



Microbiology Test Report

Customer Details

Report No. WA-R-L-2006-12679

Crystalline Cleaning & Environmental Services

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



Request No.	: WA-Q-L-2006-01896	Sample No.	: WA-S-L-2006-12247
Sampling Date	: 25/06/2020	Report Date.	: 29/6/2020
Analysis Start Date.	: 25/06/2020	Analysis End Date.	: 28/6/2020
Sample Location.	: Zayed University	Sampled By	: Jameel
Sample Identification	: Not Applicable	Sample Submitted as	: Water
Sample Certificate No	: 1046	Sampling Method	: APHA 9060 A&B
Temperature °C	: 16.3°C	Site Observation	: Clear
Sampling Container	: Sterile Plastic Bottle	Source of Sample	: FF1 Building
Sampling Point	: Roof Plant Room	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
SM	SM	None

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



Microbiology Test Report

Report No. : WA-R-L-2006-12679

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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Microbiology Test Report

Customer Details

Report No. WA-R-L-2006-12432

Crystalline Cleaning & Environmental Services

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



Request No.	: WA-Q-L-2006-01896	Sample No.	: WA-S-L-2006-12006
Sampling Date	: 25/06/2020	Report Date.	: 29/6/2020
Analysis Start Date.	: 25/06/2020	Analysis End Date.	: 28/6/2020
Sample Location.	: Zayed University	Sampled By	: Jameel
Sample Identification	: Not Applicable	Sample Submitted as	: Water
Sample Certificate No	: 1046	Sampling Method	: APHA 9060 A&B
Temperature °C	: 12.6°C	Site Observation	: Clear
Sampling Container	: Sterile Plastic Bottle	Source of Sample	: MF2 Building
Sampling Point	: Roof plant room	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
SM	SM	None

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



Microbiology Test Report

Report No. : WA-R-L-2006-12432

Signed for and on behalf of Wimpey Laboratories

Dr. Suresh Murugan Ph.D

Senior Microbiologist

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Microbiology Test Report

Customer Details

Report No. WA-R-L-2006-12431

Crystalline Cleaning & Environmental Services

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



Request No.	: WA-Q-L-2006-01896	Sample No.	: WA-S-L-2006-12005
Sampling Date	: 25/06/2020	Report Date.	: 29/6/2020
Analysis Start Date.	: 25/06/2020	Analysis End Date.	: 28/6/2020
Sample Location.	: Zayed University	Sampled By	: Jameel
Sample Identification	: Not Applicable	Sample Submitted as	: Water
Sample Certificate No	: 1046	Sampling Method	: APHA 9060 A&B
Temperature °C	: 14°C	Site Observation	: Clear
Sampling Container	: Sterile Plastic Bottle	Source of Sample	: SV2 - Service Building
Sampling Point	: ETS Room	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
SM	SM	None

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



Microbiology Test Report

Report No. : WA-R-L-2006-12431

Signed for and on behalf of Wimpey Laboratories



Dr. Suresh Murugan Ph.D

Senior Microbiologist

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Microbiology Test Report

Customer Details

Report No. WA-R-L-2006-12430

Crystalline Cleaning & Environmental Services

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



Request No.	: WA-Q-L-2006-01896	Sample No.	: WA-S-L-2006-12004
Sampling Date	: 25/06/2020	Report Date.	: 29/6/2020
Analysis Start Date.	: 25/06/2020	Analysis End Date.	: 28/6/2020
Sample Location.	: Zayed University	Sampled By	: Jameel
Sample Identification	: Not Applicable	Sample Submitted as	: Water
Sample Certificate No	: 1046	Sampling Method	: APHA 9060 A&B
Temperature °C	: 16.3°C	Site Observation	: Clear
Sampling Container	: Sterile Plastic Bottle	Source of Sample	: SV1 - Service Building
Sampling Point	: ETS Room	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
SM	SM	None

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



Microbiology Test Report

Report No. : WA-R-L-2006-12430

Signed for and on behalf of Wimpey Laboratories



Dr. Suresh Murugan Ph.D

Senior Microbiologist

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CONSULTING SERVICE REPORT

CUSTOMER: SERCO FACILITY MANAGEMENT.	To: MR. MUHAMMED AFSHAR OPERATIONS ENGINEER	DATE: 25-06-2020
SITE: ZAYED UNIVERSITY, ABU DHABI	Copy: SERCO	LOCATION: SV1 - CHILLER PLANT ROOM

CHILLED WATER ANALYSIS

PARAMETER	CONTROL LIMITS	CHILLED WATER
pH	9.0 - 10.5	10.09
Conductivity, $\mu\text{s}/\text{cm}$	Max 3500	1436
TDS, ppm	--	933
'P' Alkalinity, ppm as CaCO_3	--	
Total Hardness, ppm as CaCO_3	--	
Calcium Hardness, ppm as CaCO_3	--	
Chloride, ppm as Cl^-	--	
Iron, ppm as Fe	0 - 2.0	0.16

Treatment Residuals		
Nitrite, ppm	> 800	780
CaH Balance		
Dipslide	$< 10^3$	ND

All test results expressed in parts per million (ppm) as CaCO_3 except pH and conductivity (μmhos).

COMMENTS:	ACTION:
The pH and Conductivity/TDS are found satisfactory. \Rightarrow	No action recommended.
Dissolved iron levels are found within control limits. \Rightarrow	No action recommended.
Corrosion Inhibitor levels are slightly low \Rightarrow	Kindly Maintain the nitrite level above 800ppm

INVENTORY LEVELS			DOSAGE SCHEDULE	
Chemical	Quantity	Chemical	Present Dosage	Revised Dosage
Crystal 5547C			--	
Crystal 9040			--	
			--	

Service Engineer:	MURUGARAJ	Client:	Mr. MUHAMMED AFSHAR
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Signature:		Signature:	
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CONSULTING SERVICE REPORT

CUSTOMER: SERCO FACILITY MANAGEMENT.	To: MR. MUHAMMED AFSHAR OPERATIONS ENGINEER	DATE: 25-06-2020
SITE: ZAYED UNIVERSITY, ABU DHABI	Copy: SERCO	LOCATION: SV2 - CHILLER PLANT ROOM

CHILLED WATER ANALYSIS

PARAMETER	CONTROL LIMITS	CHILLED WATER	
pH	9.0 - 10.5	10.24	
Conductivity, $\mu\text{s/cm}$	Max 3500	1214	
TDS, ppm	--	789	
'P' Alkalinity, ppm as CaCO_3	--		
Total Hardness, ppm as CaCO_3	--		
Calcium Hardness, ppm as CaCO_3	--		
Chloride, ppm as Cl^-	--		
Iron, ppm as Fe	0 - 2.0	0.19	

Treatment Residuals

Nitrite, ppm	$>$ 800	610	
CaH Balance			
Dipslide	$<10^3$	ND	

All test results expressed in parts per million (ppm) as CaCO_3 except pH and conductivity (μmhos).

COMMENTS:

ACTION:

The pH and Conductivity/TDS are found satisfactory. \Rightarrow	No action recommended.
Dissolved iron levels are found within control limits. \Rightarrow	No action recommended.
Corrosion Inhibitor levels are low \Rightarrow	Kindly Maintain the nitrite level above 800ppm

INVENTORY LEVELS

DOSAGE SCHEDULE

Chemical	Quantity	Chemical	Present Dosage	Revised Dosage
Crystal 5547C			--	
Crystal 9040			--	
			--	

Service Engineer:	MURUGARAJ	Client:	Mr. MUHAMMED AFSHAR
Signature:		Signature:	





CONSULTING SERVICE REPORT

CUSTOMER: SERCO FACILITY MANAGEMENT.	To: MR. MUHAMMED AFSHAR OPERATIONS ENGINEER	DATE: 25-06-2020
SITE: ZAYED UNIVERSITY, ABU DHABI	Copy: SERCO	LOCATION: FF1 - CHILLER PLANT ROOM

CHILLED WATER ANALYSIS

PARAMETER	CONTROL LIMITS	CHILLED WATER
pH	9.0 - 10.5	9.46
Conductivity, $\mu\text{s}/\text{cm}$	Max 3500	1189
TDS, ppm	--	772
'P' Alkalinity, ppm as CaCO_3	--	
Total Hardness, ppm as CaCO_3	--	
Calcium Hardness, ppm as CaCO_3	--	
Chloride, ppm as Cl^-	--	
Iron, ppm as Fe	0 - 2.0	0.17

Treatment Residuals

Nitrite, ppm	\gt 800	760
CaH Balance		
Dipslide	$<10^3$	ND

All test results expressed in parts per million (ppm) as CaCO_3 except pH and conductivity (μmhos).

COMMENTS:

COMMENTS:	ACTION:
The pH and Conductivity/TDS are found satisfactory. \Rightarrow	No action recommended.
Dissolved iron levels are found within control limits. \Rightarrow	No action recommended.
Corrosion Inhibitor levels are slightly low \Rightarrow	Kindly Maintain the nitrite level above 800ppm

INVENTORY LEVELS

DOSAGE SCHEDULE

Chemical	Quantity	Chemical	Present Dosage	Revised Dosage
Crystal 5547C			--	
Crystal 9040			--	
			--	
Service Engineer:	MURUGARAJ		Client:	Mr. MUHAMMED AFSHAR
Signature:			Signature:	





CONSULTING SERVICE REPORT

CUSTOMER: SERCO FACILITY MANAGEMENT.	To: MR. MUHAMMED AFSHAR OPERATIONS ENGINEER	DATE: 25-06-2020
SITE: ZAYED UNIVERSITY, ABU DHABI	Copy: SERCO	LOCATION: MF2 - CHILLER PLANT ROOM

CHILLED WATER ANALYSIS

PARAMETER	CONTROL LIMITS	CHILLED WATER
pH	9.0 - 10.5	09.89
Conductivity, $\mu\text{s}/\text{cm}$	Max 3500	1167
TDS, ppm	--	758
'P' Alkalinity, ppm as CaCO_3	--	
Total Hardness, ppm as CaCO_3	--	
Calcium Hardness, ppm as CaCO_3	--	
Chloride, ppm as Cl^-	--	
Iron, ppm as Fe	0 - 2.0	0.26

Treatment Residuals

Nitrite, ppm	\gt 800	630
CaH Balance		
Dipslide	$<10^3$	ND

All test results expressed in parts per million (ppm) as CaCO_3 except pH and conductivity (μmhos).

COMMENTS:

COMMENTS:	ACTION:
The pH and Conductivity/TDS are found satisfactory. \Rightarrow	No action recommended.
Dissolved iron levels are found within control limits. \Rightarrow	No action recommended.
Corrosion Inhibitor levels are low \Rightarrow	Kindly Maintain the nitrite level above 800ppm

INVENTORY LEVELS

DOSAGE SCHEDULE

Chemical	Quantity	Chemical	Present Dosage	Revised Dosage
Crystal 5547C			--	
Crystal 9040			--	
			--	
Service Engineer:	MURUGARAJ		Client:	Mr. MUHAMMED AFSHAR
Signature:			Signature:	

