

Final Report for Fondation Eagle: FF 0626

Key information

- a) Donor name: Fondation Eagle
- b) Name of Charity and Project: WellBoring (GB-CHC-1142295) - Build 5 new wells
- c) Fondation Eagle reference number: FF 0626
- d) Date of grant accepted: 6th April 2022
- e) Amount: GBP 27'450
- f) Number of beneficiaries: 5'173
- g) Name and exact location and number of beneficiaries of the project:

School Name	Number of Beneficiaries	Co-ordinates
Akiriamete	845	0.730378,34.340454
Akapijan	1029	0.636218,34.278314
Yago	927	-0.868020, 34.571043
Wahambla	872	-0.519448,34.490318
Rangi	1'500	-0.629922,34.629994
Total	5'173	

- h) Period of Project: 18th June 2022 to 8th October 2022
- i) Conversion rate, date and amount in local currency: 1 GBP:139 KSh, June – October 2022, KSh 3'815'550
Budget conversion rate: 1 GBP:150 KSh
- j) Detailed budgets and actual expenditure comparison: Please see pages 2, 3 and 4
- k) Over/underspend: Overspend of £6,702. Please see pages 3 and 4
- l) Details of progress of the project, achievements, challenges, changes, differences etc, including photographs: Please see pages 5 to 18



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Summary

Fondation Eagle provided funding to allow WellBoring to develop borewells that provide safe water to a further five schools, and their local communities: in Busia County / Teso Sub-County, as well as Homa bay County, Kenya.

The project is now complete.

Across the 5 new wells, the Fondation has helped to provide clean, safe water to 5'173 people that were in desperate need. The five schools were:

- Akiriamete Primary School
- Akapijan Primary School
- Yago Primary School
- Wahambla Primary School
- Rangi Primary School

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

After successfully completing the first two schools, Akiriamete and Akapijan we encountered major challenges with respect to the remaining three schools that were initially proposed in the grant application, namely Elalai, Kolanya Boys and Kolanya Girls. At each of these three schools our attempts at drilling new wells failed due to loose soil formation and a low water table. These challenges were not apparent at the time of our initial survey of the sites, and we will learn from this experience in our future activities.

WellBoring sought permission from Fondation Eagle to move its operations to a more suitable area where we could undertake mud drilling. This permission was provided by email on 29th August 2022. Following this approval, we relocated our team to Homa bay county where we successfully completed three schools, namely Yago, Wahambla and Rangi.

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 27'450 and the final total costs attributable to the project were GBP 39'008. WellBoring expected to contribute GBP 4'850 of the total funding.

Mainly as a result of the costs associated with the failed drilling attempts at three schools, WellBoring invested an additional GBP 6'708 of its own funds to cover the additional costs.

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	£7,800
Drill supplies	£6,300
Well supplies	£6,675
Well pad	£1,600
Other direct costs	£5,475
Sub-Total	£27,850
Value Added Tax	£4,450
Total	£32,300

Against the budget for this project Fondation Eagle agreed to provide a grant amount of £27,450. The balancing core funding to be provided from WellBoring's own funds was a total of £4,850.

The budget was put together using an exchange rate of 1 GB Pound to 150 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	£7,800	£9,085	£1,285
Drill supplies	£6,300	£9,448	£3,148
Well supplies	£6,675	£7,524	£849
Well pad	£1,600	£546	-£1,054
Other direct costs	£5,475	£7,025	£1,550
Total	£27,850	£33,628	£5,778
Value Added Tax	£4,450	£5,380	£924
Total	£32,300	£39,008	£6,702

As a result of the global financial troubles, the average actual exchange rate achieved over the course of the project was 1 GB Pound to 139 Kenyan Shillings. When compared to the budgeted rate of 1 GB Pound to 150 Kenyan Shillings, the actual exchange rate achieved resulted in an effective budget cut to 93% of the original buying power – equivalent to an 8% increase in costs.

Budget Line Items	Overspend / underspend as a percentage	Reason for overspend / underspend
Exchange rate	8%	Volatility of financial markets increased local purchase prices for labour and materials by an average of 8%
Drilling personnel	16%	The extra time and effort put into attempting to drill 3 wells that had to be abandoned, at Elalai, Kolanya Boys and Kolanya Girls schools, due to the soil formation and a much lower than expected water table
Drill supplies	50%	The drilling rig time, fuel and drilling consumables put into attempting to drill 3 wells that had to be abandoned, due to the soil formation and a much lower than expected water table



Budget Line Items	Overspend / underspend as a percentage	Reason for overspend / underspend
Well supplies	13%	The materials, such as PVC casing and screens used when attempting to drill 3 wells that had to be abandoned, due to the soil formation and a much lower than expected water table
Well pad	-66%	In order to keep the costs of this project down as much as possible, we were able to use surplus materials from other projects, as well as some materials supplied by the schools themselves, thereby significantly reducing the costs of preparing the well pads
Other direct costs	28%	The extra management time, travel time/cost and office resources put into attempting to drill 3 wells that had to be abandoned, due to the soil formation and a much lower than expected water table

On the following page is a table that provides the details of both the budget and the actual costs incurred at each of the schools. This includes the costs attributed to the abandoned wells.

Detailed budget versus actual costs table



	Budget total	Budget per well	Busia County / Teso Sub-County					Homa bay County			Total cost all wells
			Akiriame	Akapijan	Kolanya Boys	Kolanya Girls	Elalai	Yago	Wahambla	Rangi	
Personnel											
Director of projects	£850.00	£170.00	£179.86	£179.86	£44.96	£44.96	£44.96	£179.86	£179.86	£179.86	£1,034.17
Project Coordinator (PIU)	£650.00	£130.00	£143.88	£143.88	£35.97	£35.97	£35.97	£143.88	£143.88	£143.88	£827.34
Chief Driller	£700.00	£140.00	£136.69	£136.69	£34.17	£34.17	£34.17	£136.69	£136.69	£136.69	£785.97
Driller/Welders/driver(4)	£2,300.00	£460.00	£489.21	£489.21	£122.30	£122.30	£122.30	£489.21	£489.21	£489.21	£2,812.95
Office receptionist	£500.00	£100.00	£107.91	£107.91	£26.98	£26.98	£26.98	£107.91	£107.91	£107.91	£620.50
Additional / Miscellaneous											
	£5,000.00	£1,000.00	£1,057.55	£1,057.55	£264.39	£264.39	£264.39	£1,057.55	£1,057.55	£1,057.55	£6,080.94
Personnel - Management/Professional fees											
Accounting services	£800.00	£160.00	£169.06	£169.06				£169.06	£169.06	£169.06	£845.32
Groundwater testing/soil resistivity	£2,000.00	£400.00	£431.65	£431.65				£431.65	£431.65	£431.65	£2,158.27
	£2,800.00	£560.00	£600.72	£600.72	£0.00	£0.00	£0.00	£600.72	£600.72	£600.72	£3,003.60
Sub Total Personnel	£7,800.00	£1,560.00	£1,658.27	£1,658.27	£264.39	£264.39	£264.39	£1,658.27	£1,658.27	£1,658.27	£9,084.53
Drilling Supplies											
Drilling foam	£175.00	£35.00	£35.97	£35.97	£35.97	£35.97	£35.97	£157.37	£157.37	£157.37	£651.98
Hydraulic Oil for Rig	£275.00	£55.00	£57.55	£57.55	£57.55	£57.55	£57.55	£230.94	£230.94	£230.94	£980.58
Oil for Rig and Compressor	£115.00	£23.00	£23.38	£23.38	£23.38	£23.38	£23.38	£46.76	£46.76	£46.76	£257.19
Diesel for Compressor use	£3,825.00	£765.00	£825.54	£825.54	£825.54	£825.54	£825.54	£48.56	£48.56	£48.56	£4,273.38
Diesel Rig use (drilling) & Mudpump	£660.00	£132.00	£140.83	£140.83	£140.83	£140.83	£140.83	£140.83	£140.83	£140.83	£1,126.62
Supply of water for drilling	£1,250.00	£250.00	£269.78	£269.78	£269.78	£269.78	£269.78	£269.78	£269.78	£269.78	£2,158.27
Additional / Miscellaneous											
Sub Total Drilling Supplies	£6,300.00	£1,260.00	£1,353.06	£1,353.06	£1,353.06	£1,353.06	£1,353.06	£894.24	£894.24	£894.24	£9,448.02
Well Supplies											
PVC Casing 10 foot lengths (5.0")	£2,500.00	£500.00	£746.40	£746.40				£746.40	£746.40	£979.50	£3,965.11
PVC screens	£900.00	£180.00	£236.98	£236.98				£236.98	£236.98	£236.98	£1,184.89
Gravel Pack/Coarse Sand	£2,250.00	£450.00	£471.22	£471.22				£471.22	£471.22	£471.22	£2,356.12
Bleach	£25.00	£5.00	£3.60	£3.60				£3.60	£3.60	£3.60	£17.99
Hand pump & accessories											
Service Casings (steel)	£1,000.00	£200.00									
Additional / Miscellaneous											
Sub Total Well Supplies	£6,675.00	£1,335.00	£1,458.20	£1,458.20	£0.00	£0.00	£0.00	£1,458.20	£1,458.20	£1,691.29	£7,524.10
Well Pad											
Cement	£150.00	£30.00	£32.37	£32.37				£32.37	£32.37	£69.06	£198.56
Wire Mesh (reinforcement)	£50.00	£10.00	£9.35	£9.35				£9.35	£9.35	£9.35	£46.76
Binding Wire	£5.00	£1.00	£1.08	£1.08				£1.08	£1.08	£1.08	£5.40
Sand	£445.00	£89.00	£26.98	£26.98				£26.98	£26.98	£26.98	£134.89
Balast	£500.00	£100.00	£17.99	£17.99				£17.99	£17.99	£17.99	£89.93
Maram	£410.00	£82.00	£10.79	£10.79				£10.79	£10.79	£10.79	£53.96
Bricks (Well Pad Forms & Pump Hse)	£40.00	£8.00	£3.24	£3.24				£3.24	£3.24	£3.24	£16.19
Additional / Miscellaneous										£0.00	
Sub Total Well Pad	£1,600.00	£320.00	£101.80	£101.80	£0.00	£0.00	£0.00	£101.80	£101.80	£138.49	£545.68
Other direct /attributable costs											
Office rental (1/5 space)/utility	£300.00	£60.00	£61.15	£61.15				£61.15	£61.15	£61.15	£305.76
email & phones	£100.00	£20.00	£17.99	£17.99				£17.99	£17.99	£17.99	£89.93
Equipment and supply mobilization	£675.00	£135.00	£143.88	£143.88	£143.88	£143.88	£143.88	£143.88	£143.88	£143.88	£1,151.08
Support truck fuel to sites	£350.00	£70.00	£71.94	£71.94	£71.94	£71.94	£71.94	£71.94	£71.94	£71.94	£575.54
Water Quality Analysis	£350.00	£70.00	£71.94	£71.94				£71.94	£71.94	£71.94	£359.71
Drilling permit (& WSRB)	£850.00	£170.00	£183.45	£183.45	£183.45	£183.45	£183.45	£183.45	£183.45	£183.45	£1,467.63
Drillers accomodation	£1,500.00	£300.00	£323.74	£323.74				£323.74	£323.74	£323.74	£1,618.71
Rig Depreciation (CAPEX) & maintainances (of equipment used))	£1,350.00	£270.00	£291.37	£291.37				£291.37	£291.37	£291.37	£1,456.83
Additional / Miscellaneous											
Sub Total other direct /attributable costs	£5,475.00	£1,095.00	£1,165.47	£1,165.47	£399.28	£399.28	£399.28	£1,165.47	£1,165.47	£1,165.47	£7,025.18
Sub Total Direct Costs	£27,850.00	£5,570.00	£5,136.08	£5,136.08	£2,016.73	£2,016.73	£2,016.73	£4,677.27	£4,677.27	£4,947.05	£33,627.52
VAT (16%)	£4,456.00	£891.20	£821.77	£821.77	£322.68	£322.68	£322.68	£748.36	£748.36	£791.53	£5,380.40
Grand Totals	£32,306.00	£6,461.20	£5,957.85	£5,957.85	£2,339.40	£2,339.40	£2,339.40	£5,425.63	£5,425.63	£5,738.58	£39,007.92



Learning from experience

The final column in the table, below, shows only the costs associated with the wells that were successful. If only these costs were to be attributed to the project, the actual outcome of costs would have been within GBP 310 of budget.

Budget Line Items	Budget total values in GBP	Actual total costs directly associated with working wells in GBP
Drilling personnel	£7,800	£8,291
Drill supplies	£6,300	£5,389
Well supplies	£6,675	£7,524
Well pad	£1,600	£546
Other direct costs	£5,475	£5,827
Total	£27,850	£27,577
Value Added Tax	£4,450	£4,412
Total	£32,300	£31,990

We faced several challenges that are listed below:

- We had serious loss of air circulation in the projects in Teso Busia. This meant the drilling gear could not come out of the hole. While mitigation for this always included use of heavy drilling foam, all efforts to use the same was futile.
- At Yago the drilling rods separated themselves from the joining thread leaving 7 rods and hammer inside the hole. It took us three days to recover them. Thereafter, we adapted the drilling threads and managed to drill the hole to 70 meters deep.
- Poor terrain; The project's sites are within poor marginalised rural areas where access roads to schools are very bad. We got stuck several times and we had to use a tractor to tow the drill rig to the site to Wahambla.
- In Teso sub county, we faced challenges with community participation as they were not willing to contribute their share of providing lunches and materials for construction of the pad.
- Lack of in-depth surveys on all these sites equally hampered our work. In future, we will always carry out in-depth surveys prior to committing to a site and seeking funding.



How we achieved this project

WellBoring collaborated with WellBoring GroundWater in Kenya to implement this project, which focused on providing safe drinking water for 5 primary schools. The project's goal was reached.



A completed pump at Akapijan Primary School



A completed pump at Akiriamete Primary School



A completed pump at Wahambla Primary School



A completed pump at Rangi Primary School



A completed pump at Yago Primary School

Previous water access

None of the chosen schools had access to safe drinking water prior to the project being delivered. Most sourced their water from streams.

Drilling experience and well construction

The aim of this project was to provide safe drinking water to students and surrounding villagers at five primary schools, by drilling and constructing 5 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.

Topology and geology of the drilling area

The vast area of the project has poor terrain; hence reaching the project sites (schools) was difficult. The drilling fleet – drilling rig, drilling compressor and associated support truck got stuck several times on the way to the planned drilling sites, consequently some of our work was delayed considerably.

The crew started with schools in Teso North, Busia as per the project contract. After successfully completing the first two schools we encountered major challenges on the remaining three schools, namely Elalai, Kakeriaut and Akibui, and we had to seek authority to move to an area that we could do mud drilling. Hence our relocation to Homa bay county where we successfully completed three schools, namely Yago primary school, Wahambla primary school and Rangi primary school.



The common denominator on all drilling activities in Teso North, Busia county was the challenge of formation that changes from loose soil formation to very hard and again too loose. However in Homa bay, formation is good loose soil, and we were able to return to mud drilling.



Mud drilling process at Yago Primary



Flushing the well with the rods to remove the cuttings



The following table summarises information about each of the successful wells.

School Name	Drilling -Date start and end	Static water Level/ Yield	Challenges
Akiriame	18/06/2022- 23/06/2022 Depth - 65m	SWL - 13m Yield - 5.5m ³ /hr	Falling boulders and loss of circulation
Akapijan	24/06/2022- 26/06/2022 Depth - 70m	SWL -10m Yield-7.0m ³ /hr	First hole turned out dry and we had to drill another hole
Yago Primary	25/09/2022- 27/09/2022 Depth - 68m	SWL -21m Yield -5.7m ³ /hr	Loose soil formation (running sand)
Wahambla Primary	01/10/2022- 03/10/2022 Depth - 60m	SWL -9m Yield-7.6m ³ /hr	Hard formation (granitic rocks) hence slow drilling rate
Rangi Primary	06/10/2022- 08/10/2022 Depth - 68m	SWL - 13m Yield-5.3m ³ /hr	Loose formation (running sand)

Water quality analysis

Upon completion of each drilling/casing of the boreholes, the hole was flush using air compressor to remove all dirt and cuttings to a clean drinkable position. Water samples collected on a one litre bottle were 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 five schools.



Water quality analysis laboratory results from Akapijan Primary School



FORM F/9/1/6

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: 27/6/2022	Sample No: 0431/2021-2022
Name of Customer: Akapijan Primary School	Received By: Faniel Onyango
WATER RESOURCES AUTHORITY LAKE VICTORIA SOUTH BASIN AREA P. O. Box 666 - 40100, KISUMU TEL: 057 2025493	Date Received: 26/6/2022 Type of Sample: Ground water (Borehole)
Sampled/submitted by: Wellboring Groundwater Purpose of Sampling: Assessment of water Quality Date of Sampling 26/6/2022	County: Busia

PARAMETERS	UNIT	RESULTS	WHO GUIDELINES	KEBS(KS 459-1:2007) STANDARDS.
pH	pH Scale	6.9	6.5-8.5	6.5-8.5
Colour	Hazen	15	Max 15	Max 15
Turbidity	N.T.U	5	Max 5	Max 5
Conductivity (25°C)	µS/cm	616	Max 2500	-
Calcium	mg/l	6.3	Max 100	Max 150
Magnesium	mg/l	0.7	Max 100	Max 100
Total Hardness	mgCaCO ₃ /l	80	Max 500	Max 300
Total Alkalinity	mgCaCO ₃ /l	158	Max 500	-
Chloride	mg/l	11	Max 250	Max 250
Fluoride	mg/l	0.1	Max 1.5	Max 1.5
Nitrate	mgNO ₃ /l	0.22	Max 50	-
Nitrite	mgNO ₂ /l	0.001	Max 0.1	Max 0.003
Sulphate	mg/l	2.1	Max 450	Max 400
Total Dissolved Solids	mg/l	308	Max 1500	Max 1000
Ortho Phosphate	mg/l	0.1	Max 2	Max 2
Iron	mg/l	0.01	Max 0.3	Max. 0.3
Manganese	mg/l	0.001	Max 0.1	Max 0.1

Comments:

Results refer to a sample submitted to the laboratory by the client, based on the analyzed parameters; the water has met the KEBS chemical standards for drinking water.

Signature of the Head of the Lab.....
Name of the Head of the Lab...Faniel Onyango
Title of the Head of the Lab...WQ&PCO

Signature of the Unit Head/Analyst.....Date 27/6/2022
Name of the Unit Head/Analyst Beryl Akinyi...
Title of the Unit Head/Analyst...Laboratory Technologist

Disclaimer:

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



Water quality analysis laboratory results from Akiriamete Primary School



FORM F/9/1/6

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: 27/6/2022	Sample No: 0430/2021-2022
Name of Customer: Akiriamete Primary School	Received By: Faniel Onyango
<div style="border: 1px solid black; padding: 5px; width: fit-content;">WATER RESOURCES AUTHORITY LAKE VICTORIA SOUTH BASIN AREA P.O. Box 666 - 40100, KISUMU TEL: 057 2025493</div>	Date Received: 26/6/2022 Type of Sample: Ground water (Borehole)
Sampled/submitted by: Wellboring Groundwater Purpose of Sampling: Assessment of water Quality Date of Sampling 24/6/2022	County: Busia

PARAMETERS	UNIT	RESULTS	WHO GUIDELINES	KEBS(KS 459-1:2007) STANDARDS.
pH	pH Scale	7.2	6.5-8.5	6.5-8.5
Colour	Hazen	10	Max 15	Max 15
Turbidity	N.T.U	5	Max 5	Max 5
Conductivity (25°C)	µS/cm	523	Max 2500	-
Calcium	mg/l	7.1	Max 100	Max 150
Magnesium	mg/l	0.5	Max 100	Max 100
Total Hardness	mgCaCO ₃ /l	74	Max 500	Max 300
Total Alkalinity	mgCaCO ₃ /l	136	Max 500	-
Chloride	mg/l	9	Max 250	Max 250
Fluoride	mg/l	0.2	Max 1.5	Max 1.5
Nitrate	mgNO ₃ /l	0.18	Max 50	-
Nitrite	mgNO ₂ /l	0.001	Max 0.1	Max 0.003
Sulphate	mg/l	4.2	Max 450	Max 400
Total Dissolved Solids	mg/l	261	Max 1500	Max 1000
Ortho Phosphate	mg/l	0.18	Max 2	Max 2
Iron	mg/l	0.03	Max 0.3	Max. 0.3
Manganese	mg/l	0.001	Max 0.1	Max 0.1

Comments:

Results refer to a sample submitted to the laboratory by the client, based on the analyzed parameters; the water has met the KEBS chemical standards for drinking water.

Signature of the Head of the Lab.....	Signature of the Unit Head/Analyst.....	Date 27/6/2022
Name of the Head of the Lab...Faniel Onyango	Name of the Unit Head/Analyst Beryl Akinyi...	
Title of the Head of the Lab... WQ&PCO	Title of the Unit Head/Analyst...Laboratory Technologist	

Disclaimer:

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



Water quality analysis laboratory results from Wahambla Primary School



FORM F/9/1/6

WATER RESOURCES AUTHORITY

Water Resources Authority
LVSBA Regional Office
P.O. Box 666 - 40100, Kisumu
Tel: 057072025493
Email: kisumuro@email.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: 06/10/2022	Sample No: 100/2022-2023
Name of Customer: Wahambla Primary School	Received By: Fanuel Onyango Date Received: 04/10/2022 Type of Sample: Ground water (Borehole)
Sampled/submitted by: Wellboring Groundwater Purpose of Sampling: Assessment of water Quality Date of Sampling: 04/10/2022	County: Homabay

PARAMETERS	UNIT	RESULTS	WHO GUIDELINES	KEBS(KS 459-1:2007) STANDARDS.
pH	pH Scale	6.7	6.5-8.5	6.5-8.5
Colour	Hazen	2.5	Max 15	Max 15
Turbidity	N.T.U	3.0	Max 5	Max 5
Conductivity (25°C)	µS/cm	210	Max 2500	-
Calcium	mg/l	11	Max 100	Max 150
Magnesium	mg/l	0.5	Max 100	Max 100
Total Hardness	mgCaCO ₃ /l	54	Max 500	Max 300
Total Alkalinity	mgCaCO ₃ /l	112	Max 500	-
Chloride	mg/l	6	Max 250	Max 250
Fluoride	mg/l	0.4	Max 1.5	Max 1.5
Nitrate	mgNO ₃ -N/l	0.8	Max 10	-
Nitrite	mgNO ₂ -N/l	0.001	Max 0.1	Max 0.003
Sulphate	mg/l	15	Max 450	Max 400
Total Dissolved Solids	mg/l	135	Max 1500	Max 1000
Ortho Phosphate	mg/l	0.2	Max 2	Max 2

Comments:

Results refer to a sample submitted to the laboratory by the client, based on the analyzed parameters; the water has met the KEBS chemical standards for drinking water.

Signature of the Head of the Lab.....	Signature of the Unit Head/Analyst.....	Date 06/10/2022
Name of the Head of the Lab...Fanuel Onyango	Name of the Unit Head/Analyst Beryl Akinyi...	
Title of the Head of the Lab...WQ&PCO	Title of the Unit Head/Analyst...Laboratory Technologist	

Disclaimer:

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

WATER RESOURCES AUTHORITY
LAKE VICTORIA SOUTH BASIN AREA
P. O. Box 666 - 40100, KISUMU
TEL: 057 2025493



Water quality analysis laboratory results from Rang'i Primary School



FORM F/9/1/6

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: 11/10/2022	Sample No: 101-2022/2023
Name of Customer: Rang'i Primary School	Received By: Fanuel Onyango Date Received: 09/10/2022 Type of Sample: Ground water (Borehole)
Sampled/submitted by: Wellboring Groundwater Purpose of Sampling: Assessment of water Quality Date of Sampling: 09/10/2022	County: Homabay

PARAMETERS	UNIT	RESULTS	WHO GUIDELINES	KEBS(KS 459-1:2007) STANDARDS.
pH	pH Scale	7.8	6.5-8.5	6.5-8.5
Colour	Hazen	2.5	Max 15	Max 15
Turbidity	N.T.U	2	Max 5	Max 5
Conductivity (25°C)	µS/cm	2253	Max 2500	-
Calcium	mg/l	13.23	Max 100	Max 150
Magnesium	mg/l	4.65	Max 100	Max 100
Total Hardness	mgCaCO ₃ /l	44	Max 500	Max 300
Total Alkalinity	mgCaCO ₃ /l	544	Max 500	-
Chloride	mg/l	69	Max 250	Max 250
Fluoride	mg/l	1.34	Max 1.5	Max 1.5
Nitrate	mgNO ₃ -N/l	3.4	Max 10	-
Nitrite	mgNO ₂ -N/l	0.001	Max 0.1	Max 0.003
Sulphate	mg/l	26	Max 450	Max 400
Total Dissolved Solids	mg/l	2269	Max 1500	Max 1000
Ortho Phosphate	mg/l	1.1	Max 2	Max 2

Comments:

Results refer to a sample submitted to the laboratory by the client, based on the analyzed parameters; the water has met the KEBS chemical standards for drinking water.

Signature of the Head of the Lab...
Name of the Head of the Lab... Fanuel Onyango
Title of the Head of the Lab... WQ&PCO

Signature of the Unit Head/Analyst... Date: 11/10/2022
Name of the Unit Head/Analyst Beryl Akinyi...
Title of the Unit Head/Analyst... Laboratory Technologist

Disclaimer:

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

WATER RESOURCES AUTHORITY
LAKE VICTORIA SOUTH BASIN AREA
P. O. Box 666 - 40100, KISUMU
TEL: 057 2025493



Water quality analysis laboratory results from Yago Primary School



FORM F/9/1/6

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: 29/09/2022	Sample No: 098/2022-2023
Name of Customer: Yago Primary School	Received By: Fanuel Onyango Date Received: 28/09/2022 Type of Sample: Ground water (Borehole)
Sampled/submitted by: Wellboring Groundwater Purpose of Sampling: Assessment of water Quality Date of Sampling: 28/09/2022	County: Homabay

PARAMETERS	UNIT	RESULTS	WHO GUIDELINES	KEBS(KS 459-1:2007) STANDARDS.
pH	pH Scale	7.4	6.5-8.5	6.5-8.5
Colour	Hazen	10	Max 15	Max 15
Turbidity	N.T.U	1.97	Max 5	Max 5
Conductivity (25°C)	µS/cm	2029	Max 2500	-
Calcium	mg/l	93.59	Max 100	Max 150
Magnesium	mg/l	39.12	Max 100	Max 100
Total Hardness	mgCaCO ₃ /l	444	Max 500	Max 300
Total Alkalinity	mgCaCO ₃ /l	494	Max 500	-
Chloride	mg/l	227	Max 250	Max 250
Fluoride	mg/l	1.14	Max 1.5	Max 1.5
Nitrate	mgNO ₃ -N/l	6.5	Max 10	-
Nitrite	mgNO ₂ -N/l	0.04	Max 0.1	Max 0.003
Sulphate	mg/l	22	Max 450	Max 400
Total Dissolved Solids	mg/l	1091	Max 1500	Max 1000
Ortho Phosphate	mg/l	0.88	Max 2	Max 2

Comments:

Results refer to a sample submitted to the laboratory by the client, based on the analyzed parameters; the water has met the KEBS chemical standards for drinking water.

Signature of the Head of the Lab.....
Name of the Head of the Lab... Fanuel Onyango
Title of the Head of the Lab... WQ&PCO

Signature of the Unit Head/Analyst.....
Name of the Unit Head/Analyst: Beryl Akuma
Title of the Unit Head/Analyst: Laboratory Technologist

Date 29/09/2022

Disclaimer:

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



Confirmations of completion

External confirmations of completion from independent bodies are shown below:



County Government of Busia
"Gateway to East and Central Africa"



P.O BOX PRIVATE BAG-50400,

BUSIA, KENYA.

Email: info@busiaincounty.go.ke

15/01/2023

OUR REF: BSA/CG/WSS/15-01/2023

To whom It may concern,

RE: CONFIRMATION OF WORKS DONE BY WELLBORING GROUDWATER

We confirm and acknowledge that **Wellboring Groundwater** drilled water wells in the following schools within Busia County, Teso North Sub County:

1. Akapijan Primary School.
2. Akiriamet Primary School.

We are happy with their contribution towards realization of the vision 2030 agenda with regards to water hygiene and Sanitation in our schools and by extension our communities.

We hope for continued support and collaboration where possible for the betterment of our children.

Kind regards,

Hellen M.A Mukanda,
Director,
Water services,
Phone: +254 736 105 675
Email: hellenmukanda@yahoo.com



**COUNTY GOVERNMENT OF
HOMABAY**



**DEPARTMENT OF WATER SERVICES AND ENVIRONMENT
P.O BOX 469-40300, HOMABAY.
Email: homabaycounty@gmail.go.ke**

17/01/2023

OUR REF: HB/CTY/W/E/021/2022-2023

Dear Sir/Madam,

RE: CONFIRMATION OF DRILLING OF WELLS BY WELLBORING GROUNDWATER

This is to confirm and certify that **Wellboring Groundwater** successfully delivered the underlisted three boreholes within Homabay county in a fully satisfactory manner, meeting standards set out by the Water Resource Authority.

1. Yago Primary School
2. Wahambla Primary School
3. Rang'i Primary School

The following wells were drilled and equipped within the month of October 2022.

Homabay County appreciate the dedication and commitment that **Wellboring Groundwater** has shown by provision of water wells within various regions of the county and we wish this support shall continue.

Yours Truly,

**Martin Omulama K.B.,
Chief Officer,
Water Irrigation Energy Environment Forestry and Climate Change.
Tel: +254 770 100 158
Email: martinomulamakb@gmail.com**



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:

Contact telephone number: