

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: 132237 RQ: 2018-08-20-16 Project: SMP - Chat South

- 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 6/18/18

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.										P / F	L / F
ICV										P / F	L / F
CCV	J. P. Jans	8/20/18	0725	27.0	7.968	7.98	100	-	1.02	P / F	L / F
CCV	N/A	8/20/18	1500	23.6	8.482	8.55	100.8			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.	J. P. Jans	8/20/18	0727	180517B	5/20/19	1000	1000	P / F	L / F
ICV		8/20/18	0729	180325	4/20/19	100	105	P / F	L / F
CCV	N/A	8/20/18	1505	180517C	5/19	5000	4803	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.	J. P. Jans	8/20/18	0731	1710655	10/20/19	7.0	7.0	-41.7	P / F	L / F
Calibr.			0733	2803729	2/20/20	4.0	4.0	137.8	P / F	L / F
Calibr.			0735	2709903	3/20/19	10.0	10.0	-209.6	P / F	L / F
ICV			0737	2709903	3/20/19	10.0	10.0	-	P / F	L / F
CCV	N/A	8/20/18	1510	2803729	2/20	4.0	4.12	125.5	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 10 167.9, slope from 4 to 7 179.5 (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 4/11/18

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	J. P. Jans	8/20/18	0739	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:

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: 154179

RQ: 2018-08-27-06

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 _____

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 / F	L / F
ICV											P / F	L / F
CCV	<u>MK</u>	<u>8/20</u>	<u>0650</u>	<u>25.8</u>	<u>766</u>	<u>8.18</u>	<u>8.25</u>	<u>101.4</u>			<u>(P)</u> F	<u>(L)</u> F
CCV	<u>F Butler</u>	<u>8/20</u>	<u>17:45</u>	<u>20.7</u>	<u>767</u>	<u>8.97</u>	<u>9.05</u>	<u>101.1</u>			<u>(P)</u> F	<u>(L)</u> 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.	<u>MK</u>	<u>8/20</u>	<u>0653</u>	<u>180124C</u>	<u>02/2019</u>	<u>10000</u>	<u>10010</u>	<u>(P)</u> F	<u>(L)</u> F
ICV	<u>MK</u>	<u>8/20</u>	<u>0654</u>	<u>180517B</u>	<u>05/2019</u>	<u>1000</u>	<u>996</u>	<u>(P)</u> F	<u>(L)</u> F
CCV								P / F	L / F
CCV	<u>F Butler</u>	<u>8/20</u>	<u>17:48</u>	<u>180329</u>	<u>04/2019</u>	<u>100</u>	<u>103.1</u>	<u>(P)</u> F	<u>(L)</u> 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.	<u>MK</u>	<u>8/20</u>	<u>0655</u>	<u>1710655</u>	<u>10/2019</u>	<u>7.0</u>	<u>26.8</u>	<u>7.00</u>	<u>14.9</u>	<u>(P)</u> F	<u>(L)</u> F
Calibr.	<u>↓</u>	<u>↓</u>	<u>0656</u>	<u>2803729</u>	<u>02/2020</u>	<u>4.0</u>	<u>26.8</u>	<u>4.00</u>	<u>169.0</u>	<u>(P)</u> F	<u>(L)</u> F
Calibr.	<u>↓</u>	<u>↓</u>	<u>0657</u>	<u>284903</u>	<u>03/2019</u>	<u>10.0</u>	<u>26.8</u>	<u>10.00</u>	<u>186.6</u>	<u>(P)</u> F	<u>(L)</u> F
ICV	<u>↓</u>	<u>↓</u>	<u>0659</u>	<u>2803729</u>	<u>02/2020</u>	<u>4.0</u>		<u>4.03</u>		<u>(P)</u> F	<u>(L)</u> F
CCV										P / F	L / F
CCV	<u>F Butler</u>	<u>8/20</u>	<u>17:50</u>	<u>1710655</u>	<u>10/2019</u>	<u>7.0</u>	<u>23.4</u>	<u>7.08</u>		<u>(P)</u> F	<u>(L)</u> 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: 6/26/18

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	<u>MK</u>	<u>8/20</u>	<u>0705</u>	<u>0.000</u>	<u>0.000</u>	<u>(P)</u> F	<u>(L)</u> F

Report two decimal places. Round numbers ≤ 4 down, ≥ 5 up. ICV acceptance criteria $\pm 5\%$ or ± 0.05 m, whichever is greater.

COMMENTS: