

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

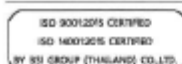
TESTING
No. 0063

ANALYSIS REPORT

CUSTOMER NAME : 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 : JANUARY 27, 2021
SAMPLING TIME : -
SAMPLING METHOD : GRAB, GRAB AND STERILE TECHNIQUE
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS AMONRAT PUTTALEE

RECEIVED DATE : JANUARY 28, 2021
ANALYTICAL DATE : JANUARY 28 - FEBRUARY 4, 2021
REPORT NO. : 2021-U11248
WORK NO. : 2021-000353
ANALYSIS NO. : T21AB320-0001 - T21AB320-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT
			1 T21AB320-0001	2 T21AB320-0002		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-11 B)	7.5 (25°C)	7.2 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O C AND 5210 B)	63.8	29.8	≤ 30	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	39.0	12.9	≤ 40	5.0
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD UAE.TP.TN.02 (KJELDAHL METHOD); SM: 4500-Norg C	63.4	12.1	≤ 35	1.5
FAT, OIL AND GREASE ^a	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: 5520 B)	4	ND	≤ 20	3



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- REPORTED ANALYSIS REFERS TO SUBMITTED SAMPLE ONLY.

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PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT
			1 T21AB320-0001	2 T21AB320-0002		
MICROBIOLOGY						
FAECAL COLIFORM BACTERIA a, b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM 9221E)	>150,000	< 18	-	1.8
SAMPLE CONDITION						
WATER'S COLOUR/TURBID			YELLOW/TURBID	YELLOW/TURBID		
SEDIMENT			YELLOW	YELLOW		

* : 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.

* : PARAMETER ANALYSED OF THE EFFLUENT IS SAMPLING ON FEBRUARY 19, 2021, ANALYSIS NO. T21AC853-0001
(ANALYTICAL DATE : FEBRUARY 19-22, 2021)

ND : NON-DETECTABLE

SUBSTITUTED REPORT FOR REPORT NO. 2021-U06951, DATED FEBRUARY 8, 2021.

Piyapat S.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

MARCH 2, 2021

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 : -
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS AMONRAT PUTTALEE

RECEIVED DATE : FEBRUARY 10, 2021
ANALYTICAL DATE : FEBRUARY 10-18, 2021
REPORT NO. : 2021-U10599
WORK NO. : 2021-001005
ANALYSIS NO. : T21AC058-0001 - T21AC058-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT
			1 T21AC058-0001	2 T21AC058-0002		
pH ^a	-	ELECTROMETRIC METHOD (SM 4500-H ⁺ B)	7.3 (25°C)	7.5 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM 4500-O ₂ C AND 5210 B)	174	16.4	≤ 30	2.0
SUSPENDED SOLIDS ^b	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	158	12.4	≤ 40	5.0
TOTAL KJELDAHL NITROGEN ^c	mg/L	IN-HOUSE METHOD UAE.TP.TN.02 (KJELDAHL METHOD); SM 4500-Norg C	26.4	22.1	≤ 35	1.5
FAT, OIL AND GREASE ^a	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: 5520 B)	26	ND	≤ 20	3
MICROBIOLOGY						
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 E)	>160,000	35,000	-	1.8
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID BROWN	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)

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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

FEBRUARY 22, 2021



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 : APRIL 7, 2021
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS ITSARIYAPORN BUATTIB

RECEIVED DATE : APRIL 7, 2021
ANALYTICAL DATE : APRIL 7-11, 2021
REPORT NO. : 2021-U23344
WORK NO. : 2021-002034
ANALYSIS NO. : T21AF895-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			EFFLUENT T21AF895-0001	
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 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.



(MISS CHAWEEVAN BOONLA)
LABORATORY SUPERVISOR

APRIL 20, 2021





United Analyst and Engineering Consultant Co., Ltd.

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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 : MARCH 10, 2021
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS AMONRAT PUTTALAE
RECEIVED DATE : MARCH 11, 2021
ANALYTICAL DATE : MARCH 11-18, 2021
REPORT NO. : 2021-U17093
WORK NO. : 2021-001920
ANALYSIS NO. : T21AE016-0001 - T21AE016-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT
			1 T21AE016-0001	2 T21AE016-0002		
pH *	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.8 (25°C)	7.2 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^o	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O ₂ C AND 5210 B)	142	9.5	≤ 30	2.0
SUSPENDED SOLIDS *	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	84.1	8.8	≤ 40	5.0
TOTAL KJELDAHL NITROGEN ^c	mg/L	IN-HOUSE METHOD UAE.TP.TN.02 (KJELDAHL METHOD); SM: 4500-Norg C	55.2	13.2	≤ 35	15
FAT, OIL AND GREASE ^o	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)	>180,000	35,000	-	18
SAMPLE CONDITION						
WATER'S COLOUR/TURBID			YELLOW/TURBID	YELLOW/CLEAR		
SEDIMENT			BROWN	YELLOW		

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

^o : 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

MARCH 23, 2021



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ANALYSIS REPORT

CUSTOMER NAME : KASEMIJ COMPANY LIMITED
ADDRESS : 43 LANGSUAN PLOENCHIT ROAD, LUMPHINI PATHUM WAN BANGKOK 10330
CONTACT INFORMATION : TEL : 0 2233 8989-98 e-mail : kj-qc@kasekij.com
SAMPLING SOURCE : WASTEWATER TREATMENT PLANT OF CAPE HOUSE, LUANGSUAN
SAMPLE TYPE : WASTEWATER
SAMPLING DATE : APRIL 29, 2021
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS AMONRAT PUTTALEE

RECEIVED DATE : APRIL 30, 2021
ANALYTICAL DATE : APRIL 30 - MAY 10, 2021
REPORT NO. : 2021-U35220
WORK NO. : 2021-002700
ANALYSIS NO. : T21AH286-0001 - T21AH286-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT
			1 T21AH286-0001	2 T21AH286-0002		
pH °	-	ELECTROMETRIC METHOD (SM 4500-H ⁺ B)	7.1 (25°C)	7.1 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND A °	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O C AND 5210 B)	104	ND	≤ 30	2.0
SUSPENDED SOLIDS °	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	73.5	12.1	≤ 40	5.0
TOTAL KJELDAHL NITROGEN °	mg/L	IN-HOUSE METHOD: UAE.TP.TN.02 (KJELDAHL METHOD); SM 4500-Norg C	31.9	9.9	≤ 35	1.5
FAT, OIL AND GREASE °	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: 5520 B)	ND	ND	≤ 20	3



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT
			1 T21AH286-0001	2 T21AH286-0002		
MICROBIOLOGY						
FAECAL COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM 9221E)	>100,000	< 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.

^a : PARAMETER ANALYSED OF THE EFFLUENT IS SAMPLING BY CUSTOMER ON MAY 20, 2021, ANALYSIS NO. T21AH668-0001 (ANALYTICAL DATE : MAY 21-26, 2021).

ND : NON-DETECTABLE.

SUBSTITUTED REPORT FOR REPORT NO. 2021-U30153, DATED MAY 13, 2021.

Piyapat S.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

JUNE 8, 2021

ผลวิเคราะห์คุณภาพน้ำทิ้งที่จุดระบายน้ำทิ้งออกนอกโครงการ



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 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 : JANUARY 27, 2021
SAMPLING TIME : -
SAMPLING METHOD : GRAB, GRAB AND STERILE TECHNIQUE
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS AMONRAT PUTTALEE

RECEIVED DATE : JANUARY 28, 2021
ANALYTICAL DATE : JANUARY 28 - FEBRUARY 4, 2021
REPORT NO. : 2021-U06852
WORK NO. : 2021-000353
ANALYSIS NO. : T21AB320-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT จุดระบายออกนอกโครงการ T21AB320-0003	REGULATORY STANDARD	DETECTION LIMIT
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.3 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O C AND 5210 B)	13.4	≤ 30	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	8.2	≤ 40	5.0
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD UAE.TP.TN.02 (KJELDAHL METHOD); SM: 4500-Norg C	12.5	≤ 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)	3,100	-	1.8
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID 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.

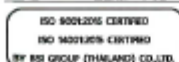
REGULATORY STANDARD : RANGE OR MAXIMUM PERMITTED VALUE FOR BUILDING EFFLUENT STANDARDS CLASS B, NOTIFICATION OF THE MINISTRY OF RESOURCES AND ENVIRONMENT, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL. 122, PART 125 D, DATED DECEMBER 29, 2005.

ND : NON-DETECTABLE.

Piyapat S.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

FEBRUARY 8, 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 : -
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS AMONRAT PUTTALEE

RECEIVED DATE : FEBRUARY 10, 2021
ANALYTICAL DATE : FEBRUARY 10-18, 2021
REPORT NO. : 2021-U10600
WORK NO. : 2021-001005
ANALYSIS NO. : T21AC058-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			จุดตรวจคุณภาพ ตามโครงการ T21AC058-0003		
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)	19.4	≤ 30	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	14.2	≤ 40	5.0
TOTAL KJELDAHL NITROGEN ^c	mg/L	IN-HOUSE METHOD UAE.TP.TN.02 (KJELDAHL METHOD); SM: 4500-Norg C	218	≤ 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)	24,000	-	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.

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ND : NON-DETECTABLE.

Piyapat S.

(MRS PIYAPAT SUTTAMNUTWONG)
LABORATORY SUPERVISOR

FEBRUARY 22, 2021



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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** : APRIL 7, 2021
SAMPLING DATE : APRIL 7, 2021 **ANALYTICAL DATE** : APRIL 7-11, 2021
SAMPLING TIME : - **REPORT NO.** : 2021-U23345
SAMPLING METHOD : - **WORK NO.** : 2021-002034
SAMPLING BY : CUSTOMER **ANALYSIS NO.** : T21AF895-0002
ANALYZED BY : MISS ITSARIYAPORN BUATIB

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	DETECTION LIMIT
			จุลชีววิทยา แบคทีเรีย T21AF895-0002	
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			COLOURLESS/CLEAR	
SEDIMENT			-	

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

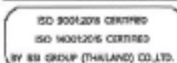
^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^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.

(MISS CHAWEEVAN BOONLA)
LABORATORY SUPERVISOR

APRIL 20, 2021



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* REPORTED ANALYSIS REFERS TO SUBMITTED SAMPLE ONLY.

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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 : MARCH 10, 2021
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS AMONRAT PUTTALEE

RECEIVED DATE : MARCH 11, 2021
ANALYTICAL DATE : MARCH 11-18, 2021
REPORT NO. : 2021-U17094
WORK NO. : 2021-001920
ANALYSIS NO. : T21AE016-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			ทดสอบตามเกณฑ์โครงการ T21AE016-0003		
pH ^a	-	ELECTROMETRIC METHOD (SM 4500-H ⁺ B)	7.2 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM 4500-O ₂ C AND 5210 B)	8.6	≤ 30	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM 2540 D)	8.8	≤ 40	5.0
TOTAL KJELDAHL NITROGEN ^c	mg/L	IN-HOUSE METHOD UAE.TP.TN.02 (KJELDAHL METHOD); SM 4500-Norg C	14.1	≤ 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)	35,000	-	1.8
SAMPLE CONDITION					
WATER'S COLOUR/TURBID			YELLOW/CLEAR		
SEDIMENT			YELLOW		

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

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

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

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

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

REGULATORY STANDARD : RANGE OR MAXIMUM PERMITTED VALUE FOR BUILDING EFFLUENT STANDARDS CLASS 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 SUTTAMANUTWONG)
LABORATORY SUPERVISOR

MARCH 23, 2021



ANALYSIS REPORT

CUSTOMER NAME : KASEMIJ COMPANY LIMITED
ADDRESS : 43 LANGSUAN PLOENCHIT ROAD, LUMPHINI PATHUM WAN BANGKOK 10330
CONTACT INFORMATION : TEL : 0 2233 8989-98 e-mail : kj-qc@kasekij.com
SAMPLING SOURCE : WASTEWATER TREATMENT PLANT OF CAPE HOUSE, LUANGSUAN
SAMPLE TYPE : EFFLUENT
SAMPLING DATE : APRIL 29, 2021
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS AMONRAT PUTTALEE

RECEIVED DATE : APRIL 30, 2021
ANALYTICAL DATE : APRIL 30 - MAY 10, 2021
REPORT NO. : 2021-U35221
WORK NO. : 2021-002700
ANALYSIS NO. : T21AH286-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT ผลการทดสอบ แล็บทดสอบ T21AH286-0003	REGULATORY STANDARD	DETECTION LIMIT
pH ^c	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.0 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^a	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O ₂ C AND 5210 B)	ND	≤ 30	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	10.5	≤ 40	5.0
TOTAL KJELDAHL NITROGEN ^c	mg/L	IN-HOUSE METHOD: UAE.TP.TN.02 (KJELDAHL METHOD); SM: 4500-Norg C	6.2	≤ 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/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.

^a : PARAMETER ANALYSED OF THE EFFLUENT IS SAMPLING BY CUSTOMER ON MAY 20, 2021, ANALYSIS NO. T21AH668-0002 (ANALYTICAL DATE : MAY 21-26, 2021).

ND : NON-DETECTABLE

SUBSTITUTED REPORT FOR REPORT NO. 2021-U30154, DATED MAY 13, 2021.

Piyapat S.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

JUNE 8, 2021



ผลวิเคราะห์คุณภาพน้ำสระว่ายน้ำ



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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 3831 4288 e-mail : kj-qc@kasemkij.com
SAMPLING SOURCE : CAPE HOUSE LUANGSUAN
SAMPLE TYPE : WATER SAMPLE FROM SWIMMING POOL
SAMPLING DATE : JANUARY 27, 2021
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS ITSARIYAPORN BUATIB

RECEIVED DATE : JANUARY 28, 2021
ANALYTICAL DATE : JANUARY 28 - FEBRUARY 4, 2021
REPORT NO. : 2021-U11138
WORK NO. : 2021-000354
ANALYSIS NO. : T21AB321-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SWIMMING POOL (DEEP ZONE) T21AB321-0001		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.3 (25°C)	7.2-7.6*	-
RESIDUAL CHLORINE ^{a, c}	mg/L Cl ₂	DPD FERROUS TITRIMETRIC METHOD (SM: 4500-Cl F)	2.3	1.0-3.0*	0.1
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221B)	< 1.1	< 10	1.1
SAMPLE CONDITION					
WATER'S COLOUR/TURBID			COLOURLESS/CLEAR		
SEDIMENT					

* : 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 DISTRIMENTAL TO HEALTH, B.E. 2530 (1987).

* : NATIONAL SPA AND POOL INSTITUTE (NSPI).

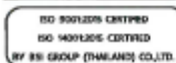
^a : SAMPLING ON FEBRUARY 19, 2021, ANALYSIS NO. T21AC555-0001 (ANALYTICAL DATE : FEBRUARY 19-22, 2021).

SUBSTITUTED REPORT FOR REPORT NO. 2021-U06876, DATED FEBRUARY 8, 2021

Chaweevan B.

(MISS CHAWEEWAN BOONLA)
LABORATORY SUPERVISOR

MARCH 1, 2021



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• REPORTED ANALYSIS REFERS TO SUBMITTED SAMPLE ONLY.

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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 a/a 218 e-mail : purchase-asst2@kasemkij.com
SAMPLING SOURCE : CAPE HOUSE LUANGSUAN
SAMPLE TYPE : WATER SAMPLE FROM SWIMMING POOL
SAMPLING DATE : APRIL 29, 2021
SAMPLING TIME : -
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS ITSARIYAPORN BUATJIB

RECEIVED DATE : APRIL 30, 2021
ANALYTICAL DATE : APRIL 30 - MAY 11, 2021
REPORT NO. : 2021-U43706
WORK NO. : 2021-002701
ANALYSIS NO. : T21AH291-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SWIMMING POOL (DEEP ZONE) T21AH291-0001		
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)	1.8	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).

A : SAMPLING BY CUSTOMER ON JUNE 21, 2021, ANALYSIS NO. T21AK727-0001 (ANALYTICAL DATE : JUNE 22- 24, 2021)

SUBSTITUTED REPORT FOR REPORT NO. 2021-U30346, DATED MAY 14, 2021.



(MISS CHAWEEVAN BOONLA)
LABORATORY SUPERVISOR

JULY 1, 2021

