

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: DEP#154181

RQ: 2018-11-12-12

Project:

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

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.	P. O'Connor	11-15-18	0740	22.5	757.7	8.66	8.63	99.7	—	—	(P) F (L) F	
ICV	✓	✓	0743	22.6	757.6	8.64	8.62	99.7	—	—	(P) F (L) F	
CCV	A. Kalmbacher	11-15-18	1410	19.8	757.9	9.33	9.25	102.0	—	—	(P) F (L) F	
CCV						9.12					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.	P. O'Connor	11-15-18	0745	181102	11-2019	1000	1000	(P) F (L) F	
ICV	✓	✓	0750	180321A	04-2019	100	101.6	(P) F (L) F	
CCV	A. Kalmbacher	11-15-18	1425	181102	11-2019	1,000	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.	P. O'Connor	11-15-18	0753	2803E45	03-2020	7.00	7.00	23.9	-28.0	(P) F (L) F	
Calibr.			0805	2806975	06-2020	4.00	4.00	24.0	156.0	(P) F (L) F	
Calibr.			0810	1806F31	12-2019	10.00	9.98	24.0	-202.5	(P) F (L) F	
ICV	✓	✓	0815	2803E45	03-2020	7.00	23.9	7.06	-29.0	(P) F (L) F	
CCV	A. Kalmbacher	11-15-18	1430	2806975	06-2020	4.0	23.8	4.02	151.2	(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 _____, slope from 4 to 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: _____

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						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: VSI #3

RQ: 2018-11-12-68

Project: Unnamed 2156

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

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.	J.Purnish	11/15/18	930	22.0	—	8.74	8.78	99.7	—	—	P/F	L/F
ICV	J	11/15/18	932	22.4	—	8.67	8.68	100	—	—	P/F	L/F
CCV	J.Purnish	11/15/18	1438	19.11	—	9.26	9.27	100.0	—	—	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.	J.Purnish	11/15/18	940	181102	11/19	1000	1000	P/F	L/F
ICV	J	11/15/18	943	1470716	6/19	147	152	P/F	L/F
CCV	J.Purnish	11/15/18	1440	1014138	9/19	1413	1422	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.	J.Purnish	11/15/18	945	2803E4C	3/20	7.00	23.8	7.00	154	P/F	L/F
Calibr.	J	11/15/18	947	2806975	6/20	4.00	23.8	4.00	154	P/F	L/F
Calibr.	J	11/15/18	950	1806FS1	12/19	10.00	23.9	9.97	193	P/F	L/F
ICV	J	11/15/18	952	2806975	6/20	4.00	23.8	4.02	152	P/F	L/F
CCV	J.Purnish	11/15/18	1442	1806FS1	12/19	10.0	23.8	10.01	195	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 _____, slope from 4 to 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: _____

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	J.Purnish	11/15/18	953	0.00	0.00	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:

BD 11/27/18 JP 11/20/18