

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: Craw Daddy

RQ: 2019-07-08-68

Project: SMP HAB

- 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 Drennan	7/17/19	715	23.6	761.6	8.5	8.50	100.2	—	1.0380	P/F	L/F
ICV				23.6	761.6	8.5	8.51	100.3	—	—	P/F	L/F
CCV			1435	24.4	761.0	8.4	8.33	99.7	—	—	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 mos/cm	Meter Reading μ mos/cm	Pass / Fail	Lab / Field
Calibr.	Mike Drennan	7/17/19	715	181219A	12/19	*1000	1000	P/F	L/F
ICV				190129	2/20	100	103	P/F	L/F
CCV			1435	190129	2/20	*		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 Drennan	7/17/19	715	180888	3/20	7.00	24.1	7.00	-8.8	P/F	L/F
Calibr.				187827	11/20	4.00	24.1	4.00	166.2	P/F	L/F
Calibr.				186877	10/20	10.01	24.1	10.01	-187.5	P/F	L/F
ICV				186877	10/20	10.01	24.1	10.01	-187.1	P/F	L/F
CCV			1435	186877	10/20	10.01	23.7	10.06	-189.2	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 10 178.7, slope from 4 to 7 175.0 (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	7/17/19	715	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:

change plans, ocean algae bloom. sp cond: Calib: 50,000; 50,000 Pass
 ICV: 1,000; 990 Pass
 CCV: 1,000; 987 Pass

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

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Meter ID: Betty 67

RQ-

2019-05-13-35

Project:

HAB

- 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	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>Leif Boman</u>	<u>7/17/19</u>	<u>8:30</u>	<u>23.24</u>	<u>/</u>	<u>8.5</u>	<u>8.54</u>	<u>100.0</u>	<u>45.1</u>	<u>1.1502</u>	<u>P</u> F	<u>D</u> F
ICV	<u> </u>	<u> </u>	<u>1</u>	<u>22.94</u>	<u>/</u>	<u>8.6</u>	<u>8.52</u>	<u>99.2</u>	<u>46.1</u>	<u>/</u>	<u>P</u> F	<u>D</u> F
CCV	<u> </u>	<u> </u>	<u>15:25</u>	<u>22.44</u>	<u>(P)</u>	<u>8.4</u>	<u>8.40</u>	<u>100.2</u>	<u>46.1</u>	<u>1.1502</u>	<u>P</u> F	<u>D</u> F
CCV				<u>24.23</u>							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 hos/cm	Meter Reading μ hos/cm	Pass / Fail	Lab / Field
Calibr.	<u>Leif Boman</u>	<u>7/17/19</u>	<u>8:30</u>	<u>181219A</u>	<u>12/19</u>	<u>1000</u>	<u>1000</u>	<u>P</u> F	<u>D</u> F
ICV	<u> </u>	<u> </u>	<u>1</u>	<u>190129</u>	<u>02/20</u>	<u>100</u>	<u>103</u>	<u>P</u> F	<u>L</u> F
CCV	<u> </u>	<u> </u>	<u>15:25</u>	<u>190129</u>	<u>02/20</u>	<u>100</u>	<u>104</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 #	Expir. Date	pH Buffer SU	Temp °C	Meter reading SU	mV	Pass / Fail	Lab / Field
Calibr.	<u>Leif Boman</u>	<u>7/17/19</u>	<u>8:30</u>	<u>180888</u>	<u>03/20</u>	<u>7.</u>	<u>23.18</u>	<u>7.00</u>	<u>-53.0</u>	<u>P</u> F	<u>D</u> F
Calibr.	<u> </u>	<u> </u>	<u> </u>	<u>187827</u>	<u>11/20</u>	<u>4.</u>	<u>23.54</u>	<u>4.00</u>	<u>116.0</u>	<u>P</u> F	<u>D</u> F
Calibr.	<u> </u>	<u> </u>	<u> </u>	<u>186877</u>	<u>10/20</u>	<u>10.</u>	<u>23.58</u>	<u>10.00</u>	<u>-227.1</u>	<u>P</u> F	<u>L</u> F
ICV	<u> </u>	<u> </u>	<u> </u>	<u>187827</u>	<u>11/20</u>	<u>4.</u>	<u>23.49</u>	<u>4.02</u>	<u>116.7</u>	<u>P</u> F	<u>L</u> F
CCV	<u> </u>	<u> </u>	<u>15:25</u>	<u>186877</u>	<u>10/20</u>	<u>10.</u>	<u>23.51</u>	<u>9.99</u>	<u>-226.4</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 10 174.1, slope from 4 to 7 169.0 (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: KADTHA20 Date of last verification: 3/22/19

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: