



TEST REPORT

PROJECT NO: WA-P-O-2103-00444

LIST OF PARAMETERS AND METHOD

Sampling done as per ISO-21501-4:2018 and OTM Section III- Chapter- 02 methods and estimate the following parameter in Indoor Air Quality Monitoring.

PARAMETERS	SAMPLING TEST METHOD
Particulate Matter [PM _{1.0}]	ISO-21501-4:2018
Particulate Matter [PM _{2.5}]	
Particulate Matter [PM ₁₀]	
Total Suspended Particulate Matter [TSPM]	
Temperature	OTM: SECTION III- CHAPTER- 02
Humidity	
Carbon Monoxide [CO]	
Carbon Dioxide [CO ₂]	
Ozone [O ₃]	
Formaldehyde [HCHO]	
Total Volatile Organic Compound [TVOC]	

This enabled Wimpey lab to analyze the formation, propagation and the potential environmental effect of the pollutants created at the sampling areas. Further, we could ascertain if the pollutants emanating were within the limits prescribed by the local regulatory authority.

SAMPLING PLAN DETAIL

The Following Location Was Monitored For Indoor Air Quality at **BRC Musaffah, Abu Dhabi, UAE.**

SN	LOCATION	DATE OF MONITORING	SAMPLE ID	REPORT NUMBER
1	OFFICE AREA- WING B- 13 TH FLOOR	20.03.2021	WA-S-O-2103-03539	WA-R-O-2103-03458
2	OFFICE AREA- WING B- 10 TH FLOOR	20.03.2021	WA-S-O-2103-03540	WA-R-O-2103-03459
3	OFFICE AREA- WING B- 07 TH FLOOR	20.03.2021	WA-S-O-2103-03541	WA-R-O-2103-03460
4	OFFICE AREA- WING A- 04 TH FLOOR	20.03.2021	WA-S-O-2103-03542	WA-R-O-2103-03461
5	COSTA CAFETERIA- WING B- 20 TH FLOOR	20.03.2021	WA-S-O-2103-03543	WA-R-O-2103-03462
6	OFFICE AREA- WING B- 22 ND FLOOR	20.03.2021	WA-S-O-2103-03544	WA-R-O-2103-03463
7	OFFICE AREA- WING A- 27 TH FLOOR	20.03.2021	WA-S-O-2103-03545	WA-R-O-2103-03464
8	OFFICE AREA- WING B- 31 ST FLOOR	20.03.2021	WA-S-O-2103-03546	WA-R-O-2103-03465
9	MEETING ROOM- WING B- 33 RD FLOOR	20.03.2021	WA-S-O-2103-03547	WA-R-O-2103-03466
10	OFFICE AREA- WING B- 29 TH FLOOR	20.03.2021	WA-S-O-2103-03548	WA-R-O-2103-03467
11	OFFICE AREA- WING A- 35 TH FLOOR	20.03.2021	WA-S-O-2103-03549	WA-R-O-2103-03468
12	OFFICE AREA- WING A- 36 TH FLOOR	20.03.2021	WA-S-O-2103-03550	WA-R-O-2103-03469
13	LOBBY AREA- GROUND FLOOR	20.03.2021	WA-S-O-2103-03551	WA-R-O-2103-03470



TABLE- 13

MONITORING LOCATION		LOBBY AREA- GROUND FLOOR				
SAMPLE NUMBER		WA-S-O-2103-03551				
DATE OF SAMPLING		20.03.2021				
DURATION OF MONITORING		SPOT MEASUREMENT- 15 MINUTE				
TEST PARAMETER	UNIT	TEST RESULT	STANDARD LIMITS			
			LIMIT AS PER AD-OSHA ¹	LIMIT AS PER OSHA ²	LIMIT AS PER ASHRAE ³	LIMIT AS PER DM ⁴
TEMPERATURE	°C	23.6	NA ¹	NA ²	NA ³	22.5°C - 25.5°C
RELATIVE HUMIDITY	%	55.0	NA ¹	NA ²	NA ³	30 – 60
OZONE	ppm	< 0.02	0.2	0.1	0.1	0.06
CARBON DIOXIDE [CO ₂]	ppm	544	30000 (STEL)	5000 (TWA)	NA ³	800 (TWA)
CARBON MONOXIDE [CO]	ppm	1.8	25 (TWA)	50 (TWA)	9 (TWA)	9 (TWA)
PARTICULATE MATTER [PM ₁]	µg/m ³	5.26	NA ¹	NA ²	NA ³	NA ⁴
PARTICULATE MATTER [PM _{2.5}]	µg/m ³	14.26	NA ¹	5000 (TWA)	15 (TWA)	NA ⁴
PARTICULATE MATTER [PM ₁₀]	µg/m ³	42.11	NA ¹	NA ²	50 (TWA)	150 (TWA)
TOTAL PARTICULATE MATTER [TPM]	µg/m ³	67.96	NA ¹	15000 (TWA)	NA ³	NA ⁴
FORMALDEHYDE	ppm	< 0.01	0.3 (STEL)	2 (STEL)	0.081 (STEL)	0.08 (TWA)
TVOC	µg/m ³	181	NA ¹	NA ²	NA ³	300 (TWA)

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DM- Dubai Municipality Green Building Regulation & Specification

OTM- OSHA Technical Manual

STEL- Short Term Exposure Limit

NA¹ – Not Available in the OSHA Guideline

NA² – Not Available in the OSHA Guideline

NA³ – Not Available in the ASHRAE Guideline

NA⁴ – Not Available in the DM Guideline

Remark: The above test results are complying with the AD-OSHA limits

CONCLUSION

As per the above observation we have found that there is no gaseous contamination exceeding the limit in all monitoring areas, everything under the prescribed limit as per the given standard guideline of AD-OSHA.

The Dust concentration is also under the limit as per the guidelines of given standards limit.



****END OF THE REPORT****



TEST REPORT

PROJECT NO: WA-P-O-2103-00444

TABLE- 04

MONITORING LOCATION		OFFICE AREA- WING A- 04 TH FLOOR				
SAMPLE NUMBER		WA-S-O-2103-03542				
DATE OF SAMPLING		20.03.2021				
DURATION OF MONITORING		SPOT MEASUREMENT- 15 MINUTE				
TEST PARAMETER	UNIT	TEST RESULT	STANDARD LIMITS			
			LIMIT AS PER AD-OSHA ¹	LIMIT AS PER OSHA ²	LIMIT AS PER ASHRAE ³	LIMIT AS PER DM ⁴
TEMPERATURE	°C	22.9	NA ¹	NA ²	NA ³	22.5°C - 25.5°C
RELATIVE HUMIDITY	%	52.6	NA ¹	NA ²	NA ³	30 – 60
OZONE	ppm	< 0.02	0.2	0.1	0.1	0.06
CARBON DIOXIDE [CO ₂]	ppm	629	30000 (STEL)	5000 (TWA)	NA ³	800 (TWA)
CARBON MONOXIDE [CO]	ppm	2.2	25 (TWA)	50 (TWA)	9 (TWA)	9 (TWA)
PARTICULATE MATTER [PM ₁₀]	µg/m ³	1.76	NA ¹	NA ²	NA ³	NA ⁴
PARTICULATE MATTER [PM _{2.5}]	µg/m ³	5.12	NA ¹	5000 (TWA)	15 (TWA)	NA ⁴
PARTICULATE MATTER [PM ₁₀]	µg/m ³	17.26	NA ¹	NA ²	50 (TWA)	150 (TWA)
TOTAL PARTICULATE MATTER [TPM]	µg/m ³	39.11	NA ¹	15000 (TWA)	NA ³	NA ⁴
FORMALDEHYDE	ppm	< 0.01	0.3 (STEL)	2 (STEL)	0.081 (STEL)	0.08 (TWA)
TVOC	µg/m ³	184	NA ¹	NA ²	NA ³	300 (TWA)

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STEL- Short Term Exposure Limit

NA¹ – Not Available in the OSHA Guideline

NA² – Not Available in the OSHA Guideline

NA³ – Not Available in the ASHRAE Guideline

NA⁴ – Not Available in the DM Guideline

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TEST REPORT

PROJECT NO: WA-P-O-2103-00444

TABLE- 03

MONITORING LOCATION	OFFICE AREA- WING B- 07 TH FLOOR					
SAMPLE NUMBER	WA-S-O-2103-03541					
DATE OF SAMPLING	20.03.2021					
DURATION OF MONITORING	SPOT MEASUREMENT- 15 MINUTE					
TEST PARAMETER	UNIT	TEST RESULT	STANDARD LIMITS			
			LIMIT AS PER AD-OSHA ¹	LIMIT AS PER OSHA ²	LIMIT AS PER ASHRAE ³	LIMIT AS PER DM ⁴
TEMPERATURE	°C	22.9	NA ¹	NA ²	NA ³	22.5°C - 25.5°C
RELATIVE HUMIDITY	%	48.6	NA ¹	NA ²	NA ³	30 – 60
OZONE	ppm	< 0.02	0.2	0.1	0.1	0.06
CARBON DIOXIDE [CO ₂]	ppm	591	30000 (STEL)	5000 (TWA)	NA ³	800 (TWA)
CARBON MONOXIDE [CO]	ppm	2.6	25 (TWA)	50 (TWA)	9 (TWA)	9 (TWA)
PARTICULATE MATTER [PM ₁]	µg/m ³	1.96	NA ¹	NA ²	NA ³	NA ⁴
PARTICULATE MATTER [PM _{2.5}]	µg/m ³	4.36	NA ¹	5000 (TWA)	15 (TWA)	NA ⁴
PARTICULATE MATTER [PM ₁₀]	µg/m ³	13.66	NA ¹	NA ²	50 (TWA)	150 (TWA)
TOTAL PARTICULATE MATTER [TPM]	µg/m ³	27.91	NA ¹	15000 (TWA)	NA ³	NA ⁴
FORMALDEHYDE	ppm	< 0.01	0.3 (STEL)	2 (STEL)	0.081 (STEL)	0.08 (TWA)
TVOC	µg/m ³	166	NA ¹	NA ²	NA ³	300 (TWA)

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STEL- Short Term Exposure Limit

NA¹ – Not Available in the OSHA Guideline

NA² – Not Available in the OSHA Guideline

NA³ – Not Available in the ASHRAE Guideline

NA⁴ – Not Available in the DM Guideline

Remark: The above test results are complying with the AD-OSHA limits



TABLE- 02

MONITORING LOCATION		OFFICE AREA- WING B- 10 TH FLOOR				
SAMPLE NUMBER		WA-S-O-2103-03540				
DATE OF SAMPLING		20.03.2021				
DURATION OF MONITORING		SPOT MEASUREMENT- 15 MINUTE				
TEST PARAMETER	UNIT	TEST RESULT	STANDARD LIMITS			
			LIMIT AS PER AD-OSHAD*	LIMIT AS PER OSHA*	LIMIT AS PER ASHRAE*	LIMIT AS PER DM*
TEMPERATURE	°C	23.1	NA ¹	NA ²	NA ³	22.5°C - 25.5°C
RELATIVE HUMIDITY	%	48.6	NA ¹	NA ²	NA ³	30 – 60
OZONE	ppm	< 0.02	0.2	0.1	0.1	0.06
CARBON DIOXIDE [CO ₂]	ppm	619	30000 (STEL)	5000 (TWA)	NA ³	800 (TWA)
CARBON MONOXIDE [CO]	ppm	1.6	25 (TWA)	50 (TWA)	9 (TWA)	9 (TWA)
PARTICULATE MATTER [PM ₁]	µg/m ³	3.61	NA ¹	NA ²	NA ³	NA ⁴
PARTICULATE MATTER [PM _{2.5}]	µg/m ³	7.12	NA ¹	5000 (TWA)	15 (TWA)	NA ⁴
PARTICULATE MATTER [PM ₁₀]	µg/m ³	19.36	NA ¹	NA ²	50 (TWA)	150 (TWA)
TOTAL PARTICULATE MATTER [TPM]	µg/m ³	38.96	NA ¹	15000 (TWA)	NA ³	NA ⁴
FORMALDEHYDE	ppm	< 0.01	0.3 (STEL)	2 (STEL)	0.081 (STEL)	0.08 (TWA)
TVOC	µg/m ³	212	NA ¹	NA ²	NA ³	300 (TWA)

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OTM- OSHA Technical Manual

STEL- Short Term Exposure Limit

NA¹ – Not Available in the OSHAD Guideline

NA² – Not Available in the OSHA Guideline

NA³ – Not Available in the ASHRAE Guideline

NA⁴ – Not Available in the DM Guideline

Remark: The above test results are complying with the AD-OSHAD limits



RESULT OF THE MEASUREMENTS

The result are observed at the site are represented in the below tables

RESULTS OBSERVATION –

TABLE- 01

MONITORING LOCATION	OFFICE AREA- WING B- 13 TH FLOOR					
SAMPLE NUMBER	WA-S-O-2103-03539					
DATE OF SAMPLING	20.03.2021					
DURATION OF MONITORING	SPOT MEASUREMENT- 15 MINUTE					
TEST PARAMETER	UNIT	TEST RESULT	STANDARD LIMITS			
			LIMIT AS PER AD-OSHAD*	LIMIT AS PER OSHA*	LIMIT AS PER ASHRAE*	LIMIT AS PER DM*
TEMPERATURE	°C	24.0	NA ¹	NA ²	NA ³	22.5°C - 25.5°C
RELATIVE HUMIDITY	%	40.1	NA ¹	NA ²	NA ³	30 – 60
OZONE	ppm	< 0.02	0.2	0.1	0.1	0.06
CARBON DIOXIDE [CO ₂]	ppm	600	30000 (STEL)	5000 (TWA)	NA ³	800 (TWA)
CARBON MONOXIDE [CO]	ppm	1.2	25 (TWA)	50 (TWA)	9 (TWA)	9 (TWA)
PARTICULATE MATTER [PM ₁]	µg/m ³	2.61	NA ¹	NA ²	NA ³	NA ⁴
PARTICULATE MATTER [PM _{2.5}]	µg/m ³	4.01	NA ¹	5000 (TWA)	15 (TWA)	NA ⁴
PARTICULATE MATTER [PM ₁₀]	µg/m ³	43.70	NA ¹	NA ²	50 (TWA)	150 (TWA)
TOTAL PARTICULATE MATTER [TPM]	µg/m ³	52.60	NA ¹	15000 (TWA)	NA ³	NA ⁴
FORMALDEHYDE	ppm	< 0.01	0.3 (STEL)	2 (STEL)	0.081 (STEL)	0.08 (TWA)
TVOC	µg/m ³	196	NA ¹	NA ²	NA ³	300 (TWA)

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OTM- OSHA Technical Manual

STEL- Short Term Exposure Limit

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NA² – Not Available in the OSHA Guideline

NA³ – Not Available in the ASHRAE Guideline

NA⁴ – Not Available in the DM Guideline

Remark: The above test results are complying with the AD-OSHAD limits



TABLE- 05

MONITORING LOCATION		COSTA CAFETERIA- WING B- 20 TH FLOOR				
SAMPLE NUMBER		WA-S-O-2103-03543				
DATE OF SAMPLING		20.03.2021				
DURATION OF MONITORING		SPOT MEASUREMENT- 15 MINUTE				
TEST PARAMETER	UNIT	TEST RESULT	STANDARD LIMITS			
			LIMIT AS PER AD-OSHAD*	LIMIT AS PER OSHA*	LIMIT AS PER ASHRAE*	LIMIT AS PER DM*
TEMPERATURE	°C	23.1	NA ¹	NA ²	NA ³	22.5°C - 25.5°C
RELATIVE HUMIDITY	%	47.2	NA ¹	NA ²	NA ³	30 – 60
OZONE	ppm	< 0.02	0.2	0.1	0.1	0.06
CARBON DIOXIDE [CO ₂]	ppm	619	30000 (STEL)	5000 (TWA)	NA ³	800 (TWA)
CARBON MONOXIDE [CO]	ppm	1.9	25 (TWA)	50 (TWA)	9 (TWA)	9 (TWA)
PARTICULATE MATTER [PM ₁]	µg/m ³	4.29	NA ¹	NA ²	NA ³	NA ⁴
PARTICULATE MATTER [PM _{2.5}]	µg/m ³	11.24	NA ¹	5000 (TWA)	15 (TWA)	NA ⁴
PARTICULATE MATTER [PM ₁₀]	µg/m ³	18.96	NA ¹	NA ²	50 (TWA)	150 (TWA)
TOTAL PARTICULATE MATTER [TPM]	µg/m ³	29.36	NA ¹	15000 (TWA)	NA ³	NA ⁴
FORMALDEHYDE	ppm	< 0.01	0.3 (STEL)	2 (STEL)	0.081 (STEL)	0.08 (TWA)
TVOC	µg/m ³	169	NA ¹	NA ²	NA ³	300 (TWA)

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STEL- Short Term Exposure Limit

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NA² – Not Available in the OSHA Guideline

NA³ – Not Available in the ASHRAE Guideline

NA⁴ – Not Available in the DM Guideline

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TEST REPORT

PROJECT NO: WA-P-O-2103-00444

TABLE- 06

MONITORING LOCATION		OFFICE AREA- WING B- 22 ND FLOOR				
SAMPLE NUMBER		WA-S-O-2103-03544				
DATE OF SAMPLING		20.03.2021				
DURATION OF MONITORING		SPOT MEASUREMENT- 15 MINUTE				
TEST PARAMETER	UNIT	TEST RESULT	STANDARD LIMITS			
			LIMIT AS PER AD-OSHA ¹	LIMIT AS PER OSHA ²	LIMIT AS PER ASHRAE ³	LIMIT AS PER DM ⁴
TEMPERATURE	°C	23.2	NA ¹	NA ²	NA ³	22.5°C - 25.5°C
RELATIVE HUMIDITY	%	56.2	NA ¹	NA ²	NA ³	30 – 60
OZONE	ppm	< 0.02	0.2	0.1	0.1	0.06
CARBON DIOXIDE [CO ₂]	ppm	620	30000 (STEL)	5000 (TWA)	NA ³	800 (TWA)
CARBON MONOXIDE [CO]	ppm	1.7	25 (TWA)	50 (TWA)	9 (TWA)	9 (TWA)
PARTICULATE MATTER [PM ₁]	µg/m ³	3.12	NA ¹	NA ²	NA ³	NA ⁴
PARTICULATE MATTER [PM _{2.5}]	µg/m ³	6.98	NA ¹	5000 (TWA)	15 (TWA)	NA ⁴
PARTICULATE MATTER [PM ₁₀]	µg/m ³	18.96	NA ¹	NA ²	50 (TWA)	150 (TWA)
TOTAL PARTICULATE MATTER [TPM]	µg/m ³	31.26	NA ¹	15000 (TWA)	NA ³	NA ⁴
FORMALDEHYDE	ppm	< 0.01	0.3 (STEL)	2 (STEL)	0.081 (STEL)	0.08 (TWA)
TVOC	µg/m ³	193	NA ¹	NA ²	NA ³	300 (TWA)

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STEL- Short Term Exposure Limit

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NA² – Not Available in the OSHA Guideline

NA³ – Not Available in the ASHRAE Guideline

NA⁴ – Not Available in the DM Guideline

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TABLE- 07

MONITORING LOCATION		OFFICE AREA- WING A- 27 TH FLOOR				
SAMPLE NUMBER		WA-S-O-2103-03545				
DATE OF SAMPLING		20.03.2021				
DURATION OF MONITORING		SPOT MEASUREMENT- 15 MINUTE				
TEST PARAMETER	UNIT	TEST RESULT	STANDARD LIMITS			
			LIMIT AS PER AD-OSHA ¹	LIMIT AS PER OSHA ²	LIMIT AS PER ASHRAE ³	LIMIT AS PER DM ⁴
TEMPERATURE	°C	23.0	NA ¹	NA ²	NA ³	22.5°C - 25.5°C
RELATIVE HUMIDITY	%	52.0	NA ¹	NA ²	NA ³	30 – 60
OZONE	ppm	< 0.02	0.2	0.1	0.1	0.06
CARBON DIOXIDE [CO ₂]	ppm	656	30000 (STEL)	5000 (TWA)	NA ³	800 (TWA)
CARBON MONOXIDE [CO]	ppm	1.4	25 (TWA)	50 (TWA)	9 (TWA)	9 (TWA)
PARTICULATE MATTER [PM ₁₀]	µg/m ³	2.26	NA ¹	NA ²	NA ³	NA ⁴
PARTICULATE MATTER [PM _{2.5}]	µg/m ³	7.21	NA ¹	5000 (TWA)	15 (TWA)	NA ⁴
PARTICULATE MATTER [PM ₁₀]	µg/m ³	21.11	NA ¹	NA ²	50 (TWA)	150 (TWA)
TOTAL PARTICULATE MATTER [TPM]	µg/m ³	26.26	NA ¹	15000 (TWA)	NA ³	NA ⁴
FORMALDEHYDE	ppm	< 0.01	0.3 (STEL)	2 (STEL)	0.081 (STEL)	0.08 (TWA)
TVOC	µg/m ³	156	NA ¹	NA ²	NA ³	300 (TWA)

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STEL- Short Term Exposure Limit

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NA² – Not Available in the OSHA Guideline

NA³ – Not Available in the ASHRAE Guideline

NA⁴ – Not Available in the DM Guideline

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TEST REPORT

PROJECT NO: WA-P-O-2103-00444

TABLE- 10

MONITORING LOCATION		OFFICE AREA- WING B- 29 TH FLOOR				
SAMPLE NUMBER		WA-S-O-2103-03548				
DATE OF SAMPLING		20.03.2021				
DURATION OF MONITORING		SPOT MEASUREMENT- 15 MINUTE				
TEST PARAMETER	UNIT	TEST RESULT	STANDARD LIMITS			
			LIMIT AS PER AD-OSHA ¹	LIMIT AS PER OSHA ²	LIMIT AS PER ASHRAE ³	LIMIT AS PER DM ⁴
TEMPERATURE	°C	23.1	NA ¹	NA ²	NA ³	22.5°C - 25.5°C
RELATIVE HUMIDITY	%	51.9	NA ¹	NA ²	NA ³	30 – 60
OZONE	ppm	< 0.02	0.2	0.1	0.1	0.06
CARBON DIOXIDE [CO ₂]	ppm	599	30000 (STEL)	5000 (TWA)	NA ³	800 (TWA)
CARBON MONOXIDE [CO]	ppm	1.7	25 (TWA)	50 (TWA)	9 (TWA)	9 (TWA)
PARTICULATE MATTER [PM ₁]	µg/m ³	3.12	NA ¹	NA ²	NA ³	NA ⁴
PARTICULATE MATTER [PM _{2.5}]	µg/m ³	6.58	NA ¹	5000 (TWA)	15 (TWA)	NA ⁴
PARTICULATE MATTER [PM ₁₀]	µg/m ³	13.36	NA ¹	NA ²	50 (TWA)	150 (TWA)
TOTAL PARTICULATE MATTER [TPM]	µg/m ³	23.96	NA ¹	15000 (TWA)	NA ³	NA ⁴
FORMALDEHYDE	ppm	< 0.01	0.3 (STEL)	2 (STEL)	0.081 (STEL)	0.08 (TWA)
TVOC	µg/m ³	170	NA ¹	NA ²	NA ³	300 (TWA)

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STEL- Short Term Exposure Limit

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NA² – Not Available in the OSHA Guideline

NA³ – Not Available in the ASHRAE Guideline

NA⁴ – Not Available in the DM Guideline

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TEST REPORT

PROJECT NO: WA-P-O-2103-00444

TABLE- 08

MONITORING LOCATION		OFFICE AREA- WING B- 31 ST FLOOR				
SAMPLE NUMBER		WA-S-O-2103-03546				
DATE OF SAMPLING		20.03.2021				
DURATION OF MONITORING		SPOT MEASUREMENT- 15 MINUTE				
TEST PARAMETER	UNIT	TEST RESULT	STANDARD LIMITS			
			LIMIT AS PER AD-OSHA ¹	LIMIT AS PER OSHA ²	LIMIT AS PER ASHRAE ³	LIMIT AS PER DM ⁴
TEMPERATURE	°C	22.6	NA ¹	NA ²	NA ³	22.5°C - 25.5°C
RELATIVE HUMIDITY	%	52.8	NA ¹	NA ²	NA ³	30 – 60
OZONE	ppm	< 0.02	0.2	0.1	0.1	0.06
CARBON DIOXIDE [CO ₂]	ppm	711	30000 (STEL)	5000 (TWA)	NA ³	800 (TWA)
CARBON MONOXIDE [CO]	ppm	2.3	25 (TWA)	50 (TWA)	9 (TWA)	9 (TWA)
PARTICULATE MATTER [PM ₁₀]	µg/m ³	2.44	NA ¹	NA ²	NA ³	NA ⁴
PARTICULATE MATTER [PM _{2.5}]	µg/m ³	5.26	NA ¹	5000 (TWA)	15 (TWA)	NA ⁴
PARTICULATE MATTER [PM ₁₀]	µg/m ³	22.96	NA ¹	NA ²	50 (TWA)	150 (TWA)
TOTAL PARTICULATE MATTER [TPM]	µg/m ³	45.26	NA ¹	15000 (TWA)	NA ³	NA ⁴
FORMALDEHYDE	ppm	< 0.01	0.3 (STEL)	2 (STEL)	0.081 (STEL)	0.08 (TWA)
TVOC	µg/m ³	209	NA ¹	NA ²	NA ³	300 (TWA)

AD-OSHA – Abu Dhabi Occupational Safety and Health System Framework Guideline version 3.0, July 2016

OSHA – US Department of Occupational Safety & Health Administration

ASHRAE – American Society of Heating, Refrigeration & Air Conditioning Engineers

DM- Dubai Municipality Green Building Regulation & Specification

OTM- OSHA Technical Manual

STEL- Short Term Exposure Limit

NA¹ – Not Available in the OSHA Guideline

NA² – Not Available in the OSHA Guideline

NA³ – Not Available in the ASHRAE Guideline

NA⁴ – Not Available in the DM Guideline

Remark: The above test results are complying with the AD-OSHA limits



TEST REPORT

PROJECT NO: WA-P-O-2103-00444

TABLE- 09

MONITORING LOCATION		MEETING ROOM- WING B- 33 RD FLOOR				
SAMPLE NUMBER		WA-S-O-2103-03547				
DATE OF SAMPLING		20.03.2021				
DURATION OF MONITORING		SPOT MEASUREMENT- 15 MINUTE				
TEST PARAMETER	UNIT	TEST RESULT	STANDARD LIMITS			
			LIMIT AS PER AD-OSHA ¹	LIMIT AS PER OSHA ²	LIMIT AS PER ASHRAE ³	LIMIT AS PER DM ⁴
TEMPERATURE	°C	22.6	NA ¹	NA ²	NA ³	22.5°C - 25.5°C
RELATIVE HUMIDITY	%	48.9	NA ¹	NA ²	NA ³	30 – 60
OZONE	ppm	< 0.02	0.2	0.1	0.1	0.06
CARBON DIOXIDE [CO ₂]	ppm	686	30000 (STEL)	5000 (TWA)	NA ³	800 (TWA)
CARBON MONOXIDE [CO]	ppm	2.1	25 (TWA)	50 (TWA)	9 (TWA)	9 (TWA)
PARTICULATE MATTER [PM ₁]	µg/m ³	3.12	NA ¹	NA ²	NA ³	NA ⁴
PARTICULATE MATTER [PM _{2.5}]	µg/m ³	7.44	NA ¹	5000 (TWA)	15 (TWA)	NA ⁴
PARTICULATE MATTER [PM ₁₀]	µg/m ³	13.96	NA ¹	NA ²	50 (TWA)	150 (TWA)
TOTAL PARTICULATE MATTER [TPM]	µg/m ³	23.11	NA ¹	15000 (TWA)	NA ³	NA ⁴
FORMALDEHYDE	ppm	< 0.01	0.3 (STEL)	2 (STEL)	0.081 (STEL)	0.08 (TWA)
TVOC	µg/m ³	198	NA ¹	NA ²	NA ³	300 (TWA)

AD-OSHA – Abu Dhabi Occupational Safety and Health System Framework Guideline version 3.0, July 2016

OSHA – US Department of Occupational Safety & Health Administration

ASHRAE – American Society of Heating, Refrigeration & Air Conditioning Engineers

DM- Dubai Municipality Green Building Regulation & Specification

OTM- OSHA Technical Manual

STEL- Short Term Exposure Limit

NA¹ – Not Available in the OSHA Guideline

NA² – Not Available in the OSHA Guideline

NA³ – Not Available in the ASHRAE Guideline

NA⁴ – Not Available in the DM Guideline

Remark: The above test results are complying with the AD-OSHA limits



TEST REPORT

PROJECT NO: WA-P-O-2103-00444

TABLE- 11

MONITORING LOCATION		OFFICE AREA- WING A- 35 TH FLOOR				
SAMPLE NUMBER		WA-S-O-2103-03549				
DATE OF SAMPLING		20.03.2021				
DURATION OF MONITORING		SPOT MEASUREMENT- 15 MINUTE				
TEST PARAMETER	UNIT	TEST RESULT	STANDARD LIMITS			
			LIMIT AS PER AD-OSHA ¹	LIMIT AS PER OSHA ²	LIMIT AS PER ASHRAE ³	LIMIT AS PER DM ⁴
TEMPERATURE	°C	23.8	NA ¹	NA ²	NA ³	22.5°C - 25.5°C
RELATIVE HUMIDITY	%	51.2	NA ¹	NA ²	NA ³	30 – 60
OZONE	ppm	< 0.02	0.2	0.1	0.1	0.06
CARBON DIOXIDE [CO ₂]	ppm	639	30000 (STEL)	5000 (TWA)	NA ³	800 (TWA)
CARBON MONOXIDE [CO]	ppm	2.0	25 (TWA)	50 (TWA)	9 (TWA)	9 (TWA)
PARTICULATE MATTER [PM ₁]	µg/m ³	3.12	NA ¹	NA ²	NA ³	NA ⁴
PARTICULATE MATTER [PM _{2.5}]	µg/m ³	6.26	NA ¹	5000 (TWA)	15 (TWA)	NA ⁴
PARTICULATE MATTER [PM ₁₀]	µg/m ³	31.50	NA ¹	NA ²	50 (TWA)	150 (TWA)
TOTAL PARTICULATE MATTER [TPM]	µg/m ³	47.30	NA ¹	15000 (TWA)	NA ³	NA ⁴
FORMALDEHYDE	ppm	< 0.01	0.3 (STEL)	2 (STEL)	0.081 (STEL)	0.08 (TWA)
TVOC	µg/m ³	193	NA ¹	NA ²	NA ³	300 (TWA)

AD-OSHA – Abu Dhabi Occupational Safety and Health System Framework Guideline version 3.0, July 2016

OSHA – US Department of Occupational Safety & Health Administration

ASHRAE – American Society of Heating, Refrigeration & Air Conditioning Engineers

DM- Dubai Municipality Green Building Regulation & Specification

OTM- OSHA Technical Manual

STEL- Short Term Exposure Limit

NA¹ – Not Available in the OSHA Guideline

NA² – Not Available in the OSHA Guideline

NA³ – Not Available in the ASHRAE Guideline

NA⁴ – Not Available in the DM Guideline

Remark: The above test results are complying with the AD-OSHA limits



TABLE- 12

MONITORING LOCATION		OFFICE AREA- WING A- 36 TH FLOOR				
SAMPLE NUMBER		WA-S-O-2103-03550				
DATE OF SAMPLING		20.03.2021				
DURATION OF MONITORING		SPOT MEASUREMENT- 15 MINUTE				
TEST PARAMETER	UNIT	TEST RESULT	STANDARD LIMITS			
			LIMIT AS PER AD-OSHAD*	LIMIT AS PER OSHA*	LIMIT AS PER ASHRAE*	LIMIT AS PER DM*
TEMPERATURE	°C	22.2	NA ¹	NA ²	NA ³	22.5°C - 25.5°C
RELATIVE HUMIDITY	%	50.4	NA ¹	NA ²	NA ³	30 – 60
OZONE	ppm	< 0.02	0.2	0.1	0.1	0.06
CARBON DIOXIDE [CO ₂]	ppm	629	30000 (STEL)	5000 (TWA)	NA ³	800 (TWA)
CARBON MONOXIDE [CO]	ppm	2.4	25 (TWA)	50 (TWA)	9 (TWA)	9 (TWA)
PARTICULATE MATTER [PM ₁]	µg/m ³	5.12	NA ¹	NA ²	NA ³	NA ⁴
PARTICULATE MATTER [PM _{2.5}]	µg/m ³	13.26	NA ¹	5000 (TWA)	15 (TWA)	NA ⁴
PARTICULATE MATTER [PM ₁₀]	µg/m ³	42.66	NA ¹	NA ²	50 (TWA)	150 (TWA)
TOTAL PARTICULATE MATTER [TPM]	µg/m ³	76.11	NA ¹	15000 (TWA)	NA ³	NA ⁴
FORMALDEHYDE	ppm	< 0.01	0.3 (STEL)	2 (STEL)	0.081 (STEL)	0.08 (TWA)
TVOC	µg/m ³	152	NA ¹	NA ²	NA ³	300 (TWA)

AD-OSHAD – Abu Dhabi Occupational Safety and Health System Framework Guideline version 3.0, July 2016

OSHA – US Department of Occupational Safety & Health Administration

ASHRAE – American Society of Heating, Refrigeration & Air Conditioning Engineers

DM- Dubai Municipality Green Building Regulation & Specification

OTM- OSHA Technical Manual

STEL- Short Term Exposure Limit

NA¹ – Not Available in the OSHAD Guideline

NA² – Not Available in the OSHA Guideline

NA³ – Not Available in the ASHRAE Guideline

NA⁴ – Not Available in the DM Guideline

Remark: The above test results are complying with the AD-OSHAD limits



LIST OF PARAMETERS AND METHOD

Sampling done as per ISO-21501-4:2018 and OTM Section III- Chapter- 02 methods and estimate the following parameter in Indoor Air Quality Monitoring.

PARAMETERS	SAMPLING TEST METHOD
Particulate Matter [PM _{1.0}]	ISO-21501-4:2018
Particulate Matter [PM _{2.5}]	
Particulate Matter [PM ₁₀]	
Total Suspended Particulate Matter [TSPM]	
Temperature	OTM: SECTION III- CHAPTER- 02
Humidity	
Carbon Monoxide [CO]	
Carbon Dioxide [CO ₂]	
Ozone [O ₃]	
Formaldehyde [HCHO]	
Total Volatile Organic Compound [TVOC]	

This enabled Wimpey lab to analyze the formation, propagation and the potential environmental effect of the pollutants created at the sampling areas. Further, we could ascertain if the pollutants emanating were within the limits prescribed by the local regulatory authority.

SAMPLING PLAN DETAIL

The Following Location Was Monitored For Indoor Air Quality at **BRC Musaffah, Abu Dhabi, UAE.**

SN	LOCATION	DATE OF MONITORING	SAMPLE ID	REPORT NUMBER
1	OFFICE AREA- MEZZZINE FLOOR	16.03.2021	WA-S-O-2103-03503	WA-R-O-2103-03422
2	OFFICE AREA- GROUND FLOOR	16.03.2021	WA-S-O-2103-03502	WA-R-O-2103-03421



TEST REPORT

PROJECT NO: WA-P-O-2103-00443

TABLE- 02

MONITORING LOCATION		OFFICE AREA- GROUND FLOOR				
SAMPLE NUMBER		WA-S-O-2103-03502				
DATE OF SAMPLING		16.03.2021				
DURATION OF MONITORING		SPOT MEASUREMENT- 15 MINUTE				
TEST PARAMETER	UNIT	TEST RESULT	STANDARD LIMITS			
			LIMIT AS PER AD-OSHAD*	LIMIT AS PER OSHA*	LIMIT AS PER ASHRAE*	LIMIT AS PER DM*
TEMPERATURE	°C	22.8	NA ¹	NA ²	NA ³	22.5°C - 25.5°C
RELATIVE HUMIDITY	%	51.3	NA ¹	NA ²	NA ³	30 – 60
OZONE	ppm	< 0.02	0.2	0.1	0.1	0.06
CARBON DIOXIDE [CO ₂]	ppm	598	30000 (STEL)	5000 (TWA)	NA ³	800 (TWA)
CARBON MONOXIDE [CO]	ppm	2.3	25 (TWA)	50 (TWA)	9 (TWA)	9 (TWA)
PARTICULATE MATTER [PM ₁]	µg/m ³	1.93	NA ¹	NA ²	NA ³	NA ⁴
PARTICULATE MATTER [PM _{2.5}]	µg/m ³	4.76	NA ¹	5000 (TWA)	15 (TWA)	NA ⁴
PARTICULATE MATTER [PM ₁₀]	µg/m ³	26.11	NA ¹	NA ²	50 (TWA)	150 (TWA)
TOTAL PARTICULATE MATTER [TPM]	µg/m ³	49.56	NA ¹	15000 (TWA)	NA ³	NA ⁴
FORMALDEHYDE	ppm	< 0.01	0.3 (STEL)	2 (STEL)	0.081 (STEL)	0.08 (TWA)
TVOC	µg/m ³	129	NA ¹	NA ²	NA ³	300 (TWA)

AD-OSHAD – Abu Dhabi Occupational Safety and Health System Framework Guideline version 3.0, July 2016

OSHA – US Department of Occupational Safety & Health Administration

ASHRAE – American Society of Heating, Refrigeration & Air Conditioning Engineers

DM- Dubai Municipality Green Building Regulation & Specification

OTM- OSHA Technical Manual

STEL- Short Term Exposure Limit

NA¹ – Not Available in the OSHAD Guideline

NA² – Not Available in the OSHA Guideline

NA³ – Not Available in the ASHRAE Guideline

NA⁴ – Not Available in the DM Guideline

Remark: The above test results are complying with the AD-OSHAD limits



TEST REPORT

PROJECT NO: WA-P-O-2103-00443

RESULT OF THE MEASUREMENTS

The result are observed at the site are represented in the below tables

RESULTS OBSERVATION –

TABLE- 01

MONITORING LOCATION		OFFICE AREA- MEZZANINE FLOOR				
SAMPLE NUMBER		WA-S-O-2103-03503				
DATE OF SAMPLING		16.03.2021				
DURATION OF MONITORING		SPOT MEASUREMENT- 15 MINUTE				
TEST PARAMETER	UNIT	TEST RESULT	STANDARD LIMITS			
			LIMIT AS PER AD-OSHAD*	LIMIT AS PER OSHA*	LIMIT AS PER ASHRAE*	LIMIT AS PER DM*
TEMPERATURE	°C	23.6	NA ¹	NA ²	NA ³	22.5°C - 25.5°C
RELATIVE HUMIDITY	%	49.9	NA ¹	NA ²	NA ³	30 – 60
OZONE	ppm	< 0.02	0.2	0.1	0.1	0.06
CARBON DIOXIDE [CO ₂]	ppm	608	30000 (STEL)	5000 (TWA)	NA ³	800 (TWA)
CARBON MONOXIDE [CO]	ppm	2.1	25 (TWA)	50 (TWA)	9 (TWA)	9 (TWA)
PARTICULATE MATTER [PM ₁]	µg/m ³	2.86	NA ¹	NA ²	NA ³	NA ⁴
PARTICULATE MATTER [PM _{2.5}]	µg/m ³	6.29	NA ¹	5000 (TWA)	15 (TWA)	NA ⁴
PARTICULATE MATTER [PM ₁₀]	µg/m ³	38.41	NA ¹	NA ²	50 (TWA)	150 (TWA)
TOTAL PARTICULATE MATTER [TPM]	µg/m ³	61.38	NA ¹	15000 (TWA)	NA ³	NA ⁴
FORMALDEHYDE	ppm	< 0.01	0.3 (STEL)	2 (STEL)	0.081 (STEL)	0.08 (TWA)
TVOC	µg/m ³	174	NA ¹	NA ²	NA ³	300 (TWA)

AD-OSHAD – Abu Dhabi Occupational Safety and Health System Framework Guideline version 3.0, July 2016

OSHA – US Department of Occupational Safety & Health Administration

ASHRAE – American Society of Heating, Refrigeration & Air Conditioning Engineers

DM- Dubai Municipality Green Building Regulation & Specification

OTM- OSHA Technical Manual

STEL- Short Term Exposure Limit

NA¹ – Not Available in the OSHAD Guideline

NA² – Not Available in the OSHA Guideline

NA³ – Not Available in the ASHRAE Guideline

NA⁴ – Not Available in the DM Guideline

Remark: The above test results are complying with the AD-OSHAD limits



MICROBIOLOGY AIR MONITORING TEST REPORT

Customer Details

Report No. WA-R-O-2103-03457

Crystalline Cleaning & Environmental Services

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



Request No. : WA-Q-O-2103-00859 Received Date : 20/03/2021 Sample No. : WA-S-O-2103-03538

Sampling Date	: 20/03/2021	Report Date.	: 27/03/2021
Analysis Start Date.	: 21/03/2021	Analysis End Date.	: 26/03/2021
Sample Location.	: ADIA-HQ Abudhabi, UAE	Sampled By	: Amit Kumar
Scope of work	: Micro Air Quality Monitoring	Sample Identification	: Ground Floor Lobby Area
Sample Certificate No	: 4640	Method used	: CCFRA 2.2.1 (Guidelines 45)
Instrument used	: Bioaerosol Sampler	Make	: VWR
Asset Number	: WML-037	Model Number	: DUO SAS 360
Serial number	: 16-D-11202	Calibration Validity	: 07/04/2021 00:00:00
Instrument Certificate Number	: GCLC/30686.01/2020	Sample Type	: Micro Air Quality Monitoring

Parameters	Test Methods	Units	Results	Specification
Yeast and Mould	CCFRA 2.1.1 5th Ed. 2007	CFU/M ³	08	1000CFU/M ³
Total Bacterial Count (TBC)	CCFRA 1.1.1 5th Ed. 2007	CFU/M ³	1.4×10 ¹	1000CFU/M ³

Note : Limit based on: ADNOC-COPV3-07 Technical Guidelines note on indoor air quality & indoor environments for airborne biological agents.

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; 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 AIR MONITORING TEST REPORT

Customer Details

Report No. WA-R-O-2103-03451

Crystalline Cleaning & Environmental Services

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



Request No. : WA-Q-O-2103-00859 Received Date : 20/03/2021 Sample No. : WA-S-O-2103-03532

Sampling Date	: 20/03/2021	Report Date.	: 27/03/2021
Analysis Start Date.	: 21/03/2021	Analysis End Date.	: 26/03/2021
Sample Location.	: ADIA-HQ Abudhabi, UAE	Sampled By	: Amit Kumar
Scope of work	: Micro Air Quality Monitoring	Sample Identification	: 7th Floor Wing B Office Area
Sample Certificate No	: 4640	Method used	: CCFRA 2.2.1 (Guidelines 45)
Instrument used	: Bioaerosol Sampler	Make	: VWR
Asset Number	: WML-037	Model Number	: DUO SAS 360
Serial number	: 16-D-11202	Calibration Validity	: 07/04/2021 00:00:00
Instrument Certificate Number	: GCLC/30686.01/2020	Sample Type	: Micro Air Quality Monitoring

Parameters	Test Methods	Units	Results	Specification
Yeast and Mould	CCFRA 2.1.1 5th Ed. 2007	CFU/M ³	02	1000CFU/M ³
Total Bacterial Count (TBC)	CCFRA 1.1.1 5th Ed. 2007	CFU/M ³	07	1000CFU/M ³

Note : Limit based on: ADNOC-COPV3-07 Technical Guidelines note on indoor air quality & indoor environments for airborne biological agents.

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; 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 AIR MONITORING TEST REPORT

Customer Details

Report No. WA-R-O-2103-03450

Crystalline Cleaning & Environmental Services

P.O.Box: 151463 Warehouse no: 84, M-45, Mussafah, Abu Dhabi, UAE.



Request No. : WA-Q-O-2103-00859 Received Date : 20/03/2021 Sample No. : WA-S-O-2103-03531

Sampling Date	: 20/03/2021	Report Date.	: 27/03/2021
Analysis Start Date.	: 21/03/2021	Analysis End Date.	: 26/03/2021
Sample Location.	: ADIA-IQ Abudhabi, UAE	Sampled By	: Amit Kumar
Scope of work	: Micro Air Quality Monitoring	Sample Identification	: 13th Floor Wing B Office Area
Sample Certificate No	: 4540	Method used	: CCFRA 2.2.1 (Guidelines 45)
Instrument used	: Bioaerosol Sampler	Make	: VWR
Asset Number	: WML-027	Model Number	: DUO SAS 360
Serial number	: 16-D-11202	Calibration Validity	: 07/04/2021 00:00:00
Instrument Certificate Number	: GCLC/30686.01/2020	Sample Type	: Micro Air Quality Monitoring

Parameters	Test Methods	Units	Results	Specification
Yeast and Mould	CCFRA 2.1.1 5th Ed. 2007	CFU/M ³	02	1000CFU/M ³
Total Bacterial Count (TBC)	CCFRA 1.1.1 5th Ed. 2007	CFU/M ³	1.7×10 ¹	1000CFU/M ³

Note : Limit based on: ADNOC-COPV3-07 Technical Guidelines note on indoor air quality & indoor environments for airborne biological agents.

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; 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 AIR MONITORING TEST REPORT

Customer Details

Report No. WA-R-O-2103-03452

Crystalline Cleaning & Environmental Services

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



Request No. : WA-Q-O-2103-00859 Received Date : 20/03/2021 Sample No. : WA-S-O-2103-03533

Sampling Date	: 20/03/2021	Report Date.	: 27/03/2021
Analysis Start Date.	: 21/03/2021	Analysis End Date.	: 26/03/2021
Sample Location.	: ADIA-HQ Abudhabi, UAE	Sampled By	: Amit Kumar
Scope of work	: Micro Air Quality Monitoring	Sample Identification	: 20th Floor Wing B Costa Cafeteria
Sample Certificate No	: 4640	Method used	: CCFRA 2.2.1 (Guidelines 45)
Instrument used	: Bioaerosol Sampler	Make	: VWR
Asset Number	: WML-037	Model Number	: DUO SAS 360
Serial number	: 16-D-11202	Calibration Validity	: 07/04/2021 00:00:00
Instrument Certificate Number	: GCLC/30686.01/2020	Sample Type	: Micro Air Quality Monitoring

Parameters	Test Methods	Units	Results	Specification
Yeast and Mould	CCFRA 2.1.1 5th Ed. 2007	CFU/M ³	Not Detected	1000CFU/M ³
Total Bacterial Count (TBC)	CCFRA 1.1.1 5th Ed. 2007	CFU/M ³	1.9×10 ¹	1000CFU/M ³

Note : Limit based on: ADNOC-COPV3-07 Technical Guidelines note on indoor air quality & indoor environments for airborne biological agents.

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; 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 AIR MONITORING TEST REPORT

Customer Details

Report No. WA-R-O-2103-03453

Crystalline Cleaning & Environmental Services

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



Request No. : WA-Q-O-2103-00859 Received Date : 20/03/2021 Sample No. : WA-S-O-2103-03534

Sampling Date	: 20/03/2021	Report Date.	: 27/03/2021
Analysis Start Date.	: 21/03/2021	Analysis End Date.	: 26/03/2021
Sample Location.	: ADIA-HQ Abudhabi, UAE	Sampled By	: Amit Kumar
Scope of work	: Micro Air Quality Monitoring	Sample Identification	: 22nd floor Wing B Office Area
Sample Certificate No	: 4640	Method used	: CCFRA 2.2.1 (Guidelines 45)
Instrument used	: Bioaerosol Sampler	Make	: VWR
Asset Number.	: WML-037	Model Number	: DUO SAS 360
Serial number	: 16-D-11202	Calibration Validity	: 07/04/2021 00:00:00
Instrument Certificate Number	: GCLC/30686.01/2020	Sample Type	: Micro Air Quality Monitoring

Parameters	Test Methods	Units	Results	Specification
Yeast and Mould	CCFRA 2.1.1 5th Ed. 2007	CFU/M ³	Not Detected	1000CFU/M ³
Total Bacterial Count (TBC)	CCFRA 1.1.1 5th Ed. 2007	CFU/M ³	2.1×10 ¹	1000CFU/M ³

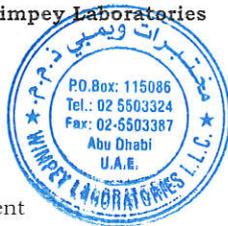
Note : Limit based on: ADNOC-COPV3-07 Technical Guidelines note on indoor air quality & indoor environments for airborne biological agents.

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; 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 AIR MONITORING TEST REPORT

Customer Details

Report No. WA-R-O-2103-03454

Crystalline Cleaning & Environmental Services

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



Request No. : WA-Q-O-2103-00859 Received Date : 20/03/2021 Sample No. : WA-S-O-2103-03535

Sampling Date	: 20/03/2021	Report Date.	: 27/03/2021
Analysis Start Date.	: 21/03/2021	Analysis End Date.	: 26/03/2021
Sample Location.	: ADIA-HQ Abudhabi, UAE	Sampled By	: Amit Kumar
Scope of work	: Micro Air Quality Monitoring	Sample Identification	: 31st Floor Wing B Office Area
Sample Certificate No	: 4640	Method used	: CCFRA 2.2.1 (Guidelines 45)
Instrument used	: Bioaerosol Sampler	Make	: VWR
Asset Number	: WML-037	Model Number	: DUO SAS 360
Serial number	: 16-D-11202	Calibration Validity	: 07/04/2021 00:00:00
Instrument Certificate Number	: GCLC/30686.01/2020	Sample Type	: Micro Air Quality Monitoring

Parameters	Test Methods	Units	Results	Specification
Yeast and Mould	CCFRA 2.1.1 5th Ed. 2007	CFU/M ³	07	1000CFU/M ³
Total Bacterial Count (TBC)	CCFRA 1.1.1 5th Ed. 2007	CFU/M ³	4.5×10 ¹	1000CFU/M ³

Note : Limit based on: ADNOC-COPV3-07 Technical Guidelines note on indoor air quality & indoor environments for airborne biological agents.

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; 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 AIR MONITORING TEST REPORT

Customer Details

Report No. WA-R-O-2103-03455

Crystalline Cleaning & Environmental Services

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



Request No. : WA-Q-O-2103-00859 Received Date : 20/03/2021 Sample No. : WA-S-O-2103-03536

Sampling Date	: 20/03/2021	Report Date.	: 27/03/2021
Analysis Start Date.	: 21/03/2021	Analysis End Date.	: 26/03/2021
Sample Location.	: ADIA-HQ Abudhabi, UAE	Sampled By	: Amit Kumar
Scope of work	: Micro Air Quality Monitoring	Sample Identification	: 35th Floor Wing A Office Area
Sample Certificate No	: 4640	Method used	: CCFRA 2.2.1 (Guidelines 45)
Instrument used	: Bioaerosol Sampler	Make	: VWR
Asset Number	: WML-037	Model Number	: DUO SAS 360
Serial number	: 16-D-11202	Calibration Validity	: 07/04/2021 00:00:00
Instrument Certificate Number	: GCLC/30686.01/2020	Sample Type	: Micro Air Quality Monitoring

Parameters	Test Methods	Units	Results	Specification
Yeast and Mould	CCFRA 2.1.1 5th Ed. 2007	CFU/M ³	06	1000CFU/M ³
Total Bacterial Count (TBC)	CCFRA 1.1.1 5th Ed. 2007	CFU/M ³	3.1×10 ¹	1000CFU/M ³

Note : Limit based on: ADNOC-COPV3-07 Technical Guidelines note on indoor air quality & indoor environments for airborne biological agents.

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; 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 AIR MONITORING TEST REPORT

Customer Details

Report No. WA-R-O-2103-03456

Crystalline Cleaning & Environmental Services

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



Request No. : WA-Q-O-2103-00859 Received Date : 20/03/2021 Sample No. : WA-S-O-2103-03537

Sampling Date	: 20/03/2021	Report Date.	: 27/03/2021
Analysis Start Date.	: 21/03/2021	Analysis End Date.	: 26/03/2021
Sample Location.	: ADIA-HQ Abudhabi, UAE	Sampled By	: Amit Kumar
Scope of work	: Micro Air Quality Monitoring	Sample Identification	: 36th Floor Wing A Office Area
Sample Certificate No	: 4640	Method used	: CCFRA 2.2.1 (Guidelines 45)
Instrument used	: Bioaerosol Sampler	Make	: VWR
Asset Number	: WML-037	Model Number	: DUO SAS 360
Serial number	: 16-D-11202	Calibration Validity	: 07/04/2021 00:00:00
Instrument Certificate Number	: GCLC/30686.01/2020	Sample Type	: Micro Air Quality Monitoring

Parameters	Test Methods	Units	Results	Specification
Yeast and Mould	CCFRA 2.1.1 5th Ed. 2007	CFU/M ³	1.1×10 ¹	1000CFU/M ³
Total Bacterial Count (TBC)	CCFRA 1.1.1 5th Ed. 2007	CFU/M ³	1.7×10 ¹	1000CFU/M ³

Note : Limit based on: ADNOC-COPV3-07 Technical Guidelines note on indoor air quality & indoor environments for airborne biological agents.

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; 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 AIR MONITORING TEST REPORT

Customer Details

Report No. WA-R-O-2103-03419

Crystalline Cleaning & Environmental Services

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



Request No. : WA-Q-O-2103-00848 Received Date : 16/03/2021 Sample No. : WA-S-O-2103-03500

Sampling Date	: 11/02/2021	Report Date.	: 22/03/2021
Analysis Start Date.	: 16/03/2021	Analysis End Date.	: 21/03/2021
Sample Location.	: ADIA-BRC, Mussafah AUH	Sampled By	: Amit Kumar
Scope of work	: Indoor Air Micro	Sample Identification	: Office Area - Ground floor
Sample Certificate No	: 4151	Instrument used	: Bioaerosol Sampler
Make	: VWR	Asset Number	: WEL-037
Model Number	: DUO SAS 360	Serial number	: 16.D.11202
Calibration Validity	: 07/04/2021	Instrument Certificate Number	: GCLC/30686.01/2020

Parameters	Test Methods	Units	Results	Specification
Yeast and Mould	CCFRA 2.1.1 5th Ed. 2007	CFU/M ³	1.0×10 ¹	1000CFU/M ³
Total Bacterial Count (TBC)	CCFRA 1.1.1 5th Ed. 2007	CFU/M ³	1.5×10 ¹	1000CFU/M ³

Note : Limit based on: ADNOC-COPV3-07 Technical Guidelines note on indoor air quality & indoor environments for airborne biological agents.

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; 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 AIR MONITORING TEST REPORT

Customer Details

Report No. WA-R-O-2103-03420

Crystalline Cleaning & Environmental Services

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



Request No. : WA-Q-O-2103-00848 Received Date : 16/03/2021 Sample No. : WA-S-O-2103-03501

Sampling Date	: 11/02/2021	Report Date.	: 22/03/2021
Analysis Start Date.	: 16/03/2021	Analysis End Date.	: 21/03/2021
Sample Location.	: ADIA-BRC, Mussafah AUH	Sampled By	: Amit Kumar
Scope of work	: Indoor Air Micro	Sample Identification	: Office Area - Mezzanine floor
Sample Certificate No	: 4151	Instrument used	: Bioaerosol Sampler
Make	: VWR	Asset Number	: WEL-037
Model Number	: DUO SAS 360	Serial number	: 16.D.11202
Calibration Validity	: 07/04/2021	Instrument Certificate Number	: GCLC/30686.01/2020

Parameters	Test Methods	Units	Results	Specification
Yeast and Mould	CCFRA 2.1.1 5th Ed. 2007	CFU/M ³	2.1×10 ¹	1000CFU/M ³
Total Bacterial Count (TBC)	CCFRA 1.1.1 5th Ed. 2007	CFU/M ³	1.0×10 ¹	1000CFU/M ³

Note : Limit based on: ADNOC-COPV3-07 Technical Guidelines note on indoor air quality & indoor environments for airborne biological agents.

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; 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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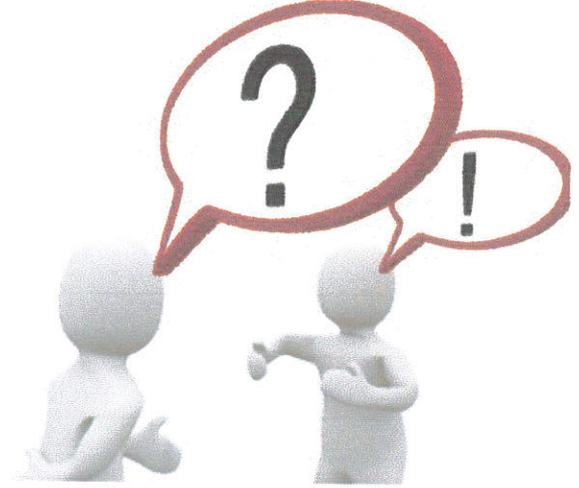
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CONCLUSION

As per the above observation we have found that there is no gaseous contamination exceeding the limit in all monitoring areas, everything under the prescribed limit as per the given standard guideline of AD-OSHAD.

The Dust concentration is also under the limit as per the guidelines of given standards limit.



****END OF THE REPORT****