

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: YSI EXO

RQ: 2018-12-03-65

Project: approved 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.	<u>B = 7</u>	<u>12/5/18</u>	<u>853</u>	<u>22.0</u>	<u>765.7</u>	<u>8.74</u>	<u>8.74</u>	<u>100.8</u>	<u>/</u>	<u>/</u>	<u>P/F</u>	<u>L/F</u>
ICV		<u>↓</u>	<u>755</u>	<u>22.1</u>	<u>765.6</u>	<u>8.72</u>	<u>8.81</u>	<u>100.9</u>	<u>/</u>	<u>/</u>	<u>P/F</u>	<u>L/F</u>
CCV	<u>JParrish</u>	<u>12/5/18</u>	<u>1447</u>	<u>21.6</u>	<u>764.8</u>	<u>8.81</u>	<u>8.81</u>	<u>100</u>	<u>-</u>	<u>-</u>	<u>P/F</u>	<u>L/F</u>
CCV											<u>P/F</u>	<u>L/F</u>

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>B = 7</u>	<u>12/5/18</u>	<u>803</u>	<u>181102</u>	<u>11/19</u>	<u>1000</u>	<u>1000</u>	<u>P/F</u>	<u>L/F</u>
ICV		<u>↓</u>	<u>807</u>	<u>1470718</u>	<u>6/19</u>	<u>147</u>	<u>149.7</u>	<u>P/F</u>	<u>L/F</u>
CCV		<u>12/5/18</u>	<u>1450</u>	<u>181102</u>	<u>11/19</u>	<u>1000</u>	<u>1000</u>	<u>P/F</u>	<u>L/F</u>
CCV							<u>1000</u>	<u>P/F</u>	<u>L/F</u>

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>B = 7</u>	<u>12/5/18</u>	<u>818</u>	<u>2809841</u>	<u>8/20</u>	<u>7.00</u>	<u>22.9</u>	<u>7.0</u>	<u>-6.6</u>	<u>P/F</u>	<u>L/F</u>
Calibr.		<u>↓</u>	<u>845</u>	<u>2810832</u>	<u>9/20</u>	<u>4.00</u>	<u>22.5</u>	<u>4.0</u>	<u>174.8</u>	<u>P/F</u>	<u>L/F</u>
Calibr.		<u>↓</u>	<u>848</u>	<u>1806FS1</u>	<u>12/19</u>	<u>10.00</u>	<u>22.6</u>	<u>10.0</u>	<u>-178.4</u>	<u>P/F</u>	<u>L/F</u>
ICV		<u>↓</u>	<u>850</u>	<u>2810832</u>	<u>9/20</u>	<u>4.0</u>	<u>22.5</u>	<u>4.08</u>	<u>169.7</u>	<u>P/F</u>	<u>L/F</u>
CCV	<u>JParrish</u>	<u>12/5/18</u>	<u>1452</u>	<u>2809841</u>	<u>8/20</u>	<u>7.0</u>	<u>22.9</u>	<u>7.17</u>	<u>-12.7</u>	<u>P/F</u>	<u>L/F</u>
CCV										<u>P/F</u>	<u>L/F</u>

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	<u>JParrish</u>	<u>12/5/18</u>	<u>855</u>	<u>0.00</u>	<u>0.0</u>	<u>P/F</u>	<u>L/F</u>

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

COMMENTS:

QC/Scanned BD 12/12/18 JP 12/7/18

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: Pro DSS

RQ- 2018-12-03-27

Project: LSJR Southside

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.	C. Ruben	12-5-18	0730	21.4	760	8.84	8.83	100	—	—	(P) F	(L) F
ICV	↓	↓	0733	21.4	760	8.84	8.83	100	—	—	(P) F	(L) F
CCV	A Kalmbacher	12-5-18	1210	17.3	763.8	9.60	9.62	100.5			(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.	C. Ruben	12-5-18	0735	181102	11/2019	1000	1000	(P) F	(L) F
ICV	↓	12-5-18	0740	180321A	4/2019	100	101	(P) F	(L) F
CCV	A Kalmbacher	12-5-18	1215	1024820	9/2019	24,820	25,031	(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.	C. Ruben	12-5-18	0743	2803E45	3/2020	7.	22.1	7.0	-32.7	(P) F	(L) F
Calibr.	↓	↓	0746	2801975	6/2020	4.	22.2	4.0	146.1	(P) F	(L) F
Calibr.	↓	↓	0749	1801F51	12/2019	10.	22.8	10.0	-24.8	(P) F	(L) F
ICV	↓	↓	0800	2803E45	3/2020	7.0	21.9	7.0	-32.2	(P) F	(L) F
CCV	A Kalmbacher	12-5-18	1217	2806975	6/2020	4.0	22.3	3.97	150.2	(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 ± 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)

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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	C. Ruben	12-5-18	0802	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:

BP QC / scanned 12/17/18 JP 12/7/18