

RQ#: 2016-05-16-46 EventID# _____

Sampling Date: 5-19-16 Sampling Crew: JAY ASHTON, STEPHEN CLINGERMAN

Site(s)/STORET #: 24030044

WBID 1443D

STORET /LIMS:

Sonde: Pass failed CCV
Parameter(s): SC

- ☐ 1. Spread Sheet (LIMS Input) _____ / 05/20/16
Initials Date
- ☐ 2. QC 1 _____ / _____
Initials Date
- ☐ 3. QC 2 _____ / _____
Initials Date
- ☐ 4. SIM File Generated _____ / _____
Initials Date
- ☐ 5. STORET Upload _____ / _____
Initials Date

Biology:

SBIO ID# _____
VPDB ID# _____

- ☐ 6. Site and Event established in SBio?
- ☐ 7. Habitat Data and YSI Entered Into SBIO _____ / _____
Initials Date
- ☐ 8. Habitat Data and YSI QC _____ / _____
Initials Date
- ☐ 9. SBio data marked complete _____ / _____
Initials Date
- ☐ 10. Macrophyte Data Entered into VPDB _____ / _____
Initials Date
- ☐ 12. Field Paperwork Filed In Biology Lab _____ / _____
Initials Date
- ☐ 13. Macrophyte Data QC _____ / _____ 11. Macrophyte Data Marked Complete _____ / _____

DEP-SOP-001/01: Form FD 9000-3 (9/19/12)
PHYSICAL/CHEMICAL CHARACTERIZATION FIELD SHEET

SAMPLE ID _____ ORG ID 21FLTPA LATITUDE _____
 COUNTY HILLS STORET # 24030044 LONGITUDE _____
 DATE 5-19-16 TIME 11:50 SAMPLING AGENCY FOLP
 SITE NAME HILLS R. REF SITE IN STATE PARK
 FIELD ID/NAME HILSTPS REF RECEIVING BODY OF WATER TAMPA BAY

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category): Forest/Natural <u>100</u> Silviculture _____ Field/Pasture _____ Agricultural _____ Residential _____ Commercial _____ Industry _____ Other (Specify) _____							Landscape Development Intensity Index (LDI) _____
Local Watershed Erosion (select one): ☒ None ☐ Slight ☐ Moderate ☐ Heavy				Typical Width (m) Depth (m)/Velocity (m/sec) Transect _____ m/s <u>70.33</u> m/s _____ m/s			
Local Watershed NPS Pollution: ☒ No evidence ☐ Slight ☐ Moderate ☐ Heavy				_____ m wide			
Width of Riparian Vegetation (m) on Each Buffer Side Left Bank: _____ Right Bank: _____		Hydrologic Modification Score (per FT 3101) <u>1</u>		_____ m/s			
High Water Mark: <u>1.0</u> + <u>2.0</u> = <u>3.0</u> (m) (above present water level) (present depth) (above bed)		Artificially Impounded ☐ Yes ☒ No		_____ m deep <u>21.0</u> m deep _____ m deep			
Artificially ☒ No ☐ Mostly recovered, more sinuous		Canopy Cover % ☐ Open ☐ Lightly Shaded (11-45%)		☐ Heavily Shaded ☒ Moderate Shaded (46-80%)			
Channelized: ☐ Some recovery ☐ Recent, severe							

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 ☐
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SUBSTRATE TYPE

Assessment Tool: ☒ SCI ☒ RPS ☒ LVS
☐ LCI ☐ BioRecon

	% Coverage	INVERT # Times Sampled	PERI # Times Sampled
Woody Debris (Snags)	<u>1</u>	<u>4</u>	
Undercut Banks / Roots	<u>0.1</u>	<u>4</u>	
Leaf Packs or Mat			
Aquatic Vegetation	<u>3</u>	<u>4</u>	
Rock or Shell Rubble	<u>40</u>	<u>4</u>	
Sand		<u>4</u>	
Mud / Muck / Silt			
Other			
Other <u>S&A</u>			

WATER QUALITY

	Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)
Top								<u>0.6</u>
Mid								☒ VOB
Bottom	<u>0.6</u>	<u>24.4</u>	<u>7.5</u>	<u>7.4</u>	<u>88.5</u>	<u>407</u>	<u>0.19</u>	<u>0.6</u>

Meter ID: _____

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

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

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

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

Color Tannic ☒ Green (Algae) ☐
 Clear ☒ Other (Specify) ☐

Clarity Clear ☒ Slightly Turbid ☐
 Turbid ☐ Opaque ☐

ABUNDANCE

	Absent	Rare	Common	Abundant
Periphyton:	☐	☐	☒	☐
Fish:	☐	☐	☒	☐
Aquatic Plants:	☐	☐	☒	☐
Iron/Sulfur Bacteria:	☒	☐	☐	☐

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

WEATHER CONDITIONS / NOTES:

SHUNNY, WARM

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

SAMPLING TEAM

JUDY ABITON, STEPHEN CUNNINGHAM

SIGNATURE:

[Signature]

DATE:

5-19-16

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

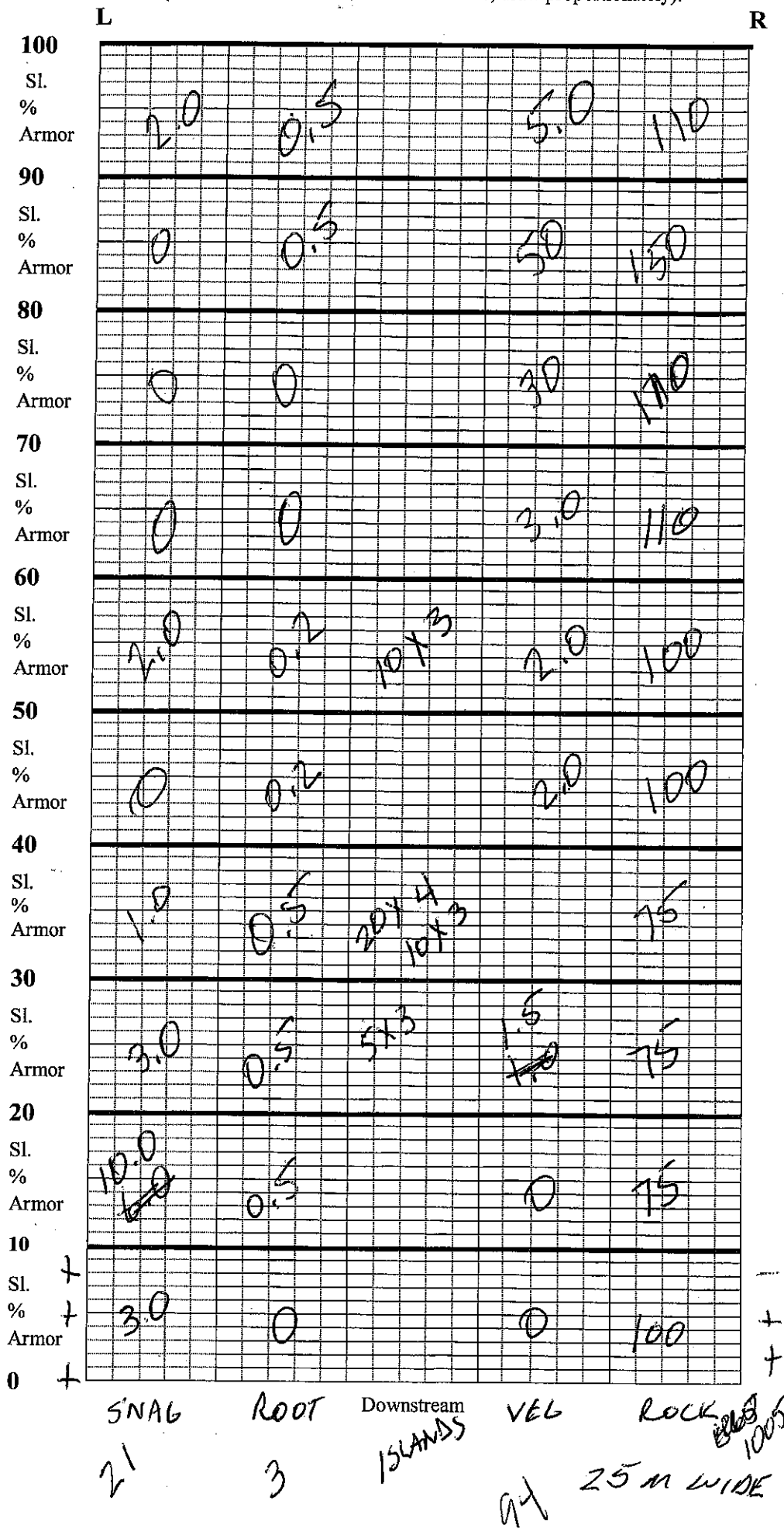
SAMPLING AGENCY: <u>FOEP</u>		STORET STATION NUMBER: <u>24030044</u>	DATE (MM/DD/YY): <u>5-19-10</u>	RECEIVING BODY OF WATER:
REMARKS:	COUNTY: <u>HILLS.</u>	LOCATION: <u>HILLS. R. Ref. Site</u>	FIELD ID/NAME:	

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>18</u>	20 19 18 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 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>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 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>18</u> Primary Score <u>76</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>8</u> Left Bank <u>7</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>8</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>9</u> Left Bank <u>9</u> Secondary Score <u>73</u>	10 9	8 7 6	5 4	3 2 1

149 **TOTAL SCORE**

Date: <u>5-19-10</u>	Analyst: <u>[Signature]</u>	Signature: <u>STEPHEN CLINCKHAM</u>
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Stream/River Habitat Sketch Sheet, Form FD 9000-4 (March 07, 2013)
Length of grid represents 100 m of stream (not linear meters).
(Horizontal scale is double vertical scale, draw proportionately).



Location: _____

Date: _____

Samplers: _____

Substrates: Code key, draw proportionate habitat abundance. %

☒ 21 Snags 1

☒ 3 Roots/undercut banks 0.1

☐ Leaf Packs (or mats) _____

☐ Macrophytes 3

☒ 1005 ROCK 40

☐ Total observed _____

☐ Pools Range expected ☒

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.

1 sec per 1 m	1m/s	sec	m/s
2	0.5	12	0.08
3	0.33	13	0.076
4	0.25	14	0.071
5	0.2	15	0.066
6	0.16	16	0.062
7	0.14	17	0.058
8	0.12	18	0.055
9	0.11	19	0.052
10	0.1	20	0.052
11	0.09	21	0.047
22	0.045	NO	FLOW

Prod. hab	1	2	3	4	5
Sweeps (Maj)	10	7	5	4	3
Sweeps (Min)	10	6	5	4	5

25 x 10 = 250 m²

Waterbody: Hills. R. Ref. Sink

Date: 5-19-16	County: Hills.
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Storet Number: 24030014

Analyst: Judy Ashton

Signature: July 11

Comments:

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.

[illegible]



FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
STRATEGIC MONITORING PROGRAM FIELD SHEET

February 2016

A-KIT

PAGE 1 OF 1

Data Qualified?
Yes / No

STORET Station Name: HILLSBOROUGH R. REF. STREAM IN STATE P. Date: 5-19-16

STORET Station ID: 24030044 Latitude: 28°09'02.65"N

WBID: 1443D RQ-2016-05-16-46 ORG ID: 21FLTPA Longitude: 82°13'45.15"W

Receiving Body of Water: _____ Field ID: HILSTP5REF County: HILLS

Sampling Team Members					WQ Measurements	Sample Collection	Documentation	Preservation	Preservation Check
Jody Ashen					X	X			
STEPHEN CUNILLIAN						X	X	X	X

Sampling Equipment		
☒ Sample Container	☐ Van Dorn	☐ Pole
☐ Carboy	☐ Syringe	
☐ Dipper	☐ Other	

Equipment ID: _____

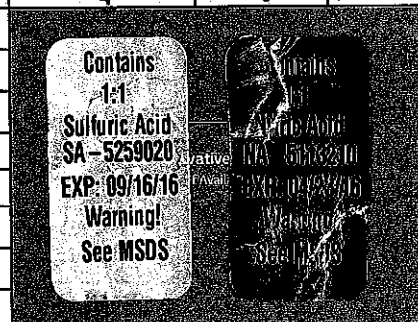
Collection Method		
☒ Wading	Via Boat	
☐ From Shore	☐ Canoe/Kayak	
☐ Other (note below)	☐ Electric Motor	
	☐ Gasoline Motor	

Water Level: Dry / Low / Normal / High / Flooded Matrix: Fresh / Marine / DI
Meter ID# LIL JON Photos: Yes / No Tide Falling: Yes / No / INA

Time Zone	Time	Sample Depth (m)	Total Depth (m)	DO (mg/L)	DO (%SAT)	pH	Salinity (ppt)	Secchi Disk (m)	Sp COND (umhos/cm)	Temp. (C°)
EST	11:50	0.6	0.6	7.4	88.5	7.5	0.19	0.6	407	24.4
CEN								115"		

Biological Samples Collected: None HA SCI LVS RPS LVI Other _____

Parameter Suite	Parameter Methods	Preservation	Acid Lot#	Expiration	pH Check
Preserved Nutrients	☒ W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP	☒ Ice ☒ H2SO4			☒ <2
Metals	☐ W-ICPMS ☒ W-ICP	☒ Ice ☒ HNO3			☒ <2
Filtered Nutrients	☒ W-PO4-F ☒ Field Filtered 0.45 um Filter	☒ Ice			
Chlorophyll	☒ CHLSUITE-W	☒ Ice			
BOD	☐ BOD-UNIN	☐ Ice			
Physical/Aggregate (Kit A)	☒ Alkalinity / W-F / W-TSS / TURBIDITY / W-CH-IC / W-COLOR / W-SO4-IC / W-TDS	☒ Ice			
Physical/Aggregate (Kit B)	☐ Alkalinity / W-F / W-TSS / TURBIDITY	☐ Ice			
Macroinvertebrates	☒ ME-FW-QLDC	☒ Formalin			
Microbiology	☒ E Coli ☐ F Coli ☐ Enteroc ☒ QPCR	☐ Ice			
Periphyton	☐ ALGAE-ID	☐ Ice			
Pesticides	☐ W-PSNP-TQ ☐ W-AHERB-AA ☐ W-PYR-AA-R ☐ W-PC-AA-SF ☐ W-UHERB-AA ☐ W-GLYPH	☐ Ice ☐ Other			



Flow m/s: 70.33 "J" Quality Flow

Notes: PCR-HA1B3, W-SUC-AA-R
W-UHB-AA-R

RQ-2016-05-16-46
Date: 05/16/16
Time: _____

HILSTP5REF
24030044

Signature: _____ Date: 5-19-16

Field Parameters Entered into LIMS: SC 05-20-16 (Initials/Date)
Date Migrated to STORET: _____ (Initials/Date)
Field Parameters QC in LIMS: _____ (Initials/Date)
Field Sheets Scanned/Saved: _____ (Initials/Date)

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: HILLS. R. R. L. SIDE STATE PK County: HILLS. Date: 5-19-10 Investigators: JAY ASHMAN, S. CLINGMAN

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			96		5			16	
	6					6				
	7					7				
	8					8				
	9					9				
10	1	N			70	1	N			
	2					2				
	3					3				
	4					4				
	5			96		5			10	
	6					6				
	7					7				
	8					8				
	9					9				
20	1	N			80	1	N			
	2					2				
	3					3				
	4					4				
	5			46		5			6	
	6					6				
	7					7				
	8					8				
	9					9				
30	1	N			90	1	N			
	2					2				
	3					3				
	4					4				
	5			96		5			0	
	6					6				
	7					7				
	8					8				
	9					9				
40	1	N			100	1	N			
	2					2				
	3					3				
	4					4				
	5			95		5			0	
	6					6				
	7					7				
	8					8				
	9					9				
50	1	N				1	N			
	2					2				
	3					3				
	4					4				
	5			0		5				
	6					6				
	7					7				
	8					8				
	9					9				

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%.

STORET Station Number:
24030044

Secchi depth 0.6
Estimated? N

points ranked 4-6 0
total points assessed 99
% points ranked 4-6 0

Check accompanying data collected at same site/date:
Algal mat sample ☐
Linear Veg Survey ☒
Habitat Assessment ☒
SC/Biorecon ☒
Water sample ☒
RQ- 2016-D5-16-46

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

*If you can see the secchi on the bottom, but you cannot see or reach surrounding substrate use "X" and check estimated

Hills Ref. site
28d09'02.65"N
82d13'45.15"W

1453

1443D

1443A

1462C

1443A

1482

1489

FedEx
Tracking
Number

8092 3436 6380

MUR3

1 From Please print and press hard. Sender's FedEx Account Number
Date 5-19-16
Sender's Name FDEP
Company
Address 13051 N. TELECOM PKWY
City Temple Terrace State FL ZIP 33637
2 Your Internal Billing Reference
3 To Recipient's Name
Company FLORIDA DEP/CHEMISTRY SECTION
Address 2600 BLAIRSTONE RD
City TALLAHASSEE State FL ZIP 32399-6542

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Form
ID No.

0215

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2 or 3 Business Days
FedEx 2Day A.M.
FedEx 2Day
FedEx Express Saver
5 Packaging *Declared value limit \$500.
FedEx Envelope* FedEx Pak* FedEx Box FedEx Tube Other
6 Special Handling and Delivery Signature Options
SATURDAY Delivery
No Signature Required
Direct Signature
Indirect Signature
Does this shipment contain dangerous goods?
7 Payment Bill to:
Sender Recipient Third Party Credit Card Cash/Check
Total Packages Total Weight Total Declared Value

1 50 lbs. \$ 61.11

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Florida Department of Environmental Protection
Central Laboratory Submittal Form

Customer: SW-DIST
Project ID: SCIREF

Requester: Judy Ashton

Field Report Prepared By: Judy Ashton

Collected By: Judy Ashton, Stephen Cunningham

Sampling Agency: FDEP

Location <i>HILSBOROUGH A. RES. SITE IN STATE PARK</i>		☐ Comp ☒ Grab		Collection (comp begin or grab) Date <i>5/19/16</i> Time <i>11:50</i>		Composite end Date Time		Bottle Group(s) (See pg 2) <i>A/B/C</i>	
Field ID RQ-2016-05-16-46		Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen <i>7.4</i> mg/L <i>88.5</i> % sat		Total Res. Chlorine			
STO Time: <i>05/16/16</i>		Temp (C) <i>24.4</i>		pH <i>7.5</i>		Sample Depth <i>0.6</i> ft		Sp. Conductance <i>407</i> umho/cm	
Latitude ☐ dd ☐ dms		Longitude ☐ dd ☐ dms		Salinity (ppt) <i>0.19</i>		Comments			
Location		☐ Comp ☐ Grab		Collection (comp begin or grab) Date Time		Composite end Date Time		Bottle Group(s)	
Field ID		Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen		Total Res. Chlorine (mg/L)			
STORET #		Temp (C)		pH		Sample Depth		Sp. Conductance (umho/cm)	
Latitude		Longitude		Salinity (ppt)		Comments			
Location		☐ Comp ☐ Grab		Collection (comp begin or grab) Date Time		Composite end Date Time		Bottle Group(s)	
Field ID		Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen		Total Res. Chlorine (mg/L)			
STORET #		Temp (C)		pH		Sample Depth		Sp. Conductance (umho/cm)	
Latitude		Longitude		Salinity (ppt)		Comments			
Location		☐ Comp ☐ Grab		Collection (comp begin or grab) Date Time		Composite end Date Time		Bottle Group(s)	
Field ID		Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen		Total Res. Chlorine (mg/L)			
STORET #		Temp (C)		pH		Sample Depth		Sp. Conductance (umho/cm)	
Latitude		Longitude		Salinity (ppt)		Comments			

Relinquished By: <i>Judy Ashton</i>	Date/Time <i>5/19/16 5:00</i>	Shipping Method <i>AKS EX</i>	Number of Coolers Shipped: <i>1</i>	Received By:	Date/Time
--	----------------------------------	----------------------------------	--	--------------	-----------