

ANALYSIS REPORT

CUSTOMER NAME	: CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN	RECEIVED DATE	: JANUARY 20, 2022
ADDRESS	: 1 DAMNERNKASEM ROAD HUA HIN HUA HIN PRACHUAP KHIRI KHAN 77110	ANALYTICAL DATE	: JANUARY 20-26, 2022
CONTACT INFORMATION	: TEL : 094 665 9829 e-mail : suratsa@chr.co.th	REPORT NO.	: 2022-U007232
SAMPLING SOURCE	: WASTEWATER TREATMENT PLANT	WORK NO.	: 2021-008472
SAMPLE TYPE	: WASTEWATER	ANALYSIS NO.	: T22AB094-0001 - T22AB094-0002
SAMPLING DATE	: JANUARY 18, 2022		
SAMPLING TIME	: 10:00 HOUR		
SAMPLING METHOD	: -		
SAMPLING BY	: CUSTOMER		
ANALYZED BY	: MISS AMONRAT PUTTALEE		

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT
			1 T22AB094-0001	2 T22AB094-0002		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	6.8 (25°C)	7.2 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O C AND 5210 B)	217	ND	≤ 20	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	124	8.1	≤ 30	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAO.007 (TOTAL DISSOLVED SOLIDS DRIED AT 103-105 °C); SM 2540 C	-	322	500*	25
SETTLABLE SOLIDS ^c	mL/L	IMHOFF CONE (SM: 2540 F)	-	< 0.1	≤ 0.5	0.1
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: 4500-Norg C	-	< LOQ	≤ 35	1.5
SULPHIDE ^c	mg/L	IODOMETRIC METHOD (SM: 4500-S ²⁻ F)	-	ND	≤ 1.0	0.50
FAT, OIL AND GREASE ^a	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: 5520 B)	-	ND	≤ 20	3



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT
			1 T22AB094-0001	2 T22AB094-0002		
MICROBIOLOGY						
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	-	700	-	1.8
SAMPLE CONDITION						
WATER'S COLOUR/TURBID			YELLOW/TURBID	YELLOW/CLEAR		
SEDIMENT			BROWN	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.

RESULT 1 : INFLUENT

RESULT 2 : EFFLUENT

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

500* : PERMITTED EXCESS VALUE TO TOTAL DISSOLVED SOLIDS OF ACTUAL TAP WATER USED
(TOTAL DISSOLVED SOLIDS STANDARD VALUE OF TAP WATER QUALITY IS 1,000 mg/L).

ND : NON-DETECTABLE.

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

COMMENT : ALL TESTED PARAMETERS OF THE EFFLUENT ARE COMPLIED WITH REGULATORY STANDARD.

Piyapat S.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

FEBRUARY 1, 2022

ANALYSIS REPORT

CUSTOMER NAME : CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN
ADDRESS : 1 DAMNERNKASEM ROAD HUA HIN HUA HIN PRACHUAP KHIRI KHAN 77110
CONTACT INFORMATION : TEL : 094 665 9829 e-mail : suratsa@chr.co.th
SAMPLING SOURCE : BEACH IN FRONT OF CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN
SAMPLE TYPE : SEAWATER
SAMPLING DATE : JANUARY 18, 2022
SAMPLING TIME : 09:00 HOUR
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS ITSARIYAPORN BUATIB

RECEIVED DATE : JANUARY 20, 2022
ANALYTICAL DATE : JANUARY 20-26, 2022
REPORT NO. : 2022-U007726
WORK NO. : 2021-008472
ANALYSIS NO. : T22AB093-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SEA WATER T22AB093-0001		
pH ^c	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.8 (25°C)	7.0-8.5	-
TOTAL AMMONIA ^b	µg/L N	IN-HOUSE METHOD: UAE.TP.WAT.001 BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA&WEF, 23rd ED., 2017, PART 4500-NH ₃ H	157	≤ 200	10.0
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	330	≤ 1,000	1.8
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			WHITE/TURBID WHITE		

^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 : SEAWATER QUALITY STANDARDS, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD, B.E. 2560.

CLASS 4 : RECREATION AREAS SHALL BE APPLIED TO THE WATER ALLOWED BY THE LOCAL ADMINISTRATIVE ORGANIZATION
FOR SWIMMING OR OTHER RECREATIONAL ACTIVITIES.

COMMENT : ALL TESTED PARAMETERS ARE COMPLIED WITH REGULATORY STANDARD.

Chaweevan B.

(MISS CHAWEEWAN BOONLA)
LABORATORY SUPERVISOR

FEBRUARY 3, 2022



ANALYSIS REPORT

CUSTOMER NAME : CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN
ADDRESS : 1 DAMNERNKASEM ROAD HUA HIN HUA HIN PRACHUAP KHIRI KHAN 77110
CONTACT INFORMATION : TEL : 094 665 9829 e-mail : suratsa@chr.co.th
SAMPLING SOURCE : SWIMMING POOL
SAMPLE TYPE : WATER SAMPLE FROM SWIMMING POOL
SAMPLING DATE : JANUARY 18, 2022
SAMPLING TIME : 09:10 HOUR
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS ITSARIYAPORN BUATIB

RECEIVED DATE : JANUARY 20, 2022
ANALYTICAL DATE : JANUARY 20-25, 2022
REPORT NO. : 2022-U007727
WORK NO. : 2021-008472
ANALYSIS NO. : T22AB093-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SWIMMING POOL WATER T22AB093-0002		
pH ^c	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.1 (25°C)	7.2-8.4	-
RESIDUAL CHLORINE ^c	mg/L Cl ₂	DPD FERROUS TITRIMETRIC METHOD (SM: 4500-Cl F)	5.6	0.6-1.0	0.1
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	< 1.1	< 10	1.1
<i>E. coli</i> ^b	/100 mL	FLUOROGENIC SUBSTRATE TEST (SM: 9221 D AND F)	ABSENCE	ABSENCE	-
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).

COMMENT : ALL TESTED PARAMETERS ARE COMPLIED WITH REGULATORY STANDARD EXCEPT pH AND RESIDUAL CHLORINE.

Chaweevan B.

(MISS CHAWEEWAN BOONLA)
LABORATORY SUPERVISOR

FEBRUARY 3, 2022



ANALYSIS REPORT

CUSTOMER NAME : CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN
ADDRESS : 1 DAMNERNKASEM ROAD HUA HIN HUA HIN PRACHUAP KHIRI KHAN 77110
CONTACT INFORMATION : TEL : 094 665 9829 e-mail : suratsa@chr.co.th
SAMPLING SOURCE : STORAGE TANK
SAMPLE TYPE : WATER SUPPLY
SAMPLING DATE : JANUARY 18, 2022
SAMPLING TIME : 09:30 HOUR
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS ITSARIYAPORN BUATIB

RECEIVED DATE : JANUARY 20, 2022
ANALYTICAL DATE : JANUARY 20-25, 2022
REPORT NO. : 2022-U007728
WORK NO. : 2021-008472
ANALYSIS NO. : T22AB093-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			STORAGE TANK T22AB093-0003		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.8 (25°C)	6.5-8.5	-
RESIDUAL CHLORINE ^c	mg/L Cl ₂	DPD FERROUS TITRIMETRIC METHOD (SM: 4500-Cl F)	ND	-	0.1
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	< 1.1	< 2.2	1.1
<i>E. coli</i> ^b	/100 mL	FLUOROGENIC SUBSTRATE TEST (SM: 9221 D AND F)	ABSENCE	ABSENCE	-
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 : BOTTLED DRINKING WATER QUALITY STANDARDS, NOTIFICATION OF THE MINISTRY OF PUBLIC HEALTH, NO.61, B.E. 2524 (1981) ISSUED UNDER THE FOOD ACT, B.E. 2522 (1979), PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL 98, PART 157 (SPECIAL ISSUED), DATED SEPTEMBER 24, B.E. 2524 (1981).

ND : NON-DETECTABLE.

COMMENT : ALL TESTED PARAMETERS ARE COMPLIED WITH REGULATORY STANDARD.



(MISS CHAWEEWAN BOONLA)
LABORATORY SUPERVISOR

FEBRUARY 3, 2022



ANALYSIS REPORT

CUSTOMER NAME : CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN
ADDRESS : 1 DAMNERNKASEM ROAD HUA HIN HUA HIN PRACHUAP KHIRI KHAN 77110
CONTACT INFORMATION : TEL : 094 665 9829 e-mail : suratsa@chr.co.th
SAMPLING SOURCE : WASTEWATER TREATMENT PLANT
SAMPLE TYPE : WASTEWATER
SAMPLING DATE : FEBRUARY 22, 2022
SAMPLING TIME : 14:30 HOUR
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS AMONRAT PUTTALEE

RECEIVED DATE : FEBRUARY 23, 2022
ANALYTICAL DATE : FEBRUARY 23 - MARCH 1, 2022
REPORT NO. : 2022-U015680
WORK NO. : 2021-008472
ANALYSIS NO. : T22AD283-0001 - T22AD283-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT
			1 T22AD283-0001	2 T22AD283-0002		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	6.4 (25°C)	7.6 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O C AND 5210 B)	292	2.1	≤ 20	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	105	8.0	≤ 30	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAO.007 (TOTAL DISSOLVED SOLIDS DRIED AT 103-105 °C); SM 2540 C	-	251	500*	25
SETTLABLE SOLIDS ^c	mL/L	IMHOFF CONE (SM: 2540 F)	-	< 0.1	≤ 0.5	0.1
SULPHIDE ^c	mg/L	IODOMETRIC METHOD (SM: 4500-S ²⁻ F)	-	ND	≤ 1.0	0.50
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: 4500-Norg C	-	< LOQ	≤ 35	1.5
FAT, OIL AND GREASE ^a	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: 5520 B)	-	ND	≤ 20	3



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT
			1 T22AD283-0001	2 T22AD283-0002		
MICROBIOLOGY						
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	-	13	-	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)

^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 A, NOTIFICATION OF THE MINISTRY OF RESOURCES AND ENVIRONMENT, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL 122, PART 125 D, DATED DECEMBER 29, 2005.

500* : PERMITTED EXCESS VALUE TO TOTAL DISSOLVED SOLIDS OF ACTUAL TAP WATER USED
(TOTAL DISSOLVED SOLIDS STANDARD VALUE OF TAP WATER QUALITY IS 1,000 mg/L).

ND : NON-DETECTABLE.

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

COMMENT : ALL TESTED PARAMETERS OF THE EFFLUENT ARE COMPLIED WITH REGULATORY STANDARD.

Piyapat S.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

MARCH 7, 2022

ANALYSIS REPORT

CUSTOMER NAME : CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN
ADDRESS : 1 DAMNERNKASEM ROAD HUA HIN HUA HIN PRACHUAP KHIRI KHAN 77110
CONTACT INFORMATION : TEL : 094 665 9829 e-mail : suratsa@chr.co.th
SAMPLING SOURCE : BEACH IN FRONT OF CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN
SAMPLE TYPE : SEAWATER **RECEIVED DATE** : MARCH 3, 2022
SAMPLING DATE : MARCH 1, 2022 **ANALYTICAL DATE** : MARCH 3-17, 2022
SAMPLING TIME : 10:00 HOUR **REPORT NO.** : 2022-U020427
SAMPLING METHOD : - **WORK NO.** : 2021-008472
SAMPLING BY : CUSTOMER **ANALYSIS NO.** : T22AD967-0001
ANALYZED BY : MISS ITSARIYAPORN BUATIB

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SEA WATER T22AD967-0001		
pH ^c	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.9 (25°C)	7.0-8.5	-
TOTAL AMMONIA ^b	µg/L N	IN-HOUSE METHOD: UAE.TP.WAT.001 BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA&WEF, 23rd ED., 2017, PART 4500-NH ₃ H	136	≤ 200	10.0
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221B)	1,700	≤ 1,000	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.

REGULATORY STANDARD : SEAWATER QUALITY STANDARDS, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD, B.E. 2560.

CLASS 4 : RECREATION AREAS SHALL BE APPLIED TO THE WATER ALLOWED BY THE LOCAL ADMINISTRATIVE ORGANIZATION
FOR SWIMMING OR OTHER RECREATIONAL ACTIVITIES.

COMMENT : ALL TESTED PARAMETERS ARE COMPLIED WITH REGULATORY STANDARD EXCEPT COLIFORM BACTERIA.

Chaweewan B.

(MISS CHAWEEWAN BOONLA)
LABORATORY SUPERVISOR

MARCH 23, 2022



ANALYSIS REPORT

CUSTOMER NAME : CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN
ADDRESS : 1 DAMNERNKASEM ROAD HUA HIN HUA HIN PRACHUAP KHIRI KHAN 77110
CONTACT INFORMATION : TEL : 094 665 9829 e-mail : suratsa@chr.co.th
SAMPLING SOURCE : SWIMMING POOL
SAMPLE TYPE : WATER SAMPLE FROM SWIMMING POOL
SAMPLING DATE : MARCH 1, 2022
SAMPLING TIME : 10:00 HOUR
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS ITSARIYAPORN BUATIB

RECEIVED DATE : MARCH 3, 2022
ANALYTICAL DATE : MARCH 3-9, 2022
REPORT NO. : 2022-U020428
WORK NO. : 2021-008472
ANALYSIS NO. : T22AD967-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SWIMMING POOL WATER T22AD967-0002		
pH ^c	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	6.8 (25°C)	7.2-8.4	-
RESIDUAL CHLORINE ^c	mg/L Cl ₂	DPD FERROUS TITRIMETRIC METHOD (SM: 4500-Cl F)	6.6	0.6-1.0	0.1
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	< 1.1	< 10	1.1
<i>E. coli</i> ^b	/100 mL	FLUOROGENIC SUBSTRATE TEST (SM: 9221 D AND F)	ABSENCE	ABSENCE	-
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 DISTRIMENTAL TO HEALTH, B.E. 2530 (1987).

COMMENT : ALL TESTED PARAMETERS ARE COMPLIED WITH REGULATORY STANDARD EXCEPT pH AND RESIDUAL CHLORINE.

Chaweevan B.

(MISS CHAWEEWAN BOONLA)
LABORATORY SUPERVISOR

MARCH 23, 2022



ANALYSIS REPORT

CUSTOMER NAME : CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN
ADDRESS : 1 DAMNERNKASEM ROAD HUA HIN HUA HIN PRACHUAP KHIRI KHAN 77110
CONTACT INFORMATION : TEL : 094 665 9829 e-mail : suratsa@chr.co.th
SAMPLING SOURCE : STORAGE TANK
SAMPLE TYPE : WATER SUPPLY
SAMPLING DATE : MARCH 1, 2022
SAMPLING TIME : 10:00 HOUR
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS ITSARIYAPORN BUATIB

RECEIVED DATE : MARCH 3, 2022
ANALYTICAL DATE : MARCH 3-9, 2022
REPORT NO. : 2022-U020429
WORK NO. : 2021-008472
ANALYSIS NO. : T22AD967-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			STORAGE TANK T22AD967-0003		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.6 (25°C)	6.5-8.5	-
RESIDUAL CHLORINE ^c	mg/L Cl ₂	DPD FERROUS TITRIMETRIC METHOD (SM: 4500-Cl F)	ND	-	0.1
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	< 1.1	< 2.2	1.1
<i>E. coli</i> ^b	/100 mL	FLUOROGENIC SUBSTRATE TEST (SM: 9221 D AND F)	ABSENCE	ABSENCE	-
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 : BOTTLED DRINKING WATER QUALITY STANDARDS, NOTIFICATION OF THE MINISTRY OF PUBLIC HEALTH, NO.61, B.E. 2524 (1981) ISSUED UNDER THE FOOD ACT, B.E. 2522 (1979), PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL 98, PART 157 (SPECIAL ISSUED), DATED SEPTEMBER 24, B.E. 2524 (1981).

ND : NON-DETECTABLE.

COMMENT : ALL TESTED PARAMETERS ARE COMPLIED WITH REGULATORY STANDARD.



(MISS CHAWEEVAN BOONLA)
LABORATORY SUPERVISOR

MARCH 23, 2022



ANALYSIS REPORT

CUSTOMER NAME : CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN
ADDRESS : 1 DAMNERNKASEM ROAD HUA HIN HUA HIN PRACHUAP KHIRI KHAN 77110
CONTACT INFORMATION : TEL : 094 665 9829 e-mail : suratsa@chr.co.th
SAMPLING SOURCE : WASTEWATER TREATMENT PLANT
SAMPLE TYPE : WASTEWATER
SAMPLING DATE : MARCH 15, 2022
SAMPLING TIME : 09:00 HOUR
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS AMONRAT PUTTALEE

RECEIVED DATE : MARCH 17, 2022
ANALYTICAL DATE : MARCH 17-25, 2022
REPORT NO. : 2022-U023250
WORK NO. : 2021-008472
ANALYSIS NO. : T22AF109-0001 - T22AF109-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT
			1 T22AF109-0001	2 T22AF109-0002		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	6.6 (25°C)	7.2 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O C AND 5210 B)	264	6.0	≤ 20	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	101	7.7	≤ 30	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAO.007 (TOTAL DISSOLVED SOLIDS DRIED AT 103-105 °C); SM 2540 C	-	272	500*	25
SETTLABLE SOLIDS ^c	mL/L	IMHOFF CONE (SM: 2540 F)	-	< 0.1	≤ 0.5	0.1
SULPHIDE ^c	mg/L	IODOMETRIC METHOD (SM: 4500-S ²⁻ F)	-	ND	≤ 1.0	0.50
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: 4500-Norg C	-	< LOQ	≤ 35	1.5
FAT, OIL AND GREASE ^a	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: 5520 B)	-	ND	≤ 20	3



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT
			1 T22AF109-0001	2 T22AF109-0002		
MICROBIOLOGY						
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	-	35,000	-	1.8
SAMPLE CONDITION						
WATER'S COLOUR/TURBID			YELLOW/TURBID	YELLOW/CLEAR		
SEDIMENT			BROWN	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.

RESULT 1 : INFLUENT

RESULT 2 : EFFLUENT

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

500* : PERMITTED EXCESS VALUE TO TOTAL DISSOLVED SOLIDS OF ACTUAL TAP WATER USED
(TOTAL DISSOLVED SOLIDS STANDARD VALUE OF TAP WATER QUALITY IS 1,000 mg/L).

ND : NON-DETECTABLE.

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

COMMENT : ALL TESTED PARAMETERS OF THE EFFLUENT ARE COMPLIED WITH REGULATORY STANDARD.

Piyapat S.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

MARCH 30, 2022

ANALYSIS REPORT

CUSTOMER NAME : CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN
ADDRESS : 1 DAMNERNKASEM ROAD HUA HIN HUA HIN PRACHUAP KHIRI KHAN 77110
CONTACT INFORMATION : TEL : 094 665 9829 e-mail : suratsa@chr.co.th
SAMPLING SOURCE : BEACH IN FRONT OF CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN
SAMPLE TYPE : SEAWATER **RECEIVED DATE** : MARCH 17, 2022
SAMPLING DATE : MARCH 15, 2022 **ANALYTICAL DATE** : MARCH 17-23, 2022
SAMPLING TIME : 09:00 HOUR **REPORT NO.** : 2022-U023870
SAMPLING METHOD : - **WORK NO.** : 2021-008472
SAMPLING BY : CUSTOMER **ANALYSIS NO.** : T22AF110-0001
ANALYZED BY : MISS ITSARIYAPORN BUATIB

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SEAWATER T22AF110-0001		
pH ^c	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.9 (25°C)	7.0-8.5	-
TOTAL AMMONIA ^b	µg/L N	IN-HOUSE METHOD: UAE.TP.WAT.001 BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA&WEF, 23rd ED., 2017, PART 4500-NH ₃ H	582	≤ 200	10.0
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221B)	920	≤ 1,000	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.

REGULATORY STANDARD : SEAWATER QUALITY STANDARDS, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD, B.E. 2560.

CLASS 4 : RECREATION AREAS SHALL BE APPLIED TO THE WATER ALLOWED BY THE LOCAL ADMINISTRATIVE ORGANIZATION
FOR SWIMMING OR OTHER RECREATIONAL ACTIVITIES.

COMMENT : ALL TESTED PARAMETERS ARE COMPLIED WITH REGULATORY STANDARD EXCEPT TOTAL AMMONIA.



(MISS CHAWEEWAN BOONLA)
LABORATORY SUPERVISOR

APRIL 1, 2022



ANALYSIS REPORT

CUSTOMER NAME : CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN
ADDRESS : 1 DAMNERNKASEM ROAD HUA HIN HUA HIN PRACHUAP KHIRI KHAN 77110
CONTACT INFORMATION : TEL : 094 665 9829 e-mail : suratsa@chr.co.th
SAMPLING SOURCE : SWIMMING POOL
SAMPLE TYPE : WATER SAMPLE FROM SWIMMING POOL
SAMPLING DATE : MARCH 15, 2022
SAMPLING TIME : 09:30 HOUR
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS ITSARIYAPORN BUATIB

RECEIVED DATE : MARCH 17, 2022
ANALYTICAL DATE : MARCH 17-21, 2022
REPORT NO. : 2022-U023871
WORK NO. : 2021-008472
ANALYSIS NO. : T22AF110-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SWIMMING POOL WATER T22AF110-0002		
pH ^c	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.2 (25°C)	7.2-8.4	-
RESIDUAL CHLORINE ^c	mg/L Cl ₂	DPD FERROUS TITRIMETRIC METHOD (SM: 4500-Cl F)	6.3	0.6-1.0	0.1
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	< 1.1	< 10	1.1
<i>E. coli</i> ^b	/100 mL	FLUOROGENIC SUBSTRATE TEST (SM: 9221 D AND F)	ABSENCE	ABSENCE	-
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).

COMMENT : ALL TESTED PARAMETERS ARE COMPLIED WITH REGULATORY STANDARD EXCEPT RESIDUAL CHLORINE.



(MISS CHAWEEVAN BOONLA)
LABORATORY SUPERVISOR

APRIL 1, 2022



ANALYSIS REPORT

CUSTOMER NAME : CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN
ADDRESS : 1 DAMNERNKASEM ROAD HUA HIN HUA HIN PRACHUAP KHIRI KHAN 77110
CONTACT INFORMATION : TEL : 094 665 9829 e-mail : suratsa@chr.co.th
SAMPLING SOURCE : STORAGE TANK
SAMPLE TYPE : WATER SUPPLY
SAMPLING DATE : MARCH 15, 2022
SAMPLING TIME : 09:40 HOUR
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS ITSARIYAPORN BUATIB

RECEIVED DATE : MARCH 17, 2022
ANALYTICAL DATE : MARCH 17-21, 2022
REPORT NO. : 2022-U023872
WORK NO. : 2021-008472
ANALYSIS NO. : T22AF110-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			STORAGE TANK T22AF110-0003		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.5 (25°C)	6.5-8.5	-
RESIDUAL CHLORINE ^c	mg/L Cl ₂	DPD FERROUS TITRIMETRIC METHOD (SM: 4500-Cl F)	ND	-	0.1
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	< 1.1	< 2.2	1.1
<i>E. coli</i> ^b	/100 mL	FLUOROGENIC SUBSTRATE TEST (SM: 9221 D AND F)	ABSENCE	ABSENCE	-
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 : BOTTLED DRINKING WATER QUALITY STANDARDS, NOTIFICATION OF THE MINISTRY OF PUBLIC HEALTH, NO.61, B.E. 2524 (1981) ISSUED UNDER THE FOOD ACT, B.E. 2522 (1979), PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL 98, PART 157 (SPECIAL ISSUED), DATED SEPTEMBER 24, B.E. 2524 (1981).

ND : NON-DETECTABLE.

COMMENT : ALL TESTED PARAMETERS ARE COMPLIED WITH REGULATORY STANDARD.



(MISS CHAWEEWAN BOONLA)
LABORATORY SUPERVISOR

APRIL 1, 2022



ANALYSIS REPORT

CUSTOMER NAME	: CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN	RECEIVED DATE	: APRIL 27, 2022
ADDRESS	: 1 DAMNERNKASEM ROAD HUA HIN HUA HIN PRACHUAP KHIRI KHAN 77110	ANALYTICAL DATE	: APRIL 27 - MAY 6, 2022
CONTACT INFORMATION	: TEL : 094 665 9829 e-mail : suratsa@chr.co.th	REPORT NO.	: 2022-U034079
SAMPLING SOURCE	: WASTEWATER TREATMENT PLANT	WORK NO.	: 2021-008472
SAMPLE TYPE	: WASTEWATER	ANALYSIS NO.	: T22AH896-0001 - T22AH896-0002
SAMPLING DATE	: APRIL 26, 2022		
SAMPLING TIME	: 10:00 HOUR		
SAMPLING METHOD	: -		
SAMPLING BY	: CUSTOMER		
ANALYZED BY	: MISS AMONRAT PUTTALEE		

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT
			1 T22AH896-0001	2 T22AH896-0002		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	6.7 (25°C)	7.1 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O C AND 5210 B)	181	5.6	≤ 20	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	188	14.3	≤ 30	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAO.007 (TOTAL DISSOLVED SOLIDS DRIED AT 103-105 °C); SM 2540 C	-	314	500*	25
SETTLEABLE SOLIDS ^c	mL/L	IMHOFF CONE (SM: 2540 F)	-	< 0.1	≤ 0.5	0.1
SULPHIDE ^c	mg/L	IODOMETRIC METHOD (SM: 4500-S ²⁻ F)	-	ND	≤ 1.0	0.50
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: 4500-Norg C	-	10.2	≤ 35	1.5
FAT, OIL AND GREASE ^a	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: 5520 B)	-	ND	≤ 20	3



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT
			1 T22AH896-0001	2 T22AH896-0002		
MICROBIOLOGY						
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221B)	-	13,000	-	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)

^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 A, NOTIFICATION OF THE
MINISTRY OF RESOURCES AND ENVIRONMENT, PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL 122,
PART 125 D, DATED DECEMBER 29, 2005.

500* : PERMITTED EXCESS VALUE TO TOTAL DISSOLVED SOLIDS OF ACTUAL TAP WATER USED
(TOTAL DISSOLVED SOLIDS STANDARD VALUE OF TAP WATER QUALITY IS 1,000 mg/L).

ND : NON-DETECTABLE.

COMMENT : ALL TESTED PARAMETERS OF THE EFFLUENT ARE COMPLIED WITH REGULATORY STANDARD.

Piyapat S.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

MAY 12, 2022

ANALYSIS REPORT

CUSTOMER NAME : CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN
ADDRESS : 1 DAMNERNKASEM ROAD HUA HIN HUA HIN PRACHUAP KHIRI KHAN 77110
CONTACT INFORMATION : TEL : 094 665 9829 e-mail : suratsa@chr.co.th
SAMPLING SOURCE : BEACH IN FRONT OF CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN
SAMPLE TYPE : SEAWATER **RECEIVED DATE** : APRIL 27, 2022
SAMPLING DATE : APRIL 26, 2022 **ANALYTICAL DATE** : APRIL 27-MAY 9, 2022
SAMPLING TIME : 08:00 HOUR **REPORT NO.** : 2022-U034503
SAMPLING METHOD : - **WORK NO.** : 2021-008472
SAMPLING BY : CUSTOMER **ANALYSIS NO.** : T22AH917-0001
ANALYZED BY : MISS ITSARIYAPORN BUATIB

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SEAWATER T22AH917-0001		
pH ^c	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.8 (25°C)	7.0-8.5	-
TOTAL AMMONIA ^b	µg/L N	IN-HOUSE METHOD: UAE.TP.WAT.001 BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA&WEF, 23rd ED., 2017, PART 4500-NH ₃ H	< LOQ	≤ 200	10.0
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	240	≤ 1,000	1.8
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			WHITE/TURBID WHITE		

^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 : SEAWATER QUALITY STANDARDS, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD, B.E. 2560.

CLASS 4 : RECREATION AREAS SHALL BE APPLIED TO THE WATER ALLOWED BY THE LOCAL ADMINISTRATIVE ORGANIZATION
FOR SWIMMING OR OTHER RECREATIONAL ACTIVITIES.

< LOQ : < LEVEL OF QUANTITATION (TOTAL AMMONIA ≥ 10.0 AND < 50.0 µg/L).

COMMENT : ALL TESTED PARAMETERS ARE COMPLIED WITH REGULATORY STANDARD.


(MISS CHAWEEVAN BOONLA)
LABORATORY SUPERVISOR

MAY 17, 2022



ANALYSIS REPORT

CUSTOMER NAME : CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN
ADDRESS : 1 DAMNERNKASEM ROAD HUA HIN HUA HIN PRACHUAP KHIRI KHAN 77110
CONTACT INFORMATION : TEL : 094 665 9829 e-mail : suratsa@chr.co.th
SAMPLING SOURCE : SWIMMING POOL
SAMPLE TYPE : WATER SAMPLE FROM SWIMMING POOL
SAMPLING DATE : APRIL 26, 2022
SAMPLING TIME : 08:30 HOUR
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS ITSARIYAPORN BUATIB

RECEIVED DATE : APRIL 27, 2022
ANALYTICAL DATE : APRIL 27-MAY 5, 2022
REPORT NO. : 2022-U034504
WORK NO. : 2021-008472
ANALYSIS NO. : T22AH917-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SWIMMING POOL WATER T22AH917-0002		
pH ^c	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.3 (25°C)	7.2-8.4	-
RESIDUAL CHLORINE ^c	mg/L Cl ₂	DPD FERROUS TITRIMETRIC METHOD (SM: 4500-Cl F)	1.7	0.6-1.0	0.1
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	< 1.1	< 10	1.1
<i>E. coli</i> ^b	/100 mL	FLUOROGENIC SUBSTRATE TEST (SM: 9221 D AND F)	ABSENCE	ABSENCE	-
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).

COMMENT : ALL TESTED PARAMETERS ARE COMPLIED WITH REGULATORY STANDARD EXCEPT RESIDUAL CHLORINE.


.....
(MISS CHAWEEWAN BOONLA)
LABORATORY SUPERVISOR

MAY 17, 2022



ANALYSIS REPORT

CUSTOMER NAME : CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN
ADDRESS : 1 DAMNERNKASEM ROAD HUA HIN HUA HIN PRACHUAP KHIRI KHAN 77110
CONTACT INFORMATION : TEL : 094 665 9829 e-mail : suratsa@chr.co.th
SAMPLING SOURCE : STORAGE TANK
SAMPLE TYPE : WATER SUPPLY
SAMPLING DATE : APRIL 26, 2022
SAMPLING TIME : 09:00 HOUR
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS ITSARIYAPORN BUATIB

RECEIVED DATE : APRIL 27, 2022
ANALYTICAL DATE : APRIL 27-MAY 5, 2022
REPORT NO. : 2022-U034505
WORK NO. : 2021-008472
ANALYSIS NO. : T22AH917-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			STORAGE TANK T22AH917-0003		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.5 (25°C)	6.5-8.5	-
RESIDUAL CHLORINE ^c	mg/L Cl ₂	DPD FERROUS TITRIMETRIC METHOD (SM: 4500-Cl F)	ND	-	0.1
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	< 1.1	< 2.2	1.1
<i>E. coli</i> ^b	/100 mL	FLUOROGENIC SUBSTRATE TEST (SM: 9221 D AND F)	ABSENCE	ABSENCE	-
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 : BOTTLED DRINKING WATER QUALITY STANDARDS, NOTIFICATION OF THE MINISTRY OF PUBLIC HEALTH, NO.61, B.E. 2524 (1981) ISSUED UNDER THE FOOD ACT, B.E. 2522 (1979), PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL 98, PART 157 (SPECIAL ISSUED), DATED SEPTEMBER 24, B.E. 2524 (1981).

ND : NON-DETECTABLE.

COMMENT : ALL TESTED PARAMETERS ARE COMPLIED WITH REGULATORY STANDARD.

Chaweevan B.

(MISS CHAWEEWAN BOONLA)
LABORATORY SUPERVISOR

MAY 17, 2022



ANALYSIS REPORT

CUSTOMER NAME	: CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN	RECEIVED DATE	: MAY 18, 2022
ADDRESS	: 1 DAMNERNKASEM ROAD HUA HIN HUA HIN PRACHUAP KHIRI KHAN 77110	ANALYTICAL DATE	: MAY 18-26, 2022
CONTACT INFORMATION	: TEL : 094 665 9829 e-mail : suratsa@chr.co.th	REPORT NO.	: 2022-U040186
SAMPLING SOURCE	: WASTEWATER TREATMENT PLANT	WORK NO.	: 2021-008472
SAMPLE TYPE	: WASTEWATER	ANALYSIS NO.	: T22AJ355-0001 - T22AJ355-0002
SAMPLING DATE	: MAY 17, 2022		
SAMPLING TIME	: 10:00 HOUR		
SAMPLING METHOD	: -		
SAMPLING BY	: CUSTOMER		
ANALYZED BY	: MISS AMONRAT PUTTALEE		

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT
			1 T22AJ355-0001	2 T22AJ355-0002		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.0 (25°C)	7.1 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O C AND 5210 B)	116	ND	≤ 20	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	63.0	10.0	≤ 30	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAO.007 (TOTAL DISSOLVED SOLIDS DRIED AT 103-105 °C); SM 2540 C	-	306	500*	25
SETTLEABLE SOLIDS ^c	mL/L	IMHOFF CONE (SM: 2540 F)	-	< 0.1	≤ 0.5	0.1
SULPHIDE ^c	mg/L	IODOMETRIC METHOD (SM: 4500-S ²⁻ F)	-	ND	≤ 1.0	0.50
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: 4500-Norg C	-	5.9	≤ 35	1.5
FAT, OIL AND GREASE ^a	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: 5520 B)	-	ND	≤ 20	3



ANALYSIS REPORT

CUSTOMER NAME : CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN
ADDRESS : 1 DAMNERNKASEM ROAD HUA HIN HUA HIN PRACHUAP KHIRI KHAN 77110
CONTACT INFORMATION : TEL : 094 665 9829 e-mail : suratsa@chr.co.th
SAMPLING SOURCE : SWIMMING POOL
SAMPLE TYPE : WATER SAMPLE FROM SWIMMING POOL
SAMPLING DATE : MAY 17, 2022
SAMPLING TIME : 09:00 HOUR
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS ITSARIYAPORN BUATIB

RECEIVED DATE : MAY 18, 2022
ANALYTICAL DATE : MAY 18-24, 2022
REPORT NO. : 2022-U041791
WORK NO. : 2021-008472
ANALYSIS NO. : T22AJ356-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SWIMMING POOL WATER T22AJ356-0002		
pH ^c	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	6.6 (25°C)	7.2-8.4	-
RESIDUAL CHLORINE ^c	mg/L Cl ₂	DPD FERROUS TITRIMETRIC METHOD (SM: 4500-Cl F)	8.7	0.6-1.0	0.1
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	2.2	< 10	1.1
<i>E. coli</i> ^b	/100 mL	FLUOROGENIC SUBSTRATE TEST (SM: 9221 D AND F)	PRESENCE	ABSENCE	-
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 DISTRIMENTAL TO HEALTH, B.E. 2530 (1987).

COMMENT : COLIFORM BACTERIA IS COMPLIED WITH REGULATORY STANDARD EXCEPT pH, RESIDUAL CHLORINE AND E.Coli.



(MISS CHAWEEWAN BOONLA)
LABORATORY SUPERVISOR

JUNE 7, 2022



ANALYSIS REPORT

CUSTOMER NAME : CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN
ADDRESS : 1 DAMNERNKASEM ROAD HUA HIN HUA HIN PRACHUAP KHIRI KHAN 77110
CONTACT INFORMATION : TEL : 094 665 9829 e-mail : suratsa@chr.co.th
SAMPLING SOURCE : STORAGE TANK
SAMPLE TYPE : WATER SUPPLY
SAMPLING DATE : MAY 17, 2022
SAMPLING TIME : 09:10 HOUR
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS ITSARIYAPORN BUATIB

RECEIVED DATE : MAY 18, 2022
ANALYTICAL DATE : MAY 18-22, 2022
REPORT NO. : 2022-U041792
WORK NO. : 2021-008472
ANALYSIS NO. : T22AJ356-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			STORAGE TANK T22AJ356-0003		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.4 (25°C)	6.5-8.5	-
RESIDUAL CHLORINE ^c	mg/L Cl ₂	DPD FERROUS TITRIMETRIC METHOD (SM: 4500-Cl F)	ND	-	0.1
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	< 1.1	< 2.2	1.1
<i>E. coli</i> ^b	/100 mL	FLUOROGENIC SUBSTRATE TEST (SM: 9221 D AND F)	ABSENCE	ABSENCE	-
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 : BOTTLED DRINKING WATER QUALITY STANDARDS, NOTIFICATION OF THE MINISTRY OF PUBLIC HEALTH, NO.61, B.E. 2524 (1981) ISSUED UNDER THE FOOD ACT, B.E. 2522 (1979), PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL 98, PART 157 (SPECIAL ISSUED), DATED SEPTEMBER 24, B.E. 2524 (1981).

ND : NON-DETECTABLE.

COMMENT : ALL TESTED PARAMETERS ARE COMPLIED WITH REGULATORY STANDARD.



(MISS CHAWEEWAN BOONLA)
LABORATORY SUPERVISOR

JUNE 7, 2022



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT
			1 T22AJ355-0001	2 T22AJ355-0002		
MICROBIOLOGY						
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	-	35,000	-	1.8
SAMPLE CONDITION						
WATER'S COLOUR/TURBID			YELLOW/TURBID	YELLOW/TURBID		
SEDIMENT			YELLOW	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.

RESULT 1 : INFLUENT

RESULT 2 : EFFLUENT

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

500* : PERMITTED EXCESS VALUE TO TOTAL DISSOLVED SOLIDS OF ACTUAL TAP WATER USED
(TOTAL DISSOLVED SOLIDS STANDARD VALUE OF TAP WATER QUALITY IS 1,000 mg/L).

ND : NON-DETECTABLE.

COMMENT : ALL TESTED PARAMETERS OF THE EFFLUENT ARE COMPLIED WITH REGULATORY STANDARD.

Piyapat S.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

MAY 31, 2022

ANALYSIS REPORT

CUSTOMER NAME : CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN
ADDRESS : 1 DAMNERNKASEM ROAD HUA HIN HIN PRACHUAP KHIRI KHAN 77110
CONTACT INFORMATION : TEL : 094 665 9829 e-mail : suratsa@chr.co.th
SAMPLING SOURCE : BEACH IN FRONT OF CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN
SAMPLE TYPE : SEAWATER
SAMPLING DATE : MAY 17, 2022
SAMPLING TIME : 08:00 HOUR
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS ITSARIYAPORN BUATIB

RECEIVED DATE : MAY 18, 2022
ANALYTICAL DATE : MAY 18-28, 2022
REPORT NO. : 2022-U041790
WORK NO. : 2021-008472
ANALYSIS NO. : T22AJ356-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SEAWATER T22AJ356-0001		
pH ^c	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.7 (25°C)	7.0-8.5	-
TOTAL AMMONIA ^b	µg/L N	IN-HOUSE METHOD: UAE.TP.WAT.001 BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA&WEF, 23rd ED., 2017, PART 4500-NH ₃ H	284	≤ 200	10.0
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	4,900	≤ 1,000	1.8
SAMPLE CONDITION					
WATER'S COLOUR/TURBID			COLOURLESS/CLEAR		
SEDIMENT			WHITE		

^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 : SEAWATER QUALITY STANDARDS, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD, B.E. 2564.

PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL 138, PART 245 D, DATED OCTOBER 6, 2021.

CLASS 4 : RECREATION AREAS SHALL BE APPLIED TO THE WATER ALLOWED BY THE LOCAL ADMINISTRATIVE ORGANIZATION FOR SWIMMING OR OTHER RECREATIONAL ACTIVITIES.

COMMENT : pH IS COMPLIED WITH REGULATORY STANDARD EXCEPT TOTAL AMMONIA AND COLIFORM BACTERIA.

Chaweevan B.

(MISS CHAWEEVAN BOONLA)
LABORATORY SUPERVISOR

JUNE 7, 2022



ANALYSIS REPORT

CUSTOMER NAME	: CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN	RECEIVED DATE	: JUNE 8, 2022
ADDRESS	: 1 DAMNERNKASEM ROAD HUA HIN HUA HIN PRACHUAP KHIRI KHAN 77110	ANALYTICAL DATE	: JUNE 8-16, 2022
CONTACT INFORMATION	: TEL : 094 665 9829 e-mail : suratsa@chr.co.th	REPORT NO.	: 2022-U046630
SAMPLING SOURCE	: WASTEWATER TREATMENT PLANT	WORK NO.	: 2021-008472
SAMPLE TYPE	: WASTEWATER	ANALYSIS NO.	: T22AK972-0001 - T22AK972-0002
SAMPLING DATE	: JUNE 7, 2022		
SAMPLING TIME	: 1/		
SAMPLING METHOD	: -		
SAMPLING BY	: CUSTOMER		
ANALYZED BY	: MISS AMONRAT PUTTALEE		

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT
			1 09:50 HOUR 1/ T22AK972-0001	2 10:00 HOUR 1/ T22AK972-0002		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	6.0 (25°C)	7.2 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O C AND 5210 B)	333	3.2	≤ 20	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	154	5.7	≤ 30	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAO.007 (TOTAL DISSOLVED SOLIDS DRIED AT 103-105 °C); SM 2540 C	-	326	500*	25
SETTLEABLE SOLIDS ^c	mL/L	IMHOFF CONE (SM: 2540 F)	-	< 0.1	≤ 0.5	0.1
SULPHIDE ^b	mg/L	IODOMETRIC METHOD (SM: 4500-S ²⁻ F)	-	< 0.50	≤ 1.0	0.50
TOTAL KJELDAHL NITROGEN ^b	mg/L	IN-HOUSE METHOD: UAE.TP.WAS.001 (KJELDAHL METHOD); SM: 4500-Norg C	-	6.3	≤ 35	1.5
FAT, OIL AND GREASE ^a	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: 5520 B)	-	ND	≤ 20	3



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT
			1 09:50 HOUR 1/ T22AK972-0001	2 10:00 HOUR 1/ T22AK972-0002		
MICROBIOLOGY						
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	-	4,900	-	1.8
SAMPLE CONDITION						
WATER'S COLOUR/TURBID			YELLOW/TURBID	YELLOW/CLEAR		
SEDIMENT			BROWN	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.

RESULT 1 : INFLUENT

RESULT 2 : EFFLUENT

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

500* : PERMITTED EXCESS VALUE TO TOTAL DISSOLVED SOLIDS OF ACTUAL TAP WATER USED
(TOTAL DISSOLVED SOLIDS STANDARD VALUE OF TAP WATER QUALITY IS 1,000 mg/L).

ND : NON-DETECTABLE.

COMMENT : ALL TESTED PARAMETERS OF THE EFFLUENT ARE COMPLIED WITH REGULATORY STANDARD.

Piyapat S.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

JUNE 20, 2022

ANALYSIS REPORT

CUSTOMER NAME : CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN
ADDRESS : 1 DAMNERNKASEM ROAD HUA HIN HUA HIN PRACHUAP KHIRI KHAN 77110
CONTACT INFORMATION : TEL : 094 665 9829 e-mail : suratsa@chr.co.th
SAMPLING SOURCE : BEACH IN FRONT OF CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN
SAMPLE TYPE : SEAWATER **RECEIVED DATE** : JUNE 8, 2022
SAMPLING DATE : JUNE 7, 2022 **ANALYTICAL DATE** : JUNE 8-21, 2022
SAMPLING TIME : 09:10 HOUR **REPORT NO.** : 2022-U048067
SAMPLING METHOD : - **WORK NO.** : 2021-008472
SAMPLING BY : CUSTOMER **ANALYSIS NO.** : T22AK973-0001
ANALYZED BY : MISS ITSARIYAPORN BUATIB

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SEAWATER T22AK973-0001		
pH ^c	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	8.1 (25°C)	7.0-8.5	-
TOTAL AMMONIA ^b	µg/L N	IN-HOUSE METHOD: UAE.TP.WAT.001 BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA&WEF, 23rd ED., 2017, PART 4500-NH ₃ H	99.1	≤ 200	10.0
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	4.0	≤ 1,000	1.8
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			COLOURLESS/CLEAR WHITE		

^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 : SEAWATER QUALITY STANDARDS, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD, B.E. 2564.
PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL 138, PART 245 D, DATED OCTOBER 6, 2021.

CLASS 4 : RECREATION AREAS SHALL BE APPLIED TO THE WATER ALLOWED BY THE LOCAL ADMINISTRATIVE ORGANIZATION
FOR SWIMMING OR OTHER RECREATIONAL ACTIVITIES.

COMMENT : ALL TESTED PARAMETERS ARE COMPLIED WITH REGULATORY STANDARD.



(MISS CHAWEEVAN BOONLA)
LABORATORY SUPERVISOR

JUNE 24, 2022



ANALYSIS REPORT

CUSTOMER NAME : CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN
ADDRESS : 1 DAMNERNKASEM ROAD HUA HIN HUA HIN PRACHUAP KHIRI KHAN 77110
CONTACT INFORMATION : TEL : 094 665 9829 e-mail : suratsa@chr.co.th
SAMPLING SOURCE : SWIMMING POOL
SAMPLE TYPE : WATER SAMPLE FROM SWIMMING POOL
SAMPLING DATE : JUNE 7, 2022
SAMPLING TIME : 09:20 HOUR
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS ITSARIYAPORN BUATIB

RECEIVED DATE : JUNE 8, 2022
ANALYTICAL DATE : JUNE 8-15, 2022
REPORT NO. : 2022-U048068
WORK NO. : 2021-008472
ANALYSIS NO. : T22AK973-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SWIMMING POOL WATER T22AK973-0002		
pH ^c	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.5 (25°C)	7.2-8.4	-
RESIDUAL CHLORINE ^c	mg/L Cl ₂	DPD FERROUS TITRIMETRIC METHOD (SM: 4500-Cl F)	1.4	0.6-1.0	0.1
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	1.1	< 10	1.1
<i>E. coli</i> ^b	/100 mL	FLUOROGENIC SUBSTRATE TEST (SM: 9221 D AND F)	ABSENCE	ABSENCE	-
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 DISTRIKTAL TO HEALTH, B.E. 2530 (1987).

COMMENT : ALL TESTED PARAMETERS ARE COMPLIED WITH REGULATORY STANDARD EXCEPT RESIDUAL CHLORINE.

Chaweewan B.

(MISS CHAWEEWAN BOONLA)
LABORATORY SUPERVISOR

JUNE 24, 2022



ANALYSIS REPORT

CUSTOMER NAME : CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN
ADDRESS : 1 DAMNERNKASEM ROAD HUA HIN HUA HIN PRACHUAP KHIRI KHAN 77110
CONTACT INFORMATION : TEL : 094 665 9829 e-mail : suratsa@chr.co.th
SAMPLING SOURCE : STORAGE TANK
SAMPLE TYPE : WATER SUPPLY
SAMPLING DATE : JUNE 7, 2022
SAMPLING TIME : 09:30 HOUR
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS ITSARIYAPORN BUATIB

RECEIVED DATE : JUNE 8, 2022
ANALYTICAL DATE : JUNE 8-15, 2022
REPORT NO. : 2022-U048069
WORK NO. : 2021-008472
ANALYSIS NO. : T22AK973-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			STORAGE TANK T22AK973-0003		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.5 (25°C)	6.5-8.5	-
RESIDUAL CHLORINE ^c	mg/L Cl ₂	DPD FERROUS TITRIMETRIC METHOD (SM: 4500-Cl F)	ND	-	0.1
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	1.1	< 2.2	1.1
<i>E. coli</i> ^b	/100 mL	FLUOROGENIC SUBSTRATE TEST (SM: 9221 D AND F)	PRESENCE	ABSENCE	-
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 : BOTTLED DRINKING WATER QUALITY STANDARDS, NOTIFICATION OF THE MINISTRY OF PUBLIC HEALTH, NO.61, B.E. 2524 (1981) ISSUED UNDER THE FOOD ACT, B.E. 2522 (1979), PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL 98, PART 157 (SPECIAL ISSUED), DATED SEPTEMBER 24, B.E. 2524 (1981).

ND : NON-DETECTABLE.

COMMENT : ALL TESTED PARAMETERS ARE COMPLIED WITH REGULATORY STANDARD EXCEPT E.coli.



(MISS CHAWEEVAN BOONLA)
LABORATORY SUPERVISOR

JUNE 24, 2022

