

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: YSI 11 RQ- LSJR West Coast Project: 2018-03-12-19

- 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 L & B

Temperature (Quarterly) FT 1400 Date of Last Temperature Verification 1/18

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.	<u>B-V-</u>	<u>3/6/18</u>	<u>730</u>	<u>22.2</u>	<u>8.71</u>	<u>8.72</u>	<u>100.2</u>	<u>✓</u>	<u>1.04</u>	<u>P/F</u>	<u>L/F</u>
ICV			<u>731</u>	<u>22.3</u>	<u>8.69</u>	<u>8.69</u>	<u>100.0</u>	<u>✓</u>	<u>1.04</u>	<u>P/F</u>	<u>L/F</u>
CCV			<u>1253</u>	<u>21.25</u>	<u>8.86</u>	<u>8.90</u>	<u>100.4</u>	<u>✓</u>	<u>1.04</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.

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.	<u>B-V-</u>	<u>3/6/18</u>	<u>735</u>	<u>171129A</u>	<u>12/18</u>	<u>1000</u>	<u>1000</u>	<u>P/F</u>	<u>L/F</u>
ICV			<u>737</u>	<u>170315A</u>	<u>3/18</u>	<u>100</u>	<u>105</u>	<u>P/F</u>	<u>L/F</u>
CCV			<u>1255</u>	<u>170720C</u>	<u>8/18</u>	<u>50,000</u>	<u>48,749</u>	<u>P/F</u>	<u>L/F</u>
CCV								<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	Meter reading SU	mV	Pass / Fail	Lab / Field
Calibr.	<u>B-V-</u>	<u>3/6/18</u>	<u>742</u>	<u>2709B15</u>	<u>9/19</u>	<u>7.0</u>	<u>7.0</u>	<u>-4.1</u>	<u>P/F</u>	<u>L/F</u>
Calibr.			<u>745</u>	<u>2711517</u>	<u>10/19</u>	<u>4.0</u>	<u>4.0</u>	<u>152.2</u>	<u>P/F</u>	<u>L/F</u>
Calibr.			<u>750</u>	<u>2708A21</u>	<u>1/19</u>	<u>10.0</u>	<u>9.98</u>	<u>-158.7</u>	<u>P/F</u>	<u>L/F</u>
ICV			<u>755</u>	<u>2709B15</u>	<u>9/19</u>	<u>7.0</u>	<u>7.02</u>	<u>-4.9</u>	<u>P/F</u>	<u>L/F</u>
CCV			<u>1258</u>	<u>2708A21</u>	<u>1/19</u>	<u>10.0</u>	<u>10.01</u>	<u>-159.8</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 $\pm$ 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)

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	<u>B-V-</u>	<u>3/6/18</u>	<u>751</u>	<u>0.00</u>	<u>0.00</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 3/14/18 JP 3/9/18

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: QUANTA #1

RQ- 03-12-22

Project: MASSAU West

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 01-10-18

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.	PO'Connor	03-06-18	0705	22.4	8.67	8.66	99.9	—	—	P/F	L/F
ICV	↓	↓	0710	22.4	8.67	8.67	99.9	—	—	P/F	L/F
CCV	PO'Connor	03-06-18	1525	23.2	8.54	8.65	101.5	—	—	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.	PO'Connor	03-06-18	0713	1711294	12-2018	1000	1000	P/F	L/F
ICV	↓	↓	0715	1703154	03-2018	100	98	P/F	L/F
CCV	PO'Connor	03-06-18	1530	81472017	03-2018	147	146	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.	PO'Connor	03-06-18	0720	2709815	09-2019	7.0	7.00	—	P/F	L/F
Calibr.	↓	↓	0725	2711517	10-2019	4.0	4.00	—	P/F	L/F
Calibr. ICV	↓	↓	0730	2708421	01-2019	10.0	9.99	—	P/F	L/F
ICV CCV	PO'Connor	03-06-18	1533	2709815	09-2019	7.0	7.02	—	P/F	L/F
CCV	↓	↓	1535	2711517	10-2019	4.0	4.03	—	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 N/A, slope from 4 to 7 N/A (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:

QC/Scanned BD 2/15/18 JP 3/9/18