

FEBRUARY 23RD, 2024

Description of Sample: **BOREHOLE WATER**
Sample Source: **NAROK COUNTY**
Submitted By: **EMARTI KASOE PRIMARY SCHOOL**
Customer Contact: **Betterline Water Ltd**
Sampled By: **CLIENT**

Date of Sampling: **05/02/2024**
Date Sample Received: **21/02/2024**
Date of Analysis: **21/02/2024**
Date of Report Issue: **23/02/2024**
Sample ID: **S0513-27460**

PARAMETERS	METHOD	VALUES	KS EAS 12:2018 NATURAL WATER SPECIFICATION	WHO STANDARD	REMARKS
PHYSIO-CHEMICAL ANALYSIS					
pH (pH Units pH)	AQL/TM/HACH/8156	7.53	5.5 - 9.5	6.5 - 8.5	PASS
Colour (Pt. Co. APHA Colour)	AQL/TM/HACH/8025	461	50	15	FAIL
Turbidity (NTU TUB)	AQL/TM/CHEM/10	35.8	25	5.0	FAIL
Total Suspended Solids (mg/L TSS)	AQL/TM/HACH/8006	39	ND	NIL	FAIL
Total Dissolved Solids (mg/L TDS)	AQL/TM/HACH/8160	674	1500	1000	PASS
Electrical Conductivity (uS/cm EC)	AQL/TM/HACH/8160	1365	2500	1500	PASS
P Alkalinity (mg/L CaCO ₃ PA)	AQL/TM/HACH/ISO/9963-1:1994	ND	NS	NS	-
Total Alkalinity (mg/L CaCO ₃ TA)	AQL/TM/HACH/ISO/9963-1:1994	540.1	NS	NS	-
Chloride (mg/L Cl)	AQL/TM/HACH/ISO/9297:2000	160.3	250	250	PASS
Fluoride (mg/L F) ✓	AQL/TM/HACH/8323	5.12	1.5	1.5	FAIL
Sulfate (mg/L SO ₄)	AQL/TM/HACH/8051	191	400	400	PASS
Nitrate (mg/L NO ₃)	AQL/TM/HACH/8358	1.9	45	45	PASS
Phosphate (mg/L PO ₄)	AQL/TM/HACH/8114	< 0.3	2.2	2.2	PASS
Sodium (mg/L Na)	AQL/TM/APHA/3111B	162.7	200	200	PASS
Calcium (mg/L Ca) ✓	AQL/TM/CHEM/07	14.01	150	150	PASS
Magnesium (mg/L Mg) ✓	AQL/TM/CHEM/07	30.67	100	100	PASS
Iron (mg/L Fe)	AQL/TM/APHA/3111B	4.2	0.3	0.3	FAIL
Manganese (mg/L Mn)	AQL/TM/APHA/3111B	0.282	0.1	-	FAIL
Ammonia (mg/L NH ₃)	AQL/TM/HACH/10001	0.26	0.5	0.5	PASS
Copper (mg/L Cu)	AQL/TM/APHA/3111B	< 0.04	1.0	2.0	PASS
Zinc (mg/L Zn)	AQL/TM/APHA/3111B	0.06	5.0	5.0	PASS
Calcium Hardness (mg/L CH) ✓	AQL/TM/CHEM/07	35	NS	NS	-
Magnesium Hardness (mg/L MH) ✓	AQL/TM/CHEM/07	125	NS	NS	-
Total Hardness (mg/L TH) ✓	AQL/TM/CHEM/07	160	600	300	PASS
Silica HR (mg/L SiO ₂)	AQL/TM/HACH/8185	57.9	NS	NS	-

Notes and Disclaimer

KS EAS 153:2018 - Packaged Drinking Water —Specification, KS EAS 12:2018 - Potable Water —Specification, ANSI/AAMI/ISO 23500-3:2019 - Preparation and quality management of fluids for haemodialysis and related therapies—Part 3: Water for haemodialysis and related therapies, EMCR 2006 -Environmental Management and Co-ordination (Water Quality) Regulations 2006, WHO 4th EDITION - World Health Organization Guidelines for Drinking - Water Quality. ISE - Ion Selective Electrode, NS - No Set Standard, ND - Not Detected, TN - Too Numerous, Parameters marked with () are Subcontracted while ✓ are Accredited.

The test report shall not be reproduced except in full without written approval from Aqualytic Laboratories Limited.
The laboratory will not be held responsible for any sampling error. The results relate only to the sample(s) submitted.

Statements of conformity (e.g. Pass/Fail) to specifications are made in this report without taking measurement uncertainty into account except when requested by the customer. The Uncertainty of Measurements applied does not take into account the Sampling aspect for this sample.
Where statements of conformity are made in this report, the following decision rules are applied:

PASS – Results within limits/specifications.
FAIL – Results exceed limits/specifications.

COMMENTS

Based on the tested parameters only, the water sample was found not to conform to the Borehole Water (KS EAS 12:2018 NATURAL WATER SPECIFICATION){failed analytes} Turbidity, Colour, Total Suspended Solids, Fluoride, Iron, Manganese does not meet the set standard. Therefore, treatment is recommended.



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