



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-2011-26859



Request No. : WA-Q-L-2011-03851

Sample No.: WA-S-L-2011-26179

Sampling Date	: 18/11/2020	Report Date.	: 22/11/2020
Analysis Start Date.	: 18/11/2020	Analysis End Date.	: 21/11/2020
Sample Location.	: Abu Dhabi Investment Authorities (ADIA) -Car Parking	Sampled By	: Amin ullah
Sample Identification	: Not Given	Sample Submitted as	: Water
Sample Certificate No	: 4741	Sampling Method	: APHA 9060 A&B
Temperature °C	: 29	Site Observation	: Clear
Sampling Container	: Sterile Plastic Bottle	Source of Sample	: Cooling Tower makeup Water Tank
Sampling Point	: Valve	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	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
SN	SM	None

Key Words :CFU-Colony Forming Unit; APHA-American Public Health Association; CCFRA-Campden 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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Crystalline Cleaning & Environmental Services

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

Report No. WA-R-L-2011-26867



Request No. : WA-Q-L-2011-03851

Sample No.: WA-S-L-2011-26187

Sampling Date	: 18/11/2020	Report Date.	: 22/11/2020
Analysis Start Date.	: 18/11/2020	Analysis End Date.	: 21/11/2020
Sample Location.	: AbuDhabi Investment Authorities (ADIA) -Car Parking	Sampled By	: Amin ullah
Sample Identification	: Not Given	Sample Submitted as	: Water
Sample Certificate No	: 4742	Sampling Method	: APHA 9060 A&B
Temperature °C	: 30	Site Observation	: Clear
Sampling Container	: Sterile Plastic Bottle	Source of Sample	: 06th Floor - Cooling Tower # 01
Sampling Point	: Cooling Tower Basin	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	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
SN	SM	None

Key Words :CFU-Colony Forming Unit; APHA-American Public Health Association; CCFRA-Campden 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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P.O.Box: 131463 Warehouse no: 84, M-45. Mussafah, Abu Dhabi, UAE.

Report No. WA-R-L-2011-26868



Request No. : WA-Q-L-2011-03851

Sample No. : WA-S-L-2011-26188

Sampling Date	: 18/11/2020	Report Date.	: 22/11/2020
Analysis Start Date.	: 18/11/2020	Analysis End Date.	: 21/11/2020
Sample Location.	: Abu Dhabi Investment Authorities (ADIA) -Car Parking	Sampled By	: Amin ullah
Sample Identification	: Not Given	Sample Submitted as	: Water
Sample Certificate No	: 4742	Sampling Method	: APHA 9060 A&B
Temperature °C	: 31	Site Observation	: Clear
Sampling Container	: Sterile Plastic Bottle	Source of Sample	: 06th Floor - Cooling Tower # 02
Sampling Point	: Cooling Tower Basin	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	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
SN	SM	None

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

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Head of Microbiology Department

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

Report No. WA-R-L-2011-26869



Request No. : WA-Q-L-2011-03851

Sample No. : WA-S-L-2011-26189

Sampling Date	: 18/11/2020	Report Date.	: 22/11/2020
Analysis Start Date.	: 18/11/2020	Analysis End Date.	: 21/11/2020
Sample Location.	: Abu Dhabi Investment Authorities (ADIA) -Car Parking	Sampled By	: Amin ullah
Sample Identification	: Not Given	Sample Submitted as	: Water
Sample Certificate No	: 4742	Sampling Method	: APHA 9060 A&B
Temperature °C	: 31	Site Observation	: Clear
Sampling Container	: Sterile Plastic Bottle	Source of Sample	: 06th Floor - Cooling Tower # 03
Sampling Point	: Cooling Tower Basin	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	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
SN	SM	None

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

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Head of Microbiology Department

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

Report No. WA-R-L-2011-26870



Request No. : WA-Q-L-2011-03851

Sample No. : WA-S-L-2011-26190

Sampling Date	: 18/11/2020	Report Date.	: 22/11/2020
Analysis Start Date.	: 18/11/2020	Analysis End Date.	: 21/11/2020
Sample Location.	: Abu Dhabi Investment Authorities (ADIA) -Car Parking	Sampled By	: Amin ullah
Sample Identification	: Not Given	Sample Submitted as	: Water
Sample Certificate No	: 4742	Sampling Method	: APHA 9060 A&B
Temperature °C	: 31	Site Observation	: Clear
Sampling Container	: Sterile Plastic Bottle	Source of Sample	: 06th Floor - Cooling Tower # 04
Sampling Point	: Cooling Tower Basin	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	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
SN	SM	None

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

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COOLING TOWER ANALYSIS REPORT

Client Name: **SERCO, MIDDLE EAST**

Site location:	ABU DHABI INVESTMENT AUTHORITY, ABUDHABI	Service Visit:	18-11-2020
Sampled By:	Crystalline Rep	Sample Location:	ADIA - Car Parking
Sample Type:	Cooling Tower		

	Parameter	Control limits	Cooling tower 1	Cooling tower 2	Cooling tower 3	Cooling tower 4
1	pH at 25°C	8.5-9.5	8.52	8.63	8.70	8.74
2	Conductivity at 25°C, $\mu\text{s/cm}$	Max 1500	936	951	947	908
3	Total Dissolved Solids (TDS)	Max 1000	608	618	615	590
4	Residual Chlorine	0.2 - 0.5	<0.05	<0.05	<0.05	<0.05
5	Calcium Hardness	200-350	244	238	228	256
6	Chlorides	Max 200	186	182	194	186
7	Iron	0 - 2.0	<0.05	<0.05	<0.05	0.06
8	Phosphate/phosphonate	4 - 6	5.1	4.7	5.6	5.0

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

COMMENTS AND RECOMMENDATIONS

	Cooling Tower-1	Cooling Tower-2	Cooling Tower-3	Cooling Tower-4
1	PH Level is satisfactory			
2	Conductivity & TDS levels are satisfactory			
3	Calcium Hardness, Dissolved iron and Chloride levels are satisfactory	Calcium Hardness, Dissolved iron and Chloride levels are satisfactory	Calcium Hardness, Dissolved iron and Chloride levels are satisfactory	Calcium Hardness, Dissolved iron and Chloride levels are satisfactory

Reported By,

Murugaraaj
Murugaraaj
Service Engineer

