



**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-2010-23658



Request No. : WA-Q-L-2010-03438

Sample No. : WA-S-L-2010-22884

Sampling Date	: 18/10/2020	Report Date.	: 21/10/2020
Analysis Start Date.	: 18/10/2020	Analysis End Date.	: 20/10/2020
Sample Location.	: Zayed University	Sampled By	: Amin ullah
Sample Identification	: Not Given	Sample Submitted as	: Water
Sample Certificate No	: 2197	Sampling Method	: APHA 9060 A&B
Temperature °C	: 34	Site Observation	: Clear
Sampling Container	: Sterile Plastic Bottle	Source of Sample	: Water Fountain 1 Gate No.3
Sampling Point	: Entrance	Preservation	: 4-8°C
Sample Description	: 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	500CFU/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
SM	SM	None

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

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

**Dr. Suresh Murugan Ph.D**

Head of Microbiology Department



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**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-2010-23660



Request No. : WA-Q-L-2010-03438

Sample No. : WA-S-L-2010-22886

Sampling Date	: 18/10/2020	Report Date.	: 21/10/2020
Analysis Start Date.	: 18/10/2020	Analysis End Date.	: 20/10/2020
Sample Location.	: Zayed University	Sampled By	: Amin ullah
Sample Identification	: Not Given	Sample Submitted as	: Water
Sample Certificate No	: 2197	Sampling Method	: APHA 9060 A&B
Temperature °C	: 37	Site Observation	: Clear
Sampling Container	: Sterile Plastic Bottle	Source of Sample	: Water Fountain 2 Male Side
Sampling Point	: Courtyard	Preservation	: 4-8°C
Sample Description	: 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	500CFU/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
SM	SM	None

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

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

**Dr. Suresh Murugan Ph.D**  
Head of Microbiology Department



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**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-2010-23659



Request No. : WA-Q-L-2010-03438

Sample No. : WA-S-L-2010-22885

Sampling Date	: 18/10/2020	Report Date.	: 21/10/2020
Analysis Start Date.	: 18/10/2020	Analysis End Date.	: 20/10/2020
Sample Location.	: Zayed University	Sampled By	: Amin ullah
Sample Identification	: Not Given	Sample Submitted as	: Water
Sample Certificate No	: 2197	Sampling Method	: APHA 9060 A&B
Temperature °C	: 37	Site Observation	: Clear
Sampling Container	: Sterile Plastic Bottle	Source of Sample	: Water Fountain 3 Female Side
Sampling Point	: Courtyard	Preservation	: 4-8°C
Sample Description	: 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	500CFU/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
SM	SM	None

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

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

**Dr. Suresh Murugan Ph.D**  
Head of Microbiology Department



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**Legionella Test Report**

**Customer Details**

Report No. WA-R-L-2010-23673

**Crystalline Cleaning & Environmental Services**

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



Request No. : WA-Q-L-2010-03438

Sample No. : WA-S-L-2010-22899

Sampling Date	: 18/10/2020	Report Date.	: 28/10/2020
Analysis Start Date.	: 18/10/2020	Analysis End Date.	: 28/10/2020
Sample Location.	: Zayed University	Sampled By	: Amin ullah
Sample Identification	: Not Given	Sample Submitted as	: Water
Sample Certificate No	: 2197	Sampling Method	: BS 7592
Temperature °C	: 34	Site Observation	: Clear
Sampling Container	: Sterile Plastic Bottle	Source of Sample	: Water Fountain 1 Gate No.3
Sampling Point	: Entrance	Preservation	: 10°C
Sample Description	: Water		

Parameters	Test Methods	Units	Results	Specification
Legionella	ISO 11731: 2017	CFU/L	Not Detected	<1CFU/L

Note : Limit of Detection=<1CFU/L

Procedure: WSOP-MB-0051 Direct Placing of Membrane on BCYE+L-Cysteine/Membrane Filter Followed by Washing Procedure in Funnel.

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 limit.**

Analyst	Reviewed By	Method Variation
SM	SM	None

Key Words :CFU-Colony Forming Units, ISO-International Organization for Standardization, BS-British Standards.

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



**Dr. Suresh Murugan Ph.D**

Head of Microbiology Department

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**Legionella Test Report**

**Customer Details**

Report No. WA-R-L-2010-23675

**Crystalline Cleaning & Environmental Services**

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



Request No. : WA-Q-L-2010-03438

Sample No. : WA-S-L-2010-22901

Sampling Date	: 18/10/2020	Report Date.	: 28/10/2020
Analysis Start Date.	: 18/10/2020	Analysis End Date.	: 28/10/2020
Sample Location.	: Zayed University	Sampled By	: Amin ullah
Sample Identification	: Not Given	Sample Submitted as	: Water
Sample Certificate No	: 2197	Sampling Method	: BS 7592
Temperature °C	: 37	Site Observation	: Clear
Sampling Container	: Sterile Plastic Bottle	Source of Sample	: Water Fountain 2 Male Side
Sampling Point	: Courtyard	Preservation	: 10°C
Sample Description	: Water		

Parameters	Test Methods	Units	Results	Specification
Legionella	ISO 11731: 2017	CFU/L	Not Detected	<1CFU/L

Note : Limit of Detection=<1CFU/L

Procedure: WSOP-MB-0051 Direct Placing of Membrane on BCYE+L-Cysteine/Membrane Filter Followed by Washing Procedure in Funnel.

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 limit.**

Analyst	Reviewed By	Method Variation
SM	SM	None

Key Words :CFU-Colony Forming Units, ISO-International Organization for Standardization, BS-British Standards.

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

**Dr. Suresh Murugan Ph.D**

Head of Microbiology Department



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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-2010-23674



Request No. : WA-Q-L-2010-03438

Sample No. : WA-S-L-2010-22900

Sampling Date	: 18/10/2020	Report Date.	: 28/10/2020
Analysis Start Date.	: 18/10/2020	Analysis End Date.	: 28/10/2020
Sample Location.	: Zayed University	Sampled By	: Amin ullah
Sample Identification	: Not Given	Sample Submitted as	: Water
Sample Certificate No	: 2197	Sampling Method	: BS 7592
Temperature °C	: 37	Site Observation	: Clear
Sampling Container	: Sterile Plastic Bottle	Source of Sample	: Water Fountain 3 Female Side
Sampling Point	: Courtyard	Preservation	: 10°C
Sample Description	: Water		

Parameters	Test Methods	Units	Results	Specification
Legionella	ISO 11731: 2017	CFU/L	Not Detected	<1CFU/L

Note : Limit of Detection=<1CFU/L

Procedure: WSOP-MB-0051 Direct Placing of Membrane on BCYE+L-Cysteine/Membrane Filter Followed by Washing Procedure in Funnel.

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 limit.**

Analyst	Reviewed By	Method Variation
SM	SM	None

Key Words :CFU-Colony Forming Units, ISO-International Organization for Standardization, BS-British Standards.

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

**Dr. Suresh Murugan Ph.D**

Head of Microbiology Department



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## CONSULTING SERVICE REPORT

<b>CUSTOMER: SERCO FACILITY MANAGEMENT.</b>	<b>To: MR. MUHAMMED AFSHAR OPERATIONS ENGINEER</b>	<b>DATE: 18-10-2020</b>
<b>SITE: ZAYED UNIVERSITY</b>	<b>COPY: SERCO</b>	<b>LOCATION: Water Fountain # 01, Gate No: 03 - Entrance</b>

### WATER FEATURE ANALYSIS

PARAMETER	CONTROL LIMITS	Water Feature -01			
pH	7.2 - 7.6	7.52			
Conductivity, $\mu\text{s}/\text{cm}$		541			
TDS, ppm	Max 1500	351			
'P' Alkalinity, ppm as $\text{CaCO}_3$	80 - 120	87			
Total Hardness, ppm as $\text{CaCO}_3$					
Calcium Hardness, ppm as $\text{CaCO}_3$	100 - 500	114			
Chloride, ppm as $\text{Cl}^-$					
Iron, ppm as Fe					

#### Treatment Residuals

Silica, ppm					
CaH Balance					
Dipslide	$<10^3$	ND			
Phosphate/Phosphonate					
Free Residual Chlorine as Cl	1.0 - 2.0	1.34			
Cyanuric Acid	20 - 60	27			

All test results expressed in parts per million (ppm) as  $\text{CaCO}_3$  except pH and conductivity ( $\mu\text{mhos}$ ).

COMMENTS:	ACTION:
The pH levels are satisfactory <span style="float: right;">⇨</span>	No Action Recommended.
Chlorine levels & Cyanuric acid levels are satisfactory <span style="float: right;">⇨</span>	No Action Recommended.
Calcium hardness satisfactory <span style="float: right;">⇨</span>	No Action Recommended.

**Kindly add chlorine and pool acid to maintain the desired control parameters in the water feature.**

INVENTORY LEVELS			DOSAGE SCHEDULE	
Chemical	Quantity	Chemical	Present Dosage	Revised Dosage
Chlorine Tablets			--	
Pool Acid			--	
Crystal Care			--	

Service Engineer:	Murugaraaj	Client:	Mr. Muhammed Afshar
Signature:		Signature:	



## CONSULTING SERVICE REPORT

<b>CUSTOMER: SERCO FACILITY MANAGEMENT.</b>	<b>To: MR. MUHAMMED AFSHAR OPERATIONS ENGINEER</b>	<b>DATE: 18-10-2020</b>
<b>SITE: ZAYED UNIVERSITY</b>	<b>COPY: SERCO</b>	<b>LOCATION: Courtyard, Water Fountain # 02 - Male Side</b>

### WATER FEATURE ANALYSIS

PARAMETER	CONTROL LIMITS	Water Fountain			
pH	7.2 - 7.6	7.37			
Conductivity, $\mu\text{s}/\text{cm}$		514			
TDS, ppm	Max 1500	334			
'P' Alkalinity, ppm as $\text{CaCO}_3$	80 - 120	86			
Total Hardness, ppm as $\text{CaCO}_3$					
Calcium Hardness, ppm as $\text{CaCO}_3$	100 - 500	119			
Chloride, ppm as $\text{Cl}^-$					
Iron, ppm as Fe					

#### Treatment Residuals

Silica, ppm					
CaH Balance					
Dipslide	<10 <sup>3</sup>	ND			
Phosphate/Phosphonate					
Free Residual Chlorine as Cl	1.0 - 2.0	1.31			
Cyanuric Acid	20 - 60	24			

All test results expressed in parts per million (ppm) as  $\text{CaCO}_3$  except pH and conductivity ( $\mu\text{mhos}$ ).

COMMENTS:	ACTION:
The pH levels are satisfactory $\Rightarrow$	No Action Recommended.
Chlorine levels & Cyanuric acid levels are satisfactory $\Rightarrow$	No Action Recommended.
Calcium hardness satisfactory $\Rightarrow$	No Action Recommended.

**Kindly add chlorine and pool acid to maintain the desired control parameters in the water feature.**

INVENTORY LEVELS			DOSAGE SCHEDULE	
Chemical	Quantity	Chemical	Present Dosage	Revised Dosage
Chlorine Tablets			--	
Pool Acid			--	
Crystal Care			--	

Service Engineer:	Murugaraaj	Client:	Mr. Muhammed Afshar
Signature:		Signature:	



## CONSULTING SERVICE REPORT

<b>CUSTOMER: SERCO FACILITY MANAGEMENT.</b>	<b>To: MR. MUHAMMED AFSHAR OPERATIONS ENGINEER</b>	<b>DATE: 18-10-2020</b>
<b>SITE: ZAYED UNIVERSITY</b>	<b>COPY: SERCO</b>	<b>LOCATION: Courtyard Water Fountain # 03- Female Side</b>

### WATER FEATURE ANALYSIS

PARAMETER	CONTROL LIMITS	Water Fountain			
pH	7.2 - 7.6	7.39			
Conductivity, $\mu\text{s}/\text{cm}$		537			
TDS, ppm	Max 1500	349			
'P' Alkalinity, ppm as $\text{CaCO}_3$	80 - 120	91			
Total Hardness, ppm as $\text{CaCO}_3$					
Calcium Hardness, ppm as $\text{CaCO}_3$	100 - 500	124			
Chloride, ppm as $\text{Cl}^-$					
Iron, ppm as Fe					

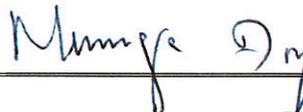
Treatment Residuals					
Silica, ppm					
CaH Balance					
Dipslide	<10 <sup>3</sup>	ND			
Phosphate/Phosphonate					
Free Residual Chlorine as Cl	1.0 - 2.0	1.19			
Cyanuric Acid	20 - 60	24			

All test results expressed in parts per million (ppm) as  $\text{CaCO}_3$  except pH and conductivity ( $\mu\text{mhos}$ ).

COMMENTS:	ACTION:
The pH levels are satisfactory $\Rightarrow$	No Action Recommended.
Chlorine levels & Cyanuric acid levels are satisfactory $\Rightarrow$	No Action Recommended.
Calcium hardness satisfactory $\Rightarrow$	No Action Recommended.

**Kindly add chlorine and pool acid to maintain the desired control parameters in the water feature.**

INVENTORY LEVELS			DOSAGE SCHEDULE	
Chemical	Quantity	Chemical	Present Dosage	Revised Dosage
Chlorine Tablets			--	
Pool Acid			--	
Crystal Care			--	

Service Engineer:	Murugaraaj	Client:	Mr. Muhammed Afshar
Signature:		Signature:	

