



**Microbiology Test Report**

**Customer Details**

**Crystalline Cleaning & Environmental Services**

P.O.Box: 131463 Warehouse no: 84, M-45. Mussafah, Abu Dhabi, UAE.

Report No. WA-R-L-2007-13443



Request No. : WA-Q-L-2007-02019

Sample No. : WA-S-L-2007-12979

Sampling Date : 05/07/2020

Report Date. : 09/07/2020

Analysis Start Date. : 05/07/2020

Analysis End Date. : 08/07/2020

Sample Location. : Horizon Tower - Reem Island

Sampled By : Shoukth

Sample Identification : Not Applicable

Sample Submitted as : Water

Sample Certificate No : 1236

Sampling Method : APHA 9060 A&B

Temperature °C : 10.1°C

Site Observation : Clear

Sampling Container : Sterile Plastic Bottle

Source of Sample : E1 Low Zone

Sampling Point : ETS Room - 27th Floor

Preservation : 4-8°C

Sample Description : Chilled Water

Parameters	Test Methods	Units	Results	Specification
Escherichia Coli	APHA 9222 B,H& I 23rd Ed. 2017	CFU/100ml	Not Detected	--
Faecal Coliforms	APHA 9222 D 23rd Ed. 2017	CFU/100ml	Not Detected	--
Heterotrophic plate count	APHA 9215 B 23rd Ed. 2017	CFU/ml	Not Detected	10000CFU/ml
Pseudomonas aeruginosa	CCFRA 2.5.2 5th Ed. 2007	CFU/250ml	Not Detected	--
Total Coliforms	APHA 9222 B 23rd Ed. 2017	CFU/100ml	Not Detected	--

Note : Not Detected=<1CFU

Limit based on DM.Rev2.Dated 6/2010 for guidelines for control of legionella in water system. Public Safety Department.

**Remarks :The tested results of the sample are found to be satisfactory within the specified limits.**

Analyst	Reviewed By	Method Variation
HS	SM	None

Key Words :CFU-Colony Forming Unit; APHA-American Public Health Association; CCFRA-Campden Chorleywood Food Research Association.



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Wimpey Laboratories LLC

P.O. Box 115086, Musaffah M-34, Abu Dhabi, U.A.E.  
Tel: +971 2 5503324, Fax: +971 2 5503387



Testing - NAL 034

### Microbiology Test Report

Report No. : WA-R-L-2007-13443

Signed for and on behalf of Wimpey Laboratories

**Dr. Suresh Murugan Ph.D**

Senior Microbiologist

Test results relate only to the samples tested.

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**Legionella Test Report**

**Customer Details**

**Crystalline Cleaning & Environmental Services**

P.O.Box: 131463 Warehouse no: 84, M-45. Mussafah, Abu Dhabi, UAE.

Report No. WA-R-L-2007-13446



Request No.	: WA-Q-L-2007-02019	Sample No.	: WA-S-L-2007-12982
Sampling Date	: 05/07/2020	Report Date.	: 16/07/2020
Analysis Start Date.	: 05/07/2020	Analysis End Date.	: 15/07/2020
Sample Location.	: Horizon Tower - Reem Island	Sampled By	: Shoukth
Sample Identification	: Not Applicable	Sample Submitted as	: Water
Sample Certificate No	: 1236	Sampling Method	: BS 7592
Temperature °C	: 10.1°C	Site Observation	: Clear
Sampling Container	: Sterile Plastic Bottle	Source of Sample	: E1 Low Zone
Sampling Point	: ETS Room - 27th Floor	Preservation	: 10°C
Sample Description	: Chilled Water		

Parameters	Test Methods	Units	Results	Specification
Legionella	ISO 11731: 2017	CFU/L	Not Detected	100CFU/L

Note : Limit of Detection=<20CFU/L

Procedure: WSOP-MB-0051. Filtration, Washing, Heat Treatment, Acid Treatment followed by Plating on GVPC/BCYE Agar.

Limit based on DM. Rev2.Dated 6/2010 for guidelines for control of legionella in water system. Public Safety Department.

**Remarks :The tested result of the sample is found to be satisfactory within the specified limits.**

Analyst	Reviewed By	Method Variation
HS	SM	None

Key Words :CFU-Colony Forming Unit; BS-British Standard; ISO-International Organization for Standardization.

**Signed for and on behalf of Wimpey Laboratories**

**Dr. Suresh Murugan Ph.D**

Senior Microbiologist



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**Microbiology Test Report**

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P.O.Box: 131463 Warehouse no: 84, M-45. Mussafah, Abu Dhabi, UAE.

Report No. WA-R-L-2007-13444



Request No. : WA-Q-L-2007-02019

Sample No. : WA-S-L-2007-12980

Sampling Date : 05/07/2020

Report Date. : 09/07/2020

Analysis Start Date. : 05/07/2020

Analysis End Date. : 08/07/2020

Sample Location. : Horizon Tower - Reem Island

Sampled By : Shoukth

Sample Identification : Not Applicable

Sample Submitted as : Water

Sample Certificate No : 1236

Sampling Method : APHA 9060 A&B

Temperature °C : 9.8°C

Site Observation : Clear

Sampling Container : Sterile Plastic Bottle

Source of Sample : E1 High Zone

Sampling Point : ETS Room - 58th Floor

Preservation : 4-8°C

Sample Description : Chilled Water

Parameters	Test Methods	Units	Results	Specification
Escherichia Coli	APHA 9222 B,H& I 23rd Ed. 2017	CFU/100ml	Not Detected	--
Faecal Coliforms	APHA 9222 D 23rd Ed. 2017	CFU/100ml	Not Detected	--
Heterotrophic plate count	APHA 9215 B 23rd Ed. 2017	CFU/ml	Not Detected	10000CFU/ml
Pseudomonas aeruginosa	CCFRA 2.5.2 5th Ed. 2007	CFU/250ml	Not Detected	--
Total Coliforms	APHA 9222 B 23rd Ed. 2017	CFU/100ml	Not Detected	--

Note : Not Detected=<1CFU

Limit based on DM.Rev2.Dated 6/2010 for guidelines for control of legionella in water system. Public Safety Department.

**Remarks :The tested results of the sample are found to be satisfactory within the specified limits.**

Analyst	Reviewed By	Method Variation
HS	SM	None

Key Words :CFU-Colony Forming Unit; APHA-American Public Health Association; CCFRA-Campden Chorleywood Food Research Association.



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### Microbiology Test Report

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**Legionella Test Report**

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P.O.Box: 131463 Warehouse no: 84, M-45. Mussafah, Abu Dhabi, UAE.

Report No. WA-R-L-2007-13447



Request No.	: WA-Q-L-2007-02019	Sample No.	: WA-S-L-2007-12983
Sampling Date	: 05/07/2020	Report Date.	: 16/07/2020
Analysis Start Date.	: 05/07/2020	Analysis End Date.	: 15/07/2020
Sample Location.	: Horizon Tower - Reem Island	Sampled By	: Shoukth
Sample Identification	: Not Applicable	Sample Submitted as	: Water
Sample Certificate No	: 1236	Sampling Method	: BS 7592
Temperature °C	: 9.8°C	Site Observation	: Clear
Sampling Container	: Sterile Plastic Bottle	Source of Sample	: E1 High Zone
Sampling Point	: ETS Room - 58th Floor	Preservation	: 10°C
Sample Description	: Chilled Water		

Parameters	Test Methods	Units	Results	Specification
Legionella	ISO 11731: 2017	CFU/L	Not Detected	100CFU/L

Note : Limit of Detection=<20CFU/L

Procedure: WSOP-MB-0051. Filtration, Washing, Heat Treatment, Acid Treatment followed by Plating on GVPC/BCYE Agar.

Limit based on DM. Rev2.Dated 6/2010 for guidelines for control of legionella in water system. Public Safety Department.

**Remarks :The tested result of the sample is found to be satisfactory within the specified limits.**

Analyst	Reviewed By	Method Variation
HS	SM	

Key Words :CFU-Colony Forming Unit; BS-British Standard; ISO-International Organization for Standardization.

**Signed for and on behalf of Wimpey Laboratories**

**Dr. Suresh Murugan Ph.D**

Senior Microbiologist



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# CRYSTALLINE ENVIRONMENTAL SERVICES

## CONSULTING TEST REPORT

CUSTOMER: TAFAWUQ FACILITY MANAGEMENT	DATE: 05-07-2020
SITE LOCATION: HORIZON TOWER	SAMPLE POINT: HIGH ZONE, E1 TOWER,

### CHILLED WATER ANALYSIS

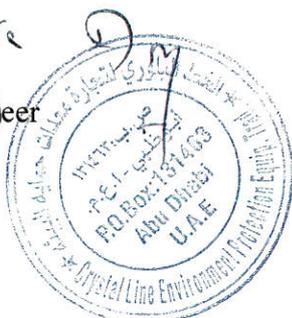
PARAMETER	CONTROL LIMITS	RESULTS
pH	9.0 - 10.5	10.12
Conductivity, $\mu\text{s}/\text{cm}$	Max 3500	2123
TDS, ppm	--	1379
Iron, ppm as Fe	0 - 2.0	0.09
<b>Treatment Residuals</b>		
Nitrite, ppm	> 800	910
Dipslide	<10 <sup>3</sup>	ND

\*\*\*All test results expressed in parts per million (ppm) as CaCO<sub>3</sub> except pH and conductivity ( $\mu\text{mhos}$ ).

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.
Corrosion Inhibitor levels are satisfactory $\Rightarrow$	No action recommended.

Reported By

  
Murugaraaj  
Service Engineer





**Microbiology Test Report**

**Customer Details**

**Crystalline Cleaning & Environmental Services**

P.O.Box: 131463 Warehouse no: 84, M-45. Mussafah, Abu Dhabi, UAE.

Report No. WA-R-L-2007-13445



Request No. : WA-Q-L-2007-02019

Sample No. : WA-S-L-2007-12981

Sampling Date : 05/07/2020

Report Date. : 09/07/2020

Analysis Start Date. : 05/07/2020

Analysis End Date. : 08/07/2020

Sample Location. : Horizon Tower - Reem Island

Sampled By : Shoukth

Sample Identification : Not Applicable

Sample Submitted as : Water

Sample Certificate No : 1236

Sampling Method : APHA 9060 A&B

Temperature °C : 9.4°C

Site Observation : Clear

Sampling Container : Sterile Plastic Bottle

Source of Sample : E2 Chiller

Sampling Point : ETS Room - 39th Floor

Preservation : 4-8°C

Sample Description : Chilled Water

Parameters	Test Methods	Units	Results	Specification
Escherichia Coli	APHA 9222 B,H& I 23rd Ed. 2017	CFU/100ml	Not Detected	--
Faecal Coliforms	APHA 9222 D 23rd Ed. 2017	CFU/100ml	Not Detected	--
Heterotrophic plate count	APHA 9215 B 23rd Ed. 2017	CFU/ml	Not Detected	10000CFU/ml
Pseudomonas aeruginosa	CCFRA 2.5.2 5th Ed. 2007	CFU/250ml	Not Detected	--
Total Coliforms	APHA 9222 B 23rd Ed. 2017	CFU/100ml	Not Detected	--

Note : Not Detected=<1CFU

Limit based on DM.Rev2.Dated 6/2010 for guidelines for control of legionella in water system. Public Safety Department.

**Remarks :The tested results of the sample are found to be satisfactory within the specified limits.**

Analyst	Reviewed By	Method Variation
HS	SM	None

Key Words :CFU-Colony Forming Unit; APHA-American Public Health Association; CCFRA-Campden Chorleywood Food Research Association.



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Tel: +971 2 5503324, Fax: +971 2 5503387



### Microbiology Test Report

Report No. : WA-R-L-2007-13445

Signed for and on behalf of Wimpey Laboratories

**Dr. Suresh Murugan Ph.D**

Senior Microbiologist



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**Legionella Test Report**

**Customer Details**

**Crystalline Cleaning & Environmental Services**

P.O.Box: 131463 Warehouse no: 84, M-45. Mussafah, Abu Dhabi, UAE.

Report No. WA-R-L-2007-13448



Request No.	: WA-Q-L-2007-02019	Sample No.	: WA-S-L-2007-12984
Sampling Date	: 05/07/2020	Report Date.	: 16/07/2020
Analysis Start Date.	: 05/07/2020	Analysis End Date.	: 15/07/2020
Sample Location.	: Horizon Tower - Reem Island	Sampled By	: Shoukth
Sample Identification	: Not Applicable	Sample Submitted as	: Water
Sample Certificate No	: 1236	Sampling Method	: BS 7592
Temperature °C	: 9.4°C	Site Observation	: Clear
Sampling Container	: Sterile Plastic Bottle	Source of Sample	: E2 Chiller
Sampling Point	: ETS Room - 39th Floor	Preservation	: 10°C
Sample Description	: Chilled Water		

Parameters	Test Methods	Units	Results	Specification
Legionella	ISO 11731: 2017	CFU/L	Not Detected	100CFU/L

Note : Limit of Detection=<20CFU/L

Procedure: WSOP-MB-0051. Filtration, Washing, Heat Treatment, Acid Treatment followed by Plating on GVPC/BCYE Agar.

Limit based on DM. Rev2.Dated 6/2010 for guidelines for control of legionella in water system. Public Safety Department.

**Remarks :The tested result of the sample is found to be satisfactory within the specified limits.**

Analyst	Reviewed By	Method Variation
HS	SM	None

Key Words :CFU-Colony Forming Unit; BS-British Standard; ISO-International Organization for Standardization.

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# CRYSTALLINE ENVIRONMENTAL SERVICES

## CONSULTING TEST REPORT

CUSTOMER: TAFAWUQ FACILITY MANAGEMENT	DATE: 05-07-2020
SITE LOCATION: HORIZON TOWER	SAMPLE POINT: E2 TOWER,

### CHILLED WATER ANALYSIS

PARAMETER	CONTROL LIMITS	RESULTS
pH	9.0 - 10.5	10.35
Conductivity, $\mu\text{s}/\text{cm}$	Max 3500	1787
TDS, ppm	--	1161
Iron, ppm as Fe	0 - 2.0	0.11
<b>Treatment Residuals</b>		
Nitrite, ppm	> 800	890
Dipslide	<10 <sup>3</sup>	ND

\*\*\*All test results expressed in parts per million (ppm) as CaCO<sub>3</sub> except pH and conductivity ( $\mu\text{mhos}$ ).

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.
Corrosion Inhibitor levels are satisfactory $\Rightarrow$	No action recommended.

Reported By

  
Murugaraaj  
Service Engineer



CLEANER WATER GREENER TOMORROW