

ภาคผนวก ง

ผลการวิเคราะห์ทางห้องปฏิบัติการ

ภาคผนวก ง1

ผลการวิเคราะห์คุณภาพน้ำทิ้ง

ANALYSIS REPORT

CUSTOMER NAME	: CARLTON HOTEL BANGKOK CO., LTD.	RECEIVED DATE	: MARCH 23, 2026
ADDRESS	: 491 SUKUMVIT ROAD KHLONG TOEI NUEA WATTHANA BANGKOK 10110	ANALYTICAL DATE	: MARCH 23-30, 2026
CONTACT INFORMATION	: TEL : [REDACTED]	ISSUE DATE	: MARCH 31, 2026
SAMPLING SOURCE	: WASTEWATER TREATMENT PLANT	REPORT NO.	: 2026-U025018
SAMPLE TYPE	: WASTEWATER	WORK NO.	: 2025-007078
SAMPLING DATE	: MARCH 23, 2026	ANALYSIS NO.	: T26AG114-0001 - T26AG114-0002
SAMPLING TIME	: 1/		
SAMPLING METHOD	: GRAB, GRAB AND STERILE TECHNIQUE		
SAMPLING BY	: MR SUKSAN BOONLEANG		
ANALYZED BY	: MISS NAPAPORN KHUNNOKKHUM		

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			1 14:15 HOUR 1/ T26AG114-0001	2 14:20 HOUR 1/ T26AG114-0002			
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B AND 1060 B	6.8 (31.7°C)	7.2 (32.2°C)	5.5-9.0	-	-
BIOCHEMICAL OXYGEN DEMAND ^a	mg/L	MEMBRANE ELECTRODE METHOD (SM: PART 5210 B AND PART 4500-O G)	260	15.7	≤ 20	-	2.0
TOTAL SUSPENDED SOLIDS ^a	mg/L	TOTAL SUSPENDED SOLIDS DRIED FROM 103 TO 105 °C (SM: PART 2540 D)	83.9	29.4	≤ 30	-	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	318	302	≤ 1,000	-	25
SULPHIDE ^b	mg/L	IODOMETRIC METHOD (SM: PART 4500-S ²⁻ F)	0.51	< 0.50	≤ 1.0	-	0.50
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: PART 4500-Norg C	48.9	7.6	≤ 35	1.5	5.0
OIL AND GREASE ^a	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)	26	< 3	≤ 20	-	3



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT	LIMIT OF QUANTITATION (LOQ)
			1 14:15 HOUR 1/ T26AG114-0001	2 14:20 HOUR 1/ T26AG114-0002			
MICROBIOLOGY							
TOTAL COLIFORMS ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 B AND C)	>160,000	11,000	-	1.8	-
SAMPLE CONDITION							
WATER'S COLOUR/TURBID			YELLOW/TURBID	YELLOW/CLEAR			
SEDIMENT			BROWN	BROWN			

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

RESULT 1 : ปอปรับสภาพน้ำ

RESULT 2 : ปอน้ำใส

REGULATORY STANDARD : RANGE OR MAXIMUM PERMITTED VALUE FOR BUILDING EFFLUENT STANDARDS CLASS A, NOTIFICATION OF THE MINISTRY OF RESOURCES AND ENVIRONMENT, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL 141, PART 233 D, DATED AUGUST 27, 2024.

(MISS WILAILAK SRISUK)
LABORATORY SUPERVISOR

ภาคผนวก ง2

ผลการวิเคราะห์คุณภาพน้ำหอฝิ่งเย็น

ANALYSIS REPORT

CUSTOMER NAME	: CARLTON HOTEL BANGKOK CO., LTD.	RECEIVED DATE	: JUNE 24, 2026
ADDRESS	: 491 SUKUMVIT ROAD KHLONG TOEI NUEA WATTHANA BANGKOK 10110	ANALYTICAL DATE	: JUNE 24-30, 2026
CONTACT INFORMATION	: TEL : 091 003 8819 e-mail : wisanu.threevetsin@carltonhotel.co.th	ISSUE DATE	: JULY 3, 2026
SAMPLING SOURCE	: COOLING TOWER	REPORT NO.	: 2026-U058659
SAMPLE TYPE	: COOLING WATER	WORK NO.	: 2025-007078
SAMPLING DATE	: JUNE 24, 2026	ANALYSIS NO.	: T26AO338-0003
SAMPLING TIME	: 14:20 HOUR		
SAMPLING METHOD °	: GRAB, GRAB AND STERILE TECHNIQUE		
SAMPLING BY °	: MR SUKSAN BOONLEANG		
ANALYZED BY	: MISS CHATTRAPORN RATCHANET		

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			น้ำเข้ามาเติมในอ่างรองรับ T26AO338-0003	
pH ^c	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500 -H ⁺ B AND 1060 B	6.7 (32.2°C)	-
RESIDUAL CHLORINE ^c	mg/L Cl ₂	MODIFIED DPD COLOURIMETRIC METHOD (AT SITE)	0.3	0.1
MICROBIOLOGY				
TOTAL COLIFORMS ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 B AND C)	< 1.8	1.8
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			COLOURLESS/CLEAR -	

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

(MISS CHAWEEWAN BOONLA)
LABORATORY SUPERVISOR

ISO 9001:2015 CERTIFIED
ISO 14001:2015 CERTIFIED
ISO 45001:2018 CERTIFIED

• PROHIBITED TO PARTIALLY COPY ANALYSIS REPORT PRIOR TO WRITTEN PERMISSION BY THE LABORATORY.
• THIS ANALYSIS REPORT APPROVES ONLY FOR THE SAMPLES AS RECEIVED.

1/1



- End of Analysis Report -

ANALYSIS REPORT

CUSTOMER NAME : CARLTON HOTEL BANGKOK CO., LTD.
ADDRESS : 491 SUKUMVIT ROAD KHLONG TOEI NUEA WATTHANA BANGKOK 10110
CONTACT INFORMATION : TEL :
SAMPLING SOURCE : COOLING TOWER
SAMPLE TYPE : COOLING WATER
SAMPLING DATE : JUNE 24, 2026
SAMPLING TIME : 14:20 HOUR
SAMPLING METHOD * : GRAB AND STERILE TECHNIQUE
SAMPLING BY * : MR SUKSAN BOONLEANG
ANALYZED BY : MISS JITSAMON NGAMKANA

RECEIVED DATE : JUNE 24, 2026
ANALYTICAL DATE : JUNE 24-JULY 1, 2026
ISSUE DATE : JULY 3, 2026
REPORT NO. : 2026-U058660
WORK NO. : 2025-007078
ANALYSIS NO. : T26AO338-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			น้ำเข้ามาเติมในอ่าง รองรับ T26A0338-0003		
MICROBIOLOGY					
Legionella spp.	CFU/L	ISO 11731:2017-05 (E)	NOT DETECTED	NOT DETECTED	100
SAMPLE CONDITION					
WATER'S COLOUR/TURBID			COLOURLESS/CLEAR		
SEDIMENT			-		

THE LABORATORY HAS BEEN ACCEPTED AS AN ACCREDITED LABORATORY COMPLYING WITH THE ISO/IEC 17025.

* : TEST METHOD ARE NOT COVERED COMPLYING WITH THE ISO/IEC 17025, VERIFIED BY OWN LABORATORY QUALITY SYSTEM.

REGULATORY STANDARD : ANNOUNCEMENT OF THE DEPARTMENT OF HEALTH (THAILAND), PRACTICE FOR THE CONTROL OF LEGIONELLA BACTERIA IN COOLING TOWERS, JANUARY 2001.

(MISS CHAWEEWAN BOONLA)
LABORATORY SUPERVISOR



ANALYSIS REPORT

CUSTOMER NAME	: CARLTON HOTEL BANGKOK CO., LTD.	RECEIVED DATE	: JUNE 24, 2026
ADDRESS	: 491 SUKUMVIT ROAD KHLONG TOEI NUEA WATTHANA BANGKOK 10110	ANALYTICAL DATE	: JUNE 24-30, 2026
CONTACT INFORMATION	: TEL : [REDACTED]	ISSUE DATE	: JULY 3, 2026
SAMPLING SOURCE	: COOLING TOWER	REPORT NO.	: 2026-U058661
SAMPLE TYPE	: COOLING WATER	WORK NO.	: 2025-007078
SAMPLING DATE	: JUNE 24, 2026	ANALYSIS NO.	: T26A0338-0004
SAMPLING TIME	: 14:15 HOUR		
SAMPLING METHOD °	: GRAB, GRAB AND STERILE TECHNIQUE		
SAMPLING BY °	: MR SUKSAN BOONLEANG		
ANALYZED BY	: MISS CHATTRAPORN RATCHANET		

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			ต่อไปนี้จากห้องฟองเย็น T26A0338-0004	
pH ^c	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500 -H ⁺ B AND 1060 B	7.8 (31.0°C)	-
RESIDUAL CHLORINE ^c	mg/L Cl ₂	MODIFIED DPD COLOURIMETRIC METHOD (AT SITE)	ND	0.1
MICROBIOLOGY				
TOTAL COLIFORMS ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 B AND C)	< 1.8	1.8
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/CLEAR WHITE	

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT NOT IN SCOPE OF ACCREDITATION

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

ND : NOT DETECTED.

(MISS CHAWEEWAN BOONLA)
LABORATORY SUPERVISOR



ANALYSIS REPORT

CUSTOMER NAME : CARLTON HOTEL BANGKOK CO., LTD.
ADDRESS : 491 SUKUMVIT ROAD KHLONG TOEI NUEA WATTHANA BANGKOK 10110
CONTACT INFORMATION : TEL :
SAMPLING SOURCE : COOLING TOWER
SAMPLE TYPE : COOLING WATER
SAMPLING DATE : JUNE 24, 2026
SAMPLING TIME : 14:15 HOUR
SAMPLING METHOD * : GRAB AND STERILE TECHNIQUE
SAMPLING BY * : MR SUKSAN BOONLEANG
ANALYZED BY : MISS JITSAMON NGAMKANA

RECEIVED DATE : JUNE 24, 2026
ANALYTICAL DATE : JUNE 24-JULY 1, 2026
ISSUE DATE : JULY 3, 2026
REPORT NO. : 2026-U058662
WORK NO. : 2025-007078
ANALYSIS NO. : T26AO338-0004

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			ท่อน้ำทิ้งจากหอฝักเป็น T26AO338-0004		
MICROBIOLOGY					
Legionella spp.	CFU/L	ISO 11731:2017-05 (E)	NOT DETECTED	NOT DETECTED	100
SAMPLE CONDITION					
WATER'S COLOUR/TURBID SEDIMENT			YELLOW/CLEAR WHITE		

THE LABORATORY HAS BEEN ACCEPTED AS AN ACCREDITED LABORATORY COMPLYING WITH THE ISO/IEC 17025.

* : TEST METHOD ARE NOT COVERED COMPLYING WITH THE ISO/IEC 17025, VERIFIED BY OWN LABORATORY QUALITY SYSTEM.

REGULATORY STANDARD : ANNOUNCEMENT OF THE DEPARTMENT OF HEALTH (THAILAND), PRACTICE FOR THE CONTROL OF LEGIONELLA BACTERIA IN COOLING TOWERS, JANUARY 2001.

(MISS CHAWEEWAN BOONLA)
LABORATORY SUPERVISOR

ISO 9001:2015 CERTIFIED
ISO 14001:2015 CERTIFIED
ISO 45001:2018 CERTIFIED

• PROHIBITED TO PARTIALLY COPY ANALYSIS REPORT PRIOR TO WRITTEN PERMISSION BY THE LABORATORY.
• THIS ANALYSIS REPORT APPROVES ONLY FOR THE SAMPLES AS RECEIVED.

1/1



- End of Analysis Report -