

TEST REPORT

Report No: QMTL/R-127496/2020

CLIENT : CRYSTALLINE ENVIRONMENTAL SERVICES Abu Dhabi PO Box : 131463 United Arab Emirates		Sample ID	QMTL/S-127496
ATTN : MR. JASMAN PINTO		Date Received	08 Oct 2020
		Date(s) Tested	08 Oct 2020 - 10 Oct 2020
		Date Reported	14 Oct 2020
Sample Description	Addare Tower, Low Zone Basement		
Sample Type	Water	Sampling Method	QMTL-WI-15
Client Name/Project	NP	Sampled By	QMTL Representative
Location	City Of Light, Al Reem Island	Sampling Date/Time	08.10.2020 / 09:17 AM
Sample Container	1x500ml PB	Sampling Point	Valve
Sample Receipt Temp	4°C	Sample Onsite Temp	11.2°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.
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Keywords	CFU: Colony Forming Unit, APHA: American Public Health Association, RSB: Regulation & Supervision Bureau, NP: Not Provided, NA: Not Applicable, WI: Work Instruction
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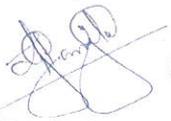
Test method deviation	None
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Test performed by Emp#	14 & 74
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Report prepared by Emp#	72
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The above test results are only applicable to the sample(s) referred above.

Reported By




ANILA GEORGE
LABORATORY MANAGER

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END OF REPORT

TEST REPORT

Report No: QMTL/R-127497/2020

CLIENT : CRYSTALLINE ENVIRONMENTAL SERVICES Abu Dhabi PO Box : 131463 United Arab Emirates ATTN : MR. JASMAN PINTO	Sample ID	QMTL/S-127497	
	Date Received	08 Oct 2020	
	Date(s) Tested	08 Oct 2020 - 10 Oct 2020	
	Date Reported	14 Oct 2020	
Sample Description	Addare Tower, High Zone		
Sample Type	Water	Sampling Method	QMTL-WI-15
Client Name/Project	NP	Sampled By	QMTL Representative
Location	City Of Light, Al Reem Island	Sampling Date/Time	08.10.2020 / 09:30 AM
Sample Container	1x500ml PB	Sampling Point	Valve
Sample Receipt Temp	4°C	Sample Onsite Temp	11.9°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.
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Keywords	CFU: Colony Forming Unit, APHA: American Public Health Association, RSB: Regulation & Supervision Bureau, NP: Not Provided, NA: Not Applicable, WI: Work Instruction
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Test method deviation	None
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Test performed by Emp#	14 & 74
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Report prepared by Emp#	72
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END OF REPORT

TEST REPORT

Report No: QMTL/R-127494/2020

CLIENT : CRYSTALLINE ENVIRONMENTAL SERVICES Abu Dhabi PO Box : 131463 United Arab Emirates		Sample ID	QMTL/S-127494
ATTN : MR. JASMAN PINTO		Date Received	08 Oct 2020
		Date(s) Tested	08 Oct 2020 - 10 Oct 2020
		Date Reported	14 Oct 2020
Sample Description	Marina Bay, C2, Chilled Water Basement		
Sample Type	Water	Sampling Method	QMTL-WI-15
Client Name/Project	NP	Sampled By	QMTL Representative
Location	City Of Light, Al Reem Island	Sampling Date/Time	08.10.2020 / 09:07 AM
Sample Container	1x500ml PB	Sampling Point	Valve
Sample Receipt Temp	4°C	Sample Onsite Temp	11.1°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
Fecal coliforms	APHA 9222 D (23rd Edition)	CFU/100 ml	-	Zero
Pseudomonas aeruginosa	APHA 9213 E (23rd Edition)	CFU/100 ml	-	Zero
Total Bacterial Count	APHA 9215 B (23rd Edition)	CFU/ml	10,000	30
Total Coliforms	APHA 9222 B (23rd Edition)	CFU/100 ml	-	Zero

Remarks	The sample meets DM Water Systems quality (2010) specifications for Cooling Water Systems with respect to the above tests only.
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Keywords	CFU: Colony Forming Unit, APHA: American Public Health Association, DM: Dubai Municipality, NP: Not Provided, NA: Not Applicable, WI: Work Instruction
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Test method deviation	None
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Test performed by Emp#	14 & 74
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Report prepared by Emp#	72
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END OF REPORT

TEST REPORT

Report No: QMTL/R-127495/2020

CLIENT : CRYSTALLINE ENVIRONMENTAL SERVICES Abu Dhabi PO Box : 131463 United Arab Emirates		Sample ID	QMTL/S-127495
ATTN : MR. JASMAN PINTO		Date Received	08 Oct 2020
		Date(s) Tested	08 Oct 2020 - 10 Oct 2020
		Date Reported	14 Oct 2020
Sample Description	Marina Bay, C3, Chilled Water		
Sample Type	Water	Sampling Method	QMTL-WI-15
Client Name/Project	NP	Sampled By	QMTL Representative
Location	City Of Light, Al Reem Island	Sampling Date/Time	08.10.2020 / 09:14 AM
Sample Container	1x500ml PB	Sampling Point	Valve
Sample Receipt Temp	4°C	Sample Onsite Temp	16.3°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
Fecal coliforms	APHA 9222 D (23rd Edition)	CFU/100 ml	-	Zero
Pseudomonas aeruginosa	APHA 9213 E (23rd Edition)	CFU/100 ml	-	Zero
Total Bacterial Count	APHA 9215 B (23rd Edition)	CFU/ml	10,000	<1
Total Coliforms	APHA 9222 B (23rd Edition)	CFU/100 ml	-	Zero

Remarks	The sample meets DM Water Systems quality (2010) specifications for Cooling Water Systems with respect to the above tests only.
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Keywords	CFU: Colony Forming Unit, APHA: American Public Health Association, DM: Dubai Municipality, NP: Not Provided, NA: Not Applicable, WI: Work Instruction
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Test method deviation	None
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Test performed by Emp#	14 & 74
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Report prepared by Emp#	72
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END OF REPORT

TEST REPORT

Report No: QMTL/R-127513/2020

CLIENT : CRYSTALLINE ENVIRONMENTAL SERVICES Abu Dhabi PO Box : 131463 United Arab Emirates		Sample ID	QMTL/S-127513
ATTN : MR. JASMAN PINTO		Date Received	08 Oct 2020
		Date(s) Tested	08 Oct 2020 - 18 Oct 2020
		Date Reported	21 Oct 2020
Sample Description	Addare Tower, Low Zone Basement		
Sample Type	Water	Sampling Method	QMTL-WI-16
Client Name/Project	NP	Sampled By	QMTL Representative
Location	City Of Light, Al Reem Island	Sampling Date/Time	08.10.2020 / 09:16 AM
Sample Container	1x1L PB	Sampling Point	Valve
Sample Receipt Temp	21°C	Sample Onsite Temp	11.2°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 Species	ISO 11731:2017 E	-	-	Absent
Legionella pneumophila sero group 1	ISO 11731:2017 E	-	-	Absent
Legionella pneumophila sero group 2-15	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.
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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
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Test method deviation	None
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Test performed by Emp#	14 & 74
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Report prepared by Emp#	72
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TEST REPORT

Report No: QMTL/R-127514/2020

CLIENT : CRYSTALLINE ENVIRONMENTAL SERVICES Abu Dhabi PO Box : 131463 United Arab Emirates		Sample ID	QMTL/S-127514
ATTN : MR. JASMAN PINTO		Date Received	08 Oct 2020
		Date(s) Tested	08 Oct 2020 - 18 Oct 2020
		Date Reported	21 Oct 2020
Sample Description	Addare Tower, High Zone		
Sample Type	Water	Sampling Method	QMTL-WI-16
Client Name/Project	NP	Sampled By	QMTL Representative
Location	City Of Light, Al Reem Island	Sampling Date/Time	08.10.2020 / 09:19 AM
Sample Container	1x1L PB	Sampling Point	Valve
Sample Receipt Temp	21°C	Sample Onsite Temp	11.9°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 Species	ISO 11731:2017 E	-	-	Absent
Legionella pneumophila sero group 1	ISO 11731:2017 E	-	-	Absent
Legionella pneumophila sero group 2-15	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.
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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
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Test method deviation	None
Test performed by Emp#	14 & 74
Report prepared by Emp#	72

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TEST REPORT

Report No: QMTL/R-127511/2020

CLIENT : CRYSTALLINE ENVIRONMENTAL SERVICES Abu Dhabi PO Box : 131463 United Arab Emirates		Sample ID	QMTL/S-127511
		Date Received	08 Oct 2020
		Date(s) Tested	08 Oct 2020 - 18 Oct 2020
ATTN : MR. JASMAN PINTO		Date Reported	21 Oct 2020
Sample Description	Marina Bay, C2, Chilled Water Basement		
Sample Type	Water	Sampling Method	QMTL-WI-16
Client Name/Project	NP	Sampled By	QMTL Representative
Location	City Of Light, Al Reem Island	Sampling Date/Time	08.10.2020 / 09:05 AM
Sample Container	1x1L PB	Sampling Point	Valve
Sample Receipt Temp	21°C	Sample Onsite Temp	11.1°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 B, Procedure- 8, 9 & 10)	CFU/litre	1000	<100
Legionella Species	ISO 11731:2017 E	-	-	Absent
Legionella pneumophila sero group 1	ISO 11731:2017 E	-	-	Absent
Legionella pneumophila sero group 2-15	ISO 11731:2017 E	-	-	Absent

Remarks	The sample meets DM Water Systems quality (2010) specifications for Cooling Water Systems with respect to the above tests only.
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Keywords	CFU: Colony Forming Unit, DM: Dubai Municipality, 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
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Test method deviation	None
Test performed by Emp#	14 & 74
Report prepared by Emp#	72

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TEST REPORT

Report No: QMTL/R-127512/2020

CLIENT : CRYSTALLINE ENVIRONMENTAL SERVICES Abu Dhabi PO Box : 131463 United Arab Emirates		Sample ID	QMTL/S-127512
ATTN : MR. JASMAN PINTO		Date Received	08 Oct 2020
		Date(s) Tested	08 Oct 2020 - 18 Oct 2020
		Date Reported	21 Oct 2020
Sample Description	Marina Bay, C3, Chilled Water		
Sample Type	Water	Sampling Method	QMTL-WI-16
Client Name/Project	NP	Sampled By	QMTL Representative
Location	City Of Light, Al Reem Island	Sampling Date/Time	08.10.2020 / 09:11 AM
Sample Container	1x1L PB	Sampling Point	Valve
Sample Receipt Temp	21°C	Sample Onsite Temp	16.3°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 B, Procedure- 8, 9 & 10)	CFU/litre	1000	<100
Legionella Species	ISO 11731:2017 E	-	-	Absent
Legionella pneumophila sero group 1	ISO 11731:2017 E	-	-	Absent
Legionella pneumophila sero group 2-15	ISO 11731:2017 E	-	-	Absent

Remarks	The sample meets DM Water Systems quality (2010) specifications for Cooling Water Systems with respect to the above tests only.
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Keywords	CFU: Colony Forming Unit, DM: Dubai Municipality, 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
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Test method deviation	None
Test performed by Emp#	14 & 74
Report prepared by Emp#	72

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

Reported By




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END OF REPORT



CRYSTALLINE ENVIRONMENTAL SERVICES

CONSULTING TEST REPORT

CUSTOMER: TAFAWUQ FACILITY MANAGEMENT	
Site Location: Addax Tower C1	Date: 08-10-2020
Sample Point: Location: Chiller Room (High Zone)	Sampled By: Crystalline Rep

CHILLED WATER ANALYSIS

PARAMETER	CONTROL LIMITS	RESULTS
Ph	9.0 - 10.5	10.49
Conductivity, $\mu\text{s}/\text{cm}$	Max 3500	2040
TDS, ppm	--	1073
Iron, ppm as Fe	0 - 2.0	0.14
Treatment Residuals		
Nitrite, ppm	> 800	1470
Dipslide	<10 ³	ND

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

COMMENTS:	ACTION:
The pH level is satisfactory \Rightarrow	No action recommended.
Conductivity/TDS are found satisfactory. \Rightarrow	No action recommended.
Dissolved iron levels are within control limit \Rightarrow	No action recommended.
Nitrite levels are within control limits. \Rightarrow	No action recommended.

Reported By


Murugaraaj
Service Engineer



CLEANER WATER GREENER TOMORROW



CRYSTALLINE ENVIRONMENTAL SERVICES

CONSULTING TEST REPORT

CUSTOMER: TAFAWUQ FACILITY MANAGEMENT	
Site Location: Addax Tower C1	Date: 08-10-2020
Sample Point: Location: Chiller Room (Low Zone)	Sampled By: Crystalline Rep

CHILLED WATER ANALYSIS

PARAMETER	CONTROL LIMITS	RESULTS
Ph	9.0 - 10.5	10.68
Conductivity, $\mu\text{s}/\text{cm}$	Max 3500	2123
TDS, ppm	--	1379
Iron, ppm as Fe	0 - 2.0	>2.0
Treatment Residuals		
Nitrite, ppm	> 800	1050
Dipslide	<10 ³	ND

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

COMMENTS:	ACTION:
The pH level is High. \Rightarrow	Please maintained control limits.
Conductivity/TDS are found satisfactory. \Rightarrow	No action recommended.
Dissolved iron levels are high. \Rightarrow	Please maintained control limits.
Nitrite levels are within control limits. \Rightarrow	No action recommended.

Reported By


Murugaraaj
Service Engineer



CLEANER WATER GREENER TOMORROW



CRYSTALLINE ENVIRONMENTAL SERVICES

CONSULTING TEST REPORT

CUSTOMER: TAFAWUQ FACILITY MANAGEMENT	
Site Location: C2 Building	Date: 08-10-2020
Sample Point: ETS - Room	Sampled By: Crystalline Rep

CHILLED WATER ANALYSIS

PARAMETER	CONTROL LIMITS	RESULTS
pH	9.0 - 10.5	10.57
Conductivity, $\mu\text{s}/\text{cm}$	Max 3500	1168
TDS, ppm	--	759
Iron, ppm as Fe	0 - 2.0	0.23
Treatment Residuals		
Nitrite, ppm	> 800	450
Dipslide	<10 ³	ND

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

COMMENTS:	ACTION:
The pH Levels are high. \Rightarrow	Please maintained desired control limits.
Conductivity/TDS are found satisfactory. \Rightarrow	No action recommended.
Dissolved iron levels are found within control limits. \Rightarrow	No action recommended.
Nitrite levels are Low. \Rightarrow	Please maintained control limits above 800PPM.

Reported By

Murugaraaj
Service Engineer



CLEANER WATER GREENER TOMORROW



CRYSTALLINE ENVIRONMENTAL SERVICES

CONSULTING TEST REPORT

CUSTOMER: TAFAWUQ FACILITY MANAGEMENT	
Site Location: C3 Building	Date: 08-10-2020
Sample Point: ETS - Room	Sampled By: Crystalline Rep

CHILLED WATER ANALYSIS

PARAMETER	CONTROL LIMITS	RESULTS
pH	9.0 - 10.5	9.71
Conductivity, $\mu\text{s}/\text{cm}$	Max 3500	690
TDS, ppm	--	452
Iron, ppm as Fe	0 - 2.0	0.46
Treatment Residuals		
Nitrite, ppm	> 800	490
Dipslide	<10 ³	ND

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

COMMENTS:	ACTION:
The pH level is satisfactory \Rightarrow	No action recommended.
The Conductivity levels are satisfactory \Rightarrow	No action recommended.
Dissolved iron levels are within the control limits. \Rightarrow	No action recommended.
Nitrite levels are Low. \Rightarrow	Please maintained control limits above 800PPM.

Reported By


Murugaraaj
Service Engineer



CLEANER WATER GREENER TOMORROW