

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-2019-12-16-33

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 10/4/19

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 Drennen	12/19/19	720	21.3	760.1	8.9	8.87	100.0	—	10457	P/F	L/F
ICV				21.3	760.2	8.9	8.87	100.1	—	—	P/F	L/F
CCV			1600	21.4	760.0	8.8	9.00	101.9	—	—	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 μ mhos/cm	Meter Reading μ mhos/cm	Pass / Fail	Lab / Field
Calibr.	Mike Drennen	12/19/19	720	181219C	12/19	100000	100000	P/F	L/F
ICV				4/20	191003	1000	997	P/F	L/F
CCV			1600	4/20	191603	1000	998	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 Drennen	12/19/19	720	1/21	188510	7.01	21.6	7.01	-28.8	P/F	L/F
Calibr.				193247	5/21	4.00	21.6	4.00	148.2	P/F	L/F
Calibr.				190071	1/21	10.05	21.2	10.05	-205.4	P/F	L/F
ICV				190071	1/21	10.05	21.2	10.04	-205.1	P/F	L/F
CCV			1600	190071	1/21	10.04	22.1	10.08	-208.0	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 10 176.6, slope from 4 to 7 177 (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: 10/4/19

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 Drennen	12/19/19	720	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: Shrimp Top

RQ- 2019-04-08-36

Project: SMP

2019-12-30-19

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 12/06/19

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>12/19/19</u>	<u>8:35</u>	<u>21.0</u>	<u>760.4</u>	<u>8.9</u>	<u>8.90</u>	<u>100.2</u>	<u>/</u>	<u>1.03183</u>	<u>P/F</u>	<u>L/F</u>
ICV	<u>1</u>	<u>1</u>	<u>1</u>	<u>21.2</u>	<u>760.4</u>	<u>8.9</u>	<u>8.90</u>	<u>100.3</u>	<u>/</u>	<u>/</u>	<u>P/F</u>	<u>L/F</u>
CCV	<u>1</u>	<u>1</u>	<u>15:40</u>	<u>21.0</u>	<u>759.9</u>	<u>8.9</u>	<u>9.00</u>	<u>100.9</u>	<u>/</u>	<u>/</u>	<u>P/F</u>	<u>L/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>Leif Boman</u>	<u>12/19/19</u>	<u>8:35</u>	<u>191003</u>	<u>10/20</u>	<u>1000</u>	<u>1000</u>	<u>P/F</u>	<u>L/F</u>
ICV	<u>1</u>	<u>1</u>	<u>1</u>	<u>190403</u>	<u>04/20</u>	<u>100</u>	<u>102.7</u>	<u>P/F</u>	<u>L/F</u>
CCV	<u>1</u>	<u>1</u>	<u>15:40</u>	<u>190403</u>	<u>04/20</u>	<u>102.8</u>	<u>102.8</u>	<u>P/F</u>	<u>L/F</u>
CCV						<u>100</u>	<u>(B)</u>	<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>Leif Boman</u>	<u>12/19/19</u>	<u>8:35</u>	<u>188510</u>	<u>01/21</u>	<u>7.02</u>	<u>21.4</u>	<u>7.02</u>	<u>31.6</u>	<u>P/F</u>	<u>L/F</u>
Calibr.	<u>1</u>	<u>1</u>	<u>1</u>	<u>193247</u>	<u>05/21</u>	<u>4.00</u>	<u>21.5</u>	<u>4.00</u>	<u>149.1</u>	<u>P/F</u>	<u>L/F</u>
Calibr.	<u>1</u>	<u>1</u>	<u>1</u>	<u>190071</u>	<u>01/21</u>	<u>10.04</u>	<u>21.3</u>	<u>10.04</u>	<u>206.8</u>	<u>P/F</u>	<u>L/F</u>
ICV	<u>1</u>	<u>1</u>	<u>1</u>	<u>193247</u>	<u>05/21</u>	<u>4.00</u>	<u>21.5</u>	<u>4.00</u>	<u>149.3</u>	<u>P/F</u>	<u>L/F</u>
CCV	<u>1</u>	<u>1</u>	<u>15:40</u>	<u>190071</u>	<u>01/21</u>	<u>10.04</u>	<u>21.6</u>	<u>10.04</u>	<u>207.3</u>	<u>P/F</u>	<u>L/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 10 175.2, slope from 4 to 7 180.7 (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: 11/02/19

If NO, what will be used? (circle one) Secchi Disk Line / Sonar Unique ID: Light; Date of last verification: 12/06/19

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	<u>Leif Boman</u>	<u>12/19/19</u>	<u>8:35</u>	<u>0.272</u>	<u>0.272</u>	<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: