

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 D55 RQ: 2019-04-22-13 Project: Swansee North

- 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>AKalmbacher</u>	<u>4-25-19</u>	<u>0855</u>	<u>22.9</u>	<u>757.4</u>	<u>8.6</u>	<u>8.62</u>	<u>100.3</u>			<u>P/F</u>	<u>L/F</u>
ICV			<u>0858</u>	<u>23.0</u>	<u>757.3</u>	<u>8.5</u>	<u>8.54</u>	<u>99.6</u>			<u>P/F</u>	<u>L/F</u>
CCV	<u>AKalmbacher</u>	<u>4-25-19</u>	<u>1540</u>	<u>23.7</u>	<u>755.5</u>	<u>8.4</u>	<u>8.41</u>	<u>99.3</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 D55 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 mhos/cm	Meter Reading μ mhos/cm	Pass / Fail	Lab / Field
Calibr.	<u>AKalmbacher</u>	<u>4-25-19</u>	<u>0800</u>	<u>190319A</u>	<u>03/2020</u>	<u>1,000</u>	<u>1,000</u>	<u>P/F</u>	<u>L/F</u>
ICV			<u>0805</u>	<u>190125A</u>	<u>02/2020</u>	<u>100</u>	<u>109</u>	<u>P/F</u>	<u>L/F</u>
CCV	<u>AKalmbacher</u>	<u>4-25-19</u>	<u>1543</u>	<u>190319A</u>	<u>03/2020</u>	<u>1,000</u>	<u>1,004</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	Temp °C	Meter reading SU	mV	Pass / Fail	Lab / Field
Calibr.	<u>AKalmbacher</u>	<u>4-25-19</u>	<u>0810</u>	<u>2811E61</u>	<u>11/2020</u>	<u>7.</u>	<u>24.3</u>	<u>7.01</u>	<u>-50.1</u>	<u>P/F</u>	<u>L/F</u>
Calibr.			<u>0813</u>	<u>2901A40</u>	<u>1/2021</u>	<u>4.</u>	<u>24.3</u>	<u>4.00</u>	<u>127.5</u>	<u>P/F</u>	<u>L/F</u>
Calibr.			<u>0815</u>	<u>2809980</u>	<u>3/2020</u>	<u>10.</u>	<u>24.2</u>	<u>10.01</u>	<u>-221.2</u>	<u>P/F</u>	<u>L/F</u>
ICV			<u>0817</u>	<u>2811E61</u>	<u>11/2020</u>	<u>7.0</u>	<u>24.3</u>	<u>6.98</u>	<u>-46.8</u>	<u>P/F</u>	<u>L/F</u>
CCV	<u>AKalmbacher</u>	<u>4-25-19</u>	<u>1545</u>	<u>2809980</u>	<u>3/2020</u>	<u>10.0</u>	<u>24.1</u>	<u>10.10</u>	<u>227.5</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 10 171.1, slope from 4 to 7 177.6 (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>AKalmbacher</u>	<u>4-25-19</u>	<u>0820</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:

BT 5/6/19

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: 2019-03-25-08

Project: Thompson SLI

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 2/2019

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 Purnish	4/25/19	730	22.37	758.5	8.7	8.7	99.9	—	—	P/F	L/F
ICV	J Purnish	4/25/19	735	22.4	759.6	8.7	8.7	100.2	—	—	P/F	L/F
CCV	B Davis	4/25/19	1400	22.1	758.4	8.7	8.8	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 mhos/cm	Meter Reading μ mhos/cm	Pass / Fail	Lab / Field
Calibr.	J Purnish	4/25/19	736	190319A	3/20	1000	1000	P/F	L/F
ICV	J	4/25/19	738	1470718	6/19	147	150	P/F	L/F
CCV	B = D =	4/25/19	1402	190319A	3/20	1000	1000	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 Purnish	4/25/19	738	2811G61	11/20	7.01	24.4	7.01	31.2	P/F	L/F
Calibr.	J		740	2901A40	1/21	4.	24.5	4.0	143.7	P/F	L/F
Calibr.	J		745	2809980	3/20	10.	24.4	10.00	201.5	P/F	L/F
ICV	J		750	2901A40	1/21	4.00	24.0	3.98	143.6	P/F	L/F
CCV	B = D =	4/25/19	1405	2811G61	11/20	7.0	24.3	7.11	-35.0	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						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:

BV 5/6/19