Heavy Metals in Water, Standard Drinking Water Analysis, Total Coliforms and Faecal E.Coli





Customer:	CIPAD Kenya	Water Use:	Drinking (W.H.O.)	Date Received:	29-May-18
Address:	andreabollinie@protonmail.ch			Analysis Date:	29-May-18
Farm Name:	Sololo Moyale	Comments:		Report Date:	6-Jun-18
Contact Person:	Giuseppe Bollin	Condition:	Filled	Sample ID:	CC204WA0001

Water Source: Nairobi 1

To maintain the correct history ensure that the next sample sent from this Water Source is labelled: Nairobi 1

Parameter	Unit	Result	Guide Low	Guide High	Low	Optimum	High	Symbol	Current	Methoo
pН		6.14	6.50	8.50				pH	6.14	Potentiometri
*Electrical Conductivity	mS cm -1	0.013		< 1.80				EC	0.013	Potentiometrie
Silicon	ppm	0.25		< 50.0				Si	0.25	Spectroscopy
*Silica	ppm	0.53		< 115				SiO2	0.53	Spectroscopy
Ammonium	ppm	0.026		< 0.50				NH4	0.026	Colorimetric
Calcium	ppm	0.33		< 150				Ca	0.33	Spectroscopy
Magnesium	ppm	0.099		< 100				Mg	0.099	Spectroscopy
Potassium	ppm	2.90		< 100				К	2.90	Spectroscopy
Sodium	ppm	0.36		< 200				Na	0.36	Spectroscopy
Nitrate N	ppm	0.45		< 10.0				NO3N	0.45	Colorimetric
Phosphorus	ppm	0.044		< 0.20				Р	0.044	Spectroscopy
Sulphur	ppm	1.01		< 133				S	1.01	Spectroscopy
Iron	ppm	0.033		< 0.30				Fe	0.033	Spectroscopy
Manganese	ppm	< 0.01		< 0.40				Mn	< 0.01	Spectroscopy
Chlorides	ppm	0.95		< 250				Cl	0.95	Colorimetric
*Bicarbonate	ppm	6.56		< 255				HCO3	6.56	Colorimetric
*Fluorides	ppm	0.036		< 1.50				Fl	0.036	Colorimetric
*Nitrates	ppm	1.99		< 50.0				NO3	1.99	Colorimetric
*Sulphate	ppm	3.03		< 250				SO4	3.03	Spectroscopy
*Phosphate	ppm	0.13		< 0.61				PO4	0.13	Spectroscopy
*Hardness	ppm	1.23		< 300				CaCO3	1.23	Calculated
*Turbidity	NTU	2.56		< 5.00				TUB	2.56	Turbidimetry
Molybdenum	ppm	< 0.01		< 0.07				Мо	< 0.01	Spectroscopy
Arsenic	ppm	< 0.007		< 0.01				As	< 0.007	Spectroscopy
Cadmium	ppm	< 0.002		< 0.003				Cd	< 0.002	Spectroscopy
Chromium	ppm	< 0.004		< 0.05				Cr	< 0.004	Spectroscopy
Cobalt	ppm	< 0.001		< 0.01				Со	< 0.001	Spectroscopy
Lead	ppm	< 0.009		< 0.01				Pb	< 0.009	Spectroscopy
*Mercury	ppm	< 0.001		< 0.001				Hg	< 0.001	Spectroscopy
Nickel	ppm	< 0.003		< 0.02				Ni	< 0.003	Spectroscopy
Selenium	ppm	< 0.01		< 0.02				Se	< 0.01	Spectroscopy
Zinc	ppm	0.79		< 1.50				Zn	0.79	Spectroscopy
Copper	ppm	< 0.01		< 0.05				Cu	< 0.01	Spectroscopy
Boron	ppm	< 0.01		< 2.40				В	< 0.01	Spectroscopy
~Faecal E. Coli	cfu/100 ml	6		ND				FCECL	6	ISO 9308-2
~Faecal Coliforms	mpn/100m	l 40		ND				FC	40	ISO 9308-2

COMMENTS

E. Coli is an indicator of feacal pollution. They must not be detectable in any 100-ml sample and must not be present in 95% of samples taken throughout any 12-month period. > This water is unfit for human consumption as it indicates contamination by human and/or animal feacal waste. Carry out disinfection treatment.

RECOMMENDATIONS #

> Feacal contamination requires disinfect water with chlorine.

Gakobo Jo Lab Manager	(II	Cordingley Jeremy Managing Director	Jorg	Approval Date: 06/06/2018
			ratory to ensure that the Analysis Report is as acc nty that the Analysis Report relates to the source o	

Analysis Report exclusively relates to the sample presented and examined by the Laboratory. The Company gives no warranty that the Analysis Report relates to the source or any part of the sample. Please note that the recommendations given in the Analysis Report are based on the parameters included in the request from you for analysis. The sporadic character of samples and the date of the Analysis Report shall be fundamental in the reading and interpretation of the Analysis Report. This document cannot be reproduced except in full, without prior written approval of the company." * Parameter is not accredited. ~ Parameters sub contracted to a third party laboratory. # Opinions and Interpretations expressed herein are outside the scope of accredition.

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Customer:	CIPAD Ken	ya		Water Use:	Drinkin	g (W.H.O.)			Date R	eceived:	29-May-18	
Address:	andreabollini	andreabollinie@protonmail.ch							Analys	sis Date:	29-May-18	
Farm Name:	Sololo Moyal	e		Comments:					Rep	ort Date:	6-Jun-18	
Contact Person:	Giuseppe Bo	llin		Condition:	Filled				Sa	mple ID:	CC204WA000	01
Water Sourc			To maintain th Source is labell			e that the :	1	sent from this V Last 3 analysis)				
Parameter	Unit	Result	Guide Low	Guide High	Low	Optimum	High	Symbol	Current		•	Method

Gakobo Jo Lab Manager	(\mathbf{I})	Cordingley Jeremy Managing Director	Gorfly	Approval Date:	06/06/2018
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Crop Nutrition Laboratory Services Lt Off Kangemi Flyover, Waiyaki Way, P. Kenya.Mobile: +254 (0) 736 839933 / (healthy_soils@cropnuts.com	O Box 66437, Nairobi (00800),	Page 2 of 4	WWW.C	ropnut	s.com

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Customer: C	IPAD Ken	iya		Water Use	e: Drinking	g (W.H.O.)			Date Re	ceived:	29-May-18	3
Address: a	ndreabollini	ie@protonn	nail.ch						Analysi	s Date:	29-May-18	}
Farm Name: Se	ololo Moya	le		Comments	5:				Repor	t Date:	6-Jun-18	
Contact Person: G	iuseppe Bo	ollin		Condition	Condition: Filled				Sam	ple ID:	CC204WA	0002
						To maintain th	he correct histe	ory ensure	e that the ne	ext sample	e sent from t	nis Water
Water Source:	Nairot	oi 2					lled: Nairobi 2				Last 3 analy	
Parameter	Unit	Result	Guide Low	Guide High	Low	Optimum	High	Symbol	Current			Method
pН		7.64	6.50	8.50				pН	7.64			Potentiometric
*Electrical Conductivity	mS cm -1	0.092		< 1.80				EC	0.092			Potentiometric
Silicon	ppm	8.97		< 50.0				Si	8.97			Spectroscopy
*Silica	ppm	19.2		< 115				SiO2	19.2			Spectroscopy
Ammonium	ppm	0.29		< 0.50				NH4	0.29			Colorimetric
Calcium	ppm	11.7		< 150				Ca	11.7			Spectroscopy
Magnesium	ppm	2.27		< 100				Mg	2.27			Spectroscopy
Potassium	ppm	2.28		< 100				К	2.28			Spectroscopy
Sodium	ppm	3.70		< 200				Na	3.70			Spectroscopy
Nitrate N	ppm	0.44		< 10.0				NO3N	0.44			Colorimetric
Phosphorus	ppm	0.33		< 0.20				Р	0.33			Spectroscopy
Sulphur	ppm	0.22		< 133				S	0.22			Spectroscopy
Iron	ppm	0.23		< 0.30				Fe	0.23			Spectroscopy
Manganese	ppm	0.12		< 0.40				Mn	0.12			Spectroscopy
Chlorides	ppm	3.05		< 250				Cl	3.05			Colorimetric
*Bicarbonate	ppm	58.6		< 255				HCO3	58.6			Colorimetric
*Fluorides	ppm	0.35		< 1.50				Fl	0.35			Colorimetric
*Nitrates	ppm	1.95		< 50.0				NO3	1.95			Colorimetric
*Sulphate	ppm	0.66		< 250				SO4	0.66			Spectroscopy
*Phosphate	ppm	1.01		< 0.61				PO4	1.01			Spectroscopy
*Hardness	ppm	38.6		< 300				CaCO3	38.6			Calculated
*Turbidity	NTU	19.6		< 5.00				TUB	19.6			Turbidimetry
Molybdenum	ppm	< 0.01		< 0.07				Мо	< 0.01			Spectroscopy
Arsenic	ppm	< 0.007		< 0.01				As	< 0.007			Spectroscopy
Cadmium	ppm	< 0.002		< 0.003				Cd	< 0.002			Spectroscopy
Chromium	ppm	< 0.004		< 0.05				Cr	< 0.004			Spectroscopy
Cobalt	ppm	< 0.001		< 0.01				Со	< 0.001			Spectroscopy
Lead	ppm	< 0.009		< 0.01				Pb	< 0.009			Spectroscopy
*Mercury	ppm	< 0.001		< 0.001				Hg	< 0.001			Spectroscopy
Nickel	ppm	< 0.003		< 0.02				Ni	< 0.003			Spectroscopy
Selenium	ppm	< 0.01		< 0.02				Se	< 0.01			Spectroscopy
Zinc	ppm	< 0.01		< 1.50				Zn	< 0.01			Spectroscopy
Copper	ppm	< 0.01		< 0.05				Cu	< 0.01			Spectroscopy
Boron	ppm	0.013		< 2.40				В	0.013			Spectroscopy
~Faecal E. Coli	cfu/100 ml			ND				FCECL	1			ISO 9308-2
~Faecal Coliforms	mpn/100m			ND				FC	> 180			ISO 9308-2
ND = Not Detectable	·							_				

COMMENTS

E. Coli is an indicator of feacal pollution. They must not be detectable in any 100-ml sample and must not be present in 95% of samples taken throughout any 12-month period. > This water is unfit for human consumption as it indicates contamination by human and/or animal feacal waste. Carry out disinfection treatment. > High phosphates can increase the likelihood of algae growth in resevoirs.

RECOMMENDATIONS #

> Heavy feacal contamination - disinfect water with chlorine.

Gakobo Jo Lab Manager	(\mathcal{M})	Cordingley Jeremy Managing Director	Young	Approval Date: 06/06/2018
Analysis Report exclusively relates to Please note that the recommendation shall be fundamental in the reading a	the sample presented and examined by the s given in the Analysis Report are based on nd interpretation of the Analysis Report. T	e Laboratory. The Company gives no warran n the parameters included in the request from his document cannot be reproduced except i	atory to ensure that the Analysis Report is as accu ty that the Analysis Report relates to the source o n you for analysis. The sporadic character of sam n full, without prior written approval of the comp- ssed herein are outside the scope of accredition.	or any part of the source of the sample. ples and the date of the Analysis Report any."
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Farm Name:	Sololo Moyal	e		Comments:					Rep	ort Date:	6-Jun-18	
Contact Person:	Giuseppe Bollin			Condition:	ion: Filled				Sample ID: CC204W			02
Water Source: Nairobi 2						To maintain th Source is labell			e that the		sent from this V	Water
						,				History (I	Last 3 analysis)	
Parameter	Unit	Result	Guide Low	Guide High	Low	Optimum	High	Symbol	Current			Method

Gakobo Jo Lab Manager	Cordingley Jeremy Managing Director	Garfly	Approval Date:	06/06/2018
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