

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

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

Meter ID: Boop/Non

RQ- 2018-06-04-59

Project: EMP

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.

Circle/Fill In: Lab Calibration or Calibration/Verification on Site

Temperature (Quarterly) FT 1400

Date of Last Temperature Verification

6/1/18

DO DEP SOP FT 1500	Name	Date	Time CT-ET	Temp	D.O. Chart mg/L	Meter D.O. mg/L	% DO	Probe Charge	Probe Gain	Pass / Fail	Lab / Field
Calibr.	T. Riordan	6/11/18	8:00	23.06	8.562	8.60	100.4	40.0	0.92642	<u>P</u> /F	<u>L</u> /F
ICV				22.98	8.578	8.59	100.0	41.0		<u>P</u> /F	<u>L</u> /F
CCV	Liz Bates	6/11/18	12:35	23.27	8.50	8.50	99.7	42.0	0.92642	<u>P</u> /F	<u>L</u> /F
CCV					8.530					P/F	L/F

DO Acceptance criteria from Table ± 0.3 mg/L.

Optical: DO gain range 0.85 to 1.15; DO charge N/A.

Rapid-Pulse Sensors: DO Gain Range 0.7 to 1.4; DO Charge Range 25-75.

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.	T. Riordan	6/11/18	8:00	1803128	3/19	1000	1000	<u>P</u> /F	<u>L</u> /F
ICV				180301	3/19	100	100	<u>P</u> /F	<u>L</u> /F
CCV	Liz Bates	6/11/18	12:35	180301	3/19	100	100	<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	Meter reading SU	mV	Pass / Fail	Lab / Field
Calibr.	T. Riordan	6/11/18	8:00	172189	4/19	7.0	7.00	-23.8	<u>P</u> /F	<u>L</u> /F
Calibr.				176044	8/19	4.0	4.00	153.4	<u>P</u> /F	<u>L</u> /F
Calibr.				176507	9/19	10.0	10.00	-201.7	<u>P</u> /F	<u>L</u> /F
ICV				176044	8/19	4.0	4.04	151.4	<u>P</u> /F	<u>L</u> /F
CCV	Liz Bates	6/11/18	12:35	176507	9/19	10.0	10.00	-201.5	<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 10 177.9, slope from 4 to 7 177.2 (both must be between 165 and 180 mV)

Is meter equipped with depth sensor? Yes / No If yes, list date of last quarterly depth 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:

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

Boldly "X" this box if there is qualified data on this name.

Meter ID: Bathy 1.2

RQ-

Project: SMO

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.

Circle/Fill In: Lab Calibration or Calibration/Verification on Site

Temperature (Quarterly) FT 1400

Date of Last Temperature Verification 6/1/18

DO DEP SOP FT 1500	Name	Date	Time CT-ET	Temp	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>6/1/18</u>	<u>8:30</u>	<u>22.76</u>	<u>8.611</u>	<u>8.62</u>	<u>100.0</u>	<u>58.4</u>	<u>1.06055</u>	<u>P</u> / F	<u>L</u> / F
ICV	<u>1</u>	<u>1</u>	<u>1</u>	<u>22.80</u>	<u>8.611</u>	<u>8.62</u>	<u>100.1</u>	<u>58.4</u>		<u>P</u> / F	<u>L</u> / F
CCV	<u>1</u>	<u>1</u>	<u>15:25</u>	<u>24.37</u>	<u>8.356</u>	<u>8.48</u>	<u>101.4</u>	<u>58.4</u>	<u>1.06055</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; 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>6/1/18</u>	<u>8:30</u>	<u>180312B</u>	<u>03/19</u>	<u>1000</u>	<u>1000</u>	<u>P</u> / F	<u>L</u> / F
ICV	<u>1</u>	<u>1</u>	<u>1</u>	<u>180301</u>	<u>03/19</u>	<u>100</u>	<u>101</u>	<u>P</u> / F	<u>L</u> / F
CCV	<u>1</u>	<u>1</u>	<u>15:25</u>	<u>180301</u>	<u>03/19</u>	<u>100</u>	<u>101</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	Meter reading SU	mV	Pass / Fail	Lab / Field
Calibr.	<u>Leif Boman</u>	<u>6/1/18</u>	<u>8:30</u>	<u>172189</u>	<u>04/19</u>	<u>7.00</u>	<u>7.00</u>	<u>-32.1</u>	<u>P</u> / F	<u>L</u> / F
Calibr.	<u>1</u>	<u>1</u>	<u>1</u>	<u>176044</u>	<u>08/19</u>	<u>4.00</u>	<u>4.00</u>	<u>144.8</u>	<u>P</u> / F	<u>L</u> / F
Calibr.	<u>1</u>	<u>1</u>	<u>1</u>	<u>176507</u>	<u>07/19</u>	<u>10.00</u>	<u>10.00</u>	<u>-208.7</u>	<u>P</u> / F	<u>L</u> / F
ICV	<u>1</u>	<u>1</u>	<u>1</u>	<u>176044</u>	<u>08/19</u>	<u>4.00</u>	<u>4.00</u>	<u>144.9</u>	<u>P</u> / F	<u>L</u> / F
CCV	<u>1</u>	<u>1</u>	<u>15:25</u>	<u>176507</u>	<u>07/19</u>	<u>10.00</u>	<u>10.10</u>	<u>-215.1</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 10 176.6, slope from 4 to 7 176.9 (both must be between 165 and 180 mV)

Is meter equipped with depth sensor? Yes / No If yes, list date of last quarterly depth 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: