

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: 2019-04-08-18

Project: LSJR Downtown

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	4-16-19	0738	22.0	761	8.8	8.78	100	-	-	(P) F	(L) F
ICV	↓	↓	0740	21.9	761	8.8	8.78	106.2	-	-	(P) F	(L) F
CCV	AKalmbacher	4-16-19	1400	23.6	762	8.5	8.54	100.7	-	-	(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	4-16-19	0742	190319A	3/2020	1000	998	(P) F	(L) F
ICV	↓	↓	0744	190125A	2/2020	100	102	(P) F	(L) F
CCV	AKalmbacher	4-16-19	1405	190319A	3/2020	1.000	1.003	(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	4-16-19	0747	2807A76	6/2020	7.	23.5	7.01	-46.4	(P) F	(L) F
Calibr.			0749	2901A40	1/2021	4.	23.8	3.94	131.8	(P) F	(L) F
Calibr.			0751	2809980	3/2020	10.	23.8	10.0	-220.0	(P) F	(L) F
ICV	↓	↓	0753	2807A76	6/2020	7.0	23.3	7.01	-46.6	(P) F	(L) F
CCV	AKalmbacher	4-16-19	1407	2809980	3/2020	10.0	23.8	10.08	-224.4	(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 _____, 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	C Ruben	4-16-19	0755	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:

BT 4/22/19

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

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Meter ID: YSI MOC

RQ: 2019-04-08-19

Project: SCI Cedar

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 Parnish	4/16/19	815	23.0	764.6	8.6	8.6	100	—	1.035585	P/F	L/F
ICV	J	4/16/19	817	23.0	764.6	8.6	8.64	100.6	—	—	P/F	L/F
CCV	A Kalmbacher	4.16.2019	1600	25.1	764.0	8.3	8.25	100.2			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 DS5 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.	J Parnish	4/16/19	824	140319A	3/20	1000	1000	P/F	L/F
ICV	J	J	826	10141318	01/19	1413	1421	P/F	L/F
CCV	A Kalmbacher	4.16.2019	1610	190319A	3/2020	1,000	999	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 Parnish	4/16/19	0829	2807476	6/20	7.00	23.6	7.00	-32.6	P/F	L/F
Calibr.	N. Reistad	11	0831	2901A40	1/21	4.00	23.6	4.00	145.5	P/F	L/F
Calibr.	11	11	0834	2809980	3/20	10.01	23.8	10.01	-200.2	P/F	L/F
ICV	11	11	0836	2901A40	01/21	4.0	23.9	3.99	144.6	P/F	L/F
CCV	A Kalmbacher	4.16.2019	1615	2809880	3/2020	10.0	24.1	9.98	-198.7	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: _____; 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	N. Reistad	4/16/19	844	0.00	0.02	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:

BT 4/22/19