

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

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

Meter ID: YSI #3

RQ: 2019-07-08-53

Project: Bloom - RES

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 6/2019

DO DEP SOP FT 1500	Name	Date	Time CT-ET	Temp °C	Baro-meter mmHg	D.O. Chart mg/L	Meter D.O. mg/L	% DO	Probe Charge	Probe Gain	Pass / Fail	Lab / Field
Calibr.	<u>K. Appleby</u>	<u>7/8/19</u>	<u>7:45</u>	<u>24.19</u>	<u>760</u>	<u>8.4</u>	<u>8.31</u>	<u>99.2</u>			<u>P</u> /F	L/F
ICV	<u>↓</u>	<u>↓</u>	<u>7:50</u>	<u>24.14</u>	<u>760</u>	<u>8.4</u>	<u>8.35</u>	<u>99.9</u>			<u>P</u> /F	L/F
CCV	<u>AKalmbacher</u>	<u>7-8-19</u>	<u>1400</u>	<u>26.01</u>	<u>760</u>	<u>8.1</u>	<u>8.09</u>	<u>101.2</u>			<u>P</u> /F	<u>L</u> /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 #	Explr. Date	Standard μ hos/cm	Meter Reading μ hos/cm	Pass / Fail	Lab / Field
Calibr.	<u>K. Appleby</u>	<u>7/8/19</u>	<u>7:55</u>	<u>190430A</u>	<u>5/2020</u>	<u>1000</u>	<u>1004</u>	<u>P</u> /F	L/F
ICV	<u>↓</u>	<u>↓</u>	<u>8:00</u>	<u>190319B</u>	<u>3/2020</u>	<u>100</u>	<u>104</u>	<u>P</u> /F	L/F
CCV	<u>AKalmbacher</u>	<u>7-8-19</u>	<u>1405</u>	<u>0424820</u>	<u>6/2020</u>	<u>24.820</u>	<u>24.762</u>	<u>P</u> /F	<u>L</u> /F
CCV								P/F	L/F

Conductivity Acceptance criteria $\pm 5\%$

pH DEP SOP FT 1100	Name	Date	Time CT-ET	Lot #	Explr. Date	pH Buffer SU	Temp °C	Meter reading SU	mV	Pass / Fail	Lab / Field
Calibr.	<u>K. Appleby</u>	<u>7/8/19</u>	<u>8:15</u>	<u>2811E61</u>	<u>11/2020</u>	<u>7.</u>	<u>24.48</u>	<u>6.86</u>	<u>-23.0</u>	<u>P</u> /F	L/F
Calibr.	<u>↓</u>	<u>↓</u>	<u>8:25</u>	<u>2901A40</u>	<u>1/2021</u>	<u>4.</u>	<u>24.71</u>	<u>3.47</u>	<u>159.6</u>	<u>P</u> /F	L/F
Calibr.	<u>↓</u>	<u>↓</u>	<u>8:30</u>	<u>2901B51</u>	<u>7/2020</u>	<u>10.</u>	<u>24.77</u>	<u>9.83</u>	<u>-195.7</u>	<u>P</u> /F	L/F
ICV	<u>↓</u>	<u>↓</u>	<u>8:40</u>	<u>2904L54</u>	<u>3/2021</u>	<u>7</u>	<u>24.69</u>	<u>7.04</u>	<u>-22.2</u>	<u>P</u> /F	L/F
CCV	<u>AKalmbacher</u>	<u>7-8-19</u>	<u>1407</u>	<u>2901B51</u>	<u>7/2020</u>	<u>10.0</u>	<u>24.7</u>	<u>10.03</u>	<u>-199.7</u>	<u>P</u> /F	<u>L</u> /F
CCV										P/F	L/F

pH Acceptance criteria ± 0.2 SU; mV pH 7 Range 0 ± 50 ;

mV pH 4 Range $+180 \pm 50$;

mV pH 10 Range -180 ± 50 ;

If mV are recorded: slope from 7 to 10 _____, slope from 4 to 7 _____ (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: _____; Date of last verification: _____

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 $\pm 5\%$ or ± 0.05 m, whichever is greater.

COMMENTS:

CR 7/8/19

CYANOBACTERIA BLOOM RESPONSE FIELD DATA SHEET (7-6-06 V2)									
WATERBODY Doctors Lake			DATE (M/D/YY) 7/8/2019		TIME: (AM) 1100		Case ID#		
COUNTY: Clay			LOCATION: Docs Lk - Boy Scout Camp			NEAREST TOWN/CITY:			
Visit Type: Initial ☐ Recon ☐ Sampling ☒ Follow-up ☐		Samples collected: ☒ yes ☐ no		Samples submitted to:		Photos Taken: ☒ yes ☐ no			
Sample & Analysis types:		Aqueous: ☒ Surface Scum: ☐ Benthic mat: ☐ Tissue: ☐							
Algal ID & enumeration: ☐		Nutrients: ☐ Chl-a: ☐ AGP: ☐ Turbidity: ☐ Toxin: ☐							
Estimated size of bloom:		Impounded: ☐ yes ☐ no		Stream/River/Canal ☐ m wide					
Lake/Estuary Typical depth ☐ m deep		Inflows: ☐ yes ☐ no		Typical Transect ☐ m deep		☐ m deep		☐ m deep	
Outflows: ☐ yes ☐ no				Water velocity ☐ m/s		☐ m/s		☐ m/s	
				Left bank		Middle		Right bank	
Canopy Cover: Open: ☒ Lightly Shaded (11-45%): ☐ Moderately Shaded (46-80%): ☐ Heavily Shaded: ☐									
Description of Bloom/ Partly Cloudy, Humid, High Ecs ~ 5-10 mph breeze			Latitude 36 09.03 0.39		Longitude -81 43 425				
			Degrees Minutes Seconds		Degrees Minutes Seconds				
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.									
Last rain event									
Rainfall amount									
WATER QUALITY									
Depth (m):	Temp. (°C):	pH (SU):	D.O. (mg/l):	Cond. (µmho/cm) or Salinity (ppt):	5m	7m	9m	Secch (m)	
Top	0.3	30.2	8.57	9.63	129		127		
Mid-depth					4302	2.27			0.5
Bottom	1.7								
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: ☐ Globbs: ☐ Slick: ☐									
Water Clarity (check box): Clear: ☒ Slightly turbid: ☒ Turbid: ☐ Opaque: ☐									
Bloom Color (check box): Green: ☒ OLIVE Red: ☐ Brown: ☐ Other: ☐									
Notes Sample grabbed @ 0.1m					Abundance: Periphyton ☒ Absent ☐ Rare ☐ Common ☐ Abundant ☐ Fish ☒ Aquatic Macrophytes ☒ Iron/sulfur Bacteria ☒				

VISIT TEAM:

FDEP/NZRC AGENCY:

SULFURIC ACID <51%
DANGER
7004-35-9
7732-18-0
Contains: 1.1 H2SO4
MAY BE CORROSIVE TO METALS. Causes severe skin burns and eye damage. Do not breathe fumes/vapors. Wash thoroughly after handling. Use only outdoors or in a well ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. Avoid contact with skin. If swallowed: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/Peel off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Store locked up. Store in corrosion resistant container with a resistant inner liner.

See Safety Data Sheet (SDS)
Contains: 1.1 H2SO4
Lot No.: S4834070
Expires: 12/10/19

AB-17-1.7

(7-6-06 V2)

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

Description of Bloom/ Latitude 30 8 9.22 Longitude -81 42 138
Degrees Minutes Seconds Degrees Minutes Seconds

Present Weather conditions
Hdt. hom. tpt cloudy out going tide : -81.702292

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.

Last rain event _____

Rainfall amount _____

WATER QUALITY		Depth (m):	Temp. (°C):	pH (SU):	D.O. (mg/l):	Cond. (µmho/cm) or Salinity (ppt):	DO%	Secch (m)
Top	0.3	30.3	8.22	8.77	4148	2.18	117	0.5
Mid-depth								
Bottom	4.0							
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: ☐	Turbid: ☐	Opaque: ☐			
Bloom Color (check box):		Green: ☒	Red: ☐	Brown: ☐	Other: ☐			
Notes				Abundance: Absent Rare Common Abundant Periphyton ☒ ☐ ☐ ☐ Fish ☒ ☐ ☐ ☐ Aquatic Macrophytes ☒ ☐ ☐ ☐ Iron/sulfur Bacteria ☒ ☐ ☐ ☐				

VISIT TEAM:

FIDEL/NEROC AGENCY:

**SULFURIC
ACID <51%**

DANGER
7504-03-5
7732-18-6

 Contains: 1.1 H2SO4

May be corrosive to metals. Causes severe skin burns and eye damage. Do not breathe fumes/vapors/sprays. Wash thoroughly with plenty of water after handling outdoors or in a well-ventilated area. Wear protective gloves and eye/face clothing/eye protection/face protection. Wash contaminated clothing before use. If SWALLOWED: rinse mouth. Do not induce vomiting. If INHALED: Remove victim to fresh air. If necessary, give artificial respiration. If on skin: Wash with plenty of water. Eyes: Flush eyes cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Store locked up. Store in corrosive resistant container.

Contains: 1:1 H2SO4
Lot No.: SA8344070
Expires: 12/10/19
See Safely Data Sheet (SDS)

CYANOBACTERIA BLOOM RESPONSE FIELD DATA SHEET

(7-6-08 V2)

WATERBODY <i>Doctors Lake</i>		DATE (M/D/YY): <i>7-8 2019</i>	TIME: (AM) <i>1205</i>	Case ID#:
COUNTY: <i>Clay</i>	LOCATION: <i>East of Boat Ramp</i>		NEAREST TOWN/CITY:	
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: ☐				
Estimated size of bloom:		Impounded: ☐ yes ☐ no	Stream/River/Canal ☐ m wide	
Lake/Estuary Typical depth: ☐ m deep	Inflows: ☐ yes ☐ no	Typical Transect: ☐ m deep	☐ m deep	☐ m deep
Outflows: ☐ yes ☐ no	Water velocity: ☐ m/s	☐ m/s	☐ m/s	☐ m/s
		Left bank	Middle	Right bank

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

Description of Bloom/ Latitude: *30* *7* *370* Longitude: *-81* *43* *226*
Degrees Minutes Seconds

Present Weather conditions: *Hot, humid, pt. cloudy, outgoing tide* *calm*
30.122863 *-81.720388*

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

Last rain event

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

Rainfall amount

WATER QUALITY	Depth (m):	Temp. (°C):	pH (SU):	D.O. (mg/l):	Cond. (µmho/cm) or Salinity (ppt):	Sal	% DO	Secch(m)
Top	<i>0.3</i>	<i>30.3</i>	<i>8.63</i>	<i>9.57</i>	<i>4328</i>	<i>2.28</i>	<i>128.</i>	
Mid-depth								<i>0.5</i>
Bottom	<i>0.7</i>							

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: ☐ Globbs: ☐ Slick: ☐

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

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

Notes	Abundance:	Absent	Rare	Common	Abundant
<i>Sample grabbed @ 0.1 m</i>	Periphyton	☒	☐	☐	☐
	Fish	☒	☐	☐	☐
	Aquatic Macrophytes	☒	☐	☐	☐
	Iron/sulfur Bacteria	☒	☐	☐	☐

VISIT TEAM:

FDEP/NE REC AGENCY:

SULFURIC ACID <51%
DANGER
1908-53-9
7732-18-9
Contains: 1.1 H2SO4
MAY BE CORROSIVE TO METALS. Causes severe skin burns and eye damage. Do not breathe fumes/vapors. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. Wash contaminated clothing before reuse. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/Take off contaminated clothing. Rinse skin with water/shower. IF SWALLOWED: Rinse victim to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Store locked up. Store in corrosion-resistant container with a unidirectional liner.

Contains: 1.1 H2SO4
Lot No.: S48197090
Expires: 07/16/19
See Safety Data Sheet (SDS)

Florida Department of Environmental Protection
Central Laboratory Submittal Form

Algae Bloom Response-as needed

Customer: WQAP

Requester: Jeremy M. Parrish

Field Report Prepared By: C. Ruben

Project ID: BLOOM-RESP

Collected By: C. Ruben / A. Kalmbacher / K. Appleby / B. Davis
Sampling Agency: FDEP DEAR NE ROC

Location		☐ Comp ☒ Grab		Collection (comp begin or grab) Date <u>7/8/19</u> Time <u>1100</u>		☒ Eastern ☐ Central		Composite end Date _____ Time _____		Bottle Group(s) (See pg 2)	
Field ID <u>Drs LK - Boy Scout Camp</u>		Matrix (type, e.g., Salt, Fresh, etc) <u>Fresh</u>		Diss. Oxygen <u>9.63</u>		☒ mg/L ☐ % sat		Total Res. Chlorine (mg/L) <u>—</u>		A, B C, D	
WIN/STORET #		Temp (C) <u>30.2</u>		pH <u>8.57</u>		Sample Depth <u>0.1</u>		☐ ft ☒ m		Sp. Conductance (umho/cm) <u>4,302</u>	
Latitude <u>30.150614</u> ☒ dd ☐ dms		Longitude <u>-81.723724</u> ☒ dd ☐ dms		Salinity (ppt) <u>2.27</u>		Comments					
Location		☐ Comp ☒ Grab		Collection (comp begin or grab) Date <u>7/8/19</u> Time <u>1145</u>		☒ Eastern ☐ Central		Composite end Date _____ Time _____		Bottle Group(s)	
Field ID <u>Mouth of Drs. Lake</u>		Matrix (type, e.g., Salt, Fresh, etc) <u>Fresh</u>		Diss. Oxygen <u>8.77</u>		☒ mg/L ☐ % sat		Total Res. Chlorine (mg/L) <u>—</u>		A, B C, D	
WIN/STORET #		Temp (C) <u>30.3</u>		pH <u>8.22</u>		Sample Depth <u>0.1</u>		☐ ft ☒ m		Sp. Conductance (umho/cm) <u>4148</u>	
Latitude <u>30.148697</u> ☒ dd ☐ dms		Longitude <u>-81.702292</u> ☒ dd ☐ dms		Salinity (ppt) <u>2.18</u>		Comments					
Location		☐ Comp ☒ Grab		Collection (comp begin or grab) Date <u>7/8/19</u> Time <u>1205</u>		☒ Eastern ☐ Central		Composite end Date _____ Time _____		Bottle Group(s)	
Field ID <u>East of Boat Ramp</u>		Matrix (type, e.g., Salt, Fresh, etc) <u>Fresh</u>		Diss. Oxygen <u>9.57</u>		☒ mg/L ☐ % sat		Total Res. Chlorine (mg/L) <u>—</u>		A, B C, D	
WIN/STORET #		Temp (C) <u>30.3</u>		pH <u>8.63</u>		Sample Depth <u>0.1</u>		☐ ft ☒ m		Sp. Conductance (umho/cm) <u>4328</u>	
Latitude <u>30.122863</u> ☒ dd ☐ dms		Longitude <u>-81.720388</u> ☒ dd ☐ dms		Salinity (ppt) <u>2.28</u>		Comments					
Location		☐ Comp ☒ Grab		Collection (comp begin or grab) Date <u>7/8/19</u> 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		Longitude		Salinity (ppt)		Comments					

Relinquished By: <u>Chynne</u>	Date/Time <u>7/8/19 1515</u>	Shipping Method <u>Fedex</u>	Number of Coolers Shipped: <u>2</u>	Received By:	Date/Time
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Group: A	Bottle Type:	PT-50ML	# of Bottles: 9	Preservative:	ICE	Enter Number of Bottles Sent to Lab	3
BLOOM-ID							
Group: B	Bottle Type:	BG-250ML-WDMT H	# of Bottles: 9	Preservative:	ICE	Enter Number of Bottles Sent to Lab	3
W-MCYST-AA							
Group: C	Bottle Type:	BP-1L	# of Bottles: 9	Preservative:	ICE	Enter Number of Bottles Sent to Lab	3
CHLSUITE-W							
Group: C	Bottle Type:	P-500ML	# of Bottles: 9	Preservative:	ICE And H2SO4	Enter Number of Bottles Sent to Lab	3
W-NH3							
W-NO2NO3							
W-S-A-TP							
W-TKN							
Group: C	Bottle Type:	P-125ML	# of Bottles: 9	Preservative:	FILTER-ICE	Enter Number of Bottles Sent to Lab	3
W-PO4-F							
Group: D	Bottle Type:	BP-1L	# of Bottles: 9	Preservative:	Lugols	Enter Number of Bottles Sent to Lab	3
DTY-QN-C							
PKD-QN-BV							