

ผลวิเคราะห์คุณภาพน้ำทิ้งของระบบบำบัดน้ำเสีย



United Analyst and Engineering Consultant Co., Ltd.
3 Soi Udumsuk 41, Sukhumvit Road, Bangchak, Phrakhanong, Bangkok 10260
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NSC-TISI-TIS 17025
TESTING 0207



TESTING
No. 0063

ANALYSIS REPORT

CUSTOMER NAME : KASEMKIJ COMPANY LIMITED
ADDRESS : 43 LANGSUAN PLOENCHIT ROAD, LUMPHINI PATHUM WAN BANGKOK 10330
CONTACT INFORMATION : TEL : 0 2233 8989-98 e-mail : kj-qc@kasemkij.com
SAMPLING SOURCE : WASTEWATER TREATMENT PLANT OF CAPE HOUSE, LUANGSUAN
SAMPLE TYPE : WASTEWATER
SAMPLING DATE : JANUARY 11, 2023
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS AMONRAT PUTTALEE
RECEIVED DATE : JANUARY 12, 2023
ANALYTICAL DATE : JANUARY 12-19, 2023
REPORT NO. : 2023-U005207
WORK NO. : 2022-010843
ANALYSIS NO. : T23AA534-0001 - T23AA534-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT
			1 T23AA534-0001	2 T23AA534-0002		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	8.7 (25°C)	6.4 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O C AND 5210 B)	208	6.0	≤ 30	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	177	5.9	≤ 40	5.0
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: 4500-Norg C	94.3	< LOQ	≤ 35	1.5
FAT, OIL AND GREASE ^a	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: 5520 B)	17	ND	≤ 20	3
MICROBIOLOGY						
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 E)	>160,000	54,000	-	1.8
SAMPLE CONDITION						
WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN	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.

RESULT 1 : INFLUENT

RESULT 2 : EFFLUENT

REGULATORY STANDARD : RANGE OR MAXIMUM PERMITTED VALUE FOR BUILDING EFFLUENT STANDARDS CLASS B, NOTIFICATION OF THE MINISTRY OF RESOURCES AND ENVIRONMENT, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL 122, PART 125 D, DATED DECEMBER 29, 2005.

ND : NON-DETECTABLE

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

Benjawan V.

(MISS BENJAWAN VIRIYOTHA)
LABORATORY SUPERVISOR

JANUARY 24, 2023



- PROHIBITED TO PARTIALLY COPY ANALYSIS REPORT PRIOR TO WRITTEN PERMISSION BY THE LABORATORY.
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CONTACT INFORMATION : TEL : 0 2233 8989-98 e-mail : kj-qc@kasemkij.com
SAMPLING SOURCE : WASTEWATER TREATMENT PLANT OF CAPE HOUSE, LUANGSUAN
SAMPLE TYPE : WASTEWATER
SAMPLING DATE : FEBRUARY 15, 2023
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS AMONRAT PUTTALEE

RECEIVED DATE : FEBRUARY 17, 2023
ANALYTICAL DATE : FEBRUARY 17-24, 2023
REPORT NO. : 2023-U014038
WORK NO. : 2023-001004
ANALYSIS NO. : T23AC832-0001 - T23AC832-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT
			1 T23AC832-0001	2 T23AC832-0002		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	6.9 (25°C)	7.0 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O C AND 5210 B)	169	12.8	≤ 30	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	54.1	25.2	≤ 40	5.0
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: 4500-Norg C	32.0	29.3	≤ 35	1.5
FAT, OIL AND GREASE ^c	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: 5520 B)	5	ND	≤ 20	3
MICROBIOLOGY						
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 E)	>160,000	< 1.8	-	1.8
SAMPLE CONDITION						
WATER'S COLOUR/TURBID			YELLOW/TURBID	YELLOW/TURBID		
SEDIMENT			BROWN	BROWN		

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

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ND : NON-DETECTABLE.

Piyapat S.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

FEBRUARY 28, 2023



ANALYSIS REPORT

CUSTOMER NAME : KASEMKIJ COMPANY LIMITED
ADDRESS : 43 LANGSUAN PLOENCHIT ROAD, LUMPHINI PATHUM WAN BANGKOK 10330
CONTACT INFORMATION : TEL : 0 2233 8989-98 e-mail : kj-qc@kasemkij.com
SAMPLING SOURCE : WASTEWATER TREATMENT PLANT OF CAPE HOUSE, LUANGSUAN
SAMPLE TYPE : WASTEWATER
SAMPLING DATE : MARCH 7, 2023
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS NAPAPORN KHUNNOKKHUM
RECEIVED DATE : MARCH 8, 2023
ANALYTICAL DATE : MARCH 8-16, 2023
REPORT NO. : 2023-U019083
WORK NO. : 2023-001290
ANALYSIS NO. : T23AE012-0001 - T23AE012-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT
			1 T23AE012-0001	2 T23AE012-0002		
pH ^a	-	ELECTROMETRIC METHOD (SM: PART 4500 -H ⁺ B)	7.9 (25°C)	7.0 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 4500-O C AND PART 5210 B)	219	11.9	≤ 30	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	177	12.8	≤ 40	5.0
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: PART 4500-Norg C	47.3	18.8	≤ 35	1.5
FAT, OIL AND GREASE ^c	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)	8	ND	≤ 20	3
MICROBIOLOGY						
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 E)	>160,000	700	-	1.8
SAMPLE CONDITION						
WATER'S COLOUR/TURBID			YELLOW/TURBID	YELLOW/CLEAR		
SEDIMENT			BROWN	BROWN		

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

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RESULT 2 : EFFLUENT

REGULATORY STANDARD : RANGE OR MAXIMUM PERMITTED VALUE FOR BUILDING EFFLUENT STANDARDS CLASS B, NOTIFICATION OF THE MINISTRY OF RESOURCES AND ENVIRONMENT, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL 122, PART 125 D, DATED DECEMBER 29, 2005.

ND : NON-DETECTABLE.

Piyapat S.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

MARCH 20, 2023

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ISO 14001:2015 CERTIFIED
BY BSI GROUP (THAILAND) CO., LTD.

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CONTACT INFORMATION : TEL : 0 2233 8989-98 e-mail : kj-qc@kasemkij.com
SAMPLING SOURCE : WASTEWATER TREATMENT PLANT OF CAPE HOUSE, LUANGSUAN
SAMPLE TYPE : WASTEWATER
SAMPLING DATE : APRIL 19, 2023
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS NAPAPORN KHUNNOKKHUM
RECEIVED DATE : APRIL 20, 2023
ANALYTICAL DATE : APRIL 20-28, 2023
REPORT NO. : 2023-U032030
WORK NO. : 2023-002231
ANALYSIS NO. : T23AG982-0001 - T23AG982-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT
			1 T23AG982-0001	2 T23AG982-0002		
pH ^a	-	ELECTROMETRIC METHOD (SM: PART 4500 -H ⁺ B)	7.8 (25°C)	7.1 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	94.5	7.6	≤ 30	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	79.7	15.8	≤ 40	5.0
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: PART 4500-Norg C	58.3	29.7	≤ 35	1.5
FAT, OIL AND GREASE ^c	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)	ND	ND	≤ 20	3
MICROBIOLOGY						
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 E)	>160,000	11,000	-	1.8
SAMPLE CONDITION						
WATER'S COLOUR/TURBID			YELLOW/TURBID	YELLOW/TURBID		
SEDIMENT			BROWN	BROWN		

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

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

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ND : NON-DETECTABLE.

Benjawan V.

(MISS BENJAWAN VIRIYOTHAI)
LABORATORY SUPERVISOR

MAY 3, 2023



ANALYSIS REPORT

CUSTOMER NAME : KASEMKIJ COMPANY LIMITED
ADDRESS : 43 SOI LANGSUAN PLOENCHIT ROAD, LUMPHINI PATHUM WAN BANGKOK 10330
CONTACT INFORMATION : TEL : 0 2233 8989-98 e-mail : kj-qc@kasemkij.com
SAMPLING SOURCE : WASTEWATER TREATMENT PLANT OF CAPE HOUSE, LUANGSUAN
SAMPLE TYPE : WASTEWATER
SAMPLING DATE : MAY 25, 2023
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS NAPAPORN KHUNNOKKHUM

RECEIVED DATE : MAY 26, 2023
ANALYTICAL DATE : MAY 26-JUNE 6, 2023
REPORT NO. : 2023-U044903
WORK NO. : 2023-003385
ANALYSIS NO. : T23AJ770-0001 - T23AJ770-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT
			1 T23AJ770-0001	2 T23AJ770-0002		
pH ^a	-	ELECTROMETRIC METHOD (SM: PART 4500 -H ⁺ B)	8.8 (25°C)	7.2 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	192	14.1	≤ 30	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	134	14.4	≤ 40	5.0
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: PART 4500-Norg C	161	33.8	≤ 35	1.5
FAT, OIL AND GREASE ^c	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)	24	ND	≤ 20	3
MICROBIOLOGY						
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 E)	>160,000	790	-	1.8
SAMPLE CONDITION						
WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN	YELLOW/TURBID BROWN		

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

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

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

RESULT 1 : INFLUENT

RESULT 2 : EFFLUENT

REGULATORY STANDARD : RANGE OR MAXIMUM PERMITTED VALUE FOR BUILDING EFFLUENT STANDARDS CLASS B, NOTIFICATION OF THE MINISTRY OF RESOURCES AND ENVIRONMENT, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL 122, PART 125 D, DATED DECEMBER 29, 2005.

ND : NON-DETECTABLE.

Piyapat S.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

JUNE 8, 2023

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CONTACT INFORMATION : TEL : 0 2233 8989-98 e-mail : kj-qc@kasemkij.com
SAMPLING SOURCE : WASTEWATER TREATMENT PLANT OF CAPE HOUSE
SAMPLE TYPE : WASTEWATER
SAMPLING DATE : JUNE 8, 2023
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS NAPAPORN KHUNNOKKHUM

RECEIVED DATE : JUNE 9, 2023
ANALYTICAL DATE : JUNE 9-21, 2023
REPORT NO. : 2023-U050968
WORK NO. : 2023-004350
ANALYSIS NO. : T23AK857-0001 - T23AK857-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT
			1 T23AK857-0001	2 T23AK857-0002		
pH ^a	-	ELECTROMETRIC METHOD (SM: PART 4500-H ⁺ B)	6.1 (25°C)	7.2 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	47.1	7.3	≤ 30	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	412	13.2	≤ 40	5.0
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: PART 4500-Norg C	26.2	32.1	≤ 35	1.5
FAT, OIL AND GREASE ^c	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)	5	ND	≤ 20	3
MICROBIOLOGY						
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 E)	160,000	2,400	-	1.8
SAMPLE CONDITION						
WATER'S COLOUR/TURBID			YELLOW/TURBID	YELLOW/CLEAR		
SEDIMENT			BROWN	BROWN		

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

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ND : NON-DETECTABLE.

Piyapat S.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

JUNE 26, 2023



ผลวิเคราะห์คุณภาพน้ำทิ้งที่จุดระบายน้ำทิ้งออกนอกโครงการ



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CONTACT INFORMATION : TEL : 0 2233 8989-98 e-mail : kj-qc@kasemkij.com
SAMPLING SOURCE : WASTEWATER TREATMENT PLANT OF CAPE HOUSE, LUANGSUAN
SAMPLE TYPE : EFFLUENT
SAMPLING DATE : JANUARY 11, 2023
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS AMONRAT PUTTALEE

RECEIVED DATE : JANUARY 12, 2023
ANALYTICAL DATE : JANUARY 12-19, 2023
REPORT NO. : 2023-U005208
WORK NO. : 2022-010843
ANALYSIS NO. : T23AA534-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดระบายน้ำออกนอกโครงการ T23AA534-0003		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	6.3 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O C AND 5210 B)	7.0	≤ 30	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	7.4	≤ 40	5.0
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
MICROBIOLOGY					
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 E)	17,000	-	1.8
SAMPLE CONDITION					
WATER'S COLOUR/TURBID			YELLOW/CLEAR		
SEDIMENT			BROWN		

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ND : NON-DETECTABLE.

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

Benjawan V.

(MISS BENJAWAN VIRIYOTHAI)
LABORATORY SUPERVISOR

JANUARY 24, 2023



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NSC-TISI-TIS 17025
TESTING 0207



TESTING
No. 0063

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CUSTOMER NAME : KASEMKIJ COMPANY LIMITED
ADDRESS : 43 LANGSUAN PLOENCHIT ROAD, LUMPHINI PATHUM WAN BANGKOK 10330
CONTACT INFORMATION : TEL : 0 2233 8989-98 e-mail : kj-qc@kasemkij.com
SAMPLING SOURCE : WASTEWATER TREATMENT PLANT OF CAPE HOUSE, LUANGSUAN
SAMPLE TYPE : EFFLUENT
SAMPLING DATE : FEBRUARY 15, 2023
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS AMONRAT PUTTALEE

RECEIVED DATE : FEBRUARY 17, 2023
ANALYTICAL DATE : FEBRUARY 17-24, 2023
REPORT NO. : 2023-U014039
WORK NO. : 2023-001004
ANALYSIS NO. : T23AC832-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดตรวจน้ำออกนอกโครงการ T23AC832-0003		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.5 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O C AND 5210 B)	11.1	≤ 30	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	17.9	≤ 40	5.0
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE TP.WAS.001 (KJELDAHL METHOD); SM: 4500-Norg C	27.6	≤ 35	1.5
FAT, OIL AND GREASE ^c	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: 5520 B)	ND	≤ 20	3
MICROBIOLOGY					
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 E)	< 1.8	-	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.

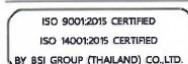
REGULATORY STANDARD : RANGE OR MAXIMUM PERMITTED VALUE FOR BUILDING EFFLUENT STANDARDS CLASS B, NOTIFICATION OF THE MINISTRY OF RESOURCES AND ENVIRONMENT, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL 122, PART 125 D, DATED DECEMBER 29, 2005.

ND : NON-DETECTABLE.

Piyapat S.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

FEBRUARY 28, 2023



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ANALYSIS REPORT

CUSTOMER NAME : KASEMKIJ COMPANY LIMITED
ADDRESS : 43 LANGSUAN PLOENCHIT ROAD, LUMPHINI PATHUM WAN BANGKOK 10330
CONTACT INFORMATION : TEL : 0 2233 8989-98 e-mail : kj-qc@kasemkij.com
SAMPLING SOURCE : WASTEWATER TREATMENT PLANT OF CAPE HOUSE, LUANGSUAN
SAMPLE TYPE : EFFLUENT
SAMPLING DATE : MARCH 7, 2023
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS NAPAPORN KHUNNOKKHUM

RECEIVED DATE : MARCH 8, 2023
ANALYTICAL DATE : MARCH 8-16, 2023
REPORT NO. : 2023-U019084
WORK NO. : 2023-001290
ANALYSIS NO. : T23AE012-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดตรวจค่าออกนอกโครงการ T23AE012-0003		
pH ^a	-	ELECTROMETRIC METHOD (SM: PART 4500-H ⁺ B)	6.9 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 4500-O C AND PART 5210 B)	8.2	≤ 30	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	10.5	≤ 40	5.0
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: PART 4500-Norg C	17.9	≤ 35	1.5
FAT, OIL AND GREASE ^c	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)	ND	≤ 20	3
MICROBIOLOGY					
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 E)	330	-	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 B, NOTIFICATION OF THE MINISTRY OF RESOURCES AND ENVIRONMENT, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL 122, PART 125 D, DATED DECEMBER 29, 2005.

ND : NON-DETECTABLE.

Piyapat S.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

MARCH 20, 2023



ANALYSIS REPORT

CUSTOMER NAME : KASEMKIJ COMPANY LIMITED
ADDRESS : 43 SOI LANGSUAN PLOENCHIT ROAD, LUMPHINI PATHUM WAN BANGKOK 10330
CONTACT INFORMATION : TEL : 0 2233 8989-98 e-mail : kj-qc@kasemkij.com
SAMPLING SOURCE : WASTEWATER TREATMENT PLANT OF CAPE HOUSE, LUANGSUAN
SAMPLE TYPE : EFFLUENT
SAMPLING DATE : APRIL 19, 2023
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS NAPAPORN KHUNNOKKHUM
RECEIVED DATE : APRIL 20, 2023
ANALYTICAL DATE : APRIL 20-28, 2023
REPORT NO. : 2023-U032033
WORK NO. : 2023-002231
ANALYSIS NO. : T23AG982-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดระบายน้ำออกนอกโครงการ T23AG982-0003		
pH ^a	-	ELECTROMETRIC METHOD (SM: PART 4500-H ⁺ B)	7.2 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	7.3	≤ 30	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	15.0	≤ 40	5.0
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: PART 4500-Norg C	27.6	≤ 35	1.5
FAT, OIL AND GREASE ^c	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)	ND	≤ 20	3
MICROBIOLOGY					
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			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 B, NOTIFICATION OF THE MINISTRY OF RESOURCES AND ENVIRONMENT, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL 122, PART 125 D, DATED DECEMBER 29, 2005.

ND : NON-DETECTABLE.

Benjawan V.

(MISS BENJAWAN VIRIYOTHAI)
LABORATORY SUPERVISOR

MAY 3, 2023





United Analyst and Engineering Consultant Co., Ltd.

3 Soi Udomsuk 41, Sukhumvit Road, Bangchak, Phrakhanong, Bangkok 10260

Tel. 0 2763 2828 Fax 0 2763 2800 www.uaeconsultant.com E-mail: uae@uaeconsultant.com



NSC-TISI-TIS 17025
TESTING 0207



TESTING
No. 0063

ANALYSIS REPORT

CUSTOMER NAME : KASEMKIJ COMPANY LIMITED
ADDRESS : 43 SOI LANGSUAN PLOENCHIT ROAD, LUMPHINI PATHUM WAN BANGKOK 10330
CONTACT INFORMATION : TEL : 0 2233 8989-98 e-mail : kj-qc@kasemkij.com
SAMPLING SOURCE : WASTEWATER TREATMENT PLANT OF CAPE HOUSE, LUANGSUAN
SAMPLE TYPE : EFFLUENT
SAMPLING DATE : MAY 25, 2023
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS NAPAPORN KHUNNOKKHUM

RECEIVED DATE : MAY 26, 2023
ANALYTICAL DATE : MAY 26-JUNE 6, 2023
REPORT NO. : 2023-U044904
WORK NO. : 2023-003385
ANALYSIS NO. : T23AJ770-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดตรวจน้ำออกนอกโครงการ T23AJ770-0003		
pH ^a	-	ELECTROMETRIC METHOD (SM: PART 4500-H ⁺ B)	7.2 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	6.0	≤ 30	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	10.1	≤ 40	5.0
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: PART 4500-Norg C	16.8	≤ 35	1.5
FAT, OIL AND GREASE ^c	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)	ND	≤ 20	3
MICROBIOLOGY					
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 E)	7,900	-	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.

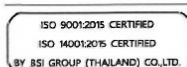
REGULATORY STANDARD : RANGE OR MAXIMUM PERMITTED VALUE FOR BUILDING EFFLUENT STANDARDS CLASS B, NOTIFICATION OF THE MINISTRY OF RESOURCES AND ENVIRONMENT, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 122, PART 125 D, DATED DECEMBER 29, 2005.

ND : NON-DETECTABLE.

Piyapat S.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

JUNE 8, 2023



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ANALYSIS REPORT

CUSTOMER NAME : KASEMKIJ COMPANY LIMITED
ADDRESS : 43 SOI LANGSUAN PLOENCHIT ROAD, LUMPHINI PATHUM WAN BANGKOK 10330
CONTACT INFORMATION : TEL : 0 2233 8989-98 e-mail : kj-qc@kasemkij.com
SAMPLING SOURCE : WASTEWATER TREATMENT PLANT OF CAPE HOUSE
SAMPLE TYPE : EFFLUENT
SAMPLING DATE : JUNE 8, 2023
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS NAPAPORN KHUNNOKKHUM
RECEIVED DATE : JUNE 9, 2023
ANALYTICAL DATE : JUNE 9-20, 2023
REPORT NO. : 2023-U050970
WORK NO. : 2023-004350
ANALYSIS NO. : T23AK857-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดระนาบนำออก นอกโครงการ T23AK857-0003		
pH ^a	-	ELECTROMETRIC METHOD (SM: PART 4500-H ⁺ B)	7.1 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	7.3	≤ 30	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	11.5	≤ 40	5.0
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: PART 4500-Norg C	31.7	≤ 35	1.5
FAT, OIL AND GREASE ^c	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)	ND	≤ 20	3
MICROBIOLOGY					
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			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

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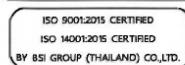
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ND : NON-DETECTABLE.

Piyapat S.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

JUNE 26, 2023



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ผลวิเคราะห์คุณภาพน้ำสระว่ายน้ำ



บริษัท ศูนย์วิเคราะห์น้ำ จำกัด

WATER ANALYSIS CENTER COMPANY LIMITED

1/94 หมู่ 5 ต. คานหาม อ. อุทัย จ. พระนครศรีอยุธยา 13210

1/94 Moo 5, T.Kanham, A.U.-Thai, Ayutthaya 13210, Thailand

Tel : 035-226-383 , 035-800-593 Fax : 035-800-594



TESTING
No.0029

ANALYSIS REPORT

Page 1 of 1

Customer Name : Kasemkij Co., Ltd.

Address : 43 Luangsuan Ploenchit Road, Lumpini Pathum Wan Bangkok 10330

Contact :-

Phone :-

E.mail :-

Sample Type : Water

Sample Site# : Cape House Luangsuan Hotel

Sampling Method# : Grab

Sampling Date# : 11/01/2023

Sampling By# : Customer

Receive Date : 12/01/2023

Analysis Date : 12-17/01/2023

Report Date : 07/04/2023

Report No. : RWS 00131/66-1

Parameter	Unit	Method	PWS 00267/66 Swimming Pool (deep zone)	Standard *
Total Coliform Bacteria	MPN/100 mL	Standard Total Coliform Fermentation	< 1.1 #	< 10
Sample Characterization	-	Observation	Clear	

Remark : * It is outside the scope of ISO/IEC 17025

* Regulatory Standard : National Spa And Pool Institute (NSPI)

Additional report of the test report number RWS 00131/66 due to cutting parameters pH and Residual Chlorine.

-: End Of Report :-

Laboratory Staff

(Miss. Ronnakorn Padungwieng)

Chemist

Approved By

(Mrs. Neeramol Phadungsong)

General Manager

The results relate only to the items tested. Test report shall not be reproduced except in full, without written approval of the laboratory
FO.LAB 7.8.1/1 รายงานผลการทดสอบ

แก้ไขครั้งที่ 0, วันที่บังคับใช้ : 1 ม.ค. 2562 หน้า 1/1



บริษัท ศูนย์วิเคราะห์น้ำ จำกัด
WATER ANALYSIS CENTER COMPANY LIMITED

194 หมู่ 5 ต. คานามว อ. อุทัย จ. พระนครศรีอยุธยา 13210
194 Moo 5, T.Kanham, A.U-Thai, Ayutthaya 13210, Thailand
Tel : 035-220-383 , 035-803-593 Fax : 035-803-594



TESTING
No.0029

ANALYSIS REPORT

Page 1 of 1

Customer Name : Kasemkij Co., Ltd.
Address : 43 Luangsuan Ploenchit Road, Lumpini Pathum Wan Bangkok 10330
Contact : - Phone : - E.mail : -
Sample Type : Water Sample Site# : Cape House Luangsuan Hotel Sampling Method# : Grab
Sampling Date# : 15/02/2023 Sampling By# : Customer Receive Date : 17/02/2023
Analysis Date : 17-22/02/2023 Report Date : 22/02/2023 Report No. : RWS 00629/66

Parameter	Unit	Method	PWS 00999/66 Swimming Pool (deep zone)	Standard *
pH	-	In-house method: TM 001	7.5 (25°C)	7.2 - 7.6
Residual Chlorine	mg/L as Cl ₂	Colorimetric	2.70 *	1.0 - 3.0
Sample Characterization	-	Observation	Clear	

Remark : In-house method : TM 001 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd 2017, part 4500-H₈

* It is outside the scope of ISO/IEC 17025

* Regulatory Standard : National Spa And Pool Institute (NSPI)

< End Of Report >

Laboratory Staff

(Miss. Khaethariya Mekaec)

Chemist

Approved By

(Mrs. Neeramol Phadungsong)

General Manager

The results relate only to the items tested. Test report shall not be reproduced except in full, without written approval of the laboratory
FO LAB 7.8.1/1 รายละเอียดการทดสอบ

วันที่ออกรายงาน : 01/03/2023 วันที่รับส่ง : 1 ม.ค. 2562 หน้า 1/1

ANALYSIS REPORT

CUSTOMER NAME : KASEMKIJ COMPANY LIMITED
ADDRESS : 120 SILOM ROAD SURİYAWONG BANG RAK BANGKOK 10500
CONTACT INFORMATION : TEL : 0 2233 8989-98 e-mail : kj-qc@kasemkij.com
SAMPLING SOURCE : CAPE HOUSE
SAMPLE TYPE : WATER SAMPLE FROM SWIMMING POOL
SAMPLING DATE : APRIL 19, 2023
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS ITSARIYAPORN BUATIB
RECEIVED DATE : APRIL 20, 2023
ANALYTICAL DATE : APRIL 20-26, 2023
REPORT NO. : 2023-U034070
WORK NO. : 2023-003373
ANALYSIS NO. : T23AG984-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SWIMMING POOL (DEEP ZONE) T23AG984-0001		
pH ^a	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	7.2 (38°C)	7.2-7.6*	-
RESIDUAL CHLORINE ^a	mg/L Cl ₂	MODIFIED DPD COLOURIMETRIC METHOD (AT SITE)	2.0	1.0-3.0*	0.1
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: PART 9221 B)	5.1	< 10	1.1
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.

REGULATORY STANDARD : BANGKOK METROPOLITAN REGULATIONS FOR THE BUSINESS DISTRICTIONAL TO HEALTH, B.E. 2530 (1987).

* : NATIONAL SPA AND POOL INSTITUTE (NSPI).

^ : MEASURED BY CUSTOMER.

THE REASON FOR ISSUING THE NEW REPORT IS CHANGE THE PARAMETER pH, RESIDUAL CHLORINE AT LAB TO pH, RESIDUAL CHLORINE AT SITE AND CHANGE REGULATORY STANDARD.

SUBSTITUTED REPORT FOR REPORT NO. 2023-U031638, DATED MAY 2, 2023.

Chaweevan B.

(MISS CHAWEEVAN BOONLA)
LABORATORY SUPERVISOR

MAY 11, 2023

ISO 9001:2015 CERTIFIED
ISO 14001:2015 CERTIFIED
BY BSI GROUP (THAILAND) CO., LTD.

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