CYANOBACTERIA BLOOM RESPONSE FIELD DATA SHEET

(7-6-06 V2)

WATERBODY NAME:	DATE (M/D/YY):	TIME: (AM) (PM)	Case ID#:
Orange River mouth	5/23/19	1305	SDOS2319-001

COUNTY:	LOCATION:	NEAREST TOWN/CITY:
Lee	~~Fort Myers~~ 65 / Orange River mouth	Fort Myers

Visit Type: Initial ☐ Recon ☐ Sampling ☒ Follow-up ☐

Samples collected: ☒ yes ☐ no

Samples submitted to:

Photos Taken: ☒ yes ☐ no

Sample collection method: Single Grab: ☒ Grab Composite: ☐ Depth integrated composite: ☐

Sample & Analysis types: Aqueous: ☒ Surface Scum: ☒ Benthic mat: ☒ Tissue: ☒

Algal ID & enumeration: ☒ Nutrients: ☒ Chl-a: ☒ AGP: ☒ Turbidity: ☒ Toxin: ☒ Specify

Estimated size of bloom:

Impounded: ☐ yes ☒ no

Lake/Estuary Typical depth: ___ m deep

Inflows: ☐ yes ☐ no

Outflows: ☐ yes ☐ no

Stream/River/Canal: ___ m wide

Typical Transect: ___ m deep | ___ m deep | ___ m deep

Water velocity: ___ m/s (Left bank) | ___ m/s (Middle) | ___ m/s (Right bank)

Canopy Cover: Open: ☒ Lightly Shaded (11-45%): ☐ Moderately Shaded (46-80%): ☐ Heavily Shaded: ☐

Description of Bloom/

Latitude	Degrees	Minutes	Seconds	Longitude	Degrees	Minutes	Seconds
	26	41	42.205		-81	47	47.621

Present Weather conditions

Cloudy

Last rain event: ___

Rainfall amount: ___

Print a map from GIS tool or Internet mapping service (e.g., Mapquest, Google Map)

Sketch bloom area on the attached map. Indicate wind direction.

WATER QUALITY	Depth (m):	Temp. (°C) :	pH (SU) :	D.O. (mg/l) :	Cond. (µmho/cm) or Salinity (ppt):	100 %	SAL	Secchi (m)
Top	0.3	29.6	8.12	7.35	1327	92.0	0.76	1-2
Mid-depth								
Bottom								

System Type: Stream: ☒ (1st - 2nd order / 3rd - 4th order / 5th - 6th order / 7th order or greater) Lake: ☐ Wetland: ☐ Estuary: ☐ Other: ☐

Water Odors (check box) : Normal: ☒ Sewage: ☐ Petroleum: ☐ Chemical: ☐ Other: ☐

Water Surface (check box): Clear: ☒ Scum: ☐ Globs: ☐ Slick: ☐

Water Clarity (check box): Clear: ☐ Slightly ☒ Turbid: ☐ Opaque: ☐

Bloom Color (check box): Green: ☒ Red: ☐ Brown: ☐ Other: ☐

Notes: Small green flecs in water column

Abundance:	Absent	Rare	Common	Abundant
Periphyton	☐	☐	☐	☐
Fish	☐	☐	☐	☐
Aquatic Macrophytes	☐	☐	☐	☐
Iron/sulfur Bacteria	☐	☐	☐	☐

VISIT TEAM: FDEP AGENCY: Gary Sworek

John Barrington

Request Number: RQ-2019-05-13-60

Algal Bloom Response - As needed

Florida Department of Environmental Protection
Central Laboratory Submittal Form

last revised Jan 25, 2018

Customer: WQAP

Project ID: BLOOM-RESP

Requester: Kirby Wolfe

Collected By: GARY SNORGK

Field Report Prepared By: JOHN BARRINGTON

Sampling Agency: FDEP SDROC 8052

Location: ORANGE RIVER MOUTH	☐ Comp ☒ Grab	Collection (comp begin or grab) Date 5/23/19 Time 1305	(Eastern) Central	Composite end Date — Time
Field ID: SP-052319-001	Matrix (type, e.g., Salt, Fresh, etc): FRESH	Diss. Oxygen 7.35 ☒ mg/L ☐ % sat	Total Res. Chlorine (mg/L) —	Bottle Group(s) (See pg 2): A B C D
WIN/STORET #	Temp (C) 29.6	pH 8.12	Sample Depth 0.3 ☐ ft ☒ m	Sp. Conductance (umho/cm) 1527
Latitude 26° 41' 42.205" ☐ dd ☒ dms	Longitude -81° 47' 47.621" ☐ dd ☒ dms	Salinity (ppt) 0.76	Comments: SMALL GREEN FLECKS IN WATER COLUMN	

Location	☐ Comp ☐ Grab	Collection (comp begin or grab) Date Time	Eastern Central	Composite end Date Time
Field ID	Matrix (type, e.g., Salt, Fresh, etc)	Diss. Oxygen ☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)	Bottle Group(s)
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
Field ID	Matrix (type, e.g., Salt, Fresh, etc)	Diss. Oxygen ☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)	Bottle Group(s)
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
Field ID	Matrix (type, e.g., Salt, Fresh, etc)	Diss. Oxygen ☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)	Bottle Group(s)
WIN/STORET #	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
John Barrington	5/23/19, 1530	FEDEX	1		

Boldly "X" this box if there are qualified data on this page.

CALIBRATION AND VERIFICATION LOG (FDEP SOP FT 1000-FT 1500, FD 1000-FD 4000)

Meter ID: ProMulti RQ- 2018- Project: CLT + ALGAE

Notes: (1) Always wait for meter to stabilize before recording any readings.
(2) Report all digits displayed. Do not round before reporting measurements. (See special instructions for depth).
(3) For Calibrations, record calibrated meter reading. Do not record initial meter reading before calibration.

Temperature (Quarterly) FT 1400 Date of Last Temperature Verification 3/19/19

DO DEP SOP FT 1500	Name	Date	Time CT-ET	Temp °C	Barometer mmHg	D.O. Chart mg/L	Meter D.O. mg/L	% DO	Probe Charge	Probe Gain	Pass / Fail	Lab / Field
Calibr.	Barrington	5/23/19	0700	24.6	758.2	8.32	8.31	99.8	—	1.039	P / F	L / F
ICV	↓	↓	0703	24.6	758.4	8.32	8.32	99.9	—	—	P / F	L / F
CCV	Gary Smith	5/23/19	1645	27.8	756.1	~~8.54~~ 7.86	7.90	100.9	—	—	P / F	L / F
CCV											P / F	L / F

DO Acceptance criteria from Table ± 0.3 mg/L. **Rapid-Pulse Sensors:** DO Gain Range 0.7 to 1.4; DO Charge Range 25-75.
Optical: DO gain range 0.85 to 1.15 (Pro DSS 0.75 to 1.50); DO charge N/A. **Steady-state & Galvanic Sensors:** DO Gain & Charge N/A.

Spec. Cond. FT 1200	Name	Date	Time CT-ET	Lot #	Expir. Date	Standard µmhos/cm	Meter Reading µmhos/cm	Pass / Fail	Lab / Field
Calibr.	Barrington	5/23/19	0706	2809050	9/20	10000	10000	P / F	L / F
ICV	↓	↓	0709	2811E60	11/20	50000	49984	P / F	L / F
CCV	Gary Smith	5/23/19	1645	2904947	03/21	1000	1009	P / F	L / F
CCV								P / F	L / F

Conductivity Acceptance criteria ± 5%

pH DEP SOP FT 1100	Name	Date	Time CT-ET	Lot #	Expir. Date	pH Buffer SU	Temp °C	Meter reading SU	mV	Pass / Fail	Lab / Field
Calibr.	Barrington	5/23/19	0712	191304	3/21	6.99	24.8	7.00	-45.8	P / F	L / F
Calibr.	↓	↓	0715	190012	1/21	4.01	25.0	4.01	129.8	P / F	L / F
Calibr.			0718	187680	12/20	10.01	25.0	10.00	223.7	P / F	L / F
ICV	↓	↓	0720	190012	1/21	4.01	24.9	3.99	—	P / F	L / F
CCV	Gary Smith	5/23/19	1653	187680	12/20	10.01	24.1	10.06	—	P / F	L / F
CCV										P / F	L / F

pH Acceptance criteria ± 0.2 SU; mV pH 7 Range 0 ± 50; mV pH 4 Range +180 ± 50; mV pH 10 Range -180 ± 50;
If mV are recorded: slope from 7 to 10 178.1, slope from 4 to 7 175.6 (both must be between 165 and 180 mV)

Does meter have a depth sensor that will be used to measure total depth & sample depth? YES / NO / NA (not surf. water project)
If YES, complete daily Calibr. & ~~ICV below~~ and list date of last quarterly depth verification: ______
If NO, what will be used? (circle one) **Secchi Disk Line / Sonar** Unique ID: Deep Bug ; Date of last verification: 12/26/18

Depth Sensor (Daily Calibration & ICV)	Name	Date	Time CT-ET	Calibrated Value (0.00 or Offset), meters	ICV Value, meters	Pass / Fail	Lab / Field
Pressure mode in air						P / F	L / F

Report two decimal places. Round numbers ≤ 4 down, ≥ 5 up. ICV acceptance criteria ± 5% or ± 0.05m, whichever is greater.

COMMENTS: