

# PROFESSOR J.U. IYASELE

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DEPARTMENT OF CHEMISTRY  
UNIVERSITY OF BENIN

BENIN CITY, NIGERIA

Our Ref: IJU/08033883005/RW/073/2024,

Date: August 03, 2024

## ANALYST'S CERTIFICATE

IN ACCORDANCE WITH THE INSTITUTE OF PUBLIC ANALYST OF NIGERIA DECREE NO. 100 OF 1992

CERTIFICATE NUMBER:00140

The HoD,  
Mechanical Engineering  
Faculty of Engineering, University of Benin  
Benin City Edo State.

Dear Sir/Madam,

### RE: ANALYSIS MECHANICAL ENGINEERING BORE-HOLE WATER

I, the undersigned registered Analyst, certificate number 00140 do here certify that on July 24, 2024, samples of your Bore hole water was submitted to me by you for analysis. The said sample, when in the same condition as received by me was analyzed/ examined by me or under my direction. My findings are stated hereunder

#### PHYSICO CHEMICAL ANALYSIS

Parameter, Unit	Limit, N.I.S. STD	Result
Temperature °C	Ambient	Ambient
Colour, TCU	3.0	Colourless
Odour	Odourless	Odourless
Taste	Tasteless	Tasteless
pH	6.5-8.5	6.65
Turbidity, NTU	5.00	Nil
Conductivity, uS/cm	1000.00	37.02
TDS, mg/l	500	20.36
Suspended Solid, "	0.00	0.00
Hydrocarbon, "	0.0002	Nil
Sodium, "	100	0.42
Nitrate, "	10.00	0.15
Nitrite	0.10	Nil
Sulphate, "	100	7.00
Hardness, CaCO <sub>3</sub> , "	100	12.00

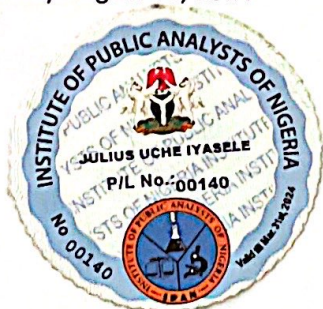
H <sub>2</sub> S, "	0.01	Nil
Detergents, "	0.01	Nil
Iron, "	0.30	0.02
Fluoride"	1.00	Nil
Chloride, "	100.00	1.58
Magnesium, "	0.20	0.02
Manganese"	0.05	0.00
Zinc, "	5.00	0.28
Lead, "	0.01	Nil
Cadmium, "	0.003	Nil
Mercury, "	0.003	Nil
Barium, "	0.05	Nil
Cyanide as CN, "	0.01	Nil
Arsenic, "	0.01	Nil
Copper"	1.000	0.30
Benzene, "	0.002	Nil
Potassium	100.00	0.61

#### MICROBIOLOGY

Parameter, Unit	Limit	Result
Coliform, 100cfu/ml	Nil	Nil
Feacal Streptococci	"	Nil
Specific E. Coli	"	Nil
Yeast/Mould after 5 days	"	22.00

Comment: Your bore hole water sample requires treatment to meet acceptable standard for potable water

As witness my hand this day August 03, 2024



Official signature stamp of Julius Uche Iyasele, Public Analyst, dated 03/08/2024. The stamp includes the text 'JULIUS U. IYASELE', 'SIGNATURE', and 'PUBLIC ANALYST'.

J. U. Iyasele Ph.D

Professor, Public Analyst, Product Formulator, G. Chem