

ผลวิเคราะห์คุณภาพน้ำทิ้งของระบบบำบัดน้ำเสีย



United Analyst and Engineering Consultant Co., Ltd.
3 Soi Udomsuk 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 20, 2022
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS AMONRAT PUTTALEE

RECEIVED DATE : JANUARY 21, 2022
ANALYTICAL DATE : JANUARY 21-31, 2022
REPORT NO. : 2022-U012621
WORK NO. : 2022-000355
ANALYSIS NO. : T22AB230-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			EFFLUENT (LS BUILDING) T22AB230-0001		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.8 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^{a c}	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O C AND 5210 B)	7.1	≤ 30	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	32.0	≤ 40	5.0
TOTAL KJELDAHL NITROGEN ^{a b}	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: 4500-Norg C	15.4	≤ 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)	< 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.

^a : SAMPLING ON FEBRUARY 11, 2022, ANALYSIS NO. T22AC504-0001 (ANALYTICAL DATE : FEBRUARY 11-21, 2022).

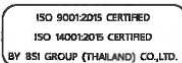
THE REASON FOR ISSUING THE NEW REPORT IS SUBSTITUTE RESULT.

SUBSTITUTED REPORT FOR REPORT NO. 2022-U007690, DATED FEBRUARY 2, 2022.

Piyapat S.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

FEBRUARY 25, 2022



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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 23, 2022
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS AMONRAT PUTTALEE

RECEIVED DATE : MARCH 24, 2022
ANALYTICAL DATE : MARCH 24-31, 2022
REPORT NO. : 2022-U024858
WORK NO. : 2022-002111
ANALYSIS NO. : T22AF724-0001 - T22AF724-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT
			1 T22AF724-0001	2 T22AF724-0002		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.8 (25°C)	7.1 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O C AND 5210 B)	66.3	18.4	≤ 30	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	56.1	19.7	≤ 40	5.0
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: 4500-Norg C	39.1	17.6	≤ 35	1.5
FAT, OIL AND GREASE ^a	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: 5520 B)	ND	ND	≤ 20	3
MICROBIOLOGY						
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 E)	22,000	330	-	1.8
SAMPLE CONDITION						
WATER'S COLOUR/TURBID			YELLOW/TURBID	YELLOW/TURBID		
SEDIMENT			BROWN	BROWN		

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RESULT 1 : INFLUENT

RESULT 2 : EFFLUENT

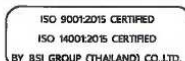
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ND : NON-DETECTABLE.

Piyapat S.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

APRIL 4, 2022



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SAMPLING SOURCE : WASTEWATER TREATMENT PLANT OF CAPE HOUSE, LUANGSUAN
SAMPLE TYPE : WASTEWATER
SAMPLING DATE : APRIL 21, 2022
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS AMONRAT PUTTALEE
RECEIVED DATE : APRIL 22, 2022
ANALYTICAL DATE : APRIL 22-29, 2022
REPORT NO. : 2022-U032102
WORK NO. : 2022-002706
ANALYSIS NO. : T22AH548-0001 - T22AH548-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT
			1 T22AH548-0001	2 T22AH548-0002		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.1 (25°C)	6.8 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O C AND 5210 B)	26.3	12.8	≤ 30	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	26.6	15.2	≤ 40	5.0
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: 4500-Norg C	215	5.0	≤ 35	1.5
FAT, OIL AND GREASE ^a	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: 5520 B)	ND	ND	≤ 20	3
MICROBIOLOGY						
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 E)	>160,000	1,100	-	1.8
SAMPLE CONDITION						
WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN	YELLOW/CLEAR BROWN		

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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

MAY 6, 2022



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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 : MAY 26, 2022
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS AMONRAT PUTTALEE

RECEIVED DATE : MAY 27, 2022
ANALYTICAL DATE : MAY 27 - JUNE 2, 2022
REPORT NO. : 2022-U042695
WORK NO. : 2022-003226
ANALYSIS NO. : T22AK146-0001 - T22AK146-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT
			1 T22AK146-0001	2 T22AK146-0002		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.7 (25°C)	6.9 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O C AND 5210 B)	155	12.2	≤ 30	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	225	17.5	≤ 40	5.0
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: 4500-Norg C	92.9	6.3	≤ 35	1.5
FAT, OIL AND GREASE ^a	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	13	-	1.8
SAMPLE CONDITION						
WATER'S COLOUR/TURBID			BROWN/TURBID	YELLOW/TURBID		
SEDIMENT			BROWN	YELLOW		

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

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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 9, 2022



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 : JUNE 14, 2022
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS AMONRAT PUTTALEE

RECEIVED DATE : JUNE 16, 2022
ANALYTICAL DATE : JUNE 16-22, 2022
REPORT NO. : 2022-U048947
WORK NO. : 2022-004625
ANALYSIS NO. : T22AL662-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดตรวจน้ำออกนอกโครงการ T22AL662-0003		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	6.8 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O C AND 5210 B)	17.7	≤ 30	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	24.0	≤ 40	5.0
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: 4500-Norg C	15.1	≤ 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)	< 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.

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ND : NON-DETECTABLE

Piyapat S.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

JUNE 28, 2022

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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	: EFFLUENT	RECEIVED DATE	: JANUARY 21, 2022
SAMPLING DATE	: JANUARY 20, 2022	ANALYTICAL DATE	: JANUARY 21-31, 2022
SAMPLING TIME	: -	REPORT NO.	: 2022-U007691
SAMPLING METHOD	: -	WORK NO.	: 2022-000355
SAMPLING BY	: CUSTOMER	ANALYSIS NO.	: T22AB230-0002
ANALYZED BY	: MISS AMONRAT PUTTALEE		

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดระบายออกนอกโครงการ T22AB230-0002		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.0 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O C AND 5210 B)	6.7	≤ 30	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	12.4	≤ 40	5.0
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: 4500-Norg C	7.9	≤ 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)	< 1.8	-	1.8
SAMPLE CONDITION					
WATER'S COLOUR/TURBID			YELLOW/CLEAR		
SEDIMENT			BROWN		

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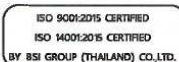
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Piyapat S.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

FEBRUARY 2, 2022



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SAMPLE TYPE : EFFLUENT
SAMPLING DATE : MARCH 23, 2022
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS AMONRAT PUTTALEE

RECEIVED DATE : MARCH 24, 2022
ANALYTICAL DATE : MARCH 24-31, 2022
REPORT NO. : 2022-U024860
WORK NO. : 2022-002111
ANALYSIS NO. : T22AF724-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดระบายน้ำออกนอกโครงการ T22AF724-0003		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.0 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O C AND 5210 B)	17.1	≤ 30	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	18.4	≤ 40	5.0
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: 4500-Norg C	15.2	≤ 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)	23	-	1.8
SAMPLE CONDITION					
WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN		

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

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(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

APRIL 4, 2022

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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 : APRIL 21, 2022
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS AMONRAT PUTTALEE
RECEIVED DATE : APRIL 22, 2022
ANALYTICAL DATE : APRIL 22-29, 2022
REPORT NO. : 2022-U032103
WORK NO. : 2022-002706
ANALYSIS NO. : T22AH548-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดตรวจน้ำออกนอกโครงการ T22AH548-0003		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	6.9 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O C AND 5210 B)	8.4	≤ 30	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	16.5	≤ 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)	13	-	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.

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

Piyapat S.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

MAY 6, 2022



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 : MAY 26, 2022
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS AMONRAT PUTTALEE

RECEIVED DATE : MAY 27, 2022
ANALYTICAL DATE : MAY 27 - JUNE 2, 2022
REPORT NO. : 2022-U042696
WORK NO. : 2022-003226
ANALYSIS NO. : T22AK146-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดตรวจน้ำออก นอกโครงการ T22AK146-0003		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	6.8 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O C AND 5210 B)	14.8	≤ 30	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	17.2	≤ 40	5.0
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: 4500-Norg C	5.2	≤ 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)	< 1.8	-	1.8
SAMPLE CONDITION					
WATER'S COLOUR/TURBID			YELLOW/TURBID		
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 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 9, 2022

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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 : WASTEWATER
SAMPLING DATE : JUNE 14, 2022
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS AMONRAT PUTTALEE

RECEIVED DATE : JUNE 16, 2022
ANALYTICAL DATE : JUNE 16-22, 2022
REPORT NO. : 2022-U048944
WORK NO. : 2022-004625
ANALYSIS NO. : T22AL662-0001 - T22AL662-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT
			1 T22AL662-0001	2 T22AL662-0002		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	8.2 (25°C)	6.8 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O C AND 5210 B)	131	18.2	≤ 30	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	83.6	25.0	≤ 40	5.0
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: 4500-Norg C	47.1	15.8	≤ 35	1.5
FAT, OIL AND GREASE ^a	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	13	-	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)

^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.

Piyapat S.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

JUNE 28, 2022



ผลวิเคราะห์คุณภาพน้ำสระว่ายน้ำ



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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



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 ต่อ 218 e-mail : purchase-asst2@kasemkij.com
SAMPLING SOURCE : CAPE HOUSE LUANGSUAN
SAMPLE TYPE : WATER SAMPLE FROM SWIMMING POOL
SAMPLING DATE : JANUARY 20, 2022
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS ITSARIYAPORN BUATIB

RECEIVED DATE : JANUARY 21, 2022
ANALYTICAL DATE : JANUARY 21-25, 2022
REPORT NO. : 2022-U011793
WORK NO. : 2022-000356
ANALYSIS NO. : T22AB229-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SWIMMING POOL (DEEP ZONE) T22AB229-0001		
pH ^c	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.4 (25°C)	7.2-7.6*	-
RESIDUAL CHLORINE ^{a c}	mg/L Cl ₂	DPD FERROUS TITRIMETRIC METHOD (SM: 4500-Cl F)	2.2	1.0-3.0*	0.1
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	< 1.1	< 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).

^a : SAMPLING ON FEBRUARY 11, 2022, ANALYSIS NO. T22AC505-0001 (ANALYTICAL DATE : FEBRUARY 11-15, 2022).

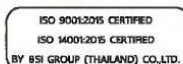
THE REASON FOR ISSUING THE NEW REPORT IS SUBSTITUTE RESULT.

SUBSTITUTED REPORT FOR REPORT NO. 2022-U007565, DATED FEBRUARY 2, 2022.

Chaweevan B.

(MISS CHAWEEVAN BOONLA)
LABORATORY SUPERVISOR

FEBRUARY 21, 2022



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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 ต่อ 218 e-mail : purchase-asst2@kasemkij.com
SAMPLING SOURCE : CAPE HOUSE LUANGSUAN
SAMPLE TYPE : WATER SAMPLE FROM SWIMMING POOL
SAMPLING DATE : APRIL 21, 2022
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS ITSARIYAPORN BUATIB
RECEIVED DATE : APRIL 22, 2022
ANALYTICAL DATE : APRIL 22-29, 2022
REPORT NO. : 2022-U032117
WORK NO. : 2022-002707
ANALYSIS NO. : T22AH549-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SWIMMING POOL (DEEP ZONE) T22AH549-0001		
pH ^c	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.4 (25°C)	7.2-7.6*	-
RESIDUAL CHLORINE ^c	mg/L Cl ₂	DPD FERROUS TITRIMETRIC METHOD (SM: 4500-Cl F)	1.0	1.0-3.0*	0.1
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	< 1.1	< 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 DISTRICTAL TO HEALTH, B.E. 2530 (1987).

* : NATIONAL SPA AND POOL INSTITUTE (NSPI).

Chaweevan B.

(MISS CHAWEEVAN BOONLA)
LABORATORY SUPERVISOR

MAY 6, 2022

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