

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 name.

Meter ID: YSE Pi

RQ- 2018-02-26-21

Project: Grille SWL

- 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 Lab

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>JP msh</u>	<u>2/26/18</u>	<u>733</u>	<u>23.26</u>	<u>8.53</u>	<u>8.53</u>	<u>100</u>			<u>P/F</u>	<u>L/F</u>
ICV	<u>L</u>	<u>+</u>	<u>735</u>	<u>23.4</u>	<u>8.51</u>	<u>8.52</u>	<u>100.1</u>		<u>1.00075</u>	<u>P/F</u>	<u>L/F</u>
CCV	<u>AKalmbacher</u>	<u>+</u>	<u>1530</u>	<u>23.7</u>	<u>8.46</u>	<u>8.36</u>	<u>98.8</u>		<u>1.00075</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>AKalmbacher</u>	<u>2-26-18</u>	<u>0740</u>	<u>171129A</u>	<u>12/2018</u>	<u>1000</u>	<u>1.000</u>	<u>P/F</u>	<u>L/F</u>
ICV		<u>+</u>	<u>0743</u>	<u>170315A</u>	<u>3/2018</u>	<u>100</u>	<u>105</u>	<u>P/F</u>	<u>L/F</u>
CCV	<u>AKalmbacher</u>	<u>+</u>	<u>1533</u>	<u>171129A</u>	<u>12/2018</u>	<u>1.000</u>	<u>996</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>AKalmbacher</u>	<u>2-26-18</u>	<u>0747</u>	<u>2709B15</u>	<u>9/2019</u>	<u>7.0</u>	<u>7.0</u>	<u>-3.7</u>	<u>P/F</u>	<u>L/F</u>
Calibr.			<u>0750</u>	<u>2711517</u>	<u>10/2019</u>	<u>4.0</u>	<u>4.0</u>	<u>156.5</u>	<u>P/F</u>	<u>L/F</u>
Calibr.			<u>0753</u>	<u>2708A21</u>	<u>1/2019</u>	<u>10.0</u>	<u>9.99</u>	<u>161.1</u>	<u>P/F</u>	<u>L/F</u>
ICV			<u>0755</u>	<u>2709B15</u>	<u>9/2019</u>	<u>7.0</u>	<u>7.01</u>	<u>-3.4</u>	<u>P/F</u>	<u>L/F</u>
CCV	<u>AKalmbacher</u>	<u>+</u>	<u>1535</u>	<u>2711517</u>	<u>10/2019</u>	<u>4.0</u>	<u>4.01</u>	<u>156.0</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 10 164.8, slope from 4 to 7 160.2 (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>AKalmbacher</u>	<u>2-26</u>	<u>0758</u>	<u>0.0</u>	<u>0.000</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 3/6/18

JP 3/1/18

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 RO: 2018-02-26 Project: Upper East Coast

- 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 Lab

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>2/26/18</u>	<u>751</u>	<u>23.4</u>	<u>8.51</u>	<u>8.51</u>	<u>99.9</u>	<u>-</u>	<u>-</u>	<u>P/F</u>	<u>L/F</u>
ICV			<u>753</u>	<u>23.4</u>	<u>8.51</u>	<u>8.50</u>	<u>99.9</u>	<u>-</u>	<u>-</u>	<u>P/F</u>	<u>L/F</u>
CCV		<u>✓</u>	<u>1440</u>	<u>25.58</u>	<u>8.17</u>	<u>8.19</u>	<u>100.2</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.

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>2/26/18</u>	<u>755</u>	<u>171129A</u>	<u>12/18</u>	<u>1000</u>	<u>1001</u>	<u>P/F</u>	<u>L/F</u>
ICV			<u>757</u>	<u>170315A</u>	<u>3/18</u>	<u>100</u>	<u>98</u>	<u>P/F</u>	<u>L/F</u>
CCV		<u>✓</u>	<u>1442</u>	<u>171129A</u>	<u>12/18</u>	<u>1000</u>	<u>1002</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>2/26/18</u>	<u>808</u>	<u>2709B15</u>	<u>9/19</u>	<u>7.0</u>	<u>7.0</u>	<u>-</u>	<u>P/F</u>	<u>L/F</u>
Calibr.			<u>814</u>	<u>2708A21</u>	<u>1/19</u>	<u>4.0</u>	<u>10.0</u>	<u>-</u>	<u>P/F</u>	<u>L/F</u>
Calibr.						<u>10.0</u>			<u>P/F</u>	<u>L/F</u>
ICV			<u>820</u>	<u>2711517</u>	<u>10/19</u>	<u>4.0</u>	<u>3.92</u>	<u>-</u>	<u>P/F</u>	<u>L/F</u>
CCV		<u>✓</u>	<u>1445</u>	<u>2709B15</u>	<u>9/19</u>	<u>7.0</u>	<u>7.01</u>	<u>-</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 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	<u>N/A</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 BP 4/9/18 JP 3/1/18