CALAMBA WATER DISTRICT

TITLE: OPERATION AND CALIBRATION OF INOLAB PH LEVEL 1

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1.0 PURPOSE

1.1 The objective of this documented information is to provide standard instruction for the operation and calibration of inoLab Level 1.
1.2 To determine and provide the resources needed to ensure valid and reliable results when monitoring or measuring is used to verify the conformity of products and services to requirements.
1.3 To ensure that the resources provided:
a) are suitable for the specific type of monitoring and measurement activities being undertaken;
b) are maintained to ensure continuing fitness for their purpose.
1.4 retain appropriate documented information as evidence of fitness for purpose of the monitoring and measurement resources.

2.0 SCOPE

2.1 The scope applies to the safe operation of the pH meter by the authorized laboratory personnel.
2.2 Measurement traceability. When measurement traceability is a requirement, or is considered by **CWD** to be an essential part of providing confidence in the validity of measurement results, measuring equipment shall be:
a) calibrated or verified, or both, at specified intervals, or prior to use, against measurement standards traceable to international or national measurement standards; when no such standards exist, the basis used for calibration or verification shall be retained as documented information;
b) identified in order to determine their status;
c) safeguarded from adjustments, damage or deterioration that would invalidate the calibration status and subsequent measurement results.

2.3 To determine if the validity of previous measurement results has been adversely affected when measuring equipment is found to be unfit for its intended purpose, and shall take appropriate action as necessary.

3.0 RESPONSIBILITY

3.1 The Head of Laboratory shall manage the administrative and technical operations of the laboratory.
3.2 The Laboratory Analyst must control and maintain the equipment.

4.0 DEFINITION OF TERMS

4.1 Calibration – is the comparison of measurement values delivered by a device under test with those of a calibration standard of known accuracy.

4.2 pH - a numeric scale used to specify the acidity or basicity of an aqueous solution

5.0 PROCESS FLOW STEPS

STEP	INPUT	PROCESS FLOW	OUTPUT	RESPONSIBLE
		START		
1	Inolab Operation Procedure	Place the instrument on a flat surface and protect it against intense light and heat		Laboratory Analyst
2		Press the key		Laboratory Analyst
3		Connect the pH electrode to the instrument. The measuring instrument is ready for operation		Laboratory Analyst
4		Calibrating (pH) ConCal		Laboratory Analyst
5		With select the pH mode and with select the ConCal procedure.		Laboratory Analyst
6		Submerse the pH electrode in the pH 7.0 ± 0.5 buffer solution.		Laboratory Analyst
7		Press the key. The measured pH value appears on the display.		Laboratory Analyst
8		Press the key. The value of the asymmetry (mV) and the sensor symbol appear on the display.		Laboratory Analyst
9		Press the key. SLO(pe) appears on the display.		Laboratory Analyst
		Thoroughly rinse the electrode with distilled water.		Laboratory Analyst
		Submerse the pH electrode in the second buffer solution.		Laboratory Analyst
		A		

STEP	INPUT	PROCESS FLOW	OUTPUT	RESPONSIBLE
		A		
1		Press the key. The second measured pH value appears on the display.		Laboratory Analyst
2		Press the key. The value of the slope (mV/pH) appears on the display.		Laboratory Analyst
3		Press the key. The value of the asymmetry (mV) appears on the display again.		Laboratory Analyst
4		To return to the measuring mode: Press the key.		Laboratory Analyst
5		Connect the electrode to the pH meter		Laboratory Analyst
6		Switch on the meter by pressing the key		Laboratory Analyst
7		Calibrate the measuring system.	Equipment Monitoring Form	Laboratory Analyst
8		Submerse the electrode to the test sample.		Laboratory Analyst
9		Select the measuring mode by pressing the MODE key		Laboratory Analyst
		Wipe the outside of the measuring instrument with a damp, lint free cloth. Disinfect the housing with 70%		Laboratory Analyst
		END		

6.0 PROCESS DETAILS

6.1 Installation

6.1.1 Place the instrument on a flat surface and protect it against intense light and heat

6.1.2 Press the key.

The Display test appears briefly on the display. The instrument then switches automatically to the previously selected measuring mode.

6.1.3 Connect the pH electrode to the instrument. The measuring instrument is ready for operation.

6.2. Calibrating (pH) ConCal

Use two buffer solutions for this procedure:

- pH 7.0 ± 0.5
- any other buffer solution
-

6.2.1 With select the pH mode and with select the ConCal procedure.

6.2.2 Submerse the pH electrode in the pH 7.0 ± 0.5 buffer solution.

6.2.3 Press the key. The measured pH value appears on the display.

6.2.4 Press the key. The value of the asymmetry (mV) and the sensor symbol appear on the display.

6.2.5 Press the key. SLO(pe) appears on the display.

6. 2.6 Thoroughly rinse the electrode with distilled water.

6.2.7 Submerse the pH electrode in the second buffer solution.

6.2.8 Press the key. The second measured pH value appears on the display.

6.2.9 Press the key. The value of the slope (mV/pH) appears on the display.
The sensor symbol shows the evaluation of the electrode after the two-point calibration.

7.0 Press the key. The value of the asymmetry (mV) appears on the display again.

7.1 To return to the measuring mode: Press the key.

6.3 Measuring pH

6.3.1 Connect the electrode to the pH meter.

6.3.2 Switch on the meter by pressing

6.3.3 Calibrate the measuring system.

6.3.4 Submerse the electrode to the test sample.

6.3.5 Select the measuring mode by pressing . The display shows the pH value or the Redox voltage (mV) of the sample.

6.4 Cleaning and Disinfection

6.4.1 Wipe the outside of the measuring instrument with a damp, lint free cloth. Disinfect the housing with 70% alcohol.

7.0 RECORDS RETENTION

7.1 Active Retention – indefinite retention period for current or active documents for both electronic and hardcopy Master Copy.

7.2 Inactive/Archival Retention – shall be kept for active three (3) years or may request for an extension as deemed necessary (hardcopy); for electronic/soft file; it shall be kept in a separate folder named "Obsolete Master Copy/Original".

8.0 REFERENCE

8.1 ISO 9001:2015 QMS Standard
8.2 Quality Manual (Optional)
8.3 Thermo Scientific Waterbath Manual

9.0 ATTACHMENTS

9.1 Equipment Monitoring Form

10.0 DISTRIBUTION LIST

Note 1: Select Relevant Recipient to Appear in below List.

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