

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: Shrimp Trep

RQ: 2019-08-19-55

Project: SMP

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

6/5/19

DO DEP SOP FT 1500	Name	Date ²²	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.	Mike Drennan	8/23/19	710	23.7	760.6	8.5	8.48	100.1	—	1.039	P/F	L/F
ICV				23.6	760.6	8.5	8.48	100.1	—	—	P/F	L/F
CCV	Leaf Bonner		13:50	23.6	760.4	8.5	8.52	100.5	—	—	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 ²²	Time CT-ET	Lot #	Expir. Date	Standard μ mhos/cm	Meter Reading μ mhos/cm	Pass / Fail	Lab / Field
Calibr.	Mike Drennan	8/23/19	710	181219A	12/19	1000	1000	P/F	L/F
ICV				190403	4/20	100	103.9	P/F	L/F
CCV	Leaf Bonner		13:50	190403	04/20	100	102.5	P/F	L/F
CCV								P/F	L/F

Conductivity Acceptance criteria $\pm 5\%$

pH DEP SOP FT 1100	Name	Date ²²	Time CT-ET	Lot #	Expir. Date	pH Buffer SU	Temp °C	Meter reading SU	mV	Pass / Fail	Lab / Field
Calibr.	Mike Drennan	8/23/19	710	180888	3/20	7.00	23.9	7.00	-34.3	P/F	L/F
Calibr.				187827	11/20	4.00	24.2	4.00	140.3	P/F	L/F
Calibr.				190071	1/21	10.01	24.3	10.01	-221.6	P/F	L/F
ICV				190071	1/21	10.01	24.3	10.04	-221.1	P/F	L/F
CCV	Leaf Bonner		13:50	187827	11/20	4.00	23.8	4.10	136.3	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 $+180 \pm 50$;

mV pH 10 Range -180 ± 50 ;

If mV are recorded: slope from 7 to 10 187.3, slope from 4 to 7 174.6 (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: 7/5/19

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	Mike Drennan	8/22/19	710	0.272	0.272	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:

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: Crow Daddy

RQ: 2019-08-05-54

Project: 3MP

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 7/5/19

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.	Mike Linger	8/22/19	805	23.8	759.6	8.4	8.46	100.0	-	1.0242	(P) F	(L) F
ICV			1	23.7	759.6	8.4	8.43	99.9	-	-	(P) F	(L) F
CCV			1700	23.2	757.9	8.5	8.51	99.8	-	-	(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 μ mhos/cm	Meter Reading μ mhos/cm	Pass / Fail	Lab / Field
Calibr.	Mike Linger	8/22/19	805	181219A	12/19	1000	1000	(P) F	(L) F
ICV			1	190403	4/20	100	103.5	(P) F	(L) F
CCV			1700	190403	4/20	100	103.8	(P) F	(L) F
CCV								P / F	L / F

Conductivity Acceptance criteria $\pm 5\%$

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.	Mike Linger	8/22/19	805	180888	3/20	7.00	24.2	7.01	-14.9	(P) F	(L) F
Calibr.				197827	11/20	4.00	24.2	4.00	161.6	(P) F	(L) F
Calibr.				190071	01/21	10.01	24.2	10.01	-191.0	P / F	(L) F
ICV				190071	01/21	10.01	24.3	10.00	-190.8	(P) F	(L) F
CCV			1700	19071	01/21	10.01	24.2	10.09	-195.7	(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 $+180 \pm 50$;

mV pH 10 Range -180 ± 50 ;

If mV are recorded: slope from 7 to 10 176.1, slope from 4 to 7 176.5 (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: 7/5/19

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	Mike Linger	8/22/19	830	0.272	0.272	(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:

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

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Meter ID: SCUD Bucket

RQ- 2019-08-19-47

Project: Algal Response

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 5/20/19

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>N. Ayala</u>	<u>8/22/19</u>	<u>932</u>	<u>23.8</u>	<u>760.9</u>	<u>8.4</u>	<u>8.40</u>	<u>100.0</u>	<u>-</u>	<u>1.0159</u>	<u>P/F</u>	<u>D/F</u>
ICV	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>23.8</u>	<u>760.9</u>	<u>8.4</u>	<u>8.39</u>	<u>99.2</u>	<u>-</u>	<u>-</u>	<u>P/F</u>	<u>D/F</u>
CCV	<u>T. Rorden</u>	<u>↓</u>	<u>1600</u>	<u>24.3</u>	<u>758.6</u>	<u>8.4</u>	<u>8.35</u>	<u>99.9</u>	<u>-</u>	<u>-</u>	<u>P/F</u>	<u>D/F</u>
CCV											<u>P/F</u>	<u>L/F</u>

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 μ mhos/cm	Meter Reading μ mhos/cm	Pass / Fail	Lab / Field
Calibr.	<u>Natalie Ayala</u>	<u>8/22/19</u>	<u>0941</u>	<u>1812FA</u>	<u>12/19</u>	<u>1000</u>	<u>1000</u>	<u>P/F</u>	<u>D/F</u>
ICV	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>181219B</u>	<u>12/19</u>	<u>5900</u>	<u>50992</u>	<u>P/F</u>	<u>D/F</u>
CCV	<u>T. Rorden</u>	<u>↓</u>	<u>1600</u>	<u>181219B</u>	<u>12/19</u>	<u>50,000</u>	<u>51098</u>	<u>P/F</u>	<u>D/F</u>
CCV								<u>P/F</u>	<u>L/F</u>

Conductivity Acceptance criteria $\pm 5\%$

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.	<u>Natalie Ayala</u>	<u>8/22/19</u>	<u>0943</u>	<u>180888</u>	<u>3/20</u>	<u>7.00</u>	<u>24.2</u>	<u>7.00</u>	<u>-23.7</u>	<u>P/F</u>	<u>D/F</u>
Calibr.	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>187827</u>	<u>11/20</u>	<u>4.00</u>	<u>24.2</u>	<u>4.00</u>	<u>143.9</u>	<u>P/F</u>	<u>D/F</u>
Calibr.	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>190071</u>	<u>01/21</u>	<u>10.01</u>	<u>24.3</u>	<u>10.01</u>	<u>-200.6</u>	<u>P/F</u>	<u>D/F</u>
ICV	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>190071</u>	<u>01/21</u>	<u>10.01</u>	<u>24.3</u>	<u>10.03</u>	<u>-200.4</u>	<u>P/F</u>	<u>D/F</u>
CCV	<u>T. Rorden</u>	<u>↓</u>	<u>1600</u>	<u>190071</u>	<u>01/21</u>	<u>10.01</u>	<u>23.9</u>	<u>10.19</u>	<u>-209.2</u>	<u>P/F</u>	<u>D/F</u>
CCV										<u>P/F</u>	<u>L/F</u>

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 10 176.9, slope from 4 to 7 147.6 (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: 7/5/19

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						<u>P/F</u>	<u>L/F</u>

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

COMMENTS: