

Final Report for Fondation Eagle: FF 0684

Key information

a) Donor name: Fondation Eagle

b) Name of Charity and Project: WellBoring (GB-CHC-1142295) - Build 10 new wells

c) Foundation Eagle reference number: FF 0684

d) Date of grant accepted: 27th September 2023

e) Amount: GBP 60'000

f) Number of beneficiaries: 14'124

g) Name and exact location and number of beneficiaries of the project:

School Name	Pupils	Staff	Community
Benon **	995	25	1540
Biketi	800	16	533
Bondeni	592	13	395
Kapkoi Central **	772	19	510
Kapsirowa	666	15	400
Misanga	1110	18	740
Munyaka	877	14	584
Ndalala	530	10	350
Siambe	1065	20	658
Sibanga	1150	22	770
St. John Makutano	900	15	560
	8462	162	5500

^{**} Benon was replaced by Kapkoi Central following Hydrogeological / Geophysical investigations.

- h) Period of Project: October 2023 to December 2023
- i) Conversion rate, date, and amount in local currency:1 GBP:183 KSh, October December 2023, KSh 10'980'000. Budget conversion rate: 1 GBP:180 KSh
- j) Detailed budgets and actual expenditure comparison: Please see the following pages.
- k) Over/underspend: Overspend of £789, against total budget. Please see pages 2 to 6.
- I) Details of progress of the project, achievements, challenges, changes, differences etc, including photographs:



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Summary

Fondation Eagle provided funding to allow WellBoring to develop borewells that provide safe water to a further ten schools, and their local communities: in Trans Nzoia County, Kenya.

The project is now complete.

With this project, the Fondation has helped to provide clean, safe water to approximately 14'000 people that were in desperate need. The ten schools were:

- Biketi
- Bondeni
- Kapkoi Central which replaced Benon
- Kapsirowa
- Misanga
- Munyaka
- Ndalala
- Siambe
- Sibanga
- St. John Makutano

We can confirm that the funds were used correctly and for the purpose they were allocated.

Following the receipt of the formal report concerning the Hydrogeological / Geophysical Investigations for Benon Primary School, WellBoring sought permission to transfer the grant funding for the project planned at this school to another, Kapkoi Central Primary School.

This permission was granted by email on 11th November 2023.

On the following page is a detailed financial report including a breakdown of the expenditure, at the actual exchange rate achieved.

The water quality at each of the wells was checked by the appropriate authorities and found to be good.



Financial breakdown

In summary, the Fondation provided a grant of GBP 60'000 and the final total costs attributable to the project were GBP 65'700. WellBoring expected to contribute GBP 4'910 of the total funding. Based on the final costs, it actually contributed GBP 5'700.

The detailed budget that was initially provided in our grant application is summarised in the table below.

Budget Line Items	Budget total values in GBP
Drilling personnel	8361
Management / Professional fees	3916
Drill supplies	11389
Well supplies	13839
Well pad	435
Other direct costs	12930
Contingency	5087
Total	55957
Value Added Tax 16%	8953
Total	64911

Against the budget for this project Fondation Eagle agreed to provide a grant amount of £60,000. The balancing core funding to be provided from WellBoring's own funds was a total of £4,911.

The budget was put together using an exchange rate of 1 GB Pound to 180 Kenyan Shillings.



Budget/actual expenditure comparison

The following table summarises the actual costs compared to the initial budget.

Budget Line Items	Budget total values in GBP	Actual total costs in GBP	Overspend / (underspend) total costs in GBP
Drilling personnel	8'361	8'224	(137)
Management/Professional fees	3'916	4'177	261
Drill supplies	11'389	14'158	2'769
Well supplies	13'839	13'613	(226)
Well pad	435	428	(7)
Other direct costs	12'930	12'718	212
Contingency	5'087	3'320	(1'767)
Total	55'957	56'638	681
Value Added Tax	8'953	9'062	109
Total	64'911	65'700	789

As a result of the weakening of the Kenyan Shilling, the average actual exchange rate achieved over the course of the project was 1 GB Pound to 183 Kenyan Shillings. When compared to the budgeted rate of 1 GB Pound to 180 Kenyan Shillings, the actual exchange rate achieved resulted in an effective budget increase to 101.7% of the original buying power.

The following table addresses the significant overspends and (underspends).

Budget Line Items	Overspend / (underspend) as a percentage	Reason for overspend / underspend
Drill supplies	24%	The overspend was due to the increased cost of fuel locally, for both transport and the drill. Additionally, extra casing was purchased for 2 schools
Contingency	(35%)	Some of the contingency budget was used as a result of drilling and having to abandon Benon Primary School

On the following pages are tables that provide the details of both the budget and the actual costs incurred at each of the schools.

Detailed budget versus actual costs table

	Budget per well (K.Sh.)	Ndalala	Misanga	Kapkoi Central	Siambe
Director of projects	30,000	30,000	30,000	30,000	30,000
Project Coordinator (PIU)	22,100	22,100	22,100	22,100	22,100
Chief Driller	20,400	20,400	20,400	20,400	20,400
Driller/Welders/driver (4)	72,000	72,000	72,000	72,000	72,000
Office receptionist	6,006	6,006	6,006	6,006	6,006
•	,	·			·
Personnel	150,506	150,506	150,506	150,506	150,506
Accounting services	10,000	10,000	10,000	10,000	10,000
Groundwater testing/soil resistivity	60,480	60,480	60,480	120,000	60,480
Management/Professional fees	70,480	70,480	130,000	70,480	70,480
<u>Management/Professional fees</u>	70,460	70,460	130,000	70,460	70,400
Drilling foam	13,000	13,000	13,000	13,000	13,000
Hydraulic Oil for Rig	15,000	15,000	15,000	15,000	15,000
Hammer/compressor oil	25,000	25,000	25,000	25,000	25,000
Diesel for Compressor use	123,500	142,800	142,800	142,800	142,800
Diesel Rig use (drilling) & Mud pump		<u> </u>	35,700	35,700	
<u> </u>	28,500	35,700	35,700	35,700	35,700
Service Casing	205 000	224 500	224 500	224 500	224 500
<u>Drilling Supplies</u>	205,000	231,500	231,500	231,500	231,500
PVC Casing 10-foot lengths (5.0")	142,800	142,800	142,800	142,800	142,800
Bleach	560	560	560	560	560
Hand pump & accessories	105,750	105,750	105,750	105,750	105,750
Well Supplies	249,110	249,110	249,110	249,110	249,110
	,	-, -	, ,	.,	, ,
Cement	5,600	5,600	5,600	5,600	5,600
Wire Mesh (reinforcement)	1,950	1,950	1,950	1,950	1,950
Binding Wire	280	280	280	280	280
Well Pad	7,830	7,830	7,830	7,830	7,830
Office rental (1/5 space)/utility	8,540	8,540	8,540	8,540	8,540
email & phones	2,520	2,520	2,520	2,520	2,520
Equipment and supply mobilization	84,000	84,000	84,000	84,000	84,000
Support truck fuel to sites	10,000	10,000	10,000	10,000	10,000
Water Quality Analysis	10,080	10,080	10,080	10,080	10,080
Drillers' accommodation	50,000	50,000	50,000	50,000	50,000
Rig Depreciation	57,600	57,600	57,600	57,600	57,600
Annual Maintenance spares pack	10,000	10,000	10,000	10,000	10,000
Other direct costs	232,740	232,740	232,740	232,740	232,740
Contingency 10%	91,567				
Sub Total Direct Costs	1,007,233	942,166	1,001,686	942,166	942,166
VAT 16%	161,157	150,747	160,270	150,747	150,747
Grand Totals	1,168,390	1,092,913	1,161,956	1,092,913	1,092,913

Detailed budget versus actual costs table

	Budget per well (K.Sh.)	Bondeni	Biketi	Sibanga	St John Makutano
Director of projects	30,000	30,000	30,000	30,000	30,000
Director of projects Project Coordinator (PIU)		<u> </u>		22,100	22,100
• ,	22,100	22,100	22,100	,	,
Chief Driller	20,400	20,400	20,400	20,400	20,400
Driller/Welders/driver (4)	72,000	72,000	72,000	72,000	72,000
Office receptionist	6,006	6,006	6,006	6,006	6,006
Personnel	150,506	150,506	150,506	150,506	150,506
Accounting services	10,000	10,000	10,000	10,000	10,000
Groundwater testing/soil resistivity	60,480	60,480	60,480	120,000	60,480
Management/Professional fees	70,480	70,480	130,000	70,480	70,480
<u>Management/Professional fees</u>	70,460	70,460	130,000	70,400	70,460
Drilling foam	13,000	13,000	13,000	13,000	13,000
Hydraulic Oil for Rig	15,000	15,000	15,000	15,000	15,000
Hammer/compressor oil	25,000	25,000	25,000	25,000	25,000
Diesel for Compressor use	123,500	142,800	142,800	142,800	142,800
Diesel Rig use (drilling) & Mud pump	28,500	35,700	35,700	35,700	35,700
Service Casing	20,000	138,000	138,000	00,700	00,700
Drilling Supplies	205,000	369,500	369,500	231,500	231,500
<u>Drining Ouppiles</u>	200,000	000,000	000,000	201,000	201,000
PVC Casing 10-foot lengths (5.0")	142,800	142,800	142,800	142,800	142,800
Bleach	560	560	560	560	560
Hand pump & accessories	105,750	105,750	105,750	105,750	105,750
Well Supplies	249,110	249,110	249,110	249,110	249,110
Cement	5,600	5,600	5,600	5,600	5,600
Wire Mesh (reinforcement)	1,950	1,950	1,950	1,950	1,950
Binding Wire	280	280	280	280	280
Well Pad	7,830	7,830	7,830	7,830	7,830
Office restal (4/5 areas)/tility	0.540	0.540	0.540	0.540	0.540
Office rental (1/5 space)/utility	8,540	8,540	8,540	8,540	8,540
email & phones	2,520 84,000	2,520	2,520	2,520	2,520
Equipment and supply mobilization	· ·	84,000	84,000	84,000	84,000
Support truck fuel to sites	10,000	10,000	10,000	10,000	10,000
Water Quality Analysis	10,080	10,080	10,080	10,080	10,080
Drillers' accommodation	50,000	50,000	50,000	50,000	50,000
Rig Depreciation	57,600	57,600	57,600	57,600	57,600
Annual Maintenance spares pack	10,000	10,000	10,000	10,000	10,000
Other direct costs	232,740	232,740	232,740	232,740	232,740
Contingency 10%	91,567				
Sub Total Direct Costs	1,007,233	1,080,166	1,080,166	942,166	942,166
VAT 16%	161,157	172,827	172,827	150,747	150,747
Grand Totals	1,168,390	1,252,993	1,252,993	1,092,913	1,092,913

Detailed budget versus actual costs table

	Budget per well (K.Sh.)	Munyaka	Kapsirowa
<u> </u>	00.000	22.222	00.000
Director of projects	30,000	30,000	30,000
Project Coordinator (PIU)	22,100	22,100	22,100
Chief Driller	20,400	20,400	20,400
Driller/Welders/driver (4)	72,000	72,000	72,000
Office receptionist	6,006	6,006	6,006
<u>Personnel</u>	150,506	150,506	150,506
A	40.000	40.000	40.000
Accounting services	10,000	10,000	10,000
Groundwater testing/soil resistivity	60,480	120,000	60,480
Management/Professional fees	70,480	70,480	70,480
Drilling foam	13,000	13,000	13,000
Hydraulic Oil for Rig	15,000	15,000	15,000
Hammer/compressor oil	25,000	25,000	25,000
Diesel for Compressor use	123,500	142,800	142,800
Diesel Rig use (drilling) & Mud pump	28,500	35,700	35,700
Service Casing	26,500	35,700	33,700
Drilling Supplies	205,000	231,500	231,500
Diffilling Supplies	203,000	231,500	231,300
PVC Casing 10-foot lengths (5.0")	142,800	142,800	142,800
Bleach	560	560	560
Hand pump & accessories	105,750	105,750	105,750
Well Supplies	249,110	249,110	249,110
Cement	5,600	5,600	5,600
Wire Mesh (reinforcement)	1,950	1,950	1,950
Binding Wire	280	280	280
Well Pad	7,830	7,830	7,830
Office rental (1/5 space)/utility	8,540	8,540	8,540
email & phones	2,520	2,520	2,520
Equipment and supply mobilization	84,000	84,000	84,000
Support truck fuel to sites	10,000	10,000	10,000
Water Quality Analysis	10,080	10,080	10,080
Drillers' accommodation	50,000	50,000	50,000
Rig Depreciation	57,600	57,600	57,600
Annual Maintenance spares pack	10,000	10,000	10,000
Other direct costs	232,740	232,740	232,740
Contingency 10%	91,567		
	· I		1
Sub Total Direct Costs	1.007 233	942 166	942 166
Sub Total Direct Costs VAT 16%	1,007,233 161,157	942,166 150,747	942,166 150,747



Learning from experience

Like previous borehole drilling projects, we faced several challenges that are listed below:

- A positive lesson learnt. This project would have been impossible without the co-operation and the willingness of the community. It would have been very hard to realise the success of this project. The readiness of the communities that we worked with is a crystal-clear sign that the wells drilled in this project will last for many years because of giving the ownership to the locals. They will ensure the proper maintenance of the wells.
- We faced serious loss of air circulation and loose falling clay at St. John Makutano. This necessitated the use of heavy surface casings to help stabilise the borehole column.
- At Biketi school, the hammer bit broke due to the hard rock formation. This
 required us to deploy heavy compressor power to penetrate. A new hammer
 bit was purchased, and the drilling was completed.



Hammer with a broken bit

 Poor terrain; The project's sites are within poor marginalised rural areas where access roads to schools are very bad. Heavy rainfall being experienced in the area was also a hinderance during mobilisation and work.



How we achieved this project

WellBoring collaborated with WellBoring GroundWater in Kenya to implement this project, which focused on providing safe drinking water for 10 primary schools. The project's goal was reached.



Children enjoying water from the newly constructed well at Biketi school



Pump installation at the newly constructed well - Kapsirowa Primary School

Previous water access

None of the chosen schools had access to safe drinking water prior to the project being delivered. In the schools, pupils no longer carry water from their homes in bottles. The schools have started reporting reducing infection of waterborne diseases, improving cleanliness in classrooms and pupils as well as improved hand washing practices.

In all the schools, we introduced "health clubs" which will significantly change attitudes at school and increase self-esteem among pupils. Children were given the vision to influence their families, their communities, and the nation for better health.



Drilling experience and mobilisation

The aim of this project was to provide safe drinking water to students and surrounding villagers at the primary schools, by drilling and constructing bore holes, each of approximately 60-70 meters deep.

In addition, we provided age-appropriate hygiene awareness for students and their family members, along with school leadership and teachers.

At the start of this project, in October, there are heavy rains in greater western Kenya. Trans Nzoia, being in western Kenya, experienced a considerable rate of rainfall. As a result of the rains some routes that were planned to be taken to the sites had roads which were impassable. However, we managed to get to all the sites and drilled in accordance with the technical requirements of each site.

The crew started with the schools in Trans Nzoia East Sub County and progressed to Kwanza sub county for the other schools. Drilling went smoothly, without many hitches, save for a few instances where the soil formation was loose and required reinforcement through the use of steel service casings.



The last stages of installation at Munyaka Primary



The following table summarises information about each of the wells.

School Name	County/Sub County	Contact Person	Contact Number	Static water Level	Yield per hour	Challenges
Biketi	Kwanza	Mr. Odero	712470880	14.3m	2m³	Very hard granite, drillable with heavy compressor power.
Bondeni	Kwanza	Kirwa Murei	724399322	12.3m	5m³	Loose formation (running sand)
Kapkoi Central	Kwanza	Elizabeth Mukoya	711891121	13.5m	3m ³	Loose formation composed of sandy soil
Kapsirowa	Trans Nzoia East	Jeremiah Kanda	723071211	3.2m	10m ³	Drilling though some rock formations
Misanga	Kwanza	Julius Kipyego	717389795	18.1m	2.5m ³	
Munyaka	Trans Nzoia east	Stephen Muyeka	727120120	4.0m	7m ³	Hard formation (granitic rocks) - slow drilling rate
Ndalala	Kwanza	Margret Chephirchir	720700658	2.3m	6m ³	
Siambe	Kwanza	Eden Ifedha	727384357	14.8m	7m³	
Sibanga	Trans Nzoia East	George Mtende	704064668	7.3mts	4m³	
St. John Makutano	Trans Nzoia East	Tuwei Barabara	726306406	17.4m	1.7m ³	Loose soil formation (running sand)

Water quality analysis

Upon completion of each drilling/casing of the boreholes, the hole was flushed using an air compressor to remove all dirt and cuttings to a clean drinkable position. Water samples collected on a one litre bottle was sent to the government laboratory.

Upon receiving positive results from the government laboratories, we embarked on the pad construction and pump installations. Each well was handed over to the schools.

On the following pages you will find the copies of the laboratory results from the schools.



Water quality analysis laboratory results from Biketi Primary School

FORM F/9/1/3



WATER RESOURCES **AUTHORITY**

Water Resources Authority LVSBA Regional Office P.O. Box 666 - 40100, Kisumu Tel:057072025493 Email: kisumuro@gmail.com

Kisumu Water Quality Laboratory P.O. Box 666-40100, Kisumu Tel: 057072025493 Email: kisumuro@gmail.com

Physical-Chemical Laboratory Results Certificate

Report Issue Date:	22/11/2023	Sample No:	Year: 2023
Name of Customer:	WELLBORING	Date Received:	17/11/2023
Address:	Trans Nzoia	Date of Sampling:	23/11/2023
Telephone Number:		Type of Sample:	Potable water
Sample submitted by:	Wellboring	Source of sample:	Biketi Primary
Purpose of sampling:	Water Quality Assessment	Received by:	Lavina Dengu

PARAMETERS	UNIT	ANALYTICAL METHOD	RESULTS	KS EAS 12:2018 STANDARDS (MAX.)
Temperature	°C			-
pН	pH Scale	APHA 4500-H ⁺ B	6.7	6.5-8.5
Colour	mgPt L ⁻¹	APHA 2120 B	5	15
Turbidity	N.T.U	APHA 2130 B	4.5	5
Conductivity (25°C)	μS cm ⁻¹	APHA 2510 B	210	2500
Iron	mg L ⁻¹	APHA 3500-Fe B	0.06	0.3
Manganese	mg L ⁻¹	APHA 3500-Mn B	0.01	0.1
Total Hardness	mgCaCO ₃ L-1	APHA 2340 C	60	300
Total Alkalinity	mgCaCO ₃ L-1	APHA 2320 B	96	500
Fluoride	mg L ⁻¹	APHA 4500-F° C	0.1	1.5
Nitrate	mgNO ₃ L ⁻¹	APHA 4500-NO ₃ D	1.6	45
Sulphate	mg L ⁻¹	APHA 4500-SO ₄ ²⁻ E	2.5	400
Total Dissolved Solids	mg L ⁻¹	APHA 2510 A	105	1500

*Maximum limits for treated potable water; **WHO maximum guideline value; APHA: American Public Health Association (2005) - Standard methods for the examination of water & wastewater

Comments: The water sample performed as shown above. Based on the analyzed parameters water is within the KEBS standards for drinking water.

Beryl Akinyi

Laboratory Analyst

Fanuel Onyango

WATER RESOURCES AUTHORITY

Water Quality and Pollution Control Officer

TEL: 057 2025493 The results contained herein apply to the particular sample(s) tested, whose sample number and tests carried out are as detailed in these results. The information contained here reflects the laboratory's findings as at the time of analysis and based on the samples submitted by the client.



Water quality analysis laboratory results from Bondeni Primary School

FORM F/9/1/3



WATER RESOURCES **AUTHORITY**

Water Resources Authority LVSBA Regional Office P.O. Box 666 - 40100, Kisumu Tel:057072025493 Email: kisumuro@gmail.com

Kisumu Water Quality Laboratory P.O. Box 666-40100, Kisumu Tel: 057072025493 Email: kisumuro@gmail.com

Physical-Chemical Laboratory Results Certificate

Report Issue Date:	22/11/2023	Sample No:	Year: 2023
Name of Customer:	WELLBORING	Date Received:	17/11/2023
Address:	Trans Nzoia	Date of Sampling:	23/11/2023
Telephone Number:		Type of Sample:	Potable water
Sample submitted by:	Wellboring	Source of sample:	Bondeni Primary
Purpose of sampling:	Water Quality Assessment	Received by:	Lavina Dengu

PARAMETERS	UNIT	ANALYTICAL METHOD	RESULTS	KS EAS 12:2018 STANDARDS (MAX.)
Temperature	°C			-
pН	pH Scale	APHA 4500-H ⁺ B	6.7	6.5-8.5
Colour	mgPt L ⁻¹	APHA 2120 B	5	15
Turbidity	N.T.U	APHA 2130 B	4.5	5
Conductivity (25°C)	μS cm ⁻¹	APHA 2510 B	210	2500
Iron	mg L ⁻¹	APHA 3500-Fe B	0.06	0.3
Manganese	mg L ⁻¹	APHA 3500-Mn B	0.01	0.1
Total Hardness	mgCaCO ₃ L-1	APHA 2340 C	60	300
Total Alkalinity	mgCaCO ₃ L-1	APHA 2320 B	96	500
Fluoride	mg L ⁻¹	APHA 4500-F° C	0.1	1.5
Nitrate	mgNO ₃ L ⁻¹	APHA 4500-NO ₃ D	1.6	45
Sulphate	mg L ⁻¹	APHA 4500-SO ₄ ²⁻ E	2.5	400
Total Dissolved Solids	mg L ⁻¹	APHA 2510 A	105	1500

*Maximum limits for treated potable water; **WHO maximum guideline value; APHA: American Public Health Association (2005) - Standard methods for the examination of water & wastewater

Comments: The water sample performed as shown above. Based on the analyzed parameters water is within the KEBS standards for drinking water.

Beryl Akinyi

Laboratory Analyst

Fanuel Onyango

Water Quality and Pollution Control Officer

WATER RESOURCES AUTHORITY

TEL: 057 2025493

The results contained herein apply to the particular sample(s) tested, whose sample number and tests carried out are as detailed in these results. The information contained here reflects the laboratory's findings as at the time of analysis and based on the samples submitted by the client.



Water quality analysis laboratory results from Kapkoi Central Primary School

FORM F/9/1/3



WATER RESOURCES **AUTHORITY**

Water Resources Authority LVSBA Regional Office P.O. Box 666 - 40100, Kisumu Tel:057072025493 Email: kisumuro@gmail.com

Kisumu Water Quality Laboratory P.O. Box 666-40100, Kisumi Tel: 057072025493

Email: kisumuro@gmail.com

Physical-Chemical Laboratory Results Certificate

Report Issue Date:	22/11/2023	Sample No:	Year: 2023
Name of Customer:	WELLBORING	Date Received:	17/11/2023
Address:	Trans Nzoia	Date of Sampling:	23/11/2023
Telephone Number:		Type of Sample:	Potable water
Sample submitted by:	Wellboring	Source of sample:	Kapkoi Central Primary
Purpose of sampling:	Water Quality Assessment	Received by:	Lavina Dengu

PARAMETERS	UNIT	ANALYTICAL METHOD	RESULTS	KS EAS 12:2018 STANDARDS (MAX.)
Temperature	°C			-
pН	pH Scale	APHA 4500-H ⁺ B	6.7	6.5-8.5
Colour	mgPt L ⁻¹	APHA 2120 B	5	15
Turbidity	N.T.U	APHA 2130 B	4.5	5
Conductivity (25°C)	μS cm ⁻¹	APHA 2510 B	210	2500
Iron	mg L ⁻¹	APHA 3500-Fe B	0.06	0.3
Manganese	mg L ⁻¹	APHA 3500-Mn B	0.01	0.1
Total Hardness	mgCaCO ₃ L-1	APHA 2340 C	60	300
Total Alkalinity	mgCaCO ₃ L-1	APHA 2320 B	96	500
Fluoride	mg L ⁻¹	APHA 4500-F° C	0.1	1.5
Nitrate	mgNO ₃ L ⁻¹	APHA 4500-NO ₃ D	1.6	45
Sulphate	mg L ⁻¹	APHA 4500-SO ₄ ²⁻ E	2.5	400
Total Dissolved Solids	mg L ⁻¹	APHA 2510 A	105	1500

*Maximum limits for treated potable water; * *WHO maximum guideline value; APHA: American Public Health Association (2005) - Standard methods for the examination of water & wastewater

Comments: The water sample performed as shown above. Based on the analyzed parameters water is within the KEBS standards for drinking water.

Beryl Akinyi

WATER RESOURCES AUTHORITY

Issued by LAKE VICTORIA SOUTH BASIN AREA BASIN AREA COORDINATION 565 - 40100, KISUMU

Fanuel Onyango

Water Quality and Pollution Control Officer

TP11: 057 2025493
The results contained herein apply to the particular sample(s) tested, whose sample number and tests carried out are as detailed in these results. The information contained here reflects the laboratory's findings as at the time of analysis and based on the samples submitted by the client.



Water quality analysis laboratory results from Kapsirowa Primary School

FORM F/9/1/3



WATER RESOURCES **AUTHORITY**

Water Resources Authority LVSBA Regional Office P.O. Box 666 - 40100, Kisumu Tel:057072025493 Email: kisumuro@gmail.com

Kisumu Water Quality Laboratory P.O. Box 666-40100, Kisumu Tel: 057072025493 Email: kisumuro@gmail.com

Physical-Chemical Laboratory Results Certificate

	•					
Report Issue Date:	22/11/2023	Sample No):		Year:	2023
Name of Customer:	WELLBORING	Date Rece	ived:	17/11/2023		
Address:	Trans Nzoia	Date of Sa	mpling:	23/11/2023		
Telephone Number:		Type of Sa	mple:	Potable water		
Sample submitted by:	Wellboring	Source of	sample:	Kapsirowa Pri	mary	
Purpose of sampling:	Water Quality Assessment	Received I	oy:	Lavina Dengu		

PARAMETERS	UNIT	ANALYTICAL METHOD	RESULTS	KS EAS 12:2018 STANDARDS (MAX.)
Temperature	°C			-
pH	pH Scale	APHA 4500-H ⁺ B	6.7	6.5-8.5
Colour	mgPt L ⁻¹	APHA 2120 B	5	15
Turbidity	N.T.U	APHA 2130 B	4.5	5
Conductivity (25°C)	μS cm ⁻¹	APHA 2510 B	210	2500
Iron	mg L ⁻¹	APHA 3500-Fe B	0.06	0.3
Manganese	mg L ⁻¹	APHA 3500-Mn B	0.01	0.1
Total Hardness	mgCaCO ₃ L-1	APHA 2340 C	60	300
Total Alkalinity	mgCaCO ₃ L-1	APHA 2320 B	96	500
Fluoride	mg L ⁻¹	APHA 4500-F- C	0.1	1.5
Nitrate	mgNO ₃ L ⁻¹	APHA 4500-NO ₃ D	1.6	45
Sulphate	mg L ⁻¹	APHA 4500-SO ₄ ²⁻ E	2.5	400
Total Dissolved Solids	mg L ⁻¹	APHA 2510 A	105	1500

*Maximum limits for treated potable water; **WHO maximum guideline value; APHA: American Public Health Association (2005) - Standard

methods for the examination of water & wastewater

Comments: The water sample performed as shown above. Based on the analyzed parameters water is within the KEBS standards for drinking water.

Beryl Akinyi **Laboratory Analyst** Fanuel Onyango

Water Quality and Pollution Control Officer

WATER RESOURCES AUTHORITY Issued by LAKE VICTORIA SOUTH BASIN AREA BASIN AREA COORDINATOR 66 - 40100, KISUMU

TEL: 057 2025493 The results contained herein apply to the particular sample(s) tested, whose sample number and tests carried out are as detailed in these results. The

information contained here reflects the laboratory's findings as at the time of analysis and based on the samples submitted by the client.



Water quality analysis laboratory results from Misanga Primary School

FORM F/9/1/3



WATER RESOURCES **AUTHORITY**

Water Resources Authority LVSBA Regional Office P.O. Box 666 - 40100, Kisumu Tel:057072025493 Email: kisumuro@gmail.com

Kisumu Water Quality Laboratory P.O. Box 666-40100, Kisumu Tel: 057072025493 Email: kisumuro@gmail.com

Physical-Chemical Laboratory Results Certificate

Report Issue Date:	22/11/2023	Sample No:	Year: 2023
Name of Customer:	WELLBORING	Date Received:	17/11/2023
Address:	Trans Nzoia	Date of Sampling:	23/11/2023
Telephone Number:		Type of Sample:	Potable water
Sample submitted by:	Wellboring	Source of sample:	Misanga Primary
Purpose of sampling:	Water Quality Assessment	Received by:	Lavina Dengu

PARAMETERS	UNIT	ANALYTICAL METHOD	RESULTS	KS EAS 12:2018 STANDARDS (MAX.)
Temperature	٥٢			-
pH	pH Scale	APHA 4500-H ⁺ B	6.7	6.5-8.5
Colour	mgPt L ⁻¹	APHA 2120 B	5	15
Turbidity	N.T.U	APHA 2130 B	4.5	5
Conductivity (25°C)	μS cm ⁻¹	APHA 2510 B	210	2500
Iron	mg L ⁻¹	APHA 3500-Fe B	0.06	0.3
Manganese	mg L ⁻¹	APHA 3500-Mn B	0.01	0.1
Total Hardness	mgCaCO ₃ L-1	APHA 2340 C	60	300
Total Alkalinity	mgCaCO ₃ L-1	APHA 2320 B	96	500
Fluoride	mg L ⁻¹	APHA 4500-F- C	0.1	1.5
Nitrate	mgNO ₃ L ⁻¹	APHA 4500-NO ₃ D	1.6	45
Sulphate	mg L ⁻¹	APHA 4500-SO ₄ ²⁻ E	2.5	400
Total Dissolved Solids	mg L ⁻¹	APHA 2510 A	105	1500

*Maximum limits for treated potable water; **WHO maximum guideline value; APHA: American Public Health Association (2005) - Standard methods for the examination of water & wastewater

Comments: The water sample performed as shown above. Based on the analyzed parameters water is within the KEBS standards for drinking water.

Beryl Akinyi

Laboratory Analyst

Fanuel Onyango

Water Quality and Pollution Control Officer

WATER RESOURCES AUTHORITY

Issued by LAKE VICTORIA SOUTH BASIN AREA BASIN AREA COORDINATOR 66 - 40100, KISUMU

TEL: 057 2025493 The results contained herein apply to the particular sample(s) tested, whose sample number and tests carried out are as detailed in these results. The information contained here reflects the laboratory's findings as at the time of analysis and based on the samples submitted by the client.



Water quality analysis laboratory results from Munyaka Primary School

FORM F/9/1/3



WATER RESOURCES AUTHORITY

Water Resources Authority LVSBA Regional Office P.O. Box 666 - 40100, Kisumu Tel:057072025493 Email: kisumuro@gmail.com Kisumu Water Quality Laboratory P.O. Box 666-40100, Kisumu Tel: 057072025493 Email: kisumuro@gmail.com

Physical-Chemical Laboratory Results Certificate

Report Issue Date:	22/11/2023	Sample No:	Year: 2023
Name of Customer:	WELLBORING	Date Received:	17/11/2023
Address:	Trans Nzoia	Date of Sampling:	23/11/2023
Telephone Number:		Type of Sample:	Potable water
Sample submitted by:	Wellboring	Source of sample:	Munyaka Primary
Purpose of sampling:	Water Quality Assessment	Received by:	Lavina Dengu

PARAMETERS	UNIT	ANALYTICAL METHOD	RESULTS	KS EAS 12:2018 STANDARDS (MAX.)
Temperature	°C			-
pН	pH Scale	APHA 4500-H ⁺ B	6.7	6.5-8.5
Colour	mgPt L ⁻¹	APHA 2120 B	5	15
Turbidity	N.T.U	APHA 2130 B	4.5	5
Conductivity (25°C)	μS cm ⁻¹	APHA 2510 B	210	2500
Iron	mg L ⁻¹	APHA 3500-Fe B	0.06	0.3
Manganese	mg L ⁻¹	APHA 3500-Mn B	0.01	0.1
Total Hardness	mgCaCO ₃ L-1	APHA 2340 C	60	300
Total Alkalinity	mgCaCO ₃ L-1	APHA 2320 B	96	500
Fluoride	mg L ⁻¹	APHA 4500-F° C	0.1	1.5
Nitrate	mgNO ₃ L ⁻¹	APHA 4500-NO ₃ D	1.6	45
Sulphate	mg L ⁻¹	APHA 4500-SO ₄ ²⁻ E	2.5	400
Total Dissolved Solids	mg L ⁻¹	APHA 2510 A	105	1500

*Maximum limits for treated potable water; **WHO maximum guideline value; APHA: American Public Health Association (2005) - Standard methods for the examination of water & wastewater

Comments: The water sample performed as shown above. Based on the analyzed parameters water is within the KEBS standards for drinking water.

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Beryl Akinyi

Laboratory Analyst
WATER RESOURCES AUTHORITY

Issued by LAKE VICTORIA SOUTH BASIN AREA BASIN AREA COORDINATOR 65 - 40100, KISUMU
TEL: 057 2025493

Fanuel Onyango

Water Quality and Pollution Control Officer

The results contained herein apply to the particular sample(s) tested, whose sample number and tests carried out are as detailed in these results. The information contained here reflects the laboratory's findings as at the time of analysis and based on the samples submitted by the client.



Water quality analysis laboratory results from Ndalala Primary School

FORM F/9/1/3



WATER RESOURCES **AUTHORITY**

Water Resources Authority LVSBA Regional Office P.O. Box 666 - 40100, Kisumu Tel:057072025493 Email: kisumuro@gmail.com

Kisumu Water Quality Laboratory P.O. Box 666-40100, Kisumu Tel: 057072025493 Email: kisumuro@gmail.con

Physical-Chemical Laboratory Results Certificate

Report Issue Date:	22/11/2023	Sample No:		Year:	2023
Name of Customer:	WELLBORING	Date Received:	17/11/2023		
Address:	Trans Nzoia	Date of Sampling:	23/11/2023		
Telephone Number:		Type of Sample:	Potable water	•	
Sample submitted by:	Wellboring	Source of sample:	Ndalala Prima	ry	
Purpose of sampling:	Water Quality Assessment	Received by:	Lavina Dengu		

PARAMETERS	UNIT	ANALYTICAL METHOD	RESULTS	KS EAS 12:2018 STANDARDS (MAX.)
Temperature	°C			-
pH	pH Scale	APHA 4500-H ⁺ B	6.7	6.5-8.5
Colour	mgPt L ⁻¹	APHA 2120 B	5	15
Turbidity	N.T.U	APHA 2130 B	4.5	5
Conductivity (25°C)	μS cm ⁻¹	APHA 2510 B	210	2500
Iron	mg L ⁻¹	APHA 3500-Fe B	0.06	0.3
Manganese	mg L ⁻¹	APHA 3500-Mn B	0.01	0.1
Total Hardness	mgCaCO ₃ L-1	APHA 2340 C	60	300
Total Alkalinity	mgCaCO ₃ L-1	APHA 2320 B	96	500
Fluoride	mg L ⁻¹	APHA 4500-F C	0.1	1.5
Nitrate	mgNO ₃ L	APHA 4500-NO ₃ D	1.6	45
Sulphate	mg L ⁻¹	APHA 4500-SO ₄ ²⁻ E	2.5	400
Total Dissolved Solids	mg L ⁻¹	APHA 2510 A	105	1500

*Maximum limits for treated potable water; **WHO maximum guideline value; APHA: American Public Health Association (2005) - Standard

methods for the examination of water & wastewater

Comments: The water sample performed as shown above. Based on the analyzed parameters water is within the KEBS standards for drinking water.

Beryl Akinyi

Laboratory Analyst WATER RESOURCES AUTHORITY

Issued by LAKE VICTORIA SOUTH BASIN AREA BASIN AREA COORDINATION 55 - 40100, KISUMU TEL: 057 2025493

Fanuel Onyango

Water Quality and Pollution Control Officer

The results contained herein apply to the particular sample(s) tested, whose sample number and tests carried out are as detailed in these information contained here reflects the laboratory's findings as at the time of analysis and based on the samples submitted by the client. particular sample(s) tested, whose sample number and tests carried out are as detailed in these results. The



Water quality analysis laboratory results from Siambe Primary School

FORM F/9/1/3



WATER RESOURCES **AUTHORITY**

Water Resources Authority LVSBA Regional Office P.O. Box 666 - 40100, Kisumu Tel:057072025493 Email: kisumuro@gmail.com

Kisumu Water Quality Laboratory P.O. Box 666-40100, Kisumu Tel: 057072025493 Email: kisumuro@gmail.com

Physical-Chemical Laboratory Results Certificate

Report Issue Date:	22/11/2023	Sample No:	Year: 2023
Name of Customer:	WELLBORING	Date Received:	17/11/2023
Address:	Trans Nzoia	Date of Sampling:	23/11/2023
Telephone Number:		Type of Sample:	Potable water
Sample submitted by:	Wellboring	Source of sample:	Siambe Primary
Purpose of sampling:	Water Quality Assessment	Received by:	Lavina Dengu

PARAMETERS	UNIT	ANALYTICAL METHOD	RESULTS	KS EAS 12:2018 STANDARDS (MAX.)
Temperature	°C			-
pН	pH Scale	APHA 4500-H ⁺ B	6.7	6.5-8.5
Colour	mgPt L ⁻¹	APHA 2120 B	5	15
Turbidity	N.T.U	APHA 2130 B	4.5	5
Conductivity (25°C)	μS cm ⁻¹	APHA 2510 B	210	2500
Iron	mg L ⁻¹	APHA 3500-Fe B	0.06	0.3
Manganese	mg L ⁻¹	APHA 3500-Mn B	0.01	0.1
Total Hardness	mgCaCO ₃ L-1	APHA 2340 C	60	300
Total Alkalinity	mgCaCO ₃ L-1	APHA 2320 B	96	500
Fluoride	mg L ⁻¹	APHA 4500-F- C	0.1	1.5
Nitrate	mgNO ₃ L ⁻¹	APHA 4500-NO ₃ D	1.6	45
Sulphate	mg L ⁻¹	APHA 4500-SO ₄ ²⁻ E	2.5	400
Total Dissolved Solids	mg L ⁻¹	APHA 2510 A	105	1500

*Maximum limits for treated potable water; **WHO maximum guideline value; APHA: American Public Health Association (2005) - Standard methods for the examination of water & wastewater

Comments: The water sample performed as shown above. Based on the analyzed parameters water is

within the KEBS standards for drinking water.

Beryl Akinyi

Laboratory Analyst

Fanuel Onyango Water Quality and Pollution Control Officer

WATER RESOURCES AUTHORITY Issued by LAKE VICTORIA SOUTH BASIN AREA BASIN AREA COORDINATOR 66 - 40100, KISUMU

TEL: 057 2025493

The results contained herein apply to the particular sample(s) tested, whose sample number and tests carried out are as detailed in these results. The information contained here reflects the laboratory's findings as at the time of analysis and based on the samples submitted by the client.



Water quality analysis laboratory results from Sibanga Primary School

FORM F/9/1/3



WATER RESOURCES **AUTHORITY**

Water Resources Authority LVSBA Regional Office P.O. Box 666 - 40100, Kisumu Tel:057072025493 Email: kisumuro@gmail.com

Kisumu Water Quality Laboratory P.O. Box 666-40100, Kisumu Tel: 057072025493 Email: kisumuro@gmail.com

Physical-Chemical Laboratory Results Certificate

Report Issue Date:	22/11/2023	Sample No:	Year: 2023
Name of Customer:	WELLBORING	Date Received:	17/11/2023
Address:	Trans Nzoia	Date of Sampling:	23/11/2023
Telephone Number:		Type of Sample:	Potable water
Sample submitted by:	Wellboring	Source of sample:	Sibanga Primary
Purpose of sampling:	Water Quality Assessment	Received by:	Lavina Dengu

PARAMETERS	UNIT	ANALYTICAL METHOD	RESULTS	KS EAS 12:2018 STANDARDS (MAX.)
Temperature	°C			-
pН	pH Scale	APHA 4500-H ⁺ B	6.7	6.5-8.5
Colour	mgPt L ⁻¹	APHA 2120 B	5	15
Turbidity	N.T.U	APHA 2130 B	4.5	5
Conductivity (25°C)	μS cm ⁻¹	APHA 2510 B	210	2500
Iron	mg L ⁻¹	APHA 3500-Fe B	0.06	0.3
Manganese	mg L ⁻¹	APHA 3500-Mn B	0.01	0.1
Total Hardness	mgCaCO ₃ L-1	APHA 2340 C	60	300
Total Alkalinity	mgCaCO ₃ L-1	APHA 2320 B	96	500
Fluoride	mg L ⁻¹	APHA 4500-F- C	0.1	1.5
Nitrate	mgNO ₃ L ⁻¹	APHA 4500-NO ₃ D	1.6	45
Sulphate	mg L ⁻¹	APHA 4500-SO ₄ ²⁻ E	2.5	400
Total Dissolved Solids	mg L ⁻¹	APHA 2510 A	105	1500

*Maximum limits for treated potable water; **WHO maximum guideline value; APHA: American Public Health Association (2005) - Standard

methods for the examination of water & wastewater

Comments: The water sample performed as shown above. Based on the analyzed parameters water is within the KEBS standards for drinking water.

Beryl Akinyi **Laboratory Analyst** Fanuel Onyango

Water Quality and Pollution Control Officer

WATER RESOURCES AUTHORITY Issued by LAKE VICTORIA SOUTH BASIN AREA BASIN AREA COORDINATOR 66 - 40100, KISUMU

TEL: 057 2025493

The results contained herein apply to the particular sample(s) tested, whose sample number and tests carried out are as detailed in these results. The information contained here reflects the laboratory's findings as at the time of analysis and based on the samples submitted by the client.



Water quality analysis laboratory results from St. John Makutano **Primary School**

FORM F/9/1/3



WATER RESOURCES **AUTHORITY**

Water Resources Authority LVSBA Regional Office P.O. Box 666 - 40100, Kisumu Tel:057072025493 Email: kisumuro@gmail.com

Kisumu Water Quality Laboratory P.O. Box 666-40100, Kisumi Tel: 057072025493 Email: kisumuro@gmail.com

Physical-Chemical Laboratory Results Certificate

Report Issue Date:	22/11/2023	Sample No:	Year: 2023
Name of Customer:	WELLBORING	Date Received:	17/11/2023
Address:	Trans Nzoia	Date of Sampling:	23/11/2023
Telephone Number:		Type of Sample:	Potable water
Sample submitted by:	Wellboring	Source of sample:	St. John Makutano Primary
Purpose of sampling:	Water Quality Assessment	Received by:	Lavina Dengu

PARAMETERS	UNIT	ANALYTICAL METHOD	RESULTS	KS EAS 12:2018 STANDARDS (MAX.)
Temperature	°C			-
pН	pH Scale	APHA 4500-H ⁺ B	6.7	6.5-8.5
Colour	mgPt L ⁻¹	APHA 2120 B	5	15
Turbidity	N.T.U	APHA 2130 B	4.5	5
Conductivity (25°C)	μS cm ⁻¹	APHA 2510 B	210	2500
Iron	mg L ⁻¹	APHA 3500-Fe B	0.06	0.3
Manganese	mg L ⁻¹	APHA 3500-Mn B	0.01	0.1
Total Hardness	mgCaCO ₃ L-1	APHA 2340 C	60	300
Total Alkalinity	mgCaCO ₃ L-1	APHA 2320 B	96	500
Fluoride	mg L ⁻¹	APHA 4500-F° C	0.1	1.5
Nitrate	mgNO ₃ L ⁻¹	APHA 4500-NO ₃ D	1.6	45
Sulphate	mg L ⁻¹	APHA 4500-SO ₄ ²⁻ E	2.5	400
Total Dissolved Solids	mg L ⁻¹	APHA 2510 A	105	1500

*Maximum limits for treated potable water; **WHO maximum guideline value; APHA: American Public Health Association (2005) - Standard

Comments: The water sample performed as shown above. Based on the analyzed parameters water is within the KEBS standards for drinking water.

Beryl Akinyi

Fanuel Onyango

Water Quality and Pollution Control Officer

Laboratory Analyst WATER RESOURCES AUTHORITY

Issued by LAKE VICTORIA SOUTH BASIN AREA BASIN AREA COORDINATION 565 - 40100, KISUMU

TP11: 057 2025493
The results contained herein apply to the particular sample(s) tested, whose sample number and tests carried out are as detailed in these results. The information contained here reflects the laboratory's findings as at the time of analysis and based on the samples submitted by the client.



External confirmation

External confirmation of schools and completion of wells from an independent body, The Ministry of Water Environment and Natural Resources, is included below:

COUNTY GOVERNMENT OF TRANS NZOIA



MINISTRY OF WATER ENVIRONMENT AND NATURAL RESOURCES

P.O.BOX 4211 - 30200

KITALE, KENYA

REF, TNC/MWENR/019/02/2024

Dated 20/02/2024

RE: CONFIRMATION OF WORKS DONE IN TRANS NZOIA COUNTY BY WELLBORING.

The county government through the ministry of water environment and natural resources is entrusted with the responsibility of safeguarding and regulating the exploration and use of water and natural resources within the county.

Access to safe sources of water continue to be a challenge that the county is grappling with and we are glad that like-minded partners like Wellboring continue to help in bridging the gap.

Through their program (water for schools), Wellboring has continued to bore wells in schools both in Kwanza and Trans Nzoia east sub counties within Trans Nzoia county.

The schools that have benefited from the program are;

- 1. Sibanga primary school
- 2. Kapsirowa Primary school
- 3. St. Johns Makutano
- 4. Munyaka primary school
- 5. Misanga primary school 6. Ndalala primary school
- 7. Kapkoi central primary school
- 8. Bondeni primary school9. Biketi primary school
- 10. Siambe primary school

These boreholes will help greatly the water access issue especially within the communities where the schools are. We are happy to be associated with the works and hope for a further involvement by the organization in other regions of the county.

Murachi A Kivava

County Director, Water services



Contact details for WellBoring

Charity name: WellBoring

Charity registration number: GB-CHC-1142295

Charity registered address: 51 St Mary Street, Chippenham, Wiltshire, SN15 3JW,

United Kingdom

Charity bank details: NatWest Bank plc, Sort Code: 522130. Account: 24302392.

IBAN: GB33NWBK52213024302392 Office hours: 09.00 to 17.00 UK time

Contact email address: trusts@wellboring.com Contact telephone number: +44 7785 280724