

TEST REPORT

Report No: QMTL/R-107050/2020

CLIENT : CRYSTALLINE ENVIRONMENTAL SERVICES Abu Dhabi PO Box : 131463 United Arab Emirates		Sample ID	QMTL/S-107050
ATTN : MR. JASMAN PINTO		Date Received	13 Jun 2020
		Date(s) Tested	13 Jun 2020 - 15 Jun 2020
		Date Reported	21 Jun 2020
Sample Description	North Side Water Tank		
Sample Type	Water	Sampling Method	QMTL-WI-15
Client Name/Project	NP	Sampled By	QMTL Representative
Location	NYUAD	Sampling Date/Time	13.06.2020/ 3:00 PM
Sample Container	1x500ml PB	Sampling Point	RCC Tank
Sample Receipt Temp	4°C	Sample Onsite Temp	23.8°C
Sample Appearance	Clear	On-site Treatment	NA
Reference	NP		

TEST RESULTS

PARAMETERS	TEST METHODS	UNITS	GUIDELINES	RESULTS
MICROBIOLOGICAL ANALYSIS				
E.coli	APHA 9222 H & I (23rd Edition)	CFU/100 ml	Zero	Zero
Fecal Coliforms	APHA 9222 D (23rd Edition)	CFU/100 ml	Zero	Zero
Pseudomonas aeruginosa	APHA 9213 E (23rd Edition)	CFU/100 ml	Zero	Zero
Total Bacterial Count	APHA 9215 B (23rd Edition)	CFU/ml	10@37°C	9
Total Coliforms	APHA 9222 B (23rd Edition)	CFU/100 ml	Zero	Zero

Remarks	The sample meets RSB Water Quality Regulations (4th Edition) January 2014 requirements for potable water with respect to the above tests only.
---------	--

Keywords	CFU: Colony Forming Unit, APHA: American Public Health Association, RSB: Regulation & Supervision Bureau, NP: Not Provided, NA: Not Applicable, WI: Work Instruction
----------	--

Test method deviation	None
-----------------------	------

Test performed by Emp#	55
------------------------	----

Report prepared by Emp#	72
-------------------------	----

The above test results are only applicable to the sample(s) referred above.

Reported By




ANILA GEORGE
LABORATORY MANAGER

The test report shall not be reproduced(except in full) without the written approval of QMTL. When analysis is witnessed by us or carried out by sub contract labs, our responsibility is solely to ensure that the analysis is conducted to standard test methods in accordance with Industry accepted practice.

END OF REPORT

TEST REPORT

Report No: QMTL/R-107052/2020

CLIENT : CRYSTALLINE ENVIRONMENTAL SERVICES Abu Dhabi PO Box : 131463 United Arab Emirates		Sample ID	QMTL/S-107052
		Date Received	13 Jun 2020
		Date(s) Tested	13 Jun 2020 - 15 Jun 2020
ATTN : MR. JASMAN PINTO		Date Reported	21 Jun 2020
Sample Description	Janitor Closed		
Sample Type	Water	Sampling Method	QMTL-WI-15
Client Name/Project	NP	Sampled By	QMTL Representative
Location	NYUAD	Sampling Date/Time	13.06.2020/ 3:30 PM
Sample Container	1x500ml PB	Sampling Point	Sink Tap
Sample Receipt Temp	4°C	Sample Onsite Temp	23.1°C
Sample Appearance	Clear	On-site Treatment	NA
Reference	NP		

TEST RESULTS

PARAMETERS	TEST METHODS	UNITS	GUIDELINES	RESULTS
MICROBIOLOGICAL ANALYSIS				
E.coli	APHA 9222 H & I (23rd Edition)	CFU/100 ml	Zero	Zero
Fecal Coliforms	APHA 9222 D (23rd Edition)	CFU/100 ml	Zero	Zero
Pseudomonas aeruginosa	APHA 9213 E (23rd Edition)	CFU/100 ml	Zero	Zero
Total Bacterial Count	APHA 9215 B (23rd Edition)	CFU/ml	10@37°C	2
Total Coliforms	APHA 9222 B (23rd Edition)	CFU/100 ml	Zero	Zero

Remarks	The sample meets RSB Water Quality Regulations (4th Edition) January 2014 requirements for potable water with respect to the above tests only.
---------	--

Keywords	CFU: Colony Forming Unit, APHA: American Public Health Association, RSB: Regulation & Supervision Bureau, NP: Not Provided, NA: Not Applicable, WI: Work Instruction
----------	--

Test method deviation	None
-----------------------	------

Test performed by Emp#	55 & 74
------------------------	---------

Report prepared by Emp#	72
-------------------------	----

The above test results are only applicable to the sample(s) referred above.

Reported By




ANILA GEORGE
LABORATORY MANAGER

The test report shall not be reproduced(except in full) without the written approval of QMTL. When analysis is witnessed by us or carried out by sub contract labs, our responsibility is solely to ensure that the analysis is conducted to standard test methods in accordance with Industry accepted practice.

END OF REPORT

TEST REPORT

Report No: QMTL/R-107053/2020

CLIENT : CRYSTALLINE ENVIRONMENTAL SERVICES Abu Dhabi PO Box : 131463 United Arab Emirates		Sample ID	QMTL/S-107053
ATTN : MR. JASMAN PINTO		Date Received	13 Jun 2020
		Date(s) Tested	13 Jun 2020 - 15 Jun 2020
		Date Reported	21 Jun 2020
Sample Description	Drinking Water Fountain (North Side) NYUAD- 00202988		
Sample Type	Water	Sampling Method	QMTL-WI-15
Client Name/Project	NP	Sampled By	QMTL Representative
Location	NYUAD	Sampling Date/Time	13.06.2020/ 3:45 PM
Sample Container	1x500ml PB	Sampling Point	Tap
Sample Receipt Temp	4°C	Sample Onsite Temp	25.3°C
Sample Appearance	Clear	On-site Treatment	NA
Reference	NP		

TEST RESULTS

PARAMETERS	TEST METHODS	UNITS	GUIDELINES	RESULTS
MICROBIOLOGICAL ANALYSIS				
E.coli	APHA 9222 H & I (23rd Edition)	CFU/100 ml	Zero	Zero
Fecal Coliforms	APHA 9222 D (23rd Edition)	CFU/100 ml	Zero	Zero
Pseudomonas aeruginosa	APHA 9213 E (23rd Edition)	CFU/100 ml	Zero	Zero
Total Bacterial Count	APHA 9215 B (23rd Edition)	CFU/ml	10@37°C	<1
Total Coliforms	APHA 9222 B (23rd Edition)	CFU/100 ml	Zero	Zero

Remarks	The sample meets RSB Water Quality Regulations (4th Edition) January 2014 requirements for potable water with respect to the above tests only.
---------	--

Keywords	CFU: Colony Forming Unit, APHA: American Public Health Association, RSB: Regulation & Supervision Bureau, NP: Not Provided, NA: Not Applicable, WI: Work Instruction
----------	--

Test method deviation	None
-----------------------	------

Test performed by Emp#	55 & 74
------------------------	---------

Report prepared by Emp#	72
-------------------------	----

The above test results are only applicable to the sample(s) referred above.

Reported By




ANILA GEORGE
LABORATORY MANAGER

The test report shall not be reproduced(except in full) without the written approval of QMTL. When analysis is witnessed by us or carried out by sub contract labs, our responsibility is solely to ensure that the analysis is conducted to standard test methods in accordance with Industry accepted practice.

END OF REPORT

TEST REPORT

Report No: QMTL/R-107051/2020

CLIENT : CRYSTALLINE ENVIRONMENTAL SERVICES Abu Dhabi PO Box : 131463 United Arab Emirates		Sample ID	QMTL/S-107051
		Date Received	13 Jun 2020
		Date(s) Tested	13 Jun 2020 - 15 Jun 2020
ATTN : MR. JASMAN PINTO		Date Reported	21 Jun 2020
Sample Description	North Side Irrigation Water Tank		
Sample Type	Water	Sampling Method	QMTL-WI-15
Client Name/Project	NP	Sampled By	QMTL Representative
Location	NYUAD	Sampling Date/Time	13.06.2020/ 3:10 PM
Sample Container	1x500ml PB	Sampling Point	Ground Tank
Sample Receipt Temp	4°C	Sample Onsite Temp	35.8°C
Sample Appearance	Clear	On-site Treatment	NA
Reference	NP		

TEST RESULTS

PARAMETERS	TEST METHODS	UNITS	GUIDELINES	RESULTS
MICROBIOLOGICAL ANALYSIS				
E.coli	APHA 9222 H & I (23rd Edition)	CFU/100 ml	23	Zero
Fecal Coliforms	APHA 9222 D (23rd Edition)	CFU/100 ml	23	Zero
Pseudomonas aeruginosa	APHA 9213 E (23rd Edition)	CFU/100 ml	-	Zero
Total Bacterial Count	APHA 9215 B (23rd Edition)	CFU/ml	-	150
Total Coliforms	APHA 9222 B (23rd Edition)	CFU/100 ml	-	Zero

Remarks	The sample meets RSB Recycled Water and Biosolids Regulations 2018 requirements for irrigation water with respect to the above tests only.
---------	--

Keywords	CFU: Colony Forming Unit, APHA: American Public Health Association, DM: Dubai Municipality, NP: Not Provided, NA: Not Applicable, WI: Work Instruction
----------	--

Test method deviation	None
-----------------------	------

Test performed by Emp#	55 & 74
------------------------	---------

Report prepared by Emp#	72
-------------------------	----

The above test results are only applicable to the sample(s) referred above.

Reported By



ANILA GEORGE
LABORATORY MANAGER



The test report shall not be reproduced(except in full) without the written approval of QMTL. When analysis is witnessed by us or carried out by sub contract labs, our responsibility is solely to ensure that the analysis is conducted to standard test methods in accordance with Industry accepted practice.

END OF REPORT

TEST REPORT

Report No: QMTL/R-107074/2020

CLIENT : CRYSTALLINE ENVIRONMENTAL SERVICES Abu Dhabi PO Box : 131463 United Arab Emirates ATTN : MR. JASMAN PINTO	Sample ID	QMTL/S-107074	
	Date Received	13 Jun 2020	
	Date(s) Tested	13 Jun 2020 - 23 Jun 2020	
	Date Reported	29 Jun 2020	
Sample Description	North Side Water Tank		
Sample Type	Water	Sampling Method	QMTL-WI-16
Client Name/Project	NP	Sampled By	QMTL Representative
Location	NYUAD	Sampling Date/Time	13.06.2020/ 3:00 PM
Sample Container	1X1L PB	Sampling Point	RCC Tank
Sample Receipt Temp	20°C	Sample Onsite Temp	23.8°C
Sample Appearance	Clear	On-site Treatment	NA
Reference	NP		

TEST RESULTS

PARAMETERS	TEST METHODS	UNITS	GUIDELINES	RESULTS
LEGIONELLA ANALYSIS				
Legionella	ISO 11731:2017 E (Matrix A-Procedure-5)	CFU/litre	<1	<1
Legionella pneumophila sero group 1	ISO 11731:2017 E	-	-	Absent
Legionella pneumophila sero group 2-15	ISO 11731:2017 E	-	-	Absent
Legionella Species	ISO 11731:2017 E	-	-	Absent

Remarks	The sample meets RSB Water Quality Regulations (4th Edition) January 2014 requirements for potable water with respect to the above tests only.
---------	--

Keywords	CFU: Colony Forming Unit, ISO: International Organization for Standardization, RSB: Regulation & Supervision Bureau, NP: Not Provided, NA: Not Applicable, WI: Work Instruction, BCYE: Buffered Charcoal Yeast Extract, Culture Media :- BCYE Agar
----------	--

Test method deviation	None
Test performed by Emp#	5 & 74
Report prepared by Emp#	72

The above test results are only applicable to the sample(s) referred above.

Reported By



ANILA GEORGE
LABORATORY MANAGER

The test report shall not be reproduced(except in full) without the written approval of QMTL. When analysis is witnessed by us or carried out by sub contract labs, our responsibility is solely to ensure that the analysis is conducted to standard test methods in accordance with Industry accepted practice.

END OF REPORT

TEST REPORT

Report No: QMTL/R-107076/2020

CLIENT : CRYSTALLINE ENVIRONMENTAL SERVICES Abu Dhabi PO Box : 131463 United Arab Emirates ATTN : MR. JASMAN PINTO	Sample ID	QMTL/S-107076	
	Date Received	13 Jun 2020	
	Date(s) Tested	13 Jun 2020 - 23 Jun 2020	
	Date Reported	29 Jun 2020	
Sample Description	Janitor Closet		
Sample Type	Water	Sampling Method	QMTL-WI-16
Client Name/Project	NP	Sampled By	QMTL Representative
Location	NYUAD	Sampling Date/Time	13.06.2020/ 3:30 PM
Sample Container	1X1L PB	Sampling Point	Tap (Sink)
Sample Receipt Temp	20°C	Sample Onsite Temp	23.1°C
Sample Appearance	Clear	On-site Treatment	NA
Reference	NP		

TEST RESULTS

PARAMETERS	TEST METHODS	UNITS	GUIDELINES	RESULTS
LEGIONELLA ANALYSIS				
Legionella	ISO 11731:2017 E (Matrix A-Procedure-5)	CFU/litre	<1	<1
Legionella pneumophila sero group 1	ISO 11731:2017 E	-	-	Absent
Legionella pneumophila sero group 2-15	ISO 11731:2017 E	-	-	Absent
Legionella Species	ISO 11731:2017 E	-	-	Absent

Remarks	The sample meets RSB Water Quality Regulations (4th Edition) January 2014 requirements for potable water with respect to the above tests only.
---------	--

Keywords	CFU: Colony Forming Unit, ISO: International Organization for Standardization, RSB: Regulation & Supervision Bureau, NP: Not Provided, NA: Not Applicable, WI: Work Instruction, BCYE: Buffered Charcoal Yeast Extract, Culture Media :- BCYE Agar
----------	--

Test method deviation	None
Test performed by Emp#	5 & 74
Report prepared by Emp#	72

The above test results are only applicable to the sample(s) referred above.

Reported By




ANILA GEORGE
LABORATORY MANAGER

The test report shall not be reproduced(except in full) without the written approval of QMTL. When analysis is witnessed by us or carried out by sub contract labs, our responsibility is solely to ensure that the analysis is conducted to standard test methods in accordance with Industry accepted practice.

END OF REPORT

TEST REPORT

Report No: QMTL/R-107077/2020

CLIENT : CRYSTALLINE ENVIRONMENTAL SERVICES Abu Dhabi PO Box : 131463 United Arab Emirates ATTN : MR. JASMAN PINTO		Sample ID	QMTL/S-107077
		Date Received	13 Jun 2020
		Date(s) Tested	13 Jun 2020 - 23 Jun 2020
		Date Reported	29 Jun 2020
Sample Description	Drinking Water Fountain (North Side) NYUAD- 00202988		
Sample Type	Water	Sampling Method	QMTL-WI-16
Client Name/Project	NP	Sampled By	QMTL Representative
Location	NYUAD	Sampling Date/Time	13.06.2020/ 3:45 PM
Sample Container	1X1L PB	Sampling Point	Drinking Fountain
Sample Receipt Temp	20°C	Sample Onsite Temp	25.3°C
Sample Appearance	Clear	On-site Treatment	NA
Reference	NP		

TEST RESULTS

PARAMETERS	TEST METHODS	UNITS	GUIDELINES	RESULTS
LEGIONELLA ANALYSIS				
Legionella	ISO 11731:2017 E (Matrix A-Procedure-5)	CFU/litre	<1	<1
Legionella pneumophila sero group 1	ISO 11731:2017 E	-	-	Absent
Legionella pneumophila sero group 2-15	ISO 11731:2017 E	-	-	Absent
Legionella Species	ISO 11731:2017 E	-	-	Absent

Remarks	The sample meets DM Water Systems quality (2010) specifications for Fountain Water with respect to the above tests only.
---------	--

Keywords	CFU: Colony Forming Unit, ISO: International Organization for Standardization, DM: Dubai Municipality, NP: Not Provided, NA: Not Applicable, WI: Work Instruction, BCYE: Buffered Charcoal Yeast Extract, Culture Media :- BCYE Agar
----------	--

Test method deviation	None
Test performed by Emp#	5 & 74
Report prepared by Emp#	72

The above test results are only applicable to the sample(s) referred above.

Reported By



ANILA GEORGE
LABORATORY MANAGER



The test report shall not be reproduced(except in full) without the written approval of QMTL. When analysis is witnessed by us or carried out by sub contract labs, our responsibility is solely to ensure that the analysis is conducted to standard test methods in accordance with Industry accepted practice.

END OF REPORT

TEST REPORT

Report No: QMTL/R-107075/2020

CLIENT : CRYSTALLINE ENVIRONMENTAL SERVICES Abu Dhabi PO Box : 131463 United Arab Emirates ATTN : MR. JASMAN PINTO	Sample ID	QMTL/S-107075	
	Date Received	13 Jun 2020	
	Date(s) Tested	13 Jun 2020 - 23 Jun 2020	
	Date Reported	29 Jun 2020	
Sample Description	North Side Irrigation Water Tank		
Sample Type	Water	Sampling Method	QMTL-WI-16
Client Name/Project	NP	Sampled By	QMTL Representative
Location	NYUAD	Sampling Date/Time	13.06.2020/ 3:10 PM
Sample Container	1X1L PB	Sampling Point	Ground Tank
Sample Receipt Temp	20°C	Sample Onsite Temp	35.8°C
Sample Appearance	Clear	On-site Treatment	NA
Reference	NP		

TEST RESULTS

PARAMETERS	TEST METHODS	UNITS	GUIDELINES	RESULTS
LEGIONELLA ANALYSIS				
Legionella	ISO 11731:2017 E (Matrix B, Procedure- 8, 9 & 10)	CFU/litre	100 (cfu/ml) (Circulating Water)	<100
Legionella pneumophila sero group 1	ISO 11731:2017 E	-	-	Absent
Legionella pneumophila sero group 2-15	ISO 11731:2017 E	-	-	Absent
Legionella Species	ISO 11731:2017 E	-	-	Absent

Remarks	The sample meets RSB Recycled Water and Biosolids Regulations 2018 requirements for irrigation water with respect to the above tests only.
---------	--

Keywords	CFU: Colony Forming Unit, RSB: Regulation & Supervision Bureau, ISO: International Organization for Standardization NP: Not Provided, NA: Not Applicable, WI: Work Instruction, BCYE: Buffered Charcoal Yeast Extract Agar, GVPC: Glycine Vancomycin Polymyxin Cycloheximide, Culture Media: BCYE & GVPC Agar
----------	---

Test method deviation	None
Test performed by Emp#	55 & 74
Report prepared by Emp#	72

The above test results are only applicable to the sample(s) referred above.

Reported By




ANILA GEORGE
LABORATORY MANAGER

The test report shall not be reproduced(except in full) without the written approval of QMTL. When analysis is witnessed by us or carried out by sub contract labs, our responsibility is solely to ensure that the analysis is conducted to standard test methods in accordance with Industry accepted practice.

END OF REPORT



CONSULTING SERVICE REPORT

CUSTOMER: SERCO - NEW YORK UNIVERSITY, ABU DHABI	To: Mr. Ratheesh Muttath Operations Engineer	DATE: 13-06-2020
CUSTOMER ID: 3003	Copy: SERCO - NYUAD	LAST VISIT: 09-05-2020

AMBIENT WATER ANALYSIS

PARAMETER	CONTROL LIMITS	North Side Water Tank			
pH at 25°C	7.0 - 9.2	8.72			
Conductivity at 25°C, µs/cm	1600 Max.	260			
Total Dissolved Solids (TDS)	1000 Max.	169			
Total Hardness, ppm as CaCO ₃	300 Max.	93			
Calcium Hardness, ppm as CaCO ₃	200 Max.	72			
Total Alkalinity	--	60			
Chloride, ppm as Cl ⁻	250 Max.	65			
Iron, ppm as Fe	0.2 Max.	<0.15			
Sulphate (SO ₄), mg/l	250 Max.	<15			
Copper (Cu), mg/l	1 Max.	<0.07			
Aluminum (Al), mg/l	0.2 Max.	<0.06			
Zinc (Zn), mg/l	5 Max.	<0.16			
Nitrate (NO ₃ ⁻), mg/l	50 Max.	<1.0			
Nitrite (NO ₂ ⁻), mg/l	30 Max.	<0.09			
Fluorides (F), mg/l	15 Max.	<0.01			
Potassium (K), mg/l	12 Max.	<5.0			

Treatment Residuals

Odor	Unobjectionable	ND			
Free Residual Chlorine as Cl	0.2 - 0.5	0.46			
Turbidity in NTU	4.0 Max	<1.0			

All test results expressed in parts per million (ppm) as CaCO₃ except pH and conductivity (µmhos).

COMMENTS:

ACTION:

The pH and Conductivity/TDS are found satisfactory. ⇨	No action recommended.
Dissolved iron levels are within control limits. ⇨	No action recommended.
Chlorine levels found satisfactory. ⇨	No action recommended.

The dosing system is calibrated. Dosing pumps, low level sensor, dosing tubes are in good condition.
There is no recirculation line/system for the water tank.
Please check chlorine levels daily. Kindly inform Crystalline if levels fluctuate.

INVENTORY LEVELS

DOSAGE SCHEDULE

Chemical	Quantity	Chemical	Present Dosage	Revised Dosage
Crystal SHC			--	
Service Engineer:	Murugaraaj	Client:	Mr. Ratheesh Muttath	
Signature:		Signature:		





CONSULTING SERVICE REPORT

CUSTOMER: SERCO – NEW YORK UNIVERSITY, ABU DHABI	To: Mr. Ratheesh Muttath Operations Engineer	DATE: 13-06-2020
CUSTOMER ID: 3003	Copy: SERCO – NYUAD	LAST VISIT: 09-05-2020

AMBIENT WATER ANALYSIS

PARAMETER	CONTROL LIMITS	North Side Janitor Closed			
pH at 25°C	7.0 – 9.2	8.49			
Conductivity at 25°C, µs/cm	1600 Max.	252			
Total Dissolved Solids (TDS)	1000 Max.	163			
Total Hardness, ppm as CaCO ₃	300 Max.	76			
Calcium Hardness, ppm as CaCO ₃	200 Max.	62			
Total Alkalinity	--	51			
Chloride, ppm as Cl ⁻	250 Max.	59			
Iron, ppm as Fe	0.2 Max.	<0.12			
Sulphate (SO ₄), mg/l	250 Max.	<10			
Copper (Cu), mg/l	1 Max.	<0.08			
Aluminum (Al), mg/l	0.2 Max.	<0.06			
Zinc (Zn), mg/l	5 Max.	<0.19			
Nitrate (NO ₃ ⁻), mg/l	50 Max.	<1.0			
Nitrite (NO ₂ ⁻), mg/l	30 Max.	<0.06			
Fluorides (F), mg/l	15 Max.	<0.05			
Potassium (K), mg/l	12 Max.	<5.0			

Treatment Residuals

Odor	Unobjectionable	ND			
Free Residual Chlorine as Cl	0.2 – 0.5	0.40			
Turbidity in NTU	4.0 Max	<1.0			

All test results expressed in parts per million (ppm) as CaCO₃ except pH and conductivity (µmhos).

COMMENTS:

ACTION:

The pH and Conductivity/TDS are found satisfactory. ⇨	No action recommended.
Dissolved iron levels are within control limits. ⇨	No action recommended.
Chlorine levels found satisfactory. ⇨	No action recommended.

INVENTORY LEVELS

DOSAGE SCHEDULE

Chemical	Quantity	Chemical	Present Dosage	Revised Dosage
Crystal SHC			--	
Service Engineer:	Murugaraaj		Client:	Mr. Ratheesh Muttath
Signature:			Signature:	

