

ANALYSIS REPORT

CUSTOMER NAME	: CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN	RECEIVED DATE	: JULY 20, 2022
ADDRESS	: 1 DAMNERNKASEM ROAD HUA HIN HUA HIN PRACHUAP KHIRI KHAN 77110	ANALYTICAL DATE	: JULY 20-AUGUST 1, 2022
CONTACT INFORMATION	: TEL : 094 665 9829 e-mail : suratsa@chr.co.th	REPORT NO.	: 2022-U059585
SAMPLING SOURCE	: WASTEWATER TREATMENT PLANT	WORK NO.	: 2021-008472
SAMPLE TYPE	: WASTEWATER	ANALYSIS NO.	: T22AO332-0001 - T22AO332-0002
SAMPLING DATE	: JULY 19, 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 T22AO332-0001	2 T22AO332-0002		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	6.8 (25°C)	7.4 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O C AND 5210 B)	286	4.9	≤ 20	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	112	7.8	≤ 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	-	318	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	-	11.4	≤ 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 T22A0332-0001	2 T22A0332-0002		
MICROBIOLOGY						
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221B)	-	790	-	1.8
SAMPLE CONDITION						
WATER'S COLOUR/TURBID			YELLOW/TURBID	YELLOW/TURBID		
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

AUGUST 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 : BEACH IN FRONT OF CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN
SAMPLE TYPE : SEAWATER **RECEIVED DATE** : JULY 20, 2022
SAMPLING DATE : JULY 19, 2022 **ANALYTICAL DATE** : JULY 20-27, 2022
SAMPLING TIME : 09:00 HOUR **REPORT NO.** : 2022-U060203
SAMPLING METHOD : - **WORK NO.** : 2021-008472
SAMPLING BY : CUSTOMER **ANALYSIS NO.** : T22AO333-0001
ANALYZED BY : MISS ITSARIYAPORN BUATIB

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SEAWATER T22AO333-0001		
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	196	≤ 200	10.0
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221B)	49	≤ 1,000	1.8
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			COLOURLESS/CLEAR 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

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

AUGUST 4, 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 : JULY 19, 2022
SAMPLING TIME : 09:10 HOUR
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS ITSARIYAPORN BUATIB

RECEIVED DATE : JULY 20, 2022
ANALYTICAL DATE : JULY 20-27, 2022
REPORT NO. : 2022-U060204
WORK NO. : 2021-008472
ANALYSIS NO. : T22AO333-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SWIMMING POOL WATER T22AO333-0002		
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)	11.7	0.6-1.0	0.1
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221B)	< 1.1	< 10	1.1
<i>E. coli</i> ^b	/100 mL	FLUOROGENIC SUBSTRATE TEST (SM: 9221D 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, RESIDUAL CHLORINE.



(MISS CHAWEEWAN BOONLA)
LABORATORY SUPERVISOR

AUGUST 4, 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 : JULY 19, 2022
SAMPLING TIME : 09:20 HOUR
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS ITSARIYAPORN BUATIB

RECEIVED DATE : JULY 20, 2022
ANALYTICAL DATE : JULY 20-27, 2022
REPORT NO. : 2022-U060205
WORK NO. : 2021-008472
ANALYSIS NO. : T22AO333-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			STORAGE TANK T22AO333-0003		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.7 (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

AUGUST 4, 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** : AUGUST 10, 2022
SAMPLING DATE : AUGUST 9, 2022 **ANALYTICAL DATE** : AUGUST 10-18, 2022
SAMPLING TIME : 09:00 HOUR **REPORT NO.** : 2022-U066079
SAMPLING METHOD : - **WORK NO.** : 2021-008472
SAMPLING BY : CUSTOMER **ANALYSIS NO.** : T22AP720-0001
ANALYZED BY : MISS ITSARIYAPORN BUATIB

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SEAWATER T22AP720-0001		
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	332	≤ 200	10.0
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	700	≤ 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 EXCEPT TOTAL AMMONIA.

Chaweewan B.

(MISS CHAWEEWAN BOONLA)
LABORATORY SUPERVISOR

AUGUST 26, 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 : AUGUST 9, 2022
SAMPLING TIME : 09:30 HOUR
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS ITSARIYAPORN BUATIB

RECEIVED DATE : AUGUST 10, 2022
ANALYTICAL DATE : AUGUST 10-16, 2022
REPORT NO. : 2022-U066080
WORK NO. : 2021-008472
ANALYSIS NO. : T22AP720-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SWIMMING POOL WATER T22AP720-0002		
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)	ND	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, RESIDUAL CHLORINE.

Chaweewan B.

(MISS CHAWEEWAN BOONLA)
LABORATORY SUPERVISOR

AUGUST 26, 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 : AUGUST 9, 2022
SAMPLING TIME : 09:00 HOUR
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS ITSARIYAPORN BUATIB

RECEIVED DATE : AUGUST 10, 2022
ANALYTICAL DATE : AUGUST 10-16, 2022
REPORT NO. : 2022-U066081
WORK NO. : 2021-008472
ANALYSIS NO. : T22AP720-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			STORAGE TANK T22AP720-0003		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.7 (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

AUGUST 26, 2022



ANALYSIS REPORT

CUSTOMER NAME	: CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN	RECEIVED DATE	: AUGUST 10, 2022
ADDRESS	: 1 DAMNERNKASEM ROAD HUA HIN HUA HIN PRACHUAP KHIRI KHAN 77110	ANALYTICAL DATE	: AUGUST 10-19, 2022
CONTACT INFORMATION	: TEL : 094 665 9829 e-mail : suratsa@chr.co.th	REPORT NO.	: 2022-U064746
SAMPLING SOURCE	: WASTEWATER TREATMENT PLANT	WORK NO.	: 2021-008472
SAMPLE TYPE	: WASTEWATER	ANALYSIS NO.	: T22AP721-0001 - T22AP721-0002
SAMPLING DATE	: AUGUST 9, 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 T22AP721-0001	2 T22AP721-0002		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.3 (25°C)	7.0 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O C AND 5210 B)	97.2	2.2	≤ 20	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	84.4	7.0	≤ 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	-	384	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	-	5.6	≤ 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 T22AP721-0001	2 T22AP721-0002		
MICROBIOLOGY						
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	-	54,000	-	1.8
SAMPLE CONDITION						
WATER'S COLOUR/TURBID			YELLOW/TURBID	YELLOW/CLEAR		
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

AUGUST 24, 2022

ANALYSIS REPORT

CUSTOMER NAME	: CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN	RECEIVED DATE	: SEPTEMBER 21, 2022
ADDRESS	: 1 DAMNERNKASEM ROAD HUA HIN HUA HIN PRACHUAP KHIRI KHAN 77110	ANALYTICAL DATE	: SEPTEMBER 21-28, 2022
CONTACT INFORMATION	: TEL : 094 665 9829 e-mail : suratsa@chr.co.th	REPORT NO.	: 2022-U076983
SAMPLING SOURCE	: WASTEWATER TREATMENT PLANT	WORK NO.	: 2021-008472
SAMPLE TYPE	: WASTEWATER	ANALYSIS NO.	: T22AS737-0001 - T22AS737-0002
SAMPLING DATE	: SEPTEMBER 20, 2022		
SAMPLING TIME	: 1/		
SAMPLING METHOD	: -		
SAMPLING BY	: CUSTOMER		
ANALYZED BY	: MISS KALLAYA SOMPHONG		

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT
			1 10:00 HOUR 1/ T22AS737-0001	2 10:20 HOUR 1/ T22AS737-0002		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.8 (25°C)	7.6 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O C AND 5210 B)	14.6	ND	≤ 20	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	6.2	ND	≤ 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	-	296	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	-	9.3	≤ 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 10:00 HOUR 1/ T22AS737-0001	2 10:20 HOUR 1/ T22AS737-0002		
MICROBIOLOGY						
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221B)	-	< 1.8	-	1.8
SAMPLE CONDITION						
WATER'S COLOUR/TURBID			YELLOW/TURBID	YELLOW/CLEAR		
SEDIMENT			GREY	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

SEPTEMBER 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** : SEPTEMBER 21, 2022
SAMPLING DATE : SEPTEMBER 20, 2022 **ANALYTICAL DATE** : SEPTEMBER 21-30, 2022
SAMPLING TIME : 09:00 HOUR **REPORT NO.** : 2022-U078392
SAMPLING METHOD : - **WORK NO.** : 2021-008472
SAMPLING BY : CUSTOMER **ANALYSIS NO.** : T22AS736-0001
ANALYZED BY : MISS ITSARIYAPORN BUATIB

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SEAWATER T22AS736-0001		
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	84.1	≤ 200	10.0
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	< 1.8	≤ 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

OCTOBER 6, 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 : SEPTEMBER 20, 2022
SAMPLING TIME : 09:20 HOUR
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS ITSARIYAPORN BUATIB

RECEIVED DATE : SEPTEMBER 21, 2022
ANALYTICAL DATE : SEPTEMBER 21-27, 2022
REPORT NO. : 2022-U078393
WORK NO. : 2021-008472
ANALYSIS NO. : T22AS736-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SWIMMING POOL WATER T22AS736-0002		
pH ^c	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.4 (25°C)	7.2-8.4	-
RESIDUAL CHLORINE ^c	mg/L Cl ₂	DPD FERROUS TITRIMETRIC METHOD (SM: 4500-Cl F)	0.7	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)	NOT DETECTED	NOT DETECTED	-
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.


.....
(MISS CHAWEEVAN BOONLA)
LABORATORY SUPERVISOR

OCTOBER 6, 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 : SEPTEMBER 20, 2022
SAMPLING TIME : 10:00 HOUR
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS ITSARIYAPORN BUATIB

RECEIVED DATE : SEPTEMBER 21, 2022
ANALYTICAL DATE : SEPTEMBER 21-27, 2022
REPORT NO. : 2022-U078394
WORK NO. : 2021-008472
ANALYSIS NO. : T22AS736-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			STORAGE TANK T22AS736-0003		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.9 (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)	NOT DETECTED	NOT DETECTED	-
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

OCTOBER 6, 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 : OCTOBER 18, 2022
SAMPLING TIME : 08:30 HOUR
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS ITSARIYAPORN BUATIB

RECEIVED DATE : OCTOBER 19, 2022
ANALYTICAL DATE : OCTOBER 19-24, 2022
REPORT NO. : 2022-U086618
WORK NO. : 2021-008472
ANALYSIS NO. : T22AU736-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SWIMMING POOL WATER T22AU736-0002		
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)	4.4	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)	NOT DETECTED	NOT DETECTED	-
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.



(MISS CHAWEEWAN BOONLA)
LABORATORY SUPERVISOR

NOVEMBER 7, 2022



ANALYSIS REPORT

CUSTOMER NAME	: CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN	RECEIVED DATE	: OCTOBER 19, 2022
ADDRESS	: 1 DAMNERNKASEM ROAD HUA HIN HUA HIN PRACHUAP KHIRI KHAN 77110	ANALYTICAL DATE	: OCTOBER 19-26, 2022
CONTACT INFORMATION	: TEL : 094 665 9829 e-mail : suratsa@chr.co.th	REPORT NO.	: 2022-U084718
SAMPLING SOURCE	: WASTEWATER TREATMENT PLANT	WORK NO.	: 2021-008472
SAMPLE TYPE	: WASTEWATER	ANALYSIS NO.	: T22AU737-0001 - T22AU737-0002
SAMPLING DATE	: OCTOBER 18, 2022		
SAMPLING TIME	: 09:00 HOUR		
SAMPLING METHOD	: -		
SAMPLING BY	: CUSTOMER		
ANALYZED BY	: MISS KALLAYA SOMPHONG		

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT
			1 T22AU737-0001	2 T22AU737-0002		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	6.9 (25°C)	7.0 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O C AND 5210 B)	191	2.9	≤ 20	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	1,439	8.4	≤ 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	-	316	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	-	5.0	≤ 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 T22AU737-0001	2 T22AU737-0002		
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			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

NOVEMBER 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 : OCTOBER 18, 2022
SAMPLING TIME : 08:30 HOUR
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS ITSARIYAPORN BUATIB

RECEIVED DATE : OCTOBER 19, 2022
ANALYTICAL DATE : OCTOBER 19-24, 2022
REPORT NO. : 2022-U086619
WORK NO. : 2021-008472
ANALYSIS NO. : T22AU736-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			STORAGE TANK T22AU736-0003		
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)	NOT DETECTED	NOT DETECTED	-
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

NOVEMBER 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
SAMPLING DATE : OCTOBER 18, 2022
SAMPLING TIME : 08:30 HOUR
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS ITSARIYAPORN BUATIB

RECEIVED DATE : OCTOBER 19, 2022
ANALYTICAL DATE : OCTOBER 19 - NOVEMBER 1, 2022
REPORT NO. : 2022-U086617
WORK NO. : 2021-008472
ANALYSIS NO. : T22AU736-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SEAWATER T22AU736-0001		
pH ^c	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.2 (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	82.0	≤ 200	10.0
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	< 1.8	≤ 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. 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.

Chaweevan B.

(MISS CHAWEEWAN BOONLA)
LABORATORY SUPERVISOR

NOVEMBER 7, 2022



ANALYSIS REPORT

CUSTOMER NAME	: CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN	RECEIVED DATE	: NOVEMBER 16, 2022
ADDRESS	: 1 DAMNERNKASEM ROAD HUA HIN HUA HIN PRACHUAP KHIRI KHAN 77110	ANALYTICAL DATE	: NOVEMBER 16-24, 2022
CONTACT INFORMATION	: TEL : 094 665 9829 e-mail : suratsa@chr.co.th	REPORT NO.	: 2022-U093762
SAMPLING SOURCE	: WASTEWATER TREATMENT PLANT	WORK NO.	: 2021-008472
SAMPLE TYPE	: WASTEWATER	ANALYSIS NO.	: T22AW830-0001 - T22AW830-0002
SAMPLING DATE	: NOVEMBER 15, 2022		
SAMPLING TIME	: 1/		
SAMPLING METHOD	: -		
SAMPLING BY	: CUSTOMER		
ANALYZED BY	: MISS KALLAYA SOMPHONG		

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT
			1 09:00 HOUR 1/ T22AW830-0001	2 09:10 HOUR 1/ T22AW830-0002		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	7.3 (25°C)	7.0 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O C AND 5210 B)	100	5.1	≤ 20	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	127	11.5	≤ 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	-	346	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	-	5.2	≤ 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 09:00 HOUR 1/ T22AW830-0001	2 09:10 HOUR 1/ T22AW830-0002		
MICROBIOLOGY						
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	-	49	-	1.8
SAMPLE CONDITION						
WATER'S COLOUR/TURBID			YELLOW/TURBID	YELLOW/CLEAR		
SEDIMENT			YELLOW	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

NOVEMBER 25, 2022

ANALYSIS REPORT

CUSTOMER NAME	: CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN	RECEIVED DATE	: NOVEMBER 16, 2022
ADDRESS	: 1 DAMNERNKASEM ROAD HUA HIN HUA HIN PRACHUAP KHIRI KHAN 77110	ANALYTICAL DATE	: NOVEMBER 16-21, 2022
CONTACT INFORMATION	: TEL : 094 665 9829 e-mail : suratsa@chr.co.th	REPORT NO.	: 2022-U093803
SAMPLING SOURCE	: STORAGE TANK	WORK NO.	: 2021-008472
SAMPLE TYPE	: WATER SUPPLY	ANALYSIS NO.	: T22AW831-0003
SAMPLING DATE	: NOVEMBER 15, 2022		
SAMPLING TIME	: 09:20 HOUR		
SAMPLING METHOD	: -		
SAMPLING BY	: CUSTOMER		
ANALYZED BY	: MISS ITSARIYAPORN BUATIB		

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			STORAGE TANK T22AW831-0003		
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)	NOT DETECTED	NOT DETECTED	-
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

NOVEMBER 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** : NOVEMBER 16, 2022
SAMPLING DATE : NOVEMBER 15, 2022 **ANALYTICAL DATE** : NOVEMBER 16-23, 2022
SAMPLING TIME : 09:00 HOUR **REPORT NO.** : 2022-U093801
SAMPLING METHOD : - **WORK NO.** : 2021-008472
SAMPLING BY : CUSTOMER **ANALYSIS NO.** : T22AW831-0001
ANALYZED BY : MISS ITSARIYAPORN BUATIB

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SEAWATER T22AW831-0001		
pH ^c	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	8.0 (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	219	≤ 200	10.0
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	1,700	≤ 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 : pH IS COMPLIED WITH REGULATORY STANDARD EXCEPT TOTAL AMMONIA AND TOTAL COLIFORM BACTERIA.

Chaweewan B.

(MISS CHAWEewan BOONLA)
LABORATORY SUPERVISOR

NOVEMBER 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 : SWIMMING POOL
SAMPLE TYPE : WATER SAMPLE FROM SWIMMING POOL
SAMPLING DATE : NOVEMBER 15, 2022
SAMPLING TIME : 09:10 HOUR
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS ITSARIYAPORN BUATIB

RECEIVED DATE : NOVEMBER 16, 2022
ANALYTICAL DATE : NOVEMBER 16-19, 2022
REPORT NO. : 2022-U093802
WORK NO. : 2021-008472
ANALYSIS NO. : T22AW831-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SWIMMING POOL WATER T22AW831-0002		
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)	4.7	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)	NOT DETECTED	NOT DETECTED	-
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.

Chaweewan B.

(MISS CHAWEewan BOONLA)
LABORATORY SUPERVISOR

NOVEMBER 30, 2022



ANALYSIS REPORT

CUSTOMER NAME	: CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN	RECEIVED DATE	: DECEMBER 21, 2022
ADDRESS	: 1 DAMNERNKASEM ROAD HUA HIN HUA HIN PRACHUAP KHIRI KHAN 77110	ANALYTICAL DATE	: DECEMBER 21-28, 2022
CONTACT INFORMATION	: TEL : 094 665 9829 e-mail : suratsa@chr.co.th	REPORT NO.	: 2022-U104501
SAMPLING SOURCE	: WASTEWATER TREATMENT PLANT	WORK NO.	: 2021-008472
SAMPLE TYPE	: WASTEWATER	ANALYSIS NO.	: T22AZ464-0001 - T22AZ464-0002
SAMPLING DATE	: DECEMBER 20, 2022		
SAMPLING TIME	: 09:00 HOUR		
SAMPLING METHOD	: -		
SAMPLING BY	: CUSTOMER		
ANALYZED BY	: MISS KALLAYA SOMPHONG		

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		REGULATORY STANDARD	DETECTION LIMIT
			1 T22AZ464-0001	2 T22AZ464-0002		
pH ^a	-	ELECTROMETRIC METHOD (SM: 4500-H ⁺ B)	6.9 (25°C)	7.1 (25°C)	5-9	-
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: 4500-O C AND 5210 B)	207	3.0	≤ 20	2.0
SUSPENDED SOLIDS ^a	mg/L	SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: 2540 D)	96.7	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	-	308	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	-	5.5	≤ 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 T22AZ464-0001	2 T22AZ464-0002		
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	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

JANUARY 4, 2023

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** : DECEMBER 21, 2022
SAMPLING DATE : DECEMBER 20, 2022 **ANALYTICAL DATE** : DECEMBER 21-26, 2022
SAMPLING TIME : 10:00 HOUR **REPORT NO.** : 2023-U001405
SAMPLING METHOD : - **WORK NO.** : 2021-008472
SAMPLING BY : CUSTOMER **ANALYSIS NO.** : T22AZ466-0001
ANALYZED BY : MISS ITSARIYAPORN BUATIB

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SEAWATER T22AZ466-0001		
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	329	≤ 200	10.0
MICROBIOLOGY					
COLIFORM BACTERIA ^b	MPN/100 mL	MULTIPLE-TUBE FERMENTATION TECHNIQUE (SM: 9221 B)	2,400	≤ 1,000	1.8
SAMPLE CONDITION					
WATER'S COLOUR/TURBID			YELLOW/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 TOTAL COLIFORM BACTERIA.



(MISS CHAWEEVAN BOONLA)
LABORATORY SUPERVISOR

JANUARY 10, 2023



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 : DECEMBER 20, 2022
SAMPLING TIME : 10:10 HOUR
SAMPLING METHOD : -
SAMPLING BY : CUSTOMER
ANALYZED BY : MISS ITSARIYAPORN BUATIB

RECEIVED DATE : DECEMBER 21, 2022
ANALYTICAL DATE : DECEMBER 21-24, 2022
REPORT NO. : 2023-U001406
WORK NO. : 2021-008472
ANALYSIS NO. : T22AZ466-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			SWIMMING POOL WATER T22AZ466-0002		
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)	2.7	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)	NOT DETECTED	NOT DETECTED	-
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 RESIDUAL CHLORINE.

Chaweevan B.

(MISS CHAWEEWAN BOONLA)
LABORATORY SUPERVISOR

JANUARY 10, 2023



ANALYSIS REPORT

CUSTOMER NAME	: CENTARA GRAND BEACH RESORT AND VILLAS HUA HIN	RECEIVED DATE	: DECEMBER 21, 2022
ADDRESS	: 1 DAMNERNKASEM ROAD HUA HIN HUA HIN PRACHUAP KHIRI KHAN 77110	ANALYTICAL DATE	: DECEMBER 21-24, 2022
CONTACT INFORMATION	: TEL : 094 665 9829 e-mail : suratsa@chr.co.th	REPORT NO.	: 2023-U001407
SAMPLING SOURCE	: STORAGE TANK	WORK NO.	: 2021-008472
SAMPLE TYPE	: WATER SUPPLY	ANALYSIS NO.	: T22AZ466-0003
SAMPLING DATE	: DECEMBER 20, 2022		
SAMPLING TIME	: 10:20 HOUR		
SAMPLING METHOD	: -		
SAMPLING BY	: CUSTOMER		
ANALYZED BY	: MISS ITSARIYAPORN BUATIB		

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			STORAGE TANK T22AZ466-0003		
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)	NOT DETECTED	NOT DETECTED	-
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

JANUARY 10, 2023

