

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: Stump Trap

RQ: 2019-02-18-45

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 11/30/18

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>Lif Boman</u>	<u>2/21/19</u>	<u>8:15</u>	<u>23.9</u>	<u>762.0</u>	<u>8.46</u>	<u>8.46</u>	<u>100.4</u>	<u>/</u>	<u>1.036785</u>	<u>P/F</u>	<u>D/F</u>
ICV	<u> </u>	<u> </u>	<u> </u>	<u>24.0</u>	<u>762.0</u>	<u>8.44</u>	<u>8.45</u>	<u>100.4</u>	<u>/</u>		<u>P/F</u>	<u>D/F</u>
CCV	<u> </u>	<u> </u>	<u>15:15</u>	<u>23.9</u>	<u>762.0</u>	<u>8.44</u>	<u>8.50</u>	<u>100.9</u>	<u>/</u>	<u>1.036785</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>Lif Boman</u>	<u>2/21/19</u>	<u>8:15</u>	<u>180615B</u>	<u>06/19</u>	<u>1000</u>	<u>1000</u>	<u>P/F</u>	<u>D/F</u>
ICV	<u> </u>	<u> </u>	<u> </u>	<u>180615A</u>	<u>06/19</u>	<u>100</u>	<u>103.5</u>	<u>P/F</u>	<u>D/F</u>
CCV	<u> </u>	<u> </u>	<u>15:15</u>	<u>18190129</u>	<u>02/20</u>	<u>100</u>	<u>102.8</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>Lif Boman</u>	<u>2/21/19</u>	<u>8:15</u>	<u>176157</u>	<u>08/19</u>	<u>7.003</u>	<u>23.1</u>	<u>7.01</u>	<u>-14.7</u>	<u>P/F</u>	<u>D/F</u>
Calibr.	<u> </u>	<u> </u>	<u> </u>	<u>183218</u>	<u>07/20</u>	<u>4.008</u>	<u>23.5</u>	<u>4.01</u>	<u>161.9</u>	<u>P/F</u>	<u>D/F</u>
Calibr.	<u> </u>	<u> </u>	<u> </u>	<u>181282</u>	<u>05/20</u>	<u>10.023</u>	<u>23.7</u>	<u>10.02</u>	<u>-197.7</u>	<u>P/F</u>	<u>D/F</u>
ICV	<u> </u>	<u> </u>	<u> </u>	<u>183218</u>	<u>07/20</u>	<u>4.008</u>	<u>23.2</u>	<u>4.02</u>	<u>162.1</u>	<u>P/F</u>	<u>D/F</u>
CCV	<u> </u>	<u> </u>	<u>15:15</u>	<u>181282</u>	<u>05/20</u>	<u>10.033</u>	<u>23.4</u>	<u>10.24</u>	<u>-210.1</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 10 183.0, slope from 4 to 7 176.6 (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: 1/10/19

If NO, what will be used? (circle one) Secchi Disk Line / Sonar Unique ID: KNOTHEAD Date of last verification: 9/21/18

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						<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:

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: Betty 67

RQ- 2019-02-18-42

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 11/30/18

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.	Natalie Ayala	2/21/2019	0917	23.24	760	8.55	8.55	100.1	70.6	1.20	P/F	L/F
ICV	Natalie Ayala	2/21/2019	0919	23.20	760	8.55	8.55	100.2	70.6	—	P/F	L/F
CCV	Natalie Ayala	2/21/19	1552	22.59	760	8.64	8.73	101.0	67.6	—	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.	Natalie Ayala	2/21/2019	0922	1806158	6/19	1000	1000	P/F	L/F
ICV	Natalie Ayala	2/21/2019	0923	190129	2/20	100	103	P/F	L/F
CCV	Natalie Ayala	2/21/19	1555	2706061	6/19	10000	10115	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.	Natalie Ayala	2/21/2019	0924	176157	8/19	7.00	23.36	7.00	-38.2	P/F	L/F
Calibr.	Natalie Ayala	2/21/2019	0927	183218	7/20	4.00	23.48	4.00	134.4	P/F	L/F
Calibr.	Natalie Ayala	2/21/2019	0930	181282	5/20	10.00	23.48	10.00	-212.7	P/F	L/F
ICV	Natalie Ayala	2/21/2019	0932	181282	5/20	10.00	23.48	10.00	-212.5	P/F	L/F
CCV	Natalie Ayala	2/21/2019	1559	183218	7/20	4.00	23.28	9.96	17.8	P/F	L/F
CCV								3.94		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 10 172.6, slope from 4 to 7 172.6 (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: Leadfoot; Date of last verification: 9/21/18

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

COMMENTS: