

Certificate of Calibration

Al Takamul Yard, North Rumailah South Iraq

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Date of Issue: April 26, 2024

REQUEST NUMBER	: By Contract	APPROVED BY LAB INCHARGE
JOB NUMBER	: QC/JN/24/00192	
CERTIFICATE NUMBER	: QC240426-04	Asjad Rafiq

CUSTOMER DETAILS

Name : Noor Al-Hilal
Department : North Rumaila, Basra

EQUIPMENT IDENTIFICATION AND SPECIFICATIONS

Description : **Hydrometer**
Manufacturer : Alla France
Model : N/A
Location : Noor Al-Hilal Lab
Serial Number : **202095**
Type : Analog
Range : 0.750 to 0.800 g/ml
Calibrated Range : 0.750 to 0.800 g/ml
Readability : 0.001 g/ml
As Found : In Tolerance
Calibrated By : Asjad Rafiq
Calibration Date : April 26, 2024
Calibration Due : April 25, 2025
Last Calibration : NA



ENVIRONMENTAL CONDITIONS DURING TEST

Ambient Temperature : 22.0 ± 2°C Humidity : 40.0 ± 5 % RH Atm. Pressure 1012.0 ± 10 hPa

CALIBRATION METHOD

The calibration method used to determine the density of the hydrometers based on the F.W. Cuckow method, Ref : NIST.SP.250-78r1, for the calibration of reference standard hydrometers. The hydrometer was suspended from a hydrostatic balance and immersed into a temperature controlled bath containing a liquid of known density.

REFERENCE EQUIPMENT USED :

DESCRIPTION	SERIAL NO.	MAKE / MODEL	CALIBRATION DATE	CALIBRATION DUE DATE
Hydrostatic Weighing Balance	1504119242	CGOLDENWALL	August 25, 2023	August 24, 2024
Temperature controlled Bath	FT56689745	MRS SCIENTIFIC	August 25, 2023	August 24, 2024
Known Density Solution	batch No. 8856647	Brightwell Aquatics	NA	May 15, 2025

Measured Values on Unit Under Calibration (M)	Ref. Standard Values (A)	Deviation (D=M-A)	Expanded Uncertainty (U)
g/ml	g/ml	g/ml	± g/ml
0.750	0.750	0.000	0.001
0.756	0.755	0.001	0.001
0.800	0.800	0.000	0.001

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with international practice.

REMARK (S) : ☒ The results are as found (no adjustment done).
☐ The results are post adjustment.

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