

ภาคผนวก ง

ใบรายงานผลวิเคราะห์

ANALYSIS REPORT

CUSTOMER NAME	: LH MALL & HOTEL COMPANY LIMITED	RECEIVED DATE	: JANUARY 28, 2023
ADDRESS	: 356 RAMA III ROAD BANG KHLO BANG KHO LAEM BANGKOK 10120	ANALYTICAL DATE	: JANUARY 28 - FEBRUARY 7, 2023
CONTACT INFORMATION	: TEL : 0 2343 8899 e-mail : wiat.r@terminal21.co.th	REPORT NO.	: 2023-U010059
SAMPLING SOURCE	: TERMINAL 21 RAMA 3	WORK NO.	: 2023-000642
SAMPLE TYPE	: WASTEWATER	ANALYSIS NO.	: T23AB530-0001
SAMPLING DATE	: JANUARY 28, 2023		
SAMPLING TIME	: 14:40 HOUR		
SAMPLING METHOD	: GRAB		
SAMPLING BY	: MR WEERAYUT MOKKAEW		
ANALYZED BY	: MISS ARIYA THARAROM		

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			จุดบอประัสมผล T23AB530-0001	
pH ^a	-	ELECTROMETRIC METHOD AT SITE (SM:4500-H ⁺ B)	7.7 (27°C)	-
BIOCHEMICAL OXYGEN DEMAND ^a	mg/L	MEMBRANE ELECTRODE METHOD (SM: 4500-O ₂ G AND 5210 B)	416	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	546	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAO.007 (TOTAL DISSOLVED SOLIDS DRIED AT 103-105 °C); SM 2540 C	433	25
SETTLEABLE SOLIDS ^c	mL/L	IMHOFF CONE (SM: 2540 F)	6.0	0.1
SULPHIDE ^b	mg/L	IODOMETRIC METHOD (SM: 4500-S ²⁻ F)	1.3	0.50
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: 4500-Norg C	210	15
FAT, OIL AND GREASE ^a	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: 5520 B)	6	3
MICROBIOLOGY				
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 E)	>160,000	1.8
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	>160,000	1.8
SAMPLE CONDITION				
WATER'S COLOUR/TURBID			YELLOW/TURBID	
SEDIMENT			BROWN	

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

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

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

FEBRUARY 13, 2023



ANALYSIS REPORT

CUSTOMER NAME	: LH MALL & HOTEL COMPANY LIMITED	RECEIVED DATE	: JANUARY 28, 2023
ADDRESS	: 356 RAMA III ROAD BANG KHLO BANG KHO LAEM BANGKOK 10120	ANALYTICAL DATE	: JANUARY 28 - FEBRUARY 7, 2023
CONTACT INFORMATION	: TEL : 0 2343 8899 e-mail : wiwat.r@terminal21.co.th	REPORT NO.	: 2023-U010060
SAMPLING SOURCE	: TERMINAL 21 RAMA 3	WORK NO.	: 2023-000642
SAMPLE TYPE	: EFFLUENT	ANALYSIS NO.	: T23AB530-0002
SAMPLING DATE	: JANUARY 28, 2023		
SAMPLING TIME	: 14:45 HOUR		
SAMPLING METHOD	: GRAB		
SAMPLING BY	: MR WEERAYUT MOKKAEW		
ANALYZED BY	: MISS ARIYA THARAROM		

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดบ่อพักน้ำใส T23AB530-0002		
pH ^a	-	ELECTROMETRIC METHOD AT SITE (SM:4500-H ⁺ B)	7.7 (30°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^a	mg/L	MEMBRANE ELECTRODE METHOD (SM: 4500-O G AND 5210 B)	335	≤ 20	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	4,924	≤ 30	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAO.007 (TOTAL DISSOLVED SOLIDS DRIED AT 103-105 °C); SM 2540 C	568	500*	25
SETTLABLE SOLIDS ^c	mL/L	IMHOFF CONE (SM: 2540 F)	250	≤ 0.5	0.1
SULPHIDE ^b	mg/L	IODOMETRIC METHOD (SM: 4500-S ²⁻ F)	14	≤ 1.0	0.50
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: 4500-Norg C	173	≤ 35	1.5
FAT, OIL AND GREASE ^a	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: 5520 B)	ND	≤ 20	3



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดบ่อพักน้ำใส T23AB530-0002		
MICROBIOLOGY					
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 E)	92,000	-	1.8
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	>160,000	-	1.8
SAMPLE CONDITION					
WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN		

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

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

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

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 122,
PART 125 D, DATED DECEMBER 29, 2005 AND VOL 139 SPECIAL PART 171 D, DATED JULY 21, 2022.

500* : PERMITTED EXCESS VALUE TO TOTAL DISSOLVED SOLIDS OF ACTUAL TAP WATER USED
(TOTAL DISSOLVED SOLIDS STANDARD VALUE OF TAP WATER QUALITY IS 1,000 mg/L).

ND : NON-DETECTABLE.



(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

FEBRUARY 13, 2023

ANALYSIS REPORT

CUSTOMER NAME	: LH MALL & HOTEL COMPANY LIMITED	RECEIVED DATE	: JANUARY 28, 2023
ADDRESS	: 356 RAMA III ROAD BANG KHLO BANG KHO LAEM BANGKOK 10120	ANALYTICAL DATE	: JANUARY 28 - FEBRUARY 7, 2023
CONTACT INFORMATION	: TEL : 0 2343 8899 e-mail : wiwat.r@terminal21.co.th	REPORT NO.	: 2023-U010062
SAMPLING SOURCE	: TERMINAL 21 RAMA 3	WORK NO.	: 2023-000642
SAMPLE TYPE	: EFFLUENT	ANALYSIS NO.	: T23AB530-0003
SAMPLING DATE	: JANUARY 28, 2023		
SAMPLING TIME	: 14:50 HOUR		
SAMPLING METHOD	: GRAB		
SAMPLING BY	: MR WEERAYUT MOKKAEW		
ANALYZED BY	: MISS ARIYA THARAROM		

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดบอดตรวจคุณภาพน้ำพร้อมตะกอน ดัชนี T23AB530-0003		
pH ^a	-	ELECTROMETRIC METHOD AT SITE (SM:4500-H ⁺ B)	7.8 (29°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^a	mg/L	MEMBRANE ELECTRODE METHOD (SM: 4500-O ₂ G AND 5210 B)	ND	≤ 20	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	ND	≤ 30	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAO.007 (TOTAL DISSOLVED SOLIDS DRIED AT 103-105 °C); SM 2540 C	582	500*	25
SETTLEABLE SOLIDS ^c	mL/L	IMHOFF CONE (SM: 2540 F)	< 0.1	≤ 0.5	0.1
SULPHIDE ^b	mg/L	IODOMETRIC METHOD (SM: 4500-S ₂ F)	< 0.50	≤ 1.0	0.50
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: 4500-Norg C	< LOQ	≤ 35	1.5
FAT, OIL AND GREASE ^a	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: 5520 B)	ND	≤ 20	3



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดบอดตรวจคุณภาพน้ำพร้อมตะกอน ดัชนี T23AB530-0003		
MICROBIOLOGY					
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 E)	790	-	1.8
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	790	-	1.8
SAMPLE CONDITION					
WATER'S COLOUR/TURBID SEDIMENT			YELLOW/CLEAR BROWN		

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

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

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

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 122,
PART 125 D, DATED DECEMBER 29, 2005 AND VOL 139 SPECIAL PART 171 D, DATED JULY 21, 2022.

500* : PERMITTED EXCESS VALUE TO TOTAL DISSOLVED SOLIDS OF ACTUAL TAP WATER USED
(TOTAL DISSOLVED SOLIDS STANDARD VALUE OF TAP WATER QUALITY IS 1,000 mg/L).

ND : NON-DETECTABLE.

< LOQ : < LIMIT OF QUANTITATION (TOTAL KJELDAHL NITROGEN \geq 1.5 AND < 5.0 mg/L).



(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

FEBRUARY 13, 2023

ANALYSIS REPORT

CUSTOMER NAME : LH MALL & HOTEL COMPANY LIMITED
ADDRESS : 356 RAMA III ROAD BANG KHLO BANG KHO LAEM BANGKOK 10120
CONTACT INFORMATION : TEL : 0 2343 8899 e-mail : wawat.r@terminal21.co.th
SAMPLING SOURCE : TERMINAL 21 RAMA 3
SAMPLE TYPE : COOLING WATER
SAMPLING DATE : JANUARY 28, 2023
SAMPLING TIME : 14:10 HOUR
SAMPLING METHOD * : GRAB
SAMPLING BY * : MR WEERAYUT MOKKAEW
ANALYZED BY : MISS WIPHAPHORN SAENG SOPHA

RECEIVED DATE : JANUARY 28, 2023
ANALYTICAL DATE : JANUARY 28 - FEBRUARY 5, 2023
REPORT NO. : 2023-U010063
WORK NO. : 2023-000642
ANALYSIS NO. : T23AB530-0004

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดที่นำไหลเข้ามาเดิม ในระบบ T23AB530-0004		
pH *	-	ELECTROMETRIC METHOD AT SITE (SM:4500-H ⁺ B)	7.0 (27°C)	-	-
FREE CHLORINE *	mg/L Cl ₂	MODIFIED DPD COLOURIMETRIC METHOD (AT SITE)	ND	-	0.1
MICROBIOLOGY					
TOTAL BACTERIA *	CFU/mL	STANDARD PLATE COUNT (SM: 9215 B)	3.5x10 ²	-	1
<i>Legionella</i> spp. #	CFU/L	ISO 11731:2017-05 (E)	NOT DETECTED	NOT DETECTED	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			COLOURLESS/CLEAR		

: ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF MEDICAL SCIENCE (DMSC)
* : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

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

ND : NON-DETECTABLE.



(MISS CHAWEEWAN BOONLA)
LABORATORY SUPERVISOR

FEBRUARY 13, 2023



ANALYSIS REPORT

CUSTOMER NAME : LH MALL & HOTEL COMPANY LIMITED
ADDRESS : 356 RAMA III ROAD BANG KHLO BANG KHO LAEM BANGKOK 10120
CONTACT INFORMATION : TEL : 0 2343 8899 e-mail : wiat.r@terminal21.co.th
SAMPLING SOURCE : TERMINAL 21 RAMA 3
SAMPLE TYPE : COOLING WATER
SAMPLING DATE : JANUARY 28, 2023
SAMPLING TIME : 14:15 HOUR
SAMPLING METHOD * : GRAB
SAMPLING BY * : MR WEERAYUT MOKKAEW
ANALYZED BY : MISS WIPHAPHORN SAENG SOPHA

RECEIVED DATE : JANUARY 28, 2023
ANALYTICAL DATE : JANUARY 28 - FEBRUARY 5, 2023
REPORT NO. : 2023-U010065
WORK NO. : 2023-000642
ANALYSIS NO. : T23AB530-0005

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			น้ำในอ่างรองรับน้ำ T23AB530-0005		
pH *	-	ELECTROMETRIC METHOD AT SITE (SM:4500-H ⁺ B)	8.3 (26°C)	-	-
FREE CHLORINE *	mg/L Cl ₂	MODIFIED DPD COLOURIMETRIC METHOD (AT SITE)	ND	-	0.1
MICROBIOLOGY					
TOTAL BACTERIA *	CFU/mL	STANDARD PLATE COUNT (SM: 9215 B)	1.1x10 ³	-	1
<i>Legionella</i> spp. #	CFU/L	ISO 11731:2017-05 (E)	NOT DETECTED	NOT DETECTED	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			COLOURLESS/CLEAR -		

: ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF MEDICAL SCIENCE (DMSC)
* : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

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

ND : NON-DETECTABLE.



(MISS CHAWEEWAN BOONLA)
LABORATORY SUPERVISOR

FEBRUARY 13, 2023



ANALYSIS REPORT

CUSTOMER NAME : LH MALL & HOTEL COMPANY LIMITED
ADDRESS : 356 RAMA III ROAD BANG KHLO BANG KHO LAEM BANGKOK 10120
CONTACT INFORMATION : TEL : 0 2343 8899 e-mail : wiat.r@terminal21.co.th
SAMPLING SOURCE : TERMINAL 21 RAMA 3
SAMPLE TYPE : COOLING WATER
SAMPLING DATE : JANUARY 28, 2023
SAMPLING TIME : 14:20 HOUR
SAMPLING METHOD * : GRAB
SAMPLING BY * : MR WEERAYUT MOKKAEW
ANALYZED BY : MISS WIPHAPHORN SAENG SOPHA

RECEIVED DATE : JANUARY 28, 2023
ANALYTICAL DATE : JANUARY 28 - FEBRUARY 5, 2023
REPORT NO. : 2023-U010066
WORK NO. : 2023-000642
ANALYSIS NO. : T23AB530-0006

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			ท่อน้ำทิ้งจาก หอผึ่งเย็น T23AB530-0006		
pH *	-	ELECTROMETRIC METHOD AT SITE (SM:4500-H* B)	8.4 (25°C)	-	-
FREE CHLORINE *	mg/L Cl ₂	MODIFIED DPD COLOURIMETRIC METHOD (AT SITE)	ND	-	0.1
MICROBIOLOGY					
TOTAL BACTERIA *	CFU/mL	STANDARD PLATE COUNT (SM: 9215 B)	1.6x10 ³	-	1
<i>Legionella</i> spp. #	CFU/L	ISO 11731:2017-05 (E)	NOT DETECTED	NOT DETECTED	-
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			COLOURLESS/CLEAR		

: ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF MEDICAL SCIENCE (DMSC)
* : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

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

ND : NON-DETECTABLE.



(MISS CHAWEEWAN BOONLA)
LABORATORY SUPERVISOR

FEBRUARY 13, 2023



ANALYSIS REPORT

CUSTOMER NAME	: LH MALL & HOTEL COMPANY LIMITED	RECEIVED DATE	: JANUARY 28, 2023
ADDRESS	: 356 RAMA III ROAD BANG KHLO BANG KHO LAEM BANGKOK 10120	ANALYTICAL DATE	: JANUARY 28-31, 2023
CONTACT INFORMATION	: TEL : 0 2343 8899 e-mail : wiwat.r@terminal21.co.th	REPORT NO.	: 2023-U010067
SAMPLING SOURCE	: TERMINAL 21 RAMA 3	WORK NO.	: 2023-000642
SAMPLE TYPE	: WATER SUPPLY	ANALYSIS NO.	: T23AB530-0007
SAMPLING DATE	: JANUARY 28, 2023		
SAMPLING TIME	: 14:25 HOUR		
SAMPLING METHOD ^c	: GRAB		
SAMPLING BY ^c	: MR WEERAYUT MOKKAEW		
ANALYZED BY	: MISS ARIYA THARAROM		

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			WATER SUPPLY T23AB530-0007	
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: 2540 C)	235	25
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			COLOURLESS/CLEAR	

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

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

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

FEBRUARY 13, 2023



ANALYSIS REPORT

CUSTOMER NAME	: LH MALL & HOTEL COMPANY LIMITED	RECEIVED DATE	: FEBRUARY 17, 2023
ADDRESS	: 356 RAMA III ROAD BANG KHLO BANG KHO LAEM BANGKOK 10120	ANALYTICAL DATE	: FEBRUARY 17-28, 2023
CONTACT INFORMATION	: TEL : 0 2343 8899 e-mail : wiwat.r@terminal21.co.th	REPORT NO.	: 2023-U014973
SAMPLING SOURCE	: TERMINAL 21 RAMA 3	WORK NO.	: 2023-000642
SAMPLE TYPE	: WASTEWATER	ANALYSIS NO.	: T23AC882-0001
SAMPLING DATE	: FEBRUARY 17, 2023		
SAMPLING TIME	: 14:35 HOUR		
SAMPLING METHOD	: GRAB		
SAMPLING BY	: MR WEERAYUT MOKKAEW		
ANALYZED BY	: MISS ARIYA THARAROM		

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			จุดบอปปรับสมดุ T23AC882-0001	
pH ^a	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	7.7 (29°C)	-
BIOCHEMICAL OXYGEN DEMAND ^a	mg/L	MEMBRANE ELECTRODE METHOD (SM: PART 4500-O G AND PART 5210 B)	201	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	41.7	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAO.007 (TOTAL DISSOLVED SOLIDS DRIED AT 103-105 °C); SM: PART 2540 C	470	25
SETTLEABLE SOLIDS ^c	mL/L	IMHOFF CONE (SM: PART 2540 F)	< 0.1	0.1
SULPHIDE ^b	mg/L	IODOMETRIC METHOD (SM: PART 4500-S ²⁻ F)	3.0	0.50
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: PART 4500-Norg C	51.9	1.5
FAT, OIL AND GREASE ^c	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)	ND	3



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			จุดบอประับสมดุ T23AC882-0001	
MICROBIOLOGY				
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 B)	>160,000	1.8
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 E)	>160,000	1.8
SAMPLE CONDITION				
WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN	

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

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

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

ND : NON-DETECTABLE.



(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

MARCH 2, 2023

ANALYSIS REPORT

CUSTOMER NAME : LH MALL & HOTEL COMPANY LIMITED
ADDRESS : 356 RAMA III ROAD BANG KHLO BANG KHO LAEM BANGKOK 10120
CONTACT INFORMATION : TEL : 0 2343 8899 e-mail : wiwat.r@terminal21.co.th
SAMPLING SOURCE : TERMINAL 21 RAMA 3
SAMPLE TYPE : EFFLUENT
SAMPLING DATE : FEBRUARY 17, 2023
SAMPLING TIME : 14:40 HOUR
SAMPLING METHOD : GRAB
SAMPLING BY : MR WEERAYUT MOKKAEW
ANALYZED BY : MISS ARIYA THARAROM

RECEIVED DATE : FEBRUARY 17, 2023
ANALYTICAL DATE : FEBRUARY 17-27, 2023
REPORT NO. : 2023-U014974
WORK NO. : 2023-000642
ANALYSIS NO. : T23AC882-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดบอพักน้ำใส T23AC882-0002		
pH ^a	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	7.8 (30°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	MEMBRANE ELECTRODE METHOD (SM: PART 4500-O G AND PART 5210 B)	ND	≤ 20	2.0
SUSPENDED SOLIDS ^c	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	ND	≤ 30	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAO.007 (TOTAL DISSOLVED SOLIDS DRIED AT 103-105 °C); SM: PART 2540 C	497	500*	25
SETTLABLE SOLIDS ^c	mL/L	IMHOFF CONE (SM: PART 2540 F)	< 0.1	≤ 0.5	0.1
SULPHIDE ^b	mg/L	IODOMETRIC METHOD (SM: PART 4500-S ²⁻ F)	< 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	< LOQ	≤ 35	1.5
FAT, OIL AND GREASE ^c	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)	ND	≤ 20	3



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดบ่งชี้ภายใน T23AC882-0002		
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 B)	54,000	-	1.8
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 E)	54,000	-	1.8
SAMPLE CONDITION					
WATER'S COLOUR/TURBID			YELLOW/CLEAR		
SEDIMENT			YELLOW		

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

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

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

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 122,
PART 125 D, DATED DECEMBER 29, 2005 AND VOL 139 SPECIAL PART 171 D, DATED JULY 21, 2022.

500* : PERMITTED EXCESS VALUE TO TOTAL DISSOLVED SOLIDS OF ACTUAL TAP WATER USED
(TOTAL DISSOLVED SOLIDS STANDARD VALUE OF TAP WATER QUALITY IS 1,000 mg/L).

ND : NON-DETECTABLE.

< LOQ : < LIMIT OF QUANTITATION (TOTAL KJELDAHL NITROGEN ≥ 1.5 AND < 5.0 mg/L).

[REDACTED]

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

MARCH 2, 2023

ANALYSIS REPORT

CUSTOMER NAME : LH MALL & HOTEL COMPANY LIMITED

ADDRESS : 356 RAMA III ROAD BANG KHLO BANG KHO LAEM BANGKOK 10120

CONTACT INFORMATION : TEL : 0 2343 8899 e-mail : wiwat.r@terminal21.co.th

SAMPLING SOURCE : TERMINAL 21 RAMA 3

SAMPLE TYPE : EFFLUENT

SAMPLING DATE : FEBRUARY 17, 2023

SAMPLING TIME : 14:45 HOUR

SAMPLING METHOD : GRAB

SAMPLING BY : MR WEERAYUT MOKKAEW

ANALYZED BY : MISS ARIYA THARAROM

RECEIVED DATE : FEBRUARY 17, 2023

ANALYTICAL DATE : FEBRUARY 17-27, 2023

REPORT NO. : 2023-U014975

WORK NO. : 2023-000642

ANALYSIS NO. : T23AC882-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดตรวจคุณภาพ น้ำพร้อมตะกอน ดัชนี: T23AC882-0003		
pH ^a	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	7.8 (30°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	MEMBRANE ELECTRODE METHOD (SM: PART 4500-O ₂ G AND PART 5210 B)	ND	≤ 20	2.0
SUSPENDED SOLIDS ^c	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	ND	≤ 30	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAO.007 (TOTAL DISSOLVED SOLIDS DRIED AT 103-105 °C); SM: PART 2540 C	509	500*	25
SETTLABLE SOLIDS ^c	mL/L	IMHOFF CONE (SM: PART 2540 F)	< 0.1	≤ 0.5	0.1
SULPHIDE ^b	mg/L	IODOMETRIC METHOD (SM: PART 4500-S ₂ ⁻ F)	< 0.50	≤ 1.0	0.50
TOTAL KJELDAHL NITROGEN ^c	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: PART 4500-Norg C	ND	≤ 35	1.5
FAT, OIL AND GREASE ^c	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)	ND	≤ 20	3



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดปอดตรวจคุณภาพน้ำพร้อมตะแกรงดัชนี: T23AC882-0003		
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 B)	4,900	-	1.8
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 E)	4,900	-	1.8
SAMPLE CONDITION					
WATER'S COLOUR/TURBID SEDIMENT			YELLOW/CLEAR YELLOW		

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

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

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

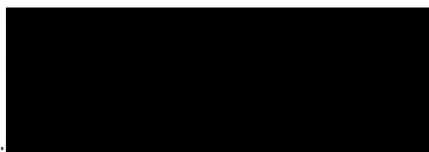
IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

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 122,
PART 125 D, DATED DECEMBER 29, 2005 AND VOL 139 SPECIAL PART 171 D, DATED JULY 21, 2022.

500* : PERMITTED EXCESS VALUE TO TOTAL DISSOLVED SOLIDS OF ACTUAL TAP WATER USED
(TOTAL DISSOLVED SOLIDS STANDARD VALUE OF TAP WATER QUALITY IS 1,000 mg/L).

ND : NON-DETECTABLE.



(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

MARCH 2, 2023

ANALYSIS REPORT

CUSTOMER NAME : LH MALL & HOTEL COMPANY LIMITED
ADDRESS : 356 RAMA III ROAD BANG KHLO BANG KHO LAEM BANGKOK 10120
CONTACT INFORMATION : TEL : 0 2343 8899 e-mail : wiwat.r@terminal21.co.th
SAMPLING SOURCE : TERMINAL 21 RAMA 3
SAMPLE TYPE : WATER SUPPLY
SAMPLING DATE : FEBRUARY 17, 2023
SAMPLING TIME : 14:55 HOUR
SAMPLING METHOD ^c : GRAB
SAMPLING BY ^c : MR WEERAYUT MOKKAEW
ANALYZED BY : MISS ARIYA THARAROM

RECEIVED DATE : FEBRUARY 17, 2023
ANALYTICAL DATE : FEBRUARY 17-23, 2023
REPORT NO. : 2023-U014976
WORK NO. : 2023-000642
ANALYSIS NO. : T23AC882-0004

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			WATER SUPPLY T23AC882-0004	
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	216	25
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			COLOURLESS/CLEAR	

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

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

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.



(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

MARCH 2, 2023



ANALYSIS REPORT

CUSTOMER NAME : LH MALL & HOTEL COMPANY LIMITED
ADDRESS : 356 RAMA III ROAD BANG KHLO BANG KHO LAEM BANGKOK 10120
CONTACT INFORMATION : TEL : 0 2343 8899 e-mail : wiwat.r@terminal21.co.th
SAMPLING SOURCE : TERMINAL 21 RAMA 3
SAMPLE TYPE : WASTEWATER
SAMPLING DATE : MARCH 20, 2023
SAMPLING TIME : 14:10 HOUR
SAMPLING METHOD : GRAB
SAMPLING BY : MR WEERAYUT MOKKAEW
ANALYZED BY : MISS AKSARIN BUNKONG

RECEIVED DATE : MARCH 20, 2023
ANALYTICAL DATE : MARCH 20-27, 2023
REPORT NO. : 2023-U022603
WORK NO. : 2023-000642
ANALYSIS NO. : T23AE980-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			จุดบอกรับสมมูล T23AE980-0001	
pH ^a	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	7.2 (32°C)	-
BIOCHEMICAL OXYGEN DEMAND ^a	mg/L	MEMBRANE ELECTRODE METHOD (SM: PART 5210 B AND PART 4500-O G)	165	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	52.1	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAO.007 (TOTAL DISSOLVED SOLIDS DRIED AT 103-105 °C); SM: PART 2540 C	472	25
SETTLEABLE SOLIDS ^c	mL/L	IMHOFF CONE (SM: PART 2540 F)	< 0.1	0.1
SULPHIDE ^b	mg/L	IODOMETRIC METHOD (SM: PART 4500-S ²⁻ F)	0.90	0.50
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: PART 4500-Norg C	51.7	1.5
FAT, OIL AND GREASE ^c	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)	ND	3
MICROBIOLOGY				
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 B)	>160,000	1.8
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 E)	>160,000	1.8
SAMPLE CONDITION				
WATER'S COLOUR/TURBID			YELLOW/TURBID	
SEDIMENT			BROWN	

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

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

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

ND : NON-DETECTABLE.



(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

MARCH 30, 2023



ANALYSIS REPORT

CUSTOMER NAME	: LH MALL & HOTEL COMPANY LIMITED	RECEIVED DATE	: MARCH 20, 2023
ADDRESS	: 356 RAMA III ROAD BANG KHLO BANG KHO LAEM BANGKOK 10120	ANALYTICAL DATE	: MARCH 20-27, 2023
CONTACT INFORMATION	: TEL : 0 2343 8899 e-mail : wiwat.r@terminal21.co.th	REPORT NO.	: 2023-U022604
SAMPLING SOURCE	: TERMINAL 21 RAMA 3	WORK NO.	: 2023-000642
SAMPLE TYPE	: EFFLUENT	ANALYSIS NO.	: T23AE980-0002
SAMPLING DATE	: MARCH 20, 2023		
SAMPLING TIME	: 14:15 HOUR		
SAMPLING METHOD	: GRAB		
SAMPLING BY	: MR WEERAYUT MOKKAEW		
ANALYZED BY	: MISS KALLAYA SOMPHONG		

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดบอพบกน้ำใส T23AE980-0002		
pH ^a	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	7.4 (31°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	MEMBRANE ELECTRODE METHOD (SM: PART 5210 B AND PART 4500-O G)	ND	≤ 20	2.0
SUSPENDED SOLIDS ^c	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	ND	≤ 30	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAO.007 (TOTAL DISSOLVED SOLIDS DRIED AT 103-105 °C); SM: PART 2540 C	442	500*	25
SETTLABLE SOLIDS ^c	mL/L	IMHOFF CONE (SM: PART 2540 F)	< 0.1	≤ 0.5	0.1
SULPHIDE ^b	mg/L	IODOMETRIC METHOD (SM: PART 4500-S ²⁻ F)	< 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	< LOQ	≤ 35	1.5
FAT, OIL AND GREASE ^c	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)	ND	≤ 20	3



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดบอพบักน้ำใส T23AE980-0002		
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 B)	4,900	-	1.8
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 E)	1,700	-	1.8
SAMPLE CONDITION					
WATER'S COLOUR/TURBID			YELLOW/CLEAR		
SEDIMENT			YELLOW		

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

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

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

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 122, PART 125 D, DATED DECEMBER 29, 2005 AND VOL 139 SPECIAL PART 171 D, DATED JULY 21, 2022.

500* : PERMITTED EXCESS VALUE TO TOTAL DISSOLVED SOLIDS OF ACTUAL TAP WATER USED
(TOTAL DISSOLVED SOLIDS STANDARD VALUE OF TAP WATER QUALITY IS 1,000 mg/L).

ND : NON-DETECTABLE.

< LOQ : < LIMIT OF QUANTITATION (TOTAL KJELDAHL NITROGEN ≥ 1.5 AND < 5.0 mg/L).

[REDACTED SIGNATURE]

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

MARCH 30, 2023

ANALYSIS REPORT

CUSTOMER NAME	: LH MALL & HOTEL COMPANY LIMITED	RECEIVED DATE	: MARCH 20, 2023
ADDRESS	: 356 RAMA III ROAD BANG KHLO BANG KHO LAEM BANGKOK 10120	ANALYTICAL DATE	: MARCH 20-27, 2023
CONTACT INFORMATION	: TEL : 0 2343 8899 e-mail : wiwat.r@terminal21.co.th	REPORT NO.	: 2023-U022605
SAMPLING SOURCE	: TERMINAL 21 RAMA 3	WORK NO.	: 2023-000642
SAMPLE TYPE	: EFFLUENT	ANALYSIS NO.	: T23AE980-0003
SAMPLING DATE	: MARCH 20, 2023		
SAMPLING TIME	: 14:30 HOUR		
SAMPLING METHOD	: GRAB		
SAMPLING BY	: MR WEERAYUT MOKKAEW		
ANALYZED BY	: MISS ARIYA THARAROM		

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดบอดตรวจคุณภาพ น้ำพร้อมตะกอน ดัชนี: T23AE980-0003		
pH ^a	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	7.6 (31°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	MEMBRANE ELECTRODE METHOD (SM: PART 5210 B AND PART 4500-O G)	ND	≤ 20	2.0
SUSPENDED SOLIDS ^c	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	ND	≤ 30	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAO.007 (TOTAL DISSOLVED SOLIDS DRIED AT 103-105 °C); SM: PART 2540 C	454	500*	25
SETTLABLE SOLIDS ^c	mL/L	IMHOFF CONE (SM: PART 2540 F)	< 0.1	≤ 0.5	0.1
SULPHIDE ^b	mg/L	IODOMETRIC METHOD (SM: PART 4500-S ²⁻ F)	< 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	< LOQ	≤ 35	1.5
FAT, OIL AND GREASE ^c	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)	ND	≤ 20	3



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดบอดตรวจคุณภาพน้ำพร้อมตะแกรงดัชนี T23AE980-0003		
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221B)	13,000	-	1.8
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221E)	4,900	-	1.8
SAMPLE CONDITION					
WATER'S COLOUR/TURBID SEDIMENT			YELLOW/CLEAR YELLOW		

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

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

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

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 122,
PART 125 D, DATED DECEMBER 29, 2005 AND VOL 139 SPECIAL PART 171 D, DATED JULY 21, 2022.

500* : PERMITTED EXCESS VALUE TO TOTAL DISSOLVED SOLIDS OF ACTUAL TAP WATER USED
(TOTAL DISSOLVED SOLIDS STANDARD VALUE OF TAP WATER QUALITY IS 1,000 mg/L).

ND : NON-DETECTABLE.

< LOQ : < LIMIT OF QUANTITATION (TOTAL KJELDAHL NITROGEN \geq 1.5 AND < 5.0 mg/L).

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

MARCH 30, 2023

ANALYSIS REPORT

CUSTOMER NAME : LH MALL & HOTEL COMPANY LIMITED
ADDRESS : 356 RAMA III ROAD BANG KHLO BANG KHO LAEM BANGKOK 10120
CONTACT INFORMATION : TEL : 0 2343 8899 e-mail : wiat.r@terminal21.co.th
SAMPLING SOURCE : TERMINAL 21 RAMA 3
SAMPLE TYPE : WATER SUPPLY
SAMPLING DATE : MARCH 20, 2023
SAMPLING TIME : 14:20 HOUR
SAMPLING METHOD ^c : GRAB
SAMPLING BY ^c : MR WEERAYUT MOKKAEW
ANALYZED BY : MISS ARIYA THARAROM

RECEIVED DATE : MARCH 20, 2023
ANALYTICAL DATE : MARCH 20-22, 2023
REPORT NO. : 2023-U022606
WORK NO. : 2023-000642
ANALYSIS NO. : T23AE980-0004

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			WATER SUPPLY T23AE980-0004	
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	214	25
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			COLOURLESS/CLEAR -	

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

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

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.



(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

MARCH 30, 2023



ANALYSIS REPORT

CUSTOMER NAME : LH MALL & HOTEL COMPANY LIMITED
ADDRESS : 356 RAMA III ROAD BANG KHLO BANG KHO LAEM BANGKOK 10120
CONTACT INFORMATION : TEL : 0 2343 8899 e-mail : wiat.r@terminal21.co.th
SAMPLING SOURCE : TERMINAL 21 RAMA 3
SAMPLE TYPE : WASTEWATER
SAMPLING DATE : APRIL 21, 2023
SAMPLING TIME : 14:10 HOUR
SAMPLING METHOD ^c : GRAB
SAMPLING BY ^c : MR SUKSAN BOONLEANG
ANALYZED BY : MISS AKSARIN BUNKONG
RECEIVED DATE : APRIL 21, 2023
ANALYTICAL DATE : APRIL 21 - MAY 2, 2023
REPORT NO. : 2023-U032473
WORK NO. : 2023-000642
ANALYSIS NO. : T23AH122-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			จุดบ่งชี้ระบบสมมูล T23AH122-0001	
pH ^c	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	7.1 (32°C)	-
BIOCHEMICAL OXYGEN DEMAND ^a	mg/L	MEMBRANE ELECTRODE METHOD (SM: PART 5210 B AND PART 4500-O G)	418	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	604	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAO.007 (TOTAL DISSOLVED SOLIDS DRIED AT 103-105 °C); SM: PART 2540 C	353	25
SETTLEABLE SOLIDS ^c	mL/L	IMHOFF CONE (SM: PART 2540 F)	40.0	0.1
SULPHIDE ^b	mg/L	IODOMETRIC METHOD (SM: PART 4500-S ²⁻ F)	1.3	0.50
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: PART 4500-Norg C	71.8	1.5
FAT, OIL AND GREASE ^a	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)	16	3
MICROBIOLOGY				
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 B)	>160,000	1.8
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 E)	>160,000	1.8
SAMPLE CONDITION				
WATER'S COLOUR/TURBID			YELLOW/TURBID	
SEDIMENT			BROWN	

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

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

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

MAY 9, 2023



ANALYSIS REPORT

CUSTOMER NAME : LH MALL & HOTEL COMPANY LIMITED
ADDRESS : 356 RAMA III ROAD BANG KHLO BANG KHO LAEM BANGKOK 10120
CONTACT INFORMATION : TEL : 0 2343 8899 e-mail : wiat.r@terminal21.co.th
SAMPLING SOURCE : TERMINAL 21 RAMA 3
SAMPLE TYPE : EFFLUENT
SAMPLING DATE : APRIL 21, 2023
SAMPLING TIME : 14:20 HOUR
SAMPLING METHOD ° : GRAB
SAMPLING BY ° : MR SUKSAN BOONLEANG
ANALYZED BY : MISS ARIYA THARAROM

RECEIVED DATE : APRIL 21, 2023
ANALYTICAL DATE : APRIL 21 - MAY 2, 2023
REPORT NO. : 2023-U032474
WORK NO. : 2023-000642
ANALYSIS NO. : T23AH122-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดบ่อพักน้ำใส T23AH122-0002		
pH °	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	7.4 (33°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND °	mg/L	MEMBRANE ELECTRODE METHOD (SM: PART 5210 B AND PART 4500-O G)	ND	≤ 20	2.0
SUSPENDED SOLIDS °	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	ND	≤ 30	5.0
TOTAL DISSOLVED SOLIDS °	mg/L	IN-HOUSE METHOD: UAE.TP.WAO.007 (TOTAL DISSOLVED SOLIDS DRIED AT 103-105 °C); SM: PART 2540 C	441	500*	25
SETTLEABLE SOLIDS °	mL/L	IMHOFF CONE (SM: PART 2540 F)	< 0.1	≤ 0.5	0.1
SULPHIDE °	mg/L	IODOMETRIC METHOD (SM: PART 4500-S ²⁻ F)	< 0.50	≤ 1.0	0.50
TOTAL KJELDAHL NITROGEN °	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: PART 4500-Norg C	< LOQ	≤ 35	1.5
FAT, OIL AND GREASE °	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)	ND	≤ 20	3



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดบ่งชี้ค่าใน T23AH122-0002		
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221B)	11,000	-	1.8
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 E)	1,400	-	1.8
SAMPLE CONDITION					
WATER'S COLOUR/TURBID			YELLOW/CLEAR		
SEDIMENT			YELLOW		

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

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

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

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 122, PART 125 D, DATED DECEMBER 29, 2005 AND VOL 139 SPECIAL PART 171 D, DATED JULY 21, 2022.

500* : PERMITTED EXCESS VALUE TO TOTAL DISSOLVED SOLIDS OF ACTUAL TAP WATER USED

ND : NON-DETECTABLE.

< LOQ : < LIMIT OF QUANTITATION (TOTAL KJELDAHL NITROGEN \geq 1.5 AND < 5.0 mg/L).



(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

MAY 9, 2023

ANALYSIS REPORT

CUSTOMER NAME : LH MALL & HOTEL COMPANY LIMITED
ADDRESS : 356 RAMA III ROAD BANG KHLO BANG KHO LAEM BANGKOK 10120
CONTACT INFORMATION : TEL : 0 2343 8899 e-mail : wiwat.r@terminal21.co.th
SAMPLING SOURCE : TERMINAL 21 RAMA 3
SAMPLE TYPE : EFFLUENT
SAMPLING DATE : APRIL 21, 2023
SAMPLING TIME : 14:35 HOUR
SAMPLING METHOD ° : GRAB
SAMPLING BY ° : MR SUKSAN BOONLEANG
ANALYZED BY : MISS ARIYA THARAROM

RECEIVED DATE : APRIL 21, 2023
ANALYTICAL DATE : APRIL 21 - MAY 2, 2023
REPORT NO. : 2023-U032476
WORK NO. : 2023-000642
ANALYSIS NO. : T23AH122-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดบอดตรวจคุณภาพน้ำพร้อมตะกอน ดัชนี T23AH122-0003		
pH °	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	7.7 (34°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND °	mg/L	MEMBRANE ELECTRODE METHOD (SM: PART 5210 B AND PART 4500-O G)	ND	≤ 20	2.0
SUSPENDED SOLIDS °	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	ND	≤ 30	5.0
TOTAL DISSOLVED SOLIDS °	mg/L	IN-HOUSE METHOD: UAE.TP.WAO.007 (TOTAL DISSOLVED SOLIDS DRIED AT 103-105 °C); SM: PART 2540 C	432	500*	25
SETTLABLE SOLIDS °	mL/L	IMHOFF CONE (SM: PART 2540 F)	< 0.1	≤ 0.5	0.1
SULPHIDE °	mg/L	IODOMETRIC METHOD (SM: PART 4500-S ²⁻ F)	< 0.50	≤ 1.0	0.50
TOTAL KJELDAHL NITROGEN °	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: PART 4500-Norg C	< LOQ	≤ 35	1.5
FAT, OIL AND GREASE °	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)	ND	≤ 20	3



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดบอดตรวจคุณภาพน้ำพร้อมตะกอน ดัชนี T23AH122-0003		
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221B)	13,000	-	1.8
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221E)	7,900	-	1.8
SAMPLE CONDITION					
WATER'S COLOUR/TURBID SEDIMENT			YELLOW/CLEAR YELLOW		

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

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

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

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 122,
PART 125 D, DATED DECEMBER 29, 2005 AND VOL 139 SPECIAL PART 171 D, DATED JULY 21, 2022.

500* : PERMITTED EXCESS VALUE TO TOTAL DISSOLVED SOLIDS OF ACTUAL TAP WATER USED

ND : NON-DETECTABLE.

< LOQ : < LIMIT OF QUANTITATION (TOTAL KJELDAHL NITROGEN \geq 1.5 AND < 5.0 mg/L).

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

MAY 9, 2023

ANALYSIS REPORT

CUSTOMER NAME : LH MALL & HOTEL COMPANY LIMITED
ADDRESS : 356 RAMA III ROAD BANG KHLO BANG KHO LAEM BANGKOK 10120
CONTACT INFORMATION : TEL : 0 2343 8899 e-mail : wiwat.r@terminal21.co.th
SAMPLING SOURCE : TERMINAL 21 RAMA 3
SAMPLE TYPE : WATER SUPPLY
SAMPLING DATE : APRIL 21, 2023
SAMPLING TIME : 14:25 HOUR
SAMPLING METHOD ^c : GRAB
SAMPLING BY ^c : MR SUKSAN BOONLEANG
ANALYZED BY : MISS ARIYA THARAROM

RECEIVED DATE : APRIL 21, 2023
ANALYTICAL DATE : APRIL 21-27, 2023
REPORT NO. : 2023-U032478
WORK NO. : 2023-000642
ANALYSIS NO. : T23AH122-0004

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			WATER SUPPLY T23AH122-0004	
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	186	25
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			COLOURLESS/CLEAR -	

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

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

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

MAY 9, 2023



ANALYSIS REPORT

CUSTOMER NAME : LH MALL & HOTEL COMPANY LIMITED
ADDRESS : 356 RAMA III ROAD BANG KHLO BANG KHO LAEM BANGKOK 10120
CONTACT INFORMATION : TEL : 0 2343 8899 e-mail : wiwat.r@terminal21.co.th
SAMPLING SOURCE : TERMINAL 21 RAMA 3
SAMPLE TYPE : WASTEWATER
SAMPLING DATE : MAY 16, 2023
SAMPLING TIME : 14:30 HOUR
SAMPLING METHOD ^c : GRAB
SAMPLING BY ^c : MR SUKSAN BOONLEANG
ANALYZED BY : MISS AKSARIN BUNKONG

RECEIVED DATE : MAY 16, 2023
ANALYTICAL DATE : MAY 16-24, 2023
REPORT NO. : 2023-U040302
WORK NO. : 2023-000642
ANALYSIS NO. : T23AI867-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			จุดบ่งชี้รับสมมติ T23AI867-0001	
pH ^c	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	7.0 (32°C)	-
BIOCHEMICAL OXYGEN DEMAND ^a	mg/L	MEMBRANE ELECTRODE METHOD (SM: PART 5210 B AND PART 4500-O G)	236	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	48.9	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAO.007 (TOTAL DISSOLVED SOLIDS DRIED AT 103-105 °C); SM: PART 2540 C	422	25
SETTLEABLE SOLIDS ^c	mL/L	IMHOFF CONE (SM: PART 2540 F)	< 0.1	0.1
SULPHIDE ^b	mg/L	IODOMETRIC METHOD (SM: PART 4500-S ²⁻ F)	1.1	0.50
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: PART 4500-Norg C	49.4	15
FAT, OIL AND GREASE ^c	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)	ND	3
MICROBIOLOGY				
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 B)	>160,000	1.8
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 E)	>160,000	1.8
SAMPLE CONDITION				
WATER'S COLOUR/TURBID			YELLOW/TURBID	
SEDIMENT			BROWN	

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

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

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

ND : NON-DETECTABLE.



(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

MAY 26, 2023



ANALYSIS REPORT

CUSTOMER NAME : LH MALL & HOTEL COMPANY LIMITED
ADDRESS : 356 RAMA III ROAD BANG KHLO BANG KHO LAEM BANGKOK 10120
CONTACT INFORMATION : TEL : 0 2343 8899 e-mail : wiwat.r@terminal21.co.th
SAMPLING SOURCE : TERMINAL 21 RAMA 3
SAMPLE TYPE : EFFLUENT
SAMPLING DATE : MAY 16, 2023
SAMPLING TIME : 14:35 HOUR
SAMPLING METHOD ° : GRAB
SAMPLING BY ° : MR SUKSAN BOONLEANG
ANALYZED BY : MISS ARIYA THARAROM

RECEIVED DATE : MAY 16, 2023
ANALYTICAL DATE : MAY 16-24, 2023
REPORT NO. : 2023-U040303
WORK NO. : 2023-000642
ANALYSIS NO. : T23AI867-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดบอพักน้ำใส T23AI867-0002		
pH °	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H+ B)	7.6 (34°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND °	mg/L	MEMBRANE ELECTRODE METHOD (SM: PART 5210 B AND PART 4500-O G)	ND	≤ 20	2.0
SUSPENDED SOLIDS °	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	ND	≤ 30	5.0
TOTAL DISSOLVED SOLIDS °	mg/L	IN-HOUSE METHOD: UAE.TP.WAO.007 (TOTAL DISSOLVED SOLIDS DRIED AT 103-105 °C); SM: PART 2540 C	476	500*	25
SETTLABLE SOLIDS °	mL/L	IMHOFF CONE (SM: PART 2540 F)	< 0.1	≤ 0.5	0.1
SULPHIDE °	mg/L	IODOMETRIC METHOD (SM: PART 4500-S ²⁻ F)	< 0.50	≤ 1.0	0.50
TOTAL KJELDAHL NITROGEN °	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: PART 4500-Norg C	< LOQ	≤ 35	1.5
FAT, OIL AND GREASE °	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)	ND	≤ 20	3



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดบ่งชี้ น้ำใน T23A1867-0002		
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221B)	4,900	-	1.8
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221E)	1,400	-	1.8
SAMPLE CONDITION					
WATER'S COLOUR/TURBID SEDIMENT			YELLOW/CLEAR BROWN		

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

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

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

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 122, PART 125 D, DATED DECEMBER 29, 2005 AND VOL 139 SPECIAL PART 171 D, DATED JULY 21, 2022.

500* : PERMITTED EXCESS VALUE TO TOTAL DISSOLVED SOLIDS OF ACTUAL TAP WATER USED.

ND : NON-DETECTABLE.

< LOQ : < LIMIT OF QUANTITATION (TOTAL KJELDAHL NITROGEN \geq 1.5 AND < 5.0 mg/L).

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

MAY 26, 2023

ANALYSIS REPORT

CUSTOMER NAME : LH MALL & HOTEL COMPANY LIMITED
ADDRESS : 356 RAMA III ROAD BANG KHLO BANG KHO LAEM BANGKOK 10120
CONTACT INFORMATION : TEL : 0 2343 8899 e-mail : wiat.r@terminal21.co.th
SAMPLING SOURCE : TERMINAL 21 RAMA 3
SAMPLE TYPE : EFFLUENT
SAMPLING DATE : MAY 16, 2023
SAMPLING TIME : 14:45 HOUR
SAMPLING METHOD ° : GRAB
SAMPLING BY ° : MR SUKSAN BOONLEANG
ANALYZED BY : MISS ARIYA THARAROM

RECEIVED DATE : MAY 16, 2023
ANALYTICAL DATE : MAY 16-24, 2023
REPORT NO. : 2023-U040304
WORK NO. : 2023-000642
ANALYSIS NO. : T23AI867-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดบอดตรวจคุณภาพน้ำพร้อมตะกอน ดัชนี T23AI867-0003		
pH °	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	7.7 (34°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND °	mg/L	MEMBRANE ELECTRODE METHOD (SM: PART 5210 B AND PART 4500-O G)	ND	≤ 20	2.0
SUSPENDED SOLIDS °	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	ND	≤ 30	5.0
TOTAL DISSOLVED SOLIDS °	mg/L	IN-HOUSE METHOD: UAE.TP.WAO.007 (TOTAL DISSOLVED SOLIDS DRIED AT 103-105 °C); SM: PART 2540 C	488	500*	25
SETTLEABLE SOLIDS °	mL/L	IMHOFF CONE (SM: PART 2540 F)	< 0.1	≤ 0.5	0.1
SULPHIDE °	mg/L	IODOMETRIC METHOD (SM: PART 4500-S ²⁻ F)	< 0.50	≤ 1.0	0.50
TOTAL KJELDAHL NITROGEN °	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: PART 4500-Norg C	< LOQ	≤ 35	1.5
FAT, OIL AND GREASE °	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)	ND	≤ 20	3



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดบอดตรวจคุณภาพน้ำพร้อมตะกอน ดัชนี: T23AI867-0003		
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221B)	35,000	-	1.8
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 E)	17,000	-	1.8
SAMPLE CONDITION					
WATER'S COLOUR/TURBID SEDIMENT			YELLOW/CLEAR		

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

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

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

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 122,
PART 125 D, DATED DECEMBER 29, 2005 AND VOL 139 SPECIAL PART 171 D, DATED JULY 21, 2022.

500* : PERMITTED EXCESS VALUE TO TOTAL DISSOLVED SOLIDS OF ACTUAL TAP WATER USED.

ND : NON-DETECTABLE.

< LOQ : < LIMIT OF QUANTITATION (TOTAL KJELDAHL NITROGEN \geq 1.5 AND < 5.0 mg/L).

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

MAY 26, 2023

ANALYSIS REPORT

CUSTOMER NAME : LH MALL & HOTEL COMPANY LIMITED
ADDRESS : 356 RAMA III ROAD BANG KHLO BANG KHO LAEM BANGKOK 10120
CONTACT INFORMATION : TEL : 0 2343 8899 e-mail : wiwat.r@terminal21.co.th
SAMPLING SOURCE : TERMINAL 21 RAMA 3
SAMPLE TYPE : WATER SUPPLY
SAMPLING DATE : MAY 16, 2023
SAMPLING TIME : 14:40 HOUR
SAMPLING METHOD ^c : GRAB
SAMPLING BY ^c : MR SUKSAN BOONLEANG
ANALYZED BY : MISS ARIYA THARAROM

RECEIVED DATE : MAY 16, 2023
ANALYTICAL DATE : MAY 16-24, 2023
REPORT NO. : 2023-U040306
WORK NO. : 2023-000642
ANALYSIS NO. : T23AI867-0004

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			WATER SUPPLY T23AI867-0004	
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	200	25
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			COLOURLESS/CLEAR	

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

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

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.



(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

MAY 26, 2023



ANALYSIS REPORT

CUSTOMER NAME : LH MALL & HOTEL COMPANY LIMITED
ADDRESS : 356 RAMA III ROAD BANG KHLO BANG KHO LAEM BANGKOK 10120
CONTACT INFORMATION : TEL : 0 2343 8899 e-mail : wiat.r@terminal21.co.th
SAMPLING SOURCE : TERMINAL 21 RAMA 3
SAMPLE TYPE : WASTEWATER
SAMPLING DATE : JUNE 23, 2023
SAMPLING TIME : 11:40 HOUR
SAMPLING METHOD ° : GRAB, GRAB AND STERILE TECHNIQUE
SAMPLING BY ° : MR SUKSAN BOONLEANG
ANALYZED BY : MISS AKSARIN BUNKONG

RECEIVED DATE : JUNE 23, 2023
ANALYTICAL DATE : JUNE 23-JULY 4, 2023
REPORT NO. : 2023-U054505
WORK NO. : 2023-000642
ANALYSIS NO. : T23AL979-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			จุดบ่งชี้รับสมมูล T23AL979-0001	
pH °	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	6.9 (31°C)	-
BIOCHEMICAL OXYGEN DEMAND °	mg/L	MEMBRANE ELECTRODE METHOD (SM: PART 5210 B AND PART 4500-O G)	204	2.0
SUSPENDED SOLIDS °	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	39.1	5.0
TOTAL DISSOLVED SOLIDS °	mg/L	IN-HOUSE METHOD: UAE.TP.WAO.007 (TOTAL DISSOLVED SOLIDS DRIED AT 103-105 °C); SM: PART 2540 C	471	25
SETTLEABLE SOLIDS °	mL/L	IMHOFF CONE (SM: PART 2540 F)	0.6	0.1
SULPHIDE °	mg/L	IODOMETRIC METHOD (SM: PART 4500-S ₂ F)	2.5	0.50
TOTAL KJELDAHL NITROGEN °	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: PART 4500-Norg C	49.6	1.5
FAT, OIL AND GREASE °	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)	4	3
MICROBIOLOGY				
COLIFORM BACTERIA °	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 B)	>160,000	1.8
FAECAL COLIFORM BACTERIA °	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 E)	>160,000	1.8
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN	

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

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

° : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.
SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

JULY 6, 2023



ANALYSIS REPORT

CUSTOMER NAME : LH MALL & HOTEL COMPANY LIMITED
ADDRESS : 356 RAMA III ROAD BANG KHLO BANG KHO LAEM BANGKOK 10120
CONTACT INFORMATION : TEL : 0 2343 8899 e-mail : wiwat.r@terminal21.co.th
SAMPLING SOURCE : TERMINAL 21 RAMA 3
SAMPLE TYPE : EFFLUENT
SAMPLING DATE : JUNE 23, 2023
SAMPLING TIME : 11:45 HOUR
SAMPLING METHOD ° : GRAB, GRAB AND STERILE TECHNIQUE
SAMPLING BY ° : MR SUKSAN BOONLEANG
ANALYZED BY : MISS NAPAPORN KHUNNOKKHUM

RECEIVED DATE : JUNE 23, 2023
ANALYTICAL DATE : JUNE 23-JULY 4, 2023
REPORT NO. : 2023-U054506
WORK NO. : 2023-000642
ANALYSIS NO. : T23AL979-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดบ่งชี้ค่าใน T23AL979-0002		
pH °	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	7.5 (33°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND °	mg/L	MEMBRANE ELECTRODE METHOD (SM: PART 5210 B AND PART 4500-O G)	ND	≤ 20	2.0
SUSPENDED SOLIDS °	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	ND	≤ 30	5.0
TOTAL DISSOLVED SOLIDS °	mg/L	IN-HOUSE METHOD: UAE.TP.WAO.007 (TOTAL DISSOLVED SOLIDS DRIED AT 103-105 °C); SM: PART 2540 C	449	500*	25
SETTLEABLE SOLIDS °	mL/L	IMHOFF CONE (SM: PART 2540 F)	< 0.1	≤ 0.5	0.1
SULPHIDE °	mg/L	IODOMETRIC METHOD (SM: PART 4500-S ²⁻ F)	< 0.50	≤ 1.0	0.50
TOTAL KJELDAHL NITROGEN °	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: PART 4500-Norg C	6.4	≤ 35	1.5
FAT, OIL AND GREASE °	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)	ND	≤ 20	3



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดบดพักน้ำใส T23AL979-0002		
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221B)	2,100	-	1.8
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221E)	1,400	-	1.8
SAMPLE CONDITION					
WATER'S COLOUR/TURBID SEDIMENT			YELLOW/CLEAR BROWN		

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

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

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

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 122,
PART 125 D, DATED DECEMBER 29, 2005 AND VOL 139 SPECIAL PART 171 D, DATED JULY 21, 2022.

500* : PERMITTED EXCESS VALUE TO TOTAL DISSOLVED SOLIDS OF ACTUAL TAP WATER USED.

ND : NON-DETECTABLE.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

JULY 6, 2023

ANALYSIS REPORT

CUSTOMER NAME : LH MALL & HOTEL COMPANY LIMITED
ADDRESS : 356 RAMA III ROAD BANG KHLO BANG KHO LAEM BANGKOK 10120
CONTACT INFORMATION : TEL : 0 2343 8899 e-mail : wiat.r@terminal21.co.th
SAMPLING SOURCE : TERMINAL 21 RAMA 3
SAMPLE TYPE : EFFLUENT
SAMPLING DATE : JUNE 23, 2023
SAMPLING TIME : 12:00 HOUR
SAMPLING METHOD ° : GRAB, GRAB AND STERILE TECHNIQUE
SAMPLING BY ° : MR SUKSAN BOONLEANG
ANALYZED BY : MISS NAPAPORN KHUNNOKKHUM

RECEIVED DATE : JUNE 23, 2023
ANALYTICAL DATE : JUNE 23-JULY 4, 2023
REPORT NO. : 2023-U054507
WORK NO. : 2023-000642
ANALYSIS NO. : T23AL979-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดบอดตรวจคุณภาพน้ำพร้อมตะกอน ดัชนี T23AL979-0003		
pH °	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H* B)	7.6 (33°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND °	mg/L	MEMBRANE ELECTRODE METHOD (SM: PART 5210 B AND PART 4500-O G)	ND	≤ 20	2.0
SUSPENDED SOLIDS °	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	ND	≤ 30	5.0
TOTAL DISSOLVED SOLIDS °	mg/L	IN-HOUSE METHOD: UAE.TP.WAO.007 (TOTAL DISSOLVED SOLIDS DRIED AT 103-105 °C); SM: PART 2540 C	445	500*	25
SETTLEABLE SOLIDS °	mL/L	IMHOFF CONE (SM: PART 2540 F)	< 0.1	≤ 0.5	0.1
SULPHIDE °	mg/L	IODOMETRIC METHOD (SM: PART 4500-S ² -F)	< 0.50	≤ 1.0	0.50
TOTAL KJELDAHL NITROGEN °	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: PART 4500-Norg C	< LOQ	≤ 35	1.5
FAT, OIL AND GREASE °	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)	ND	≤ 20	3



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดบอดตรวจคุณภาพน้ำพร้อมตะกอน ดัชนี T23AL979-0003		
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221B)	790	-	1.8
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221E)	790	-	1.8
SAMPLE CONDITION					
WATER'S COLOUR/TURBID			YELLOW/CLEAR		
SEDIMENT			YELLOW		

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

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

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

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 122,
PART 125 D, DATED DECEMBER 29, 2005 AND VOL 139 SPECIAL PART 171 D, DATED JULY 21, 2022.

500* : PERMITTED EXCESS VALUE TO TOTAL DISSOLVED SOLIDS OF ACTUAL TAP WATER USED.

ND : NON-DETECTABLE.

< LOQ : < LIMIT OF QUANTITATION (TOTAL KJELDAHL NITROGEN \geq 1.5 AND < 5.0 mg/L).

[Redacted Signature]

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

JULY 6, 2023

ANALYSIS REPORT

CUSTOMER NAME : LH MALL & HOTEL COMPANY LIMITED
ADDRESS : 356 RAMA III ROAD BANG KHLO BANG KHO LAEM BANGKOK 10120
CONTACT INFORMATION : TEL : 0 2343 8899 e-mail : wiwat.r@terminal21.co.th
SAMPLING SOURCE : TERMINAL 21 RAMA 3
SAMPLE TYPE : WATER SUPPLY
SAMPLING DATE : JUNE 23, 2023
SAMPLING TIME : 11:50 HOUR
SAMPLING METHOD ^c : GRAB
SAMPLING BY ^c : MR SUKSAN BOONLEANG
ANALYZED BY : MISS NAPAPORN KHUNNOKKHUM

RECEIVED DATE : JUNE 23, 2023
ANALYTICAL DATE : JUNE 23-JULY 3, 2023
REPORT NO. : 2023-U054508
WORK NO. : 2023-000642
ANALYSIS NO. : T23AL979-0004

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			WATER SUPPLY T23AL979-0004	
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	254	25
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			COLOURLESS/CLEAR	

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

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

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.



(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

JULY 6, 2023

