

ภาคผนวก ง

ผลการวิเคราะห์ทางห้องปฏิบัติการ

ภาคผนวก ง-1

ผลการวิเคราะห์คุณภาพน้ำทิ้ง

ANALYSIS REPORT

CUSTOMER NAME : AIA SATHORN TOWER
ADDRESS : 11/1 SOUTH SATHORN ROAD YAN NAWA SATHON BANGKOK 10120
CONTACT INFORMATION : TEL : 0 2286 5929 Ext.130 e-mail : Waipoj.thongngam@ap.jll.com
SAMPLING SOURCE : AIA SATHORN TOWER
SAMPLE TYPE : EFFLUENT
SAMPLING DATE : JANUARY 6, 2023
SAMPLING TIME : 13:35 HOUR
SAMPLING METHOD : GRAB, GRAB AND STERILE TECHNIQUE
SAMPLING BY : MR WEERAYUT MOKKAEW
ANALYZED BY : MISS AMONRAT PUTTALLEE

RECEIVED DATE : JANUARY 6, 2023
ANALYTICAL DATE : JANUARY 6-12, 2023
REPORT NO. : 2023-U010401
WORK NO. : 2020-003066
ANALYSIS NO. : T23AA177-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			ข้อพิพาทสุดท้าย พร้อมคณะกรรมการ T23AA177-0001		
pH ^a	-	ELECTROMETRIC METHOD AT SITE (SM:4500-H ⁺ B)	7.8 (28°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O C 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 ^{a b}	mg/L	IN-HOUSE METHOD: UAE.TP.WAO.007 (TOTAL DISSOLVED SOLIDS DRIED AT 103-105 °C); SM 2540 C	621	500*	25
SETTLABLE 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
			บ่อพักน้ำสุดท้าย พร้อมตะแกรงดักขยะ T23AA177-0001		
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	240	-	1.8
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 E)	49	-	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.

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).

^ : SAMPLING AT 13:30 HOUR ON JANUARY 30, 2023, ANALYSIS NO. T23AB553-0001
(ANALYTICAL DATE : JANUARY 30 - FEBRUARY 1, 2023)

THE REASON FOR ISSUING THE NEW REPORT IS SUBSTITUTE RESULT.

SUBSTITUTED REPORT FOR REPORT NO. 2023-U003439, DATED JANUARY 16, 2023.



(MISS BENJAWAN VIRIYOTHAI)
LABORATORY SUPERVISOR

FEBRUARY 15, 2023

ANALYSIS REPORT

CUSTOMER NAME : AIA SATHORN TOWER
ADDRESS : 11/1 SOUTH SATHORN ROAD YAN NAWA SATHON BANGKOK 10120
CONTACT INFORMATION : TEL : 0 2286 5929 Ext.130 e-mail : Waipoj.thongngam@ap.jll.com
SAMPLING SOURCE : AIA SATHORN TOWER
SAMPLE TYPE : WASTEWATER
SAMPLING DATE : JANUARY 6, 2023
SAMPLING TIME : 13:45 HOUR
SAMPLING METHOD : GRAB, GRAB AND STERILE TECHNIQUE
SAMPLING BY : MR WEERAYUT MOKKAEW
ANALYZED BY : MISS AMONRAT PUTTALEE

RECEIVED DATE : JANUARY 6, 2023
ANALYTICAL DATE : JANUARY 6-12, 2023
REPORT NO. : 2023-U003440
WORK NO. : 2020-003066
ANALYSIS NO. : T23AA177-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			ไม่พบสภาพ T23AA177-0002	
pH ^a	-	ELECTROMETRIC METHOD AT SITE (SM:4500-H ⁺ B)	7.8 (30°C)	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O C AND 5210 B)	66.8	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	19.4	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	549	25
SETTLABLE SOLIDS ^c	mL/L	IMHOFF CONE (SM: 2540 F)	< 0.1	0.1
SULPHIDE ^b	mg/L	IODOMETRIC METHOD (SM: 4500-S ²⁻ F)	< 0.50	0.50
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: 4500-Norg C	25.0	1.5
FAT, OIL AND GREASE ^a	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: 5520 B)	ND	3
MICROBIOLOGY				
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	160,000	1.8
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 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.

(MISS BENJAWAN VIRIYOTHAI)
LABORATORY SUPERVISOR

JANUARY 16, 2023



ANALYSIS REPORT

CUSTOMER NAME	: AIA SATHORN TOWER	RECEIVED DATE	: JANUARY 6, 2023
ADDRESS	: 11/1 SOUTH SATHORN ROAD YAN NAWA SATHON BANGKOK 10120	ANALYTICAL DATE	: JANUARY 6-12, 2023
CONTACT INFORMATION	: TEL : 0 2286 5929 Ext.130 e-mail : Waipoj.thongngam@ap.jil.com	REPORT NO.	: 2023-U003441
SAMPLING SOURCE	: AIA SATHORN TOWER	WORK NO.	: 2020-003066
SAMPLE TYPE	: EFFLUENT	ANALYSIS NO.	: T23AA177-0003
SAMPLING DATE	: JANUARY 6, 2023		
SAMPLING TIME	: 13:40 HOUR		
SAMPLING METHOD	: GRAB, GRAB AND STERILE TECHNIQUE		
SAMPLING BY	: MR WEERAYUT MOKKAEW		
ANALYZED BY	: MISS AMONRAT PUTTALEE		

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			บอพักน้ำใส T23AA177-0003		
pH ^a	-	ELECTROMETRIC METHOD AT SITE (SM:4500-H ⁺ B)	7.5 (31°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O C AND 5210 B)	3.8	≤ 20	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	6.9	≤ 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	527	500*	25
SETTLABLE 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	12.3	≤ 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
			ข้อพิพาทใน T23AA177-0003		
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	3,300	-	1.8
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 E)	3,300	-	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.

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.

(MISS BENJAWAN VIRIYOTHAI)
LABORATORY SUPERVISOR

JANUARY 16, 2023

ANALYSIS REPORT

CUSTOMER NAME : AIA SATHORN TOWER
ADDRESS : 11/1 SOUTH SATHORN ROAD YAN NAWA SATHON BANGKOK 10120
CONTACT INFORMATION : TEL : 0 2286 5929 Ext.130 e-mail : Waipoj.thongngam@ap.jll.com
SAMPLING SOURCE : AIA SATHORN TOWER
SAMPLE TYPE : WATER SUPPLY
SAMPLING DATE : JANUARY 6, 2023
SAMPLING TIME : 13:50 HOUR
SAMPLING METHOD ^c : GRAB
SAMPLING BY ^c : MR WEERAYUT MOKKAEW
ANALYZED BY : MISS ARIYA THARAROM

RECEIVED DATE : JANUARY 6, 2023
ANALYTICAL DATE : JANUARY 6-10, 2023
REPORT NO. : 2023-U002831
WORK NO. : 2021-004258
ANALYSIS NO. : T23AA176-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			WATER SUPPLY T23AA176-0001	
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: 2540 C)	251	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

JANUARY 16, 2023



ANALYSIS REPORT

CUSTOMER NAME	: AIA SATHORN TOWER	RECEIVED DATE	: FEBRUARY 3, 2023
ADDRESS	: 11/1 SOUTH SATHORN ROAD YAN NAWA SATHON BANGKOK 10120	ANALYTICAL DATE	: FEBRUARY 3-10, 2023
CONTACT INFORMATION	: TEL : 0 2286 5929 Ext.130 e-mail : Waipoj.thongngam@ap.jll.com	REPORT NO.	: 2023-U010449
SAMPLING SOURCE	: AIA SATHORN TOWER	WORK NO.	: 2020-003066
SAMPLE TYPE	: EFFLUENT	ANALYSIS NO.	: T23AB902-0001
SAMPLING DATE	: FEBRUARY 3, 2023		
SAMPLING TIME	: 13:30 HOUR		
SAMPLING METHOD	: GRAB, GRAB AND STERILE TECHNIQUE		
SAMPLING BY	: MR WEERAYUT MOKKAEW		
ANALYZED BY	: MISS AMONRAT PUTTALEE		

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			ข้อพิพาทน้ำสุดท้าย พร้อมคณะกรรมการ T23AB902-0001		
pH ^a	-	ELECTROMETRIC METHOD AT SITE (SM:4500-H ⁺ B)	7.5 (29°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O C AND 5210 B)	10.6	≤ 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	684	500*	25
SETTLABLE 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	5.5	≤ 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
			บ่อพักน้ำสุดท้าย พร้อมตะแกรงดักขยะ T23AB902-0001		
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	1,700	-	1.8
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 E)	790	-	1.8
SAMPLE CONDITION					
WATER'S COLOUR/TURBID			YELLOW/CLEAR		
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.

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.

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.

(MISS BENJAWAN VIRIYOTHAI)
LABORATORY SUPERVISOR

FEBRUARY 15, 2023

ANALYSIS REPORT

CUSTOMER NAME	: AIA SATHORN TOWER	RECEIVED DATE	: FEBRUARY 3, 2023
ADDRESS	: 11/1 SOUTH SATHORN ROAD YAN NAWA SATHON BANGKOK 10120	ANALYTICAL DATE	: FEBRUARY 3-10, 2023
CONTACT INFORMATION	: TEL : 0 2286 5929 Ext.130 e-mail : Waipoj.thongngam@ap.jil.com	REPORT NO.	: 2023-U010450
SAMPLING SOURCE	: AIA SATHORN TOWER	WORK NO.	: 2020-003066
SAMPLE TYPE	: WASTEWATER	ANALYSIS NO.	: T23AB902-0002
SAMPLING DATE	: FEBRUARY 3, 2023		
SAMPLING TIME	: 13:40 HOUR		
SAMPLING METHOD	: GRAB, GRAB AND STERILE TECHNIQUE		
SAMPLING BY	: MR WEERAYUT MOKKAEW		
ANALYZED BY	: MISS AMONRAT PUTTALEE		

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			บ่อปรับสภาพ T23AB902-0002	
pH ^a	-	ELECTROMETRIC METHOD AT SITE (SM:4500-H ⁺ B)	7.6 (30°C)	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O C AND 5210 B)	36.5	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	19.1	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAO.007 (TOTAL DISSOLVED SOLIDS DRIED AT 103-105 °C); SM 2540 C	666	25
SETTLEABLE SOLIDS ^c	mL/L	IMHOFF CONE (SM: 2540 F)	< 0.1	0.1
SULPHIDE ^b	mg/L	IODOMETRIC METHOD (SM: 4500-S ²⁻ F)	< 0.50	0.50
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: 4500-Norg C	32.4	1.5
FAT, OIL AND GREASE ^a	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: 5520 B)	ND	3
MICROBIOLOGY				
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	54,000	1.8
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 E)	35,000	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.

(MISS BENJAWAN VIRIYOTHA)
LABORATORY SUPERVISOR

FEBRUARY 15, 2023



ANALYSIS REPORT

CUSTOMER NAME : AIA SATHORN TOWER
ADDRESS : 11/1 SOUTH SATHORN ROAD YAN NAWA SATHON BANGKOK 10120
CONTACT INFORMATION : TEL : 0 2286 5929 Ext.130 e-mail : Waipoj.thongngam@ap.jll.com
SAMPLING SOURCE : AIA SATHORN TOWER
SAMPLE TYPE : EFFLUENT
SAMPLING DATE : FEBRUARY 3, 2023
SAMPLING TIME : 13:35 HOUR
SAMPLING METHOD : GRAB, GRAB AND STERILE TECHNIQUE
SAMPLING BY : MR WEERAYUT MOKKAEW
ANALYZED BY : MISS AMONRAT PUTTALEE

RECEIVED DATE : FEBRUARY 3, 2023
ANALYTICAL DATE : FEBRUARY 3-10, 2023
REPORT NO. : 2023-U021738
WORK NO. : 2020-003066
ANALYSIS NO. : T23AB902-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			มอพักน้ำใส T23AB902-0003		
pH ^a	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	7.4 (30°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^{a c}	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	5.0	≤ 20	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	6.6	≤ 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	636	500*	25
SETTLEABLE 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	25.4	≤ 35	1.5
FAT, OIL AND GREASE ^a	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)	ND	≤ 20	3



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			บอพักน้ำใส T23AB902-0003		
MICROBIOLOGY					
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 E)	4,600	-	1.8
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 B)	7,000	-	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.

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.

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.

[^] : SAMPLING AT 14:40 HOUR ON FEBRUARY 20, 2023, ANALYSIS NO. T23AC991-0001 (ANALYTICAL DATE : FEBRUARY 21-26, 2023)

THE REASON FOR ISSUING THE NEW REPORT IS SUBSTITUTE RESULT.

SUBSTITUTED REPORT FOR REPORT NO. 2023-U010451, DATED FEBRUARY 15, 2023.

(MISS BENJAWAN VIRIYOTHAJ)
LABORATORY SUPERVISOR

MARCH 28, 2023

ANALYSIS REPORT

CUSTOMER NAME : AIA SATHORN TOWER
ADDRESS : 11/1 SOUTH SATHORN ROAD YAN NAWA SATHON BANGKOK 10120
CONTACT INFORMATION : TEL : 0 2286 5929 Ext.130 e-mail : Waipoj.thongngam@ap.jll.com
SAMPLING SOURCE : AIA SATHORN TOWER
SAMPLE TYPE : WATER SUPPLY
SAMPLING DATE : FEBRUARY 3, 2023
SAMPLING TIME : 13:45 HOUR
SAMPLING METHOD ^c : GRAB
SAMPLING BY ^c : MR WEERAYUT MOKKAEW
ANALYZED BY : MISS ARIYA THARAROM

RECEIVED DATE : FEBRUARY 3, 2023
ANALYTICAL DATE : FEBRUARY 3-9, 2023
REPORT NO. : 2023-U009848
WORK NO. : 2021-004258
ANALYSIS NO. : T23AB901-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			WATER SUPPLY T23AB901-0001	
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: 2540 C)	236	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 : AIA SATHORN TOWER
ADDRESS : 11/1 SOUTH SATHORN ROAD YAN NAWA SATHON BANGKOK 10120
CONTACT INFORMATION : TEL : 02 286 5929 ต่อ 130 e-mail : chalernpol.kaewlee@jll.com
SAMPLING SOURCE : AIA SATHORN TOWER
SAMPLE TYPE : EFFLUENT
SAMPLING DATE : MARCH 9, 2023
SAMPLING TIME : 14:20 HOUR
SAMPLING METHOD : GRAB, GRAB AND STERILE TECHNIQUE
SAMPLING BY : MR WEERAYUT MOKKAEW
ANALYZED BY : MISS ARIYA THARAROM

RECEIVED DATE : MARCH 9, 2023
ANALYTICAL DATE : MARCH 9-17, 2023
REPORT NO. : 2023-U033129
WORK NO. : 2020-003066
ANALYSIS NO. : T23AE187-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			ข้อพิพาทสุดท้าย พร้อมมติและแรงจูงใจ T23AE187-0001		
pH ^a	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	7.5 (31°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	4.5	≤ 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 ^{a b}	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	518	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
			บ่อพักน้ำสุดท้าย พร้อมตะแกรงดักขยะ T23AE187-0001		
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 B)	790	-	1.8
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 E)	790	-	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.

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

ND : NON-DETECTABLE.

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

[^] : SAMPLING AT 12:20 HOUR ON MARCH 23, 2023, ANALYSIS NO. T23AF245-0001 (ANALYTICAL DATE : MARCH 23-30, 2023)

THE REASON FOR ISSUING THE NEW REPORT IS SUBSTITUTE RESULT.

SUBSTITUTED REPORT FOR REPORT NO. 2023-U019258, DATED MARCH 17, 2023.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

MAY 16, 2023

ANALYSIS REPORT

CUSTOMER NAME	: AIA SATHORN TOWER	RECEIVED DATE	: MARCH 9, 2023
ADDRESS	: 11/1 SOUTH SATHORN ROAD YAN NAWA SATHON BANGKOK 10120	ANALYTICAL DATE	: MARCH 9-17, 2023
CONTACT INFORMATION	: TEL : 0 2286 5929 Ext.130 e-mail : Waipoj.thongngam@ap.jll.com	REPORT NO.	: 2023-U019259
SAMPLING SOURCE	: AIA SATHORN TOWER	WORK NO.	: 2020-003066
SAMPLE TYPE	: WASTEWATER	ANALYSIS NO.	: T23AE187-0002
SAMPLING DATE	: MARCH 9, 2023		
SAMPLING TIME	: 14:35 HOUR		
SAMPLING METHOD	: GRAB, GRAB AND STERILE TECHNIQUE		
SAMPLING BY	: MR WEERAYUT MOKKAEW		
ANALYZED BY	: MISS NAPAPORN KHUNNOKKHUM		

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			ไม่พบมลพิษ T23AE187-0002	
pH ^a	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	7.5 (32°C)	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 4500-O C AND PART 5210 B)	51.9	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	14.0	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	609	25
SETTLABLE SOLIDS ^c	mL/L	IMHOFF CONE (SM: PART 2540 F)	0.2	0.1
SULPHIDE ^b	mg/L	IODOMETRIC METHOD (SM: PART 4500-S ²⁻ F)	< 0.50	0.50
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: PART 4500-Norg C	34.9	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)	92,000	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 17, 2023



ANALYSIS REPORT

CUSTOMER NAME : AIA SATHORN TOWER
ADDRESS : 11/1 SOUTH SATHORN ROAD YAN NAWA SATHON BANGKOK 10120
CONTACT INFORMATION : TEL : 02 286 5929 ต่อ 130 e-mail : chalernpol.kaewlee@jll.com
SAMPLING SOURCE : AIA SATHORN TOWER
SAMPLE TYPE : EFFLUENT
SAMPLING DATE : MARCH 9, 2023
SAMPLING TIME : 14:30 HOUR
SAMPLING METHOD : GRAB, GRAB AND STERILE TECHNIQUE
SAMPLING BY : MR WEERAYUT MOKKAEW
ANALYZED BY : MISS NAPAPORN KHUNNOKKHUM

RECEIVED DATE : MARCH 9, 2023
ANALYTICAL DATE : MARCH 9-17, 2023
REPORT NO. : 2023-U033130
WORK NO. : 2020-003066
ANALYSIS NO. : T23AE187-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			บอพักน้ำใน T23AE187-0003		
pH ^a	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	7.4 (32°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^{a, c}	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	45.4	≤ 20	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	10.0	≤ 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	648	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	22.3	≤ 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
			บ่อพักน้ำใส T23AE187-0003		
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 B)	92,000	-	1.8
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 E)	92,000	-	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.

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.

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

ND : NON-DETECTABLE.

[^] : SAMPLING AT 12:25 HOUR ON MARCH 23, 2023, ANALYSIS NO. T23AF245-0002 (ANALYTICAL DATE : MARCH 23-29, 2023)

THE REASON FOR ISSUING THE NEW REPORT IS SUBSTITUTE RESULT.

SUBSTITUTED REPORT FOR REPORT NO. 2023-U019260, DATED MARCH 17, 2023.

(MRS PIYAPAT SUTTAMANUTWONG)

LABORATORY SUPERVISOR

MAY 16, 2023

ANALYSIS REPORT

CUSTOMER NAME : AIA SATHORN TOWER
ADDRESS : 11/1 SOUTH SATHORN ROAD YAN NAWA SATHON BANGKOK 10120
CONTACT INFORMATION : TEL : 0 2286 5929 Ext.130 e-mail : Waipoj.thongngam@ap.jll.com
SAMPLING SOURCE : AIA SATHORN TOWER
SAMPLE TYPE : WATER SUPPLY
SAMPLING DATE : MARCH 9, 2023
SAMPLING TIME : 14:40 HOUR
SAMPLING METHOD ^c : GRAB
SAMPLING BY ^c : MR WEERAYUT MOKKAEW
ANALYZED BY : MISS ARIYA THARAROM

RECEIVED DATE : MARCH 9, 2023
ANALYTICAL DATE : MARCH 9-16, 2023
REPORT NO. : 2023-U019186
WORK NO. : 2021-004258
ANALYSIS NO. : T23AE188-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			WATER SUPPLY T23AE188-0001	
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	220	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 20, 2023



ANALYSIS REPORT

CUSTOMER NAME : AIA SATHORN TOWER
ADDRESS : 11/1 SOUTH SATHORN ROAD YAN NAWA SATHON BANGKOK 10120
CONTACT INFORMATION : TEL : 0 2286 5929 Ext.130 e-mail : Waipoj.thongngam@ap.jll.com
SAMPLING SOURCE : AIA SATHORN TOWER
SAMPLE TYPE : EFFLUENT
SAMPLING DATE : APRIL 10, 2023
SAMPLING TIME : 10:30 HOUR
SAMPLING METHOD ° : GRAB, GRAB AND STERILE TECHNIQUE
SAMPLING BY ° : MR SUKSAN BOONLEANG
ANALYZED BY : MISS ARIYA THARAROM

RECEIVED DATE : APRIL 10, 2023
ANALYTICAL DATE : APRIL 10-19, 2023
REPORT NO. : 2023-U028445
WORK NO. : 2020-003066
ANALYSIS NO. : T23AG491-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			บ่อพักน้ำสุดท้าย พร้อมตะแกรงดักขยะ T23AG491-0001		
pH °	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	7.9 (31°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND °	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	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	470	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
			บ่อพักน้ำสุดท้าย พร้อมตะกอนรูดักขยะ T23AG491-0001		
MICROBIOLOGY					
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221E)	1,300	-	1.8
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221B)	2,400	-	1.8
SAMPLE CONDITION					
WATER'S COLOUR/TURBID			BROWN/CLEAR		
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.

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.

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

APRIL 20, 2023

ANALYSIS REPORT

CUSTOMER NAME : AIA SATHORN TOWER
ADDRESS : 11/1 SOUTH SATHORN ROAD YAN NAWA SATHON BANGKOK 10120
CONTACT INFORMATION : TEL : 0 2286 5929 Ext.130 e-mail : Waipoj.thongngam@ap.jll.com
SAMPLING SOURCE : AIA SATHORN TOWER
SAMPLE TYPE : WASTEWATER
SAMPLING DATE : APRIL 10, 2023
SAMPLING TIME : 10:40 HOUR
SAMPLING METHOD ° : GRAB, GRAB AND STERILE TECHNIQUE
SAMPLING BY ° : MR SUKSAN BOONLEANG
ANALYZED BY : MISS NAPAPORN KHUNNOKKHUM

RECEIVED DATE : APRIL 10, 2023
ANALYTICAL DATE : APRIL 10-19, 2023
REPORT NO. : 2023-U028446
WORK NO. : 2020-003066
ANALYSIS NO. : T23AG491-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			บอประสิทธิภาพ T23AG491-0002	
pH °	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	7.4 (33°C)	-
BIOCHEMICAL OXYGEN DEMAND °	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	14.3	2.0
SUSPENDED SOLIDS °	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	12.0	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	514	25
SETTLABLE SOLIDS °	mL/L	IMHOFF CONE (SM: PART 2540 F)	< 0.1	0.1
SULPHIDE °	mg/L	IODOMETRIC METHOD (SM: PART 4500-S ²⁻ F)	< 0.50	0.50
TOTAL KJELDAHL NITROGEN °	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: PART 4500-Norg C	5.0	1.5
FAT, OIL AND GREASE °	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)	3	3



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			บ่อปรับสภาพ T23AG491-0002	
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)	54,000	1.8
SAMPLE CONDITION				
WATER'S COLOUR/TURBID			BROWN/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

APRIL 20, 2023

ANALYSIS REPORT

CUSTOMER NAME : AIA SATHORN TOWER
ADDRESS : 11/1 SOUTH SATHORN ROAD YAN NAWA SATHON BANGKOK 10120
CONTACT INFORMATION : TEL : 0 2286 5929 Ext.130 e-mail : Waipoj.thongngam@ap.jll.com
SAMPLING SOURCE : AIA SATHORN TOWER
SAMPLE TYPE : EFFLUENT
SAMPLING DATE : APRIL 10, 2023
SAMPLING TIME : 10:35 HOUR
SAMPLING METHOD ° : GRAB, GRAB AND STERILE TECHNIQUE
SAMPLING BY ° : MR SUKSAN BOONLEANG
ANALYZED BY : MISS NAPAPORN KHUNNOKKHUM

RECEIVED DATE : APRIL 10, 2023
ANALYTICAL DATE : APRIL 10-19, 2023
REPORT NO. : 2023-U028447
WORK NO. : 2020-003066
ANALYSIS NO. : T23AG491-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			ข้อพิพาทใน T23AG491-0003		
pH °	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	7.4 (32°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND °	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	11.3	≤ 20	2.0
SUSPENDED SOLIDS °	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	6.0	≤ 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	536	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
			บ่อพักน้ำใส T23AG491-0003		
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 B)	2,200	-	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			BROWN/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.

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.

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

ND : NON-DETECTABLE.

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

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

APRIL 20, 2023

ANALYSIS REPORT

CUSTOMER NAME : AIA SATHORN TOWER
ADDRESS : 11/1 SOUTH SATHORN ROAD YAN NAWA SATHON BANGKOK 10120
CONTACT INFORMATION : TEL : 0 2286 5929 Ext.130 e-mail : Waipoj.thongngam@ap.jil.com
SAMPLING SOURCE : AIA SATHORN TOWER
SAMPLE TYPE : WATER SUPPLY
SAMPLING DATE : APRIL 10, 2023
SAMPLING TIME : 10:45 HOUR
SAMPLING METHOD ^c : GRAB
SAMPLING BY ^c : MR SUKSAN BOONLEANG
ANALYZED BY : MISS ARIYA THARAROM

RECEIVED DATE : APRIL 10, 2023
ANALYTICAL DATE : APRIL 10-20, 2023
REPORT NO. : 2023-U029544
WORK NO. : 2021-004258
ANALYSIS NO. : T23AG493-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			WATER SUPPLY T23AG493-0001	
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

APRIL 25, 2023



ANALYSIS REPORT

CUSTOMER NAME : AIA SATHORN TOWER
ADDRESS : 11/1 SOUTH SATHORN ROAD YAN NAWA SATHON BANGKOK 10120
CONTACT INFORMATION : TEL : 02 286 5929 ต่อ 130 e-mail : chalernpol.kaewlee@jll.com
SAMPLING SOURCE : AIA SATHORN TOWER
SAMPLE TYPE : EFFLUENT
SAMPLING DATE : MAY 15, 2023
SAMPLING TIME : 11:00 HOUR
SAMPLING METHOD ° : GRAB, GRAB AND STERILE TECHNIQUE
SAMPLING BY ° : MR SUKSAN BOONLEANG
ANALYZED BY : MISS ARIYA THARAROM

RECEIVED DATE : MAY 15, 2023
ANALYTICAL DATE : MAY 15-23, 2023
REPORT NO. : 2023-U039273
WORK NO. : 2020-003066
ANALYSIS NO. : T23AI732-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			บ่อพักน้ำสุดท้าย พร้อมตะแกรงดักขยะ T23AI732-0001		
pH °	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	7.4 (33°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND °	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	17.8	≤ 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	320	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	6.7	≤ 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
			บ่อพักน้ำสุดท้าย พร้อมตะแกรงดักขยะ T23A1732-0001		
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 B)	1,700	-	1.8
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 E)	700	-	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.

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

ND : NON-DETECTABLE.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

MAY 24, 2023

ANALYSIS REPORT

CUSTOMER NAME : AIA SATHORN TOWER
ADDRESS : 11/1 SOUTH SATHORN ROAD YAN NAWA SATHON BANGKOK 10120
CONTACT INFORMATION : TEL : 02 286 5929 ต่อ 130 e-mail : chalernpol.kaewlee@jil.com
SAMPLING SOURCE : AIA SATHORN TOWER
SAMPLE TYPE : WASTEWATER
SAMPLING DATE : MAY 15, 2023
SAMPLING TIME : 11:10 HOUR
SAMPLING METHOD ^c : GRAB, GRAB AND STERILE TECHNIQUE
SAMPLING BY ^c : MR SUKSAN BOONLEANG
ANALYZED BY : MISS NAPAPORN KHUNNOKKHUM

RECEIVED DATE : MAY 15, 2023
ANALYTICAL DATE : MAY 15-23, 2023
REPORT NO. : 2023-U039274
WORK NO. : 2020-003066
ANALYSIS NO. : T23AI732-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			อุปกรณ์ตรวจวัด T23AI732-0002	
pH ^c	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	7.5 (34°C)	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	67.4	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	10.4	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	688	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)	< 0.50	0.50
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: PART 4500-Norg C	27.3	15
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
			บ่อปรับสภาพ T23A1732-0002	
MICROBIOLOGY				
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 B)	92,000	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 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

MAY 24, 2023

ANALYSIS REPORT

CUSTOMER NAME : AIA SATHORN TOWER
ADDRESS : 11/1 SOUTH SATHORN ROAD YAN NAWA SATHON BANGKOK 10120
CONTACT INFORMATION : TEL : 02 286 5929 ต่อ 130 e-mail : chalernpol.kaewlee@jll.com
SAMPLING SOURCE : AIA SATHORN TOWER
SAMPLE TYPE : EFFLUENT
SAMPLING DATE : MAY 15, 2023
SAMPLING TIME : 11:05 HOUR
SAMPLING METHOD ^c : GRAB, GRAB AND STERILE TECHNIQUE
SAMPLING BY ^c : MR SUKSAN BOONLEANG
ANALYZED BY : MISS NAPAPORN KHUNNOKKHUM

RECEIVED DATE : MAY 15, 2023
ANALYTICAL DATE : MAY 15-23, 2023
REPORT NO. : 2023-U039275
WORK NO. : 2020-003066
ANALYSIS NO. : T23AI732-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			ปอพักน้ำใส T23AI732-0003		
pH ^c	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	7.2 (34°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	43.7	≤ 20	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	5.6	≤ 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	498	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	25.3	≤ 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
			บ่อพักน้ำใส T23A1732-0003		
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221B)	7,900	-	1.8
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221E)	1,100	-	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.

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

ND : NON-DETECTABLE.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

MAY 24, 2023

ANALYSIS REPORT

CUSTOMER NAME : AIA SATHORN TOWER
ADDRESS : 11/1 SOUTH SATHORN ROAD YAN NAWA SATHON BANGKOK 10120
CONTACT INFORMATION : TEL : 02 286 5929 ต่อ 130 e-mail : chalernpol.kaewlee@jll.com
SAMPLING SOURCE : AIA SATHORN TOWER
SAMPLE TYPE : WATER SUPPLY
SAMPLING DATE : MAY 15, 2023
SAMPLING TIME : 11:15 HOUR
SAMPLING METHOD ^c : GRAB
SAMPLING BY ^c : MR SUKSAN BOONLEANG
ANALYZED BY : MISS ARIYA THARAROM

RECEIVED DATE : MAY 15, 2023
ANALYTICAL DATE : MAY 15-22, 2023
REPORT NO. : 2023-U039063
WORK NO. : 2021-004258
ANALYSIS NO. : T23AI733-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			WATER SUPPLY T23AI733-0001	
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	202	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 24, 2023



ANALYSIS REPORT

CUSTOMER NAME : AIA SATHORN TOWER
ADDRESS : 11/1 SOUTH SATHORN ROAD YAN NAWA SATHON BANGKOK 10120
CONTACT INFORMATION : TEL : 02 286 5929 ต่อ 130 e-mail : chalermopol.kaewlee@jll.com
SAMPLING SOURCE : AIA SATHORN TOWER
SAMPLE TYPE : EFFLUENT
SAMPLING DATE : JUNE 16, 2023
SAMPLING TIME : 14:00 HOUR
SAMPLING METHOD ° : GRAB, GRAB AND STERILE TECHNIQUE
SAMPLING BY ° : MR SUKSAN BOONLEANG
ANALYZED BY : MISS NAPAPORN KHUNNOKKHUM

RECEIVED DATE : JUNE 16, 2023
ANALYTICAL DATE : JUNE 16-26, 2023
REPORT NO. : 2023-U052008
WORK NO. : 2020-003066
ANALYSIS NO. : T23AL434-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			ข้อพิพาทสุดท้าย พร้อมมติกรรมการ T23AL434-0001		
pH °	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	7.5 (33°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND [^] °	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	16.3	≤ 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	428	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	20.4	≤ 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
			บ่อพักน้ำสุดท้ายพร้อมตะกอนรัดกขบะT23AL434-0001		
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221B)	7,000	-	1.8
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221E)	4,600	-	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.

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

ND : NON-DETECTABLE.

^ : SAMPLING AT 15:30 HOUR ON JUNE 28, 2023, ANALYSIS NO. T23AM313-0001 (ANALYTICAL DATE : JUNE 29 - JULY 5, 2023)

(MRS PIYAPAT SUTTAMANUWONG)

LABORATORY SUPERVISOR

JULY 10, 2023

ANALYSIS REPORT

CUSTOMER NAME : AIA SATHORN TOWER
ADDRESS : 11/1 SOUTH SATHORN ROAD YAN NAWA SATHON BANGKOK 10120
CONTACT INFORMATION : TEL : 02 286 5929 ต่อ 130 e-mail : chalernpol.kaewlee@jill.com
SAMPLING SOURCE : AIA SATHORN TOWER
SAMPLE TYPE : WASTEWATER
SAMPLING DATE : JUNE 16, 2023
SAMPLING TIME : 14:10 HOUR
SAMPLING METHOD ° : GRAB, GRAB AND STERILE TECHNIQUE
SAMPLING BY ° : MR SUKSAN BOONLEANG
ANALYZED BY : MISS NAPAPORN KHUNNOKKHUM

RECEIVED DATE : JUNE 16, 2023
ANALYTICAL DATE : JUNE 16-26, 2023
REPORT NO. : 2023-U052009
WORK NO. : 2020-003066
ANALYSIS NO. : T23AL434-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			บ่อปรับสภาพ T23AL434-0002	
pH °	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	7.6 (32°C)	-
BIOCHEMICAL OXYGEN DEMAND °	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	31.1	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	21.8	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	460	25
SETTLEABLE SOLIDS °	mL/L	IMHOFF CONE (SM: PART 2540 F)	< 0.1	0.1
SULPHIDE ^b	mg/L	IODOMETRIC METHOD (SM: PART 4500-S ₂ F)	< 0.50	0.50
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: PART 4500-Norg C	47.1	1.5
FAT, OIL AND GREASE °	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 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

JUNE 29, 2023



ANALYSIS REPORT

CUSTOMER NAME : AIA SATHORN TOWER
ADDRESS : 11/1 SOUTH SATHORN ROAD YAN NAWA SATHON BANGKOK 10120
CONTACT INFORMATION : TEL : 02 286 5929 ต่อ 130 e-mail : chalernpol.kaewlee@jll.com
SAMPLING SOURCE : AIA SATHORN TOWER
SAMPLE TYPE : EFFLUENT
SAMPLING DATE : JUNE 16, 2023
SAMPLING TIME : 14:05 HOUR
SAMPLING METHOD ° : GRAB, GRAB AND STERILE TECHNIQUE
SAMPLING BY ° : MR SUKSAN BOONLEANG
ANALYZED BY : MISS NAPAPORN KHUNNOKKHUM

RECEIVED DATE : JUNE 16, 2023
ANALYTICAL DATE : JUNE 16-26, 2023
REPORT NO. : 2023-U052010
WORK NO. : 2020-003066
ANALYSIS NO. : T23AL434-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			ข้อพิพาทใน T23AL434-0003		
pH °	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	7.4 (32°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND [^] °	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	24.0	≤ 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 ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAO.007 (TOTAL DISSOLVED SOLIDS DRIED AT 103-105 °C); SM: PART 2540 C	422	500*	25
SETTLEABLE SOLIDS °	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	34.4	≤ 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
			บอพักน้ำใส T23AL434-0003		
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221B)	17,000	-	1.8
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221E)	3,300	-	1.8
SAMPLE CONDITION					
WATER'S COLOUR/TURBID			YELLOW/CLEAR		
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.

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.

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

ND : NON-DETECTABLE.

^ : SAMPLING AT 15:35 HOUR ON JUNE 28, 2023, ANALYSIS NO. T23AM313-0002 (ANALYTICAL DATE : JUNE 29 - JULY 5, 2023)

(Signature of Laboratory Supervisor)

LABORATORY SUPERVISOR

JULY 10, 2023

ANALYSIS REPORT

CUSTOMER NAME : AIA SATHORN TOWER
ADDRESS : 11/1 SOUTH SATHORN ROAD YAN NAWA SATHON BANGKOK 10120
CONTACT INFORMATION : TEL : 02 286 5929 ต่อ 130 e-mail : chalermopol.kaewlee@jll.com
SAMPLING SOURCE : AIA SATHORN TOWER
SAMPLE TYPE : WATER SUPPLY
SAMPLING DATE : JUNE 16, 2023
SAMPLING TIME : 14:15 HOUR
SAMPLING METHOD^c : GRAB
SAMPLING BY^c : MR SUKSAN BOONLEANG
ANALYZED BY : MISS NAPAPORN KHUNNOKKHUM

RECEIVED DATE : JUNE 16, 2023
ANALYTICAL DATE : JUNE 16-23, 2023
REPORT NO. : 2023-U051168
WORK NO. : 2021-004258
ANALYSIS NO. : T23AL433-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			WATER SUPPLY T23AL433-0001	
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	159	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 SUTAMANOTWONG)
LABORATORY SUPERVISOR

JUNE 26, 2023



ภาคผนวก ง-2

ผลการวิเคราะห์คุณภาพน้ำหอฝิ่งเย็น

รายงานการตรวจเช็ค Chlorine,เชื้อ Legionella และ Bacteria
ของระบบ Cooling Tower

ประจำเดือน มิถุนายน 2566



บริษัท แอล เอส พี สยาม อินเตอร์เทค จำกัด

74 ซอยรามคำแหง 112 แขวงสะพานสูง เขตสะพานสูง กรุงเทพฯ ๑ 10240

โทร : 0-2729-3124-5 แฟกซ์ : 0-2729-4100

E-mail : pornpen@lpsiam.com , lpsiam@hotmail.com , www.lpsiam.com



บริษัท แอล เอส พี สยาม อินเตอร์เทรด จำกัด L S P SIAM INTERTRADE COMPANY LIMITED

254/144 ซอยรามคำแหง 112 ถนนรามคำแหง แขวงสะพานสูง เขตสะพานสูง กรุงเทพฯ 10240
โทร. 0-2729-3124-5 แฟกซ์ 0-2729-4100 E-Mail: pornpen@lsp-siam.com

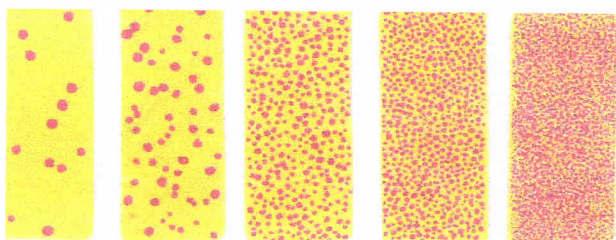


เลขประจำตัวผู้เสียภาษี 0105544006902

TOTAL BACTERIA ANALYSIS REPORT

Customer name : บริษัท เอไอเอ จำกัด (อาคาร เอไอเอ สาทรทาวเวอร์) Sample Type : การทดสอบหาค่า Total Bacteria
Sampling Date : 22 / 06 / 2023 ในระบบหอผึ่งเย็น
Analytical Date : 24 / 06 / 2023 Test Method : Dip slide
Report Date : 24 / 06 / 2023

Bacteria



Per ml

10^3

10^4

10^5

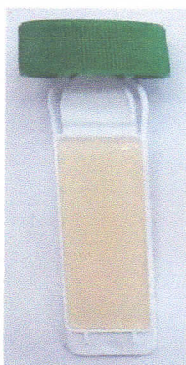
10^6

10^7

Bacterial count 10^4 - slight infection

Bacterial count 10^5 to 10^6 - moderate infection

Bacterial count 10^6 or more - heavy infection.



จุดที่น้ำไหลเข้ามาเติมในระบบ

Result

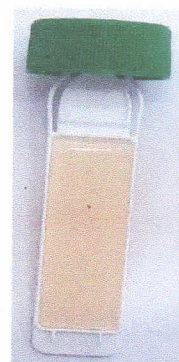
$< 10^3$ / ml



ในอ่างรองรับน้ำ

Result

$< 10^3$ / ml



ท่อน้ำทิ้งจากหอผึ่งเย็น

Result

$< 10^3$ ml

สรุปผลการวัดค่า Total Bacteria ในระบบ Cooling Tower

ผลการวัด Total Bacteria ในระบบหอผึ่งเย็น ทั้งหมดอยู่ในช่วง $< 10^3$ / ml
ควบคุมอยู่ในเกณฑ์ปกติ (เกณฑ์ปกติ $< 10^5$ / ml)

Analysis/Test Report

Customer Name : บริษัท แอล เอส พี สยาม อินเตอร์เทรด จำกัด

Address : 254/144 ซอยรามคำแหง 112 ถนนรามคำแหง แขวงสะพานสูง เขตสะพานสูง กรุงเทพมหานคร 10240

Sampling Site : บริษัท เอไอเอ จำกัด (อาคาร เอไอเอ สาทรทาวเวอร์)

Sample Type : Cooling Water

Sampling by : ลูกค้า

Sampling Method : Grab

Sampling Date : 22/06/2566

Sampling Time : -

Received Date : 23/06/2566

Analytical Date : 23/06 - 04/07/2566

Report Date : 05/07/2566

Report No. : RS14388/66

Parameters	Unit	Method	TS14594 /66
			น้ำดื่ม Cooling
Legionella spp.	CFU/L	ISO 11731 : 2017	not detected
Sample Condition		Observation	ใส

Miss NISACHOL EUNGKLIENG

Analyst

05/07/2566

Miss REWADEE SIRIMONGKOL

Laboratory Management

05/07/2566

Reported results refer to the sample as received only.

Test report shall not be reproduced except in full, without written approved of the laboratory.

Analysis/Test Report

Customer Name : บริษัท แอล เอส พี สยาม อินเตอร์เทรด จำกัด

Address : 254/144 ซอยรามคำแหง 112 ถนนรามคำแหง แขวงสะพานสูง เขตสะพานสูง กรุงเทพมหานคร 10240

Sampling Site : บริษัท เอไอเอ จำกัด (อาคาร เอไอเอ สาทรทาวเวอร์)

Sample Type : Cooling Water

Sampling by : ลูกค้า

Sampling Method : Grab

Sampling Date : 22/06/2566

Sampling Time : -

Received Date : 23/06/2566

Analytical Date : 23/06 - 04/07/2566

Report Date : 05/07/2566

Report No. : RS14389/66

Parameters	Unit	Method	TS14595 /66
			Cooling Tower
Legionella spp.	CFU/L	ISO 11731 : 2017	not detected
Sample Condition		Observation	ใส

Miss NISACHOL EUNGKLIENG

Analyst

05/07/2566

Miss REWADEE SIRIMONGKOL

Laboratory Management

05/07/2566

Reported results refer to the sample as received only.

Test report shall not be reproduced except in full, without written approved of the laboratory.

Analysis/Test Report

Customer Name : บริษัท แอล เอส พี สยาม อินเตอร์เทรด จำกัด

Address : 254/144 ซอยรามคำแหง 112 ถนนรามคำแหง แขวงสะพานสูง เขตสะพานสูง กรุงเทพมหานคร 10240

Sampling Site : บริษัท เอไอเอ จำกัด (อาคาร เอไอเอ สาทรทาวเวอร์)

Sample Type : Cooling Water

Sampling by : ลูกค้า

Sampling Method : Grab

Sampling Date : 22/06/2566

Sampling Time : -

Received Date : 23/06/2566

Analytical Date : 23/06 - 04/07/2566

Report Date : 05/07/2566

Report No. : RS14390/66

Parameters	Unit	Method	TS14596 /66
			น้ำแตรน Cooling
Legionella spp.	CFU/L	ISO 11731 : 2017	not detected
Sample Condition		Observation	ใส

Miss NISACHOL EUNGKLIENG

Analyst

05/07/2566

Miss REWADEE SIRIMONGKOL

Laboratory Management

05/07/2566

Reported results refer to the sample as received only.

Test report shall not be reproduced except in full, without written approved of the laboratory.



บริษัท แอล เอส พี สยาม อินเตอร์เทรด จำกัด
L S P SIAM INTERTRADE COMPANY LIMITED



รายงานการบริการ
Service Report

ลูกค้า / บริษัท / โครงการ <u>อาคาร 1010 ศุภราภรณ์</u>	No. <u>1037</u>
ชื่อผู้ติดต่อ <u>[redacted]</u> โทร. <u>[redacted]</u>	วันที่ <u>22</u> เดือน <u>มิถุนายน</u> พ.ศ. <u>66</u>

รายละเอียดการบริการ

1. ตรวจสอบคุณภาพน้ำเบื้องต้น

Parameter	Sampling Water			
pH				
Conductivity				
ลักษณะทางกายภาพ				

2. ตรวจสอบการทำงานของอุปกรณ์

⇒ Metering Pump

☐ ทำงานปกติ

☐ ต้องปรับปรุงแก้ไข

ผลการตรวจสอบสภาพหน้างาน

1. เก็บตัวอย่างน้ำ เชื้อชื่อ *Legionella*

- จุดที่น้ำไหลเข้ามาเติมในระบบ

- โถงรวบรวมน้ำ

การแก้ไข

- ฟอเน็คติงจากท่อส่ง เส้นประทอง

2. เช็คน้ำเย็น Cooling เชื้อชื่อ *Total Bacteria*

ตรวจเช็คหลังปฏิบัติงาน

วาล์วระบบ Bleed off

☐ เปิด

☐ ปิด

☐ อื่นๆ

วาล์วน้ำ Mark up

☐ เปิด

☐ ปิด

อื่นๆ

Comment เพิ่มเติมจากลูกค้า

ในนาม บริษัท แอล เอส พี สยาม อินเตอร์เทรด จำกัด
For L S P SIAM INTERTRADE COMPANY LIMITED

ลงชื่อ

(เขียนตัวบรรจง)

สำหรับลูกค้า ได้รับการบริการข้างต้นแล้ว
For Customer

ลงชื่อ

(เขียนตัวบรรจง)

วันที่ 22/6/66



บริษัท แอล เอส พี สยาม อินเตอร์เทรด จำกัด
L S P SIAM INTERTRADE COMPANY LIMITED



รายงานการบริการ
Service Report

ลูกค้า / บริษัท / โครงการ <u>อาคาร 1010 สยามทาวเวอร์</u>	No. <u>1038</u>
ชื่อผู้ติดต่อ <u>[redacted]</u> โทร. <u>[redacted]</u>	วันที่ <u>22</u> เดือน <u>พฤษภาคม</u> พ.ศ. <u>66</u>

รายละเอียดการบริการ

1. ตรวจสอบคุณภาพน้ำเบื้องต้น

Parameter	Sampling Water			
pH				
Conductivity				
ลักษณะทางกายภาพ				

2. ตรวจสอบการทำงานของอุปกรณ์

⇒ Metering Pump

☐ ทำงานปกติ

☐ ต้องปรับปรุงแก้ไข

ผลการตรวจสอบสภาพทำงาน

1. เช็คคุณภาพน้ำ Cooling น้ำคลอรีน, pH

- จุดนี้ใช้สำหรับเติมในระบบ
Residual Chlorine < 0.1 mg / L as Cl₂
pH 7.8

การแก้ไข

- พอน้ำทิ้งจากหอผึ่งเย็นแต่ระบบ
Residual Chlorine < 0.1 mg / L as Cl₂
pH 8.8

ตรวจเช็คหลังปฏิบัติงาน

วาล์วระบบ Bleed off

☐ เปิด

☐ ปิด

☐ อื่นๆ

วาล์วน้ำ Mark up

☐ เปิด

☐ ปิด

อื่นๆ

Comment เพิ่มเติมจากลูกค้า

ในนาม บริษัท แอล เอส พี สยาม อินเตอร์เทรด จำกัด For L S P SIAM INTERTRADE COMPANY LIMITED ลงชื่อ <u>[redacted]</u> (เขียนตัวบรรจง)	สำหรับลูกค้า ได้รับการบริการข้างต้นแล้ว For Customer ลงชื่อ <u>[redacted]</u> วันที่ <u>22/6/66</u> (เขียนตัวบรรจง)
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บริษัท แอล เอส พี สยาม อินเตอร์เทรด จำกัด
L S P SIAM INTERTRADE COMPANY LIMITED

74 ซอยรามคำแหง 112 ถนนรามคำแหง แขวงสะพานสูง เขตสะพานสูง กรุงเทพฯ 10240
โทร. 0-2729-3124-5 แฟกซ์ 0-2729-4100 E-Mail: pornpen@lpsiam.com



เลขประจำตัวผู้เสียภาษี 0105544006902

บริษัท เอไอเอ จำกัด (เอไอเอ สาทรทาวเวอร์)

รูปภาพประกอบการเช็คคลอรีน (ประจำเดือน มิถุนายน 2566)

