

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: 5

RQ: 2018-08-05-24

Project: CONTINUOUS MONITORING

- Notes: (1) Always wait for meter to stabilize before recording any readings. + SMP TELEGRAPH
 (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 12/28/17

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>Long Sndy</u>	<u>3/13/18</u>	<u>725</u>	<u>24.4</u>	<u>8.35</u>	<u>8.33</u>	<u>100</u>	<u>63.5</u>		<u>(P) F</u>	<u>(L) F</u>
ICV	<u>JOHN BARRINGTON</u>	<u>3/13/18</u>	<u>1616</u>	<u>23.90</u>	<u>8.43</u>	<u>8.51</u>	<u>100.9</u>	<u>62.5</u>		<u>(P) F</u>	<u>(L) F</u>
CCV										P / F	L / F
CCV										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.	<u>Long Sndy</u>	<u>3/13/18</u>	<u>730</u>	<u>170728C</u>	<u>8/18</u>	<u>10,000</u>	<u>9998</u>	<u>(P) F</u>	<u>(L) F</u>
ICV	<u>Long Sndy</u>	<u>3/13/18</u>	<u>733</u>	<u>171211D</u>	<u>12/18</u>	<u>500</u>	<u>513</u>	<u>(P) F</u>	<u>(L) F</u>
CCV	<u>JOHN BARRINGTON</u>	<u>3/13/18</u>	<u>1618</u>	<u>2706591</u>	<u>5/19</u>	<u>50,000</u>	<u>49507</u>	<u>(P) F</u>	<u>(L) F</u>
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>Long Sndy</u>	<u>3/13/18</u>	<u>740</u>	<u>176157</u>	<u>8/19</u>	<u>7.0</u>	<u>7.0</u>	<u>-106.3</u>	<u>(P) F</u>	<u>(L) F</u>
Calibr.	<u>Long Sndy</u>	<u>3/13/18</u>	<u>750</u>	<u>177238</u>	<u>10/19</u>	<u>4.0</u>	<u>4.1</u>	<u>-1.9</u>	<u>(P) F</u>	<u>(L) F</u>
Calibr.	<u>GARY SWOREK</u>	<u>3/13/18</u>	<u>752</u>	<u>178507</u>	<u>9/19</u>	<u>10.0</u>	<u>9.9</u>	<u>-215.1</u>	<u>(P) F</u>	<u>(L) F</u>
ICV	<u>GARY SWOREK</u>	<u>3/13/18</u>	<u>754</u>	<u>177238</u>	<u>10/19</u>	<u>4.0</u>	<u>3.9</u>	<u>7.0</u>	<u>(P) F</u>	<u>(L) F</u>
CCV	<u>JOHN BARRINGTON</u>	<u>3/13/18</u>	<u>1620</u>	<u>176507</u>	<u>9/19</u>	<u>10.0</u>	<u>10.12</u>		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 10 108.8, slope from 4 to 7 108.2 (both must be between 165 and 180 mV)

Is meter equipped with depth sensor? Yes / No 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)

Meter ID:

17

RQ:

2018-03-05-24

Project:

CONTINUOUS MONITORING

Holdly "X" this box if there is qualified 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.

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

Temperature (Quarterly) FT 1400

Date of Last Temperature Verification 11/25/18

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.	JOHN BARRINGTON	3/8/18	0710	25.01	8.11	8.26	100.0	NA	1.14	(P) F	(L) F
ICV	JOHN BARRINGTON	3/8/18	0720	25.03	8.11	8.26	100.1	NA	—	(P) F	(L) F
CCV	GARY SMOCK	3/13/18	1620	24.8	8.8	8.7	104.5	N	—	(P) F	(L) F
CCV										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 hos/cm	Meter Reading μ hos/cm	Pass / Fail	Lab / Field
Calibr.	JOHN BARRINGTON	3/8/18	0725	170728C	8/18	10,000	10,003	(P) F	(L) F
ICV	JOHN BARRINGTON	3/8/18	0730	171211C	12/18	1000	1044	(P) F	(L) F
CCV	GARY SMOCK	3/13/18	1640	2706591	05/19	50,000	49399	(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	Meter reading SU	mV	Pass / Fail	Lab / Field
Calibr.	JOHN BARRINGTON	3/8/18	0732	176157	8/19	7.0	7.02	-37.0	(P) F	(L) F
Calibr.	JOHN BARRINGTON	3/8/18	0734	177238	10/19	4.0	4.0	128.5	(P) F	(L) F
Calibr.	JOHN BARRINGTON	3/8/18	0736	176507	9/19	10.0	10.02	-204.2	(P) F	(L) F
ICV	JOHN BARRINGTON	3/8/18	0738	177238	10/19	4.0	4.01	129.2	(P) F	(L) F
CCV	JOHN BARRINGTON	3/13/18	1645	176507	9/19	10.0	10.24	-216.1	(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 10 167.2, slope from 4 to 7 165.5 (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 page.

Meter ID: **B167** RQ- **2018-03-05-24** 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.

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

Temperature (Quarterly) FT 1400

Date of Last Temperature Verification

1/25/18

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.	Gary Snorek	3/8/18	7:32	25.3	8.21	8.21	100	N/A	1.15	(P) F	(L) F
ICV	" "	3/8/18	7:40	25.4	8.2	8.2	100	N/A		(P) F	(L) F
CCV	JOHN BORRINGTON	3/12/18	1633	26.06	8.09	8.02	98.9	N/A		(P) F	(L) F
CCV										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 hos/cm	Meter Reading μ hos/cm	Pass / Fail	Lab / Field
Calibr.	Gary Snorek	3/8/18	7:45	170728C	8/18	10000	10004	(P) F	(L) F
ICV	" "	3/8/18	7:50	171211C	12/18	10000	1049	(P) F	(L) F
CCV	JOHN BORRINGTON	3/13/18	1640	2706591	5/19	50,000	49590	(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	Meter reading SU	mV	Pass / Fail	Lab / Field
Calibr.	Gary Snorek	3/8/18	8:00	176157	8/19	7.0	7.0	-28.3	(P) F	(L) F
Calibr.	Gary Snorek	3/8/18	8:05	177238	10/19	4.0	4.0	147.8	(P) F	(L) F
Calibr.	Gary Snorek	3/8/18	8:10	176597	9/19	10.0	10.0	-204.8	(P) F	(L) F
ICV	Gary Snorek	3/8/18	8:15	177238	10/19	4.0	4.0	150.0	(P) F	(L) F
CCV	JOHN BORRINGTON	3/13/18	1645	176597	9/19	10.0	10.01		(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 **176.5**, slope from 4 to 7 **176.1** (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: