

ผลวิเคราะห์คุณภาพน้ำทิ้งของระบบบำบัดน้ำเสีย



United Analyst and Engineering Consultant Co., Ltd.

3 Soi Udomsuk 41, Sukhumvit Road, Bangkok, Phra Khanong, Bangkok 10260

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NSC-TISI-TIS 17025
TESTING 0207



TESTING
No. 0063

ANALYSIS REPORT

CUSTOMER NAME : KASEMKI COMPANY LIMITED
ADDRESS : 43 LANGSUAN PLOENCHIT ROAD, LUMPHINI PATHUM WAN BANGKOK 10330
CONTACT INFORMATION : TEL : 0 2233 8989-98 e-mail : kj-qc@kasemki.com
SAMPLING SOURCE : WASTEWATER TREATMENT PLANT OF CAPE HOUSE, LUANGSUAN
SAMPLE TYPE : WASTEWATER
SAMPLING DATE : JULY 14, 2021
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS AMONRAT PUTTALEE

RECEIVED DATE : JULY 15, 2021
ANALYTICAL DATE : JULY 15-22, 2021
REPORT NO. : 2021-U51774
WORK NO. : 2021-004922
ANALYSIS NO. : T21AN016-0001 - T21AN016-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT
			1 T21AN016-0001	2 T21AN016-0002		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.6 (25°C)	6.9 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O C AND 5210 B)	60.6	14.2	≤ 30	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	43.2	19.4	≤ 40	5.0
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP-WAS.001 (KJELDAHL METHOD); SM: 4500-Norg C	38.6	< LOQ	≤ 35	15
FAT, OIL AND GREASE ^a	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: 5520 B)	3	ND	≤ 20	3
MICROBIOLOGY						
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 E)	>160,000	< 18	-	18
SAMPLE CONDITION						
WATER'S COLOUR/TURBID			YELLOW/TURBID	YELLOW/CLEAR		
SEDIMENT			BROWN	BROWN		

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

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

^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.

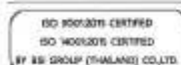
ND : NON-DETECTABLE

< LOQ : < LEVEL OF QUANTITATION (TOTAL KJELDAHL NITROGEN ≥ 15 AND < 5.0 mg/L).

Piyapat S.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

JULY 29, 2021



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ANALYSIS REPORT

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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 : OCTOBER 21, 2021
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS AMONRAT PUTTALEE
RECEIVED DATE : OCTOBER 23, 2021
ANALYTICAL DATE : OCTOBER 23 - NOVEMBER 1, 2021
REPORT NO. : 2021-U80763
WORK NO. : 2021-006709
ANALYSIS NO. : T21AUB19-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			EFFLUENT (LS BUILDING) T21AUB19-0001		
pH ^a	-	ELECTROMETRIC METHOD (SM 4500-H ⁺ B)	7.0 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^b	mg/L	AZIDE MODIFICATION METHOD (SM 4500-O ₂ C AND 5210 B)	13.4	≤ 30	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM 2540 D)	18.9	≤ 40	5.0
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM 4500-Norg C	16.1	≤ 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			YELLOW		

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

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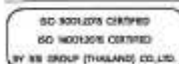
REGULATORY STANDARD : RANGE OR MAXIMUM PERMITTED VALUE FOR BUILDING EFFLUENT STANDARDS CLASS B, NOTIFICATION OF THE MINISTRY OF RESOURCES AND ENVIRONMENT, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL 122, PART 125 D, DATED DECEMBER 29, 2005.

ND : NON-DETECTABLE.



(MRS PIYAPAT SUTTAMANTWONG)
LABORATORY SUPERVISOR

NOVEMBER 4, 2021



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ผลวิเคราะห์คุณภาพน้ำทิ้งที่จุดระบายน้ำทิ้งออกนอกโครงการ



United Analyst and Engineering Consultant Co., Ltd.

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NSC-TISI-TIS 17025
TESTING 0287



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ANALYSIS REPORT

CUSTOMER NAME	: KASEMKI COMPANY LIMITED		
ADDRESS	: 43 LANGSUAN PLOENCHIT ROAD, LUMPHINI PATHUM WAN BANGKOK 10330		
CONTACT INFORMATION	: TEL : 0 2233 8989-98 e-mail : kj-qc@kasemki.com		
SAMPLING SOURCE	: WASTEWATER TREATMENT PLANT OF CAPE HOUSE, LUANGSUAN		
SAMPLE TYPE	: EFFLUENT	RECEIVED DATE	: JULY 15, 2021
SAMPLING DATE	: JULY 14, 2021	ANALYTICAL DATE	: JULY 15-22, 2021
SAMPLING TIME	: -	REPORT NO.	: 2021-U51776
SAMPLING METHOD	: -	WORK NO.	: 2021-004922
SAMPLING BY	: CUSTOMER	ANALYSIS NO.	: T21AND16-0003
ANALYZED BY	: MISS AMONRAT PUTTALEE		

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดระบายออกนอกโครงการ T21AND16-0003		
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 ₂ C AND 5210 B)	13.0	≤ 30	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM 2540 D)	13.0	≤ 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 5620 B)	ND	≤ 20	3
MICROBIOLOGY					
FAECAL COLIFORM BACTERIA ^d	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM 9221 E)	< 18	-	18
SAMPLE CONDITION					
WATER'S COLOUR/TURBID			YELLOW/TURBID		
SEDIMENT			BROWN		

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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.

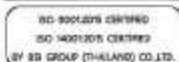
ND : NON-DETECTABLE

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

Piyapat S.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

JULY 29, 2021



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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 8969-98 e-mail : kj-qc@kasemkij.com
SAMPLING SOURCE : WASTEWATER TREATMENT PLANT OF CAPE HOUSE, LUANGSUAN
SAMPLE TYPE : EFFLUENT
SAMPLING DATE : OCTOBER 21, 2021
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS AMONRAT PUTTALEE
RECEIVED DATE : OCTOBER 23, 2021
ANALYTICAL DATE : OCTOBER 23 - NOVEMBER 1, 2021
REPORT NO. : 2021-U80764
WORK NO. : 2021-006709
ANALYSIS NO. : T21AUS19-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			ผลการทดสอบ ตามมาตรฐาน T21AUS19-0002		
pH ^a	-	ELECTROMETRIC METHOD (SM 4500-H ⁺ B)	7.1 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM 4500-O C AND 5210 B)	10.0	≤ 30	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM 2540 D)	16.8	≤ 40	5.0
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE/TP WAS.001 (KJELDAHL METHOD); SM 4500-Norg C	19.5	≤ 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)

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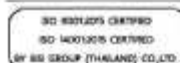
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NOVEMBER 4, 2021



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ANALYSIS REPORT

CUSTOMER NAME	: KASEMKI COMPANY LIMITED			RECEIVED DATE	: JULY 15, 2021
ADDRESS	: 43 LANGSUAN PLOENCHIT ROAD, LUMPINI PATHUM WAN BANGKOK 10330			ANALYTICAL DATE	: JULY 19-20, 2021
CONTACT INFORMATION	: TEL : 0 2233 8989 ต่อ 218 e-mail : purchase-asst2@kasemki.com			REPORT NO.	: 2021-052401
SAMPLING SOURCE	: CAPE HOUSE LUANGSUAN			WORK NO.	: 2021-004930
SAMPLE TYPE	: WATER SAMPLE FROM SWIMMING POOL			ANALYSIS NO.	: T21AN017-0001
SAMPLING DATE	: JULY 14, 2021				
SAMPLING TIME	: -				
SAMPLING METHOD	: -				
SAMPLING BY	: CUSTOMER				
ANALYZED BY	: MISS ITSARIYAPORN BUATIB				

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SWIMMING POOL (DEEP ZONE) T21AN017-0001		
pH ^a	-	ELECTROMETRIC METHOD (SM 4500-H B)	7.4 (25°C)	7.2-7.8*	-
RESIDUAL CHLORINE ^b	mg/L Cl ₂	DPD FERROUS TITRIMETRIC METHOD (SM 4500-Cl F)	3.1	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			COLOURLESS/CLEAR		
SEDIMENT			-		

^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

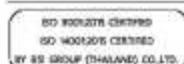
SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

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

* : NATIONAL SPA AND POOL INSTITUTE (NSPI).

(MISS CHAWEEVAN BOONLA)
LABORATORY SUPERVISOR

JULY 29, 2021



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ADDRESS : 43 LANGSUAN PLOENCHIT ROAD, LUMPINI PATHUM WAN BANGKOK 10330
CONTACT INFORMATION : TEL : 0 2233 8989 Fax 218 e-mail : purchase-asst2@kasemki.com
SAMPLING SOURCE : CAPE HOUSE LUANGSUAN
SAMPLE TYPE : WATER SAMPLE FROM SWIMMING POOL
SAMPLING DATE : OCTOBER 21, 2021
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS ITSARIYAPORN BUATIB

RECEIVED DATE : OCTOBER 23, 2021
ANALYTICAL DATE : OCTOBER 23-29, 2021
REPORT NO. : 2021-081062
WORK NO. : 2021-006710
ANALYSIS NO. : T21AUS20-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SWIMMING POOL (DEEP ZONE) T21AUS20-0001		
pH ^a	-	ELECTROMETRIC METHOD (SM 4500-H ⁺ B)	7.3 (25°C)	7.2-7.6 ^a	-
RESIDUAL CHLORINE ^c	mg/L Cl ₂	DPD FERROUS TITRIMETRIC METHOD (SM 4500-CL F)	2.1	1.0-3.0 ^a	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 -		

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