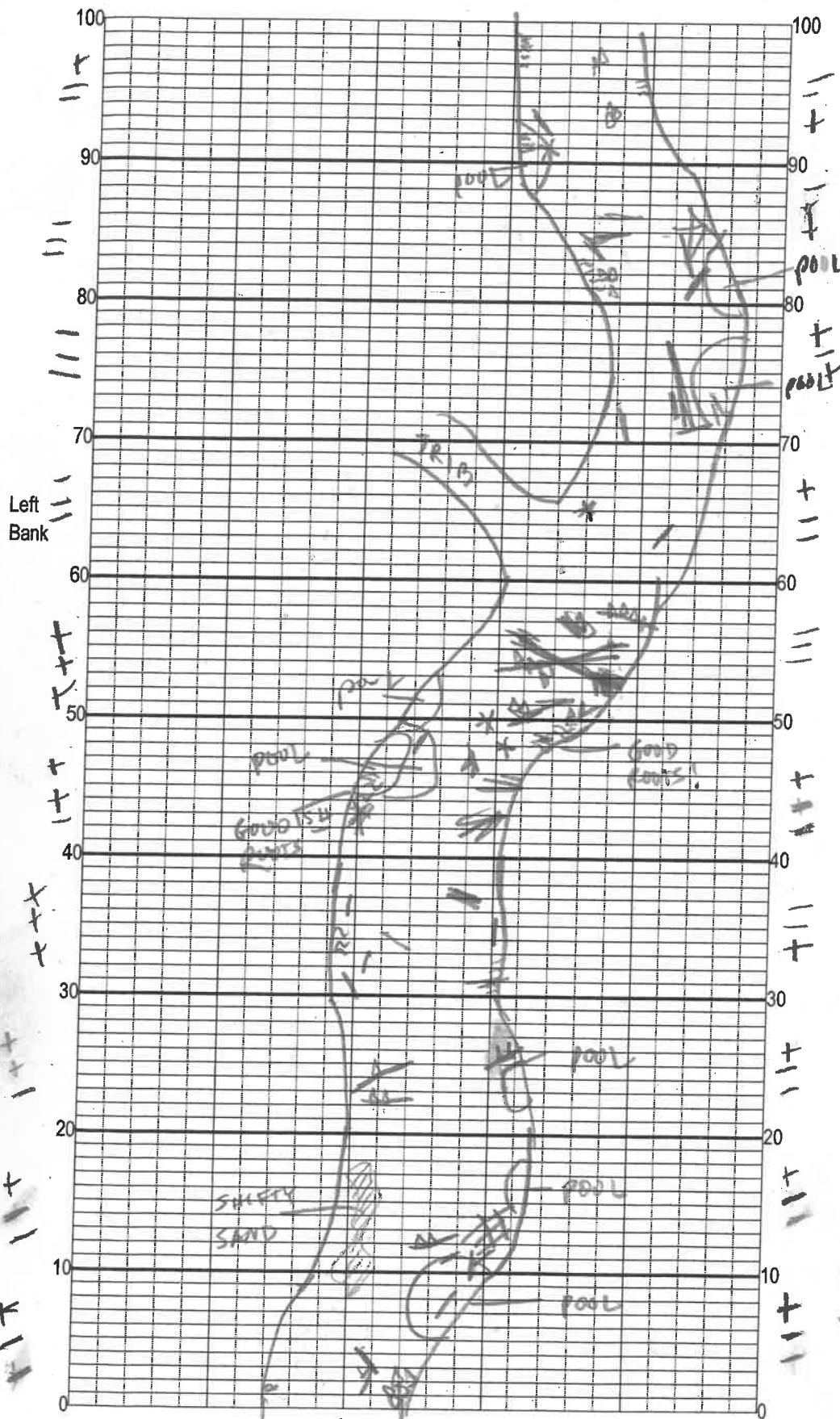
Bank Stability:
Note areas (on map) with unstable, eroding banks.

Riparian Buffer Width:
Note areas (on map) where natural vegetation is altered or eliminated.

Plants observed / other notes:

DEP Form FD 9000-4 Stream/River Habitat Assessment Sketch Sheet

10+ R
20- R



5.6 Downstream

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

Location: BLACK CREEK 375

Date: 4.23.19

Sampler: JACKSON

100 m: Latitude _____
Longitude _____

0 m: Latitude _____
Longitude _____

Substrates: Code key, draw proportionate habitat abundance. %

#	Snags	50/500	10
SS	Roots/undercut banks	12/500	2
AA	Leaf Packs (or mats)	14/500	3
	Aquatic Macrophytes		

Pools total # observed = 8
range expected = 2-3

Average width 5.0 m
Average depth 1.0 m 0.8 m

Velocity measured at 10 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:

AMERICAN HOLLY
NYSSA
SAW PALMETTO
STEEL + HIGH BUT WELL-ARMORED
VACCINIUM SP
VIBURNUM OVATUM (P)
CARPINUS
ALER RUBRON

APR ID 9381

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: <u>black creek # 375</u>					County: <u>LEON</u>		Date: <u>4-23-19</u>		Investigators: <u>J. J. J.</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	
0	1	N			60	1	N			
	2		✓			2		✓		
	3		✓			3		✓		
	4		✓			4		✓		
	5		✓	91		5		✓	92	
	6		✓			6		✓		
	7		✓			7		✓		
	8		✓			8		✓		
	9					9				
10	1		✓		70	1		✓		
	2		✓			2		✓		
	3		✓			3		✓		
	4		✓			4		✓		
	5		✓	96		5		✓	92	
	6		✓			6		✓		
	7		✓			7		✓		
	8		✓			8		✓		
	9					9				
20	1		✓		80	1		✓		
	2		✓			2		✓		
	3		✓			3		✓		
	4		✓			4		✓		
	5		✓	96		5		✓	96	
	6		✓			6		✓		
	7		✓			7		✓		
	8		✓			8		✓		
	9					9				
30	1				90	1				
	2					2				
	3					3				
	4					4		✓		
	5			96		5		✓	96	
	6					6		✓		
	7					7		✓		
	8					8		✓		
	9					9				
40	1				100	1				
	2					2				
	3					3				
	4					4		✓		
	5			96		5		✓	92	
	6					6		✓		
	7					7		✓		
	8		✓			8				
	9		✓			9				
50	1				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									
	3									
	4									
	5			86						
	6									
	7									
	8									
	9									

STORET Station Number:
220 20063Secchi depth
Estimated?# points ranked 4-6
total points assessed
% points ranked 4-6Check 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

A

Waterbody: BLACK CREEK @ 37C	Date: 4-22-99	County: WYN	Storet Number:
Analyst: J JACKSON	Signature: [Signature]		
Comments: NO PLANTS IN WATER			

[illegible]

2019-03-11-02

Request Number: RQ-2019-10-10-11

Florida Department of Environmental Protection

Page 1 of 2

Reference Stream Sampling

Central Laboratory Submittal Form

last revised Jan 25, 2018

Customer: BSSP

Requester: Sarah Barker NOBLE

Field Report Prepared By: SARAH NOBLE

Project ID: SCIREF

Collected By: SARAH NOBLE

Sampling Agency: FDEP/AEQA

Location YON CREEK		☒ Comp ☒ Grab		Collection (comp begin or grab) Date 4/23/2019 Time 10:15		☒ Eastern ☒ Central		Composite end Date		Time		Bottle Group(s) (See pg 2)	
Field ID YONCK REF		Matrix (type, e.g., Salt, Fresh, etc) Surface, Fresh		Dis. Oxygen 85.9		☒ mg/L ☒ % sat (mg/L)		Total Res. Chlorine —				A, B	
WINSTORET # 22020017		Temp (C) 16.8		pH 6.3		Sample Depth 0.1		☒ ft ☒ m		Sp. Conductance (umho/cm) 28.1			
Latitude 30.53422 N		☒ dd ☐ dms		Longitude -84.77132 W		☒ dd ☐ dms		Salinity (ppt) —		Comments J qualify PH			
Location Black Creek @ 375		☒ Comp ☒ Grab		Collection (comp begin or grab) Date 4/23/2019 Time 13:30		☒ Eastern ☒ Central		Composite end Date		Time		Bottle Group(s)	
Field ID BLK375 REF		Matrix (type, e.g., Salt, Fresh, etc) Surface, Fresh		Dis. Oxygen 85.6		☒ mg/L ☒ % sat (mg/L)		Total Res. Chlorine —				A, B	
WINSTORET # 22020063		Temp (C) 18.0		pH 5.79		Sample Depth 0.1		☒ ft ☒ m		Sp. Conductance (umho/cm) 30.0			
Latitude 30.32555 N		☒ dd ☐ dms		Longitude -84.69391 W		☒ dd ☐ dms		Salinity (ppt) —		Comments J qualify PH			
Location		☒ Comp ☐ Grab		Collection (comp begin or grab) Date		☒ Eastern ☒ Central		Composite end Date		Time		Bottle Group(s)	
Field ID		Matrix (type, e.g., Salt, Fresh, etc)		Dis. Oxygen		☐ mg/L ☐ % sat (mg/L)		Total Res. Chlorine					
WINSTORET #		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		☐ Eastern ☐ Central		Composite end Date		Time		Bottle Group(s)	
Field ID		Matrix (type, e.g., Salt, Fresh, etc)		Dis. Oxygen		☐ mg/L ☐ % sat (mg/L)		Total Res. Chlorine					
WINSTORET #		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		☐ Eastern ☐ Central		Composite end Date		Time		Bottle Group(s)	
Field ID		Matrix (type, e.g., Salt, Fresh, etc)		Dis. Oxygen		☐ mg/L ☐ % sat (mg/L)		Total Res. Chlorine					
WINSTORET #		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		☐ Eastern ☐ Central		Composite end Date		Time		Bottle Group(s)	
Field ID		Matrix (type, e.g., Salt, Fresh, etc)		Dis. Oxygen		☐ mg/L ☐ % sat (mg/L)		Total Res. Chlorine					
WINSTORET #		Temp (C)		pH		Sample Depth		☐ ft ☐ m		Sp. Conductance (umho/cm)			
Latitude		☐ dd ☐ dms		Longitude		☐ dd ☐ dms		Salinity (ppt)		Comments			

Relinquished By:

Date/Time

Shipping Method

Number of Coolers Shipped:

Received By:

Date/Time

S NOBLE

4/23/19 1620

hand

3

4/23/19 1620

Delivered 3 coolers

Group: A	Bottle Type:	P-1L	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab
	ALKALINITY					
	TURBIDITY					
	W-BR-IG					
	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 2
	CHLSUITE-W					
Group: A	Bottle Type:	P-250ML-WO-THI	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab 2
	ECOLI-18QT					
Group: A	Bottle Type:	QPCR-P-500ML	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab 2
	PCR-BACR					
	PCR-GFD					
	PCR-HF183					
Group: A	Bottle Type:	BG-500ML	# of Bottles: 2	Preservative:	ICE	Enter Number of Bottles Sent to Lab 2
	W-E8321-DI					
	W-E8321-MS					
Group: A	Bottle Type:	P-500ML	# of Bottles: 2	Preservative:	HNO3	Enter Number of Bottles Sent to Lab 2
	W-ICP W-ICPMS					
Group: A	Bottle Type:	P-500ML	# of Bottles: 2	Preservative:	ICE And H2SO4	Enter Number of Bottles Sent to Lab 2
	W-NH3					
	W-NO2NO3					
	W-S-A-TP					
	W-TKN					
	W-TOC					
Group: A	Bottle Type:	BG-1L	# of Bottles: 6	Preservative:	ICE	Enter Number of Bottles Sent to Lab 6
	W-PSNP-TQ					
Group: B	Bottle Type:	PJ-2L	# of Bottles: 4	Preservative:	Formalin	Enter Number of Bottles Sent to Lab 6
	MI-FW-QLDC					