

PH - J QUALIFIED

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

Meter ID:

BIG 7

RQ:

2018-09-03-24

Project:

CONT. MONIT.

Solidly "X" this box if there are quality control data on this page

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

6/19/18

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.	BARRINGTON	9/13/18	0705	25.49	760	8.19	8.20	100.0	1.20	1.20	P/F	L/F
ICV	↓		0707	25.45	760	8.19	8.21	100.2	=	—	P/F	L/F
CCV	BARRINGTON	9/19/18	1435	26.31	760	8.07	8.20	103.1	—	—	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.	BARRINGTON	9/13/18	0709	171211A	12/18	10,000	10000	P/F	L/F
ICV	↓		0711	183218	4/19	100	104	P/F	L/F
CCV	BARRINGTON	9/19/18	1437	2711027	11/19	50,000	49021	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.	BARRINGTON	9/13/18	0713	180084	2/20	6.99	26.15	7.00	-70	P/F	L/F
Calibr.			0714	183218	7/20	4.01	25.57	3.99	24	P/F	L/F
Calibr.			0716	181282	5/20	10.01	25.45	10.01	-161	P/F	L/F
ICV	↓		0718	183218	7/20	4.01	25.41	3.91	-	P/F	L/F
CCV	BARRINGTON	9/19/18	1437	181282	5/20	10.01	24.65	9.13	-	P/F	L/F
CCV										P/F	L/F

pH Acceptance criteria ± 0.2 SU; mV pH 7 Range 0 $\pm$ 50;

mV pH 4 Range +180 $\pm$ 50;

mV pH 10 Range -180 $\pm$ 50;

If mV are recorded: slope from 7 to 10 86, slope from 4 to 7 46 (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: NA; Date of last verification: NA

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 are qualified data on this page.

Meter ID: keys RQ: 2018-09-07-24 Project: Cant Montany

- 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 6/17/18

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.	Gray Smalls	9/18/18	1055	21.6	760	8.78	8.78	100	6.35		P/F	L/F
ICV			1100	21.9	760	8.76	8.77	100.2	63.5		P/F	L/F
CCV	Gray	9/18/18	1435	21.99	760	8.26	8.23	99.4	64.5		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 hos/cm	Meter Reading μ hos/cm	Pass / Fail	Lab / Field
Calibr.	Gray Smalls	9/18/18	1105	180522B	6/19	10000	10,002	P/F	L/F
ICV			1110	180522C	06/19	190	102	P/F	L/F
CCV	Gray Smalls	9/18/18	1440	180340	07/19	50,000	50,622	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.	Gray Smalls	9/18/18	1115	180089	2/20	7.00	24.0	7.0	-7.6	P/F	L/F
Calibr.			1120	183218	7/20	4.00	24.4	4.0	166.3	P/F	L/F
Calibr.			1125	181282	5/20	10.00	24.4	10.9	-183.3	P/F	L/F
ICV			1130	183218	7/20	4.0	24.4	4.91	166.0	P/F	L/F
CCV	Gray Smalls	9/18/18	1445	181282	5/20	10.0	24.12	9.99	-181.7	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: Deeper Blue; Date of last verification: 8/24/18

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:

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: Bio 17

RQ: 2018-09-03-24

Project: Cont Monitoring

- 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 6/19/18

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.	Gray Swank	9/13/18	720	22.5	760	8.66	8.65	100			P/F	L/F
ICV		9/15/18	722	23.6	760	8.47	8.47	99.8			P/F	L/F
CCV	Gray Swank	9/18/18	1450	26.15	760	8.10	8.09	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 hos/cm	Meter Reading μ hos/cm	Pass / Fail	Lab / Field
Calibr.	Gray Swank	9/13/18	727	171211A	12/18	10,000	10,001	P/F	L/F
ICV			730	180321C	4/19	100	104	P/F	L/F
CCV	Gray Swank	9/18/18	1455	2711C27	1/19	50,000	48908	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.	Gray Swank	9/13/18	738	180084	02/20	6.994	25.56	7.0	-46.1	P/F	L/F
Calibr.			739	183218	7/20	4.01	25.47	3.99	129.2	P/F	L/F
Calibr.			742	181282	5/20	10.01	25.38	10.02	-212.6	P/F	L/F
ICV			745	183218	7/20	4.01	25.38	3.95	132.1	P/F	L/F
CCV			1458	181282	5/20	10.0	24.12	10.03	-211.7	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 10 192.1, slope from 4 to 7 169.1 (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: DEEPER SWER; Date of last verification: 8/20/18

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: