

Recommendation & Water Analysis Report
for
Centara Grand Mirage Beach Resort Pattaya

February, 2025

บริษัท เทสต์ เทค จำกัด

30, 32 ซอยพระรามที่ 2 ซอย 63 ถนนพระรามที่ 2 แขวงสามตำ เขตบางขุนเทียน กรุงเทพฯ 10150



SRR NO. 68A0753

Messrs : Centara Grand Mirage Beach Resort Pattaya

Address : 277 Moo 5 , Naklua,Banglamung,Pattaya,Chonburi 20150,Thailand

Factory Site : Centara Grand Pattaya Date : March 7, 2025

Recommendation For : Water Analysis of February, 2025

Report Reference : R04575-83/68, R03988-89/68, R03990-93/68, R04104-05/68, R04159/68

RECOMMENDATION

1. Raw Water

1.1 Storage Tank :

- Hardness was low.
- Iron was not found.
- Turbidity was low.
- Manganese was not found.
- Coliform/ E.Coli was not found.

Note : - Storage Tank should be check and cleaned 1 -2 time/month to reduce iron accumulation.
- Chlorine should be routein added into buied-water and feeding into raw water to prevent bacterial growth.
- Softener in next step treatment must be taken care.

1.2 Soft Water (Main Point) :

- Turbidity was low.
- Hardness was low.
- Iron was not found.
- Manganese was not found.
- Coliform/ E.Coli was not found.

Note : The system should be operated.

- Water storage tank should be checked and cleaned if iron and bacteria accumulation.
- Softener should be flushing with low iron of raw water to reduce iron and bacteria accumulation, Rinsing step must be checked before use.
- The regeneration with salt should be routein operation to control hardness.

- Chlorine should be added in storage tank and back wash softener/regeneration should be done with chlorinated – water to prevent bacteria growth and accumulation.

1.3 Hot Water System (Main Point) :

- Turbidity was low.
- Hardness was low.
- Iron was not found.
- Manganese was not found.
- Coliform/E.Coli was not found.

Note : The system should be checked.

- Raw water storage tank cleaning and flushing should be done increase of iron accumulation.
- Hot water unit should be flushing with low iron water.
- Metal type in hot water system and pipe line should be checked to prevent Galvanic Corrosion Problems.

1.4 Guest Room Usage Water (Cold Water) : (South 1218, South 1222)

- Total Hardness was like raw water.
- Turbidity was low.
- Iron was not found.
- Manganese was not found.
- Coliform/ E.Coli was not found.

Note : In the room which not usually open, flushing pipe line before open should be done to reduce iron and bacteria accumulation.

- Chlorine should be routine added into water supply.

1.5 Guest Room Usage Water (Hot Water) : (South 1218, South 1222)

- Total Hardness was lower than raw water.
- Turbidity was low.
- Iron was low.
- Manganese was not found.
- Coliform/E.Coli was not found.

Note:

- Flushing of pipe – line before used should be done to reduce iron accumulation in pipe line.
- Soft water before hot water machine should be checked.

1.6 Cooling

- 1) Conductivity was high. Hardness was high.
- 2) Iron was not found. Manganese was not found.
- 3) Antiscale and anticorrosion chemicals including with biocide should be adding into system.
- 4) Legionella spp. was not found.

- Note :**
- Bleed off should be controlled.
 - Softener should be checked about regeneration cycle to control hardness < 20 ppm.
 - Cooling water must be drained and adding new make up water to reduce TDS.

- 1.7 Chilled :** Iron was low. pH was high Anti corrosion chemical (Nitrite) was low for control.
Anti corrosion chemical should be added after cleaning, incase of maintenance.

2. Drinking Water :

- 1) Canteen : Hardness was low. Iron and Manganese was not found.
Other water quality was in standard. Coliform/E.Coli was not found.
- 2) Oasis Kitchen : Hardness was low. Iron and Manganese was not found.
Other water quality was in standard. Coliform/E.Coli was not found.
- 3) Guest Room (1218) : Hardness was low. Iron and Manganese was not found.
Other water quality was in standard. Coliform/E.Coli was not found.

Note :

- Chlorine feeding into raw water should be done.
- Clean unit and Tank with chlorination water should be done.
- Drinking water treatment unit should be cleaned and regenerate to reduce hardness.

Recommendation : The ice machine should be disinfection by.

1. Flushing system by chlorine – added water should be done.
2. Scoop equipment should be cleaned without contamination.
3. Ice machine and filter system should be cleaned.
4. Ice box should be cleaned.

5. Waste Water : BOD of Effluent 98 mg/L was in Pattaya Regulation (≤ 1000 mg/l).

The owner should pay for treatment following regulation rate.

Analysis/Test Report

Customer Name : Centara Grand Mirage Beach Resort Pattaya

Address : 277 Moo 5, Naklua, Banglamung, Pattaya, Chonburi 20150, Thailand

Sampling Site : Centara Grand (Pattaya)

Sample Type : Usage Water

Sampling by : Test Tech Co., Ltd.

Sampling Method : Grab

Sampling Date : 19/02/2025

Sampling Time : 10:30 AM

Received Date : 19/02/2025

Analytical Date : 19/02 - 03/03/2025

Report Date : 04/03/2025

Report No. : R04575/68

Parameters	Unit	Method	TW03585 /68	TW03586 /68	TW03587 /68	Standard ^a
			Water in Storage Tank	Soft Water System (Main Point)	Hot Water System (Main Point)	
pH (25°C) [#]	-	Based on SM 2023 (4500-H ⁺ B)	7.3	7.1	7.2	6.5-8.5
Turbidity [#]	NTU	SM 2023 (2130 B)	< 0.50	< 0.50	< 0.50	5
Conductivity [#]	uS/cm	SM 2023 (2510 B)	300	287	294	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	180	172	176	1000
Total Hardness [@]	mg/L as CaCO ₃	SM 2023 (2340 C)	78	76	76	300
Chloride [@]	mg/L as Cl ⁻	SM 2023 (4500-Cl ⁻ B)	26	26	27	250
Total Iron [#]	mg/L as Fe	SM 2023 (3500-Fe B)	< 0.10	< 0.10	< 0.10	0.3
Manganese [#]	mg/L	SM 2023 (3500-Mn B)	< 0.04	< 0.04	< 0.04	0.1
Nitrate [#]	mg/L as NO ₃ ⁻	SM 2023 (4500-NO ₃ ⁻ E)	7.89	8.82	8.60	50
Sulfate [#]	mg/L as SO ₄ ²⁻	Based on SM 2023 (4500-SO ₄ ²⁻ E)	37.95	37.95	38.49	250
Sample Condition		Observation	Clear	Clear	Clear	

- Remark : 1. SM 2023 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023
2. Test marked "# " on this report are Accredited International Standard ISO/IEC 17025 by BLA-DSS.
3. Test marked "@ " on this report are Accredited International Standard ISO/IEC 17025 by BLQS-DMSc.
4. Test marked " * " on this report are not included in scope of Accreditation
5. a : Specification for Water Supply Quality of Metropolitan Waterworks Authority.

Analyst

04/03/2025

Technical Manager

04/03/2025

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Analysis/Test Report

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Address : 277 Moo 5, Naklua, Banglamung, Pattaya, Chonburi 20150, Thailand

Sampling Site : Centara Grand (Pattaya)

Sampling by : Test Tech Co., Ltd.

Sampling Date : 19/02/2025

Received Date : 19/02/2025

Report Date : 04/03/2025

Sample Type : Usage Water

Sampling Method : Grab

Sampling Time : 10:30 AM

Analytical Date : 19/02 - 03/03/2025

Report No. : R04576/68

Parameters	Unit	Method	TW03585 /68	TW03586 /68	TW03587 /68	Standard ^a
			Water in Storage Tank	Soft Water System (Main Point)	Hot Water System (Main Point)	
Coliform Bacteria	MPN/100 mL	SM 2023 (9221 B)	< 1.1	< 1.1	< 1.1	not found
<i>E. coli</i>	/100 mL	SM 2023 (9221 F, Detection)	not found	not found	not found	not found
Sample Condition			Clear	Clear	Clear	

Remark : 1. SM 2023 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023

2. a : Specification for Water Supply Quality of Metropolitan Waterworks Authority.

Analyst

04/03/2025

Technical Manager

04/03/2025

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ISO/IEC 17025
Accreditation No. 1201/54TESTING
NO.0001

Analysis/Test Report

Customer Name : Centara Grand Mirage Beach Resort Pattaya

Address : 277 Moo 5, Naklua, Banglamung, Pattaya, Chonburi 20150, Thailand

Sampling Site : Centara Grand (Pattaya)

Sampling by : Test Tech Co., Ltd.

Sampling Date : 19/02/2025

Received Date : 19/02/2025

Report Date : 04/03/2025

Sample Type : Usage Water

Sampling Method : Grab

Sampling Time : 10:30 AM

Analytical Date : 19/02 - 03/03/2025

Report No. : R04577/68

Parameters	Unit	Method	TW03588 /68	TW03589 /68	Standard ^a
			Guest Room Cold Water (South 1218)	Guest Room Cold Water (South 1222)	
pH (25°C) [#]	-	Based on SM 2023 (4500-H ⁺ B)	7.2	7.1	6.5-8.5
Turbidity [#]	NTU	SM 2023 (2130 B)	< 0.50	< 0.50	5
Conductivity [#]	uS/cm	SM 2023 (2510 B)	298	298	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	179	179	1000
Total Hardness [@]	mg/L as CaCO ₃	SM 2023 (2340 C)	77	77	300
Chloride [@]	mg/L as Cl ⁻	SM 2023 (4500-Cl ⁻ B)	27	27	250
Total Iron [#]	mg/L as Fe	SM 2023 (3500-Fe B)	< 0.10	< 0.10	0.3
Manganese [#]	mg/L	SM 2023 (3500-Mn B)	< 0.04	< 0.04	0.1
Nitrate [#]	mg/L as NO ₃ ⁻	SM 2023 (4500-NO ₃ ⁻ E)	9.30	7.94	50
Sulfate [#]	mg/L as SO ₄ ²⁻	Based on SM 2023 (4500-SO ₄ ²⁻ E)	38.77	37.13	250
Sample Condition		Observation	Clear	Clear	

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04/03/2025

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04/03/2025

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Address : 277 Moo 5, Naklua, Banglamung, Pattaya, Chonburi 20150, Thailand

Sampling Site : Centara Grand (Pattaya)

Sampling by : Test Tech Co., Ltd.

Sampling Date : 19/02/2025

Received Date : 19/02/2025

Report Date : 04/03/2025

Sample Type : Usage Water

Sampling Method : Grab

Sampling Time : 10:30 AM

Analytical Date : 19/02 - 03/03/2025

Report No. : R04578/68

Parameters	Unit	Method	TW03588 /68	TW03589 /68	Standard ^a
			Guest Room Cold Water (South 1218)	Guest Room Cold Water (South 1222)	
Coliform Bacteria	MPN/100 mL	SM 2023 (9221 B)	< 1.1	< 1.1	not found
<i>E. coli</i>	/100 mL	SM 2023 (9221 F, Detection)	not found	not found	not found
Sample Condition		Observation	Clear	Clear	

Remark : 1. SM 2023 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023

2. a : Specification for Water Supply Quality of Metropolitan Waterworks Authority.

Analyst

04/03/2025

บริษัท เทสท์ เทค จำกัด

Technical Manager

04/03/2025

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Analysis/Test Report

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Address : 277 Moo 5, Naklua, Banglamung, Pattaya, Chonburi 20150, Thailand

Sampling Site : Centara Grand (Pattaya)

Sampling by : Test Tech Co., Ltd.

Sampling Date : 19/02/2025

Received Date : 19/02/2025

Report Date : 04/03/2025

Sample Type : Usage Water

Sampling Method : Grab

Sampling Time : 10:30 AM

Analytical Date : 19/02 - 03/03/2025

Report No. : R04579/68

Parameters	Unit	Method	TW03590 /68	TW03591 /68	Standard ^a
			Guest Room Hot Water (South 1218)	Guest Room Hot Water (South 1222)	
pH (25°C) [#]	-	Based on SM 2023 (4500-H ⁺ B)	7.2	7.3	6.5-8.5
Turbidity [#]	NTU	SM 2023 (2130 B)	< 0.50	< 0.50	5
Conductivity [#]	uS/cm	SM 2023 (2510 B)	293	294	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	176	176	1000
Total Hardness [@]	mg/L as CaCO ₃	SM 2023 (2340 C)	77	74	300
Chloride [@]	mg/L as Cl ⁻	SM 2023 (4500-Cl ⁻ B)	26	26	250
Total Iron [#]	mg/L as Fe	SM 2023 (3500-Fe B)	< 0.10	< 0.10	0.3
Manganese [#]	mg/L	SM 2023 (3500-Mn B)	< 0.04	< 0.04	0.1
Nitrate [#]	mg/L as NO ₃ ⁻	SM 2023 (4500-NO ₃ ⁻ E)	8.54	9.04	50
Sulfate [#]	mg/L as SO ₄ ²⁻	Based on SM 2023 (4500-SO ₄ ²⁻ E)	37.95	37.40	250
Sample Condition		Observation	Clear	Clear	

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Analyst

04/03/2025

Technical Manager

04/03/2025

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Analysis/Test Report

Customer Name : Centara Grand Mirage Beach Resort Pattaya

Address : 277 Moo 5, Naklua, Banglamung, Pattaya, Chonburi 20150, Thailand

Sampling Site : Centara Grand (Pattaya)

Sampling by : Test Tech Co., Ltd.

Sampling Date : 19/02/2025

Received Date : 19/02/2025

Report Date : 04/03/2025

Sample Type : Usage Water

Sampling Method : Grab

Sampling Time : 10:30 AM

Analytical Date : 19/02 - 03/03/2025

Report No. : R04580/68

Parameters	Unit	Method	TW03590 /68	TW03591 /68	Standard ^a
			Guest Room Hot Water (South 1218)	Guest Room Hot Water (South 1222)	
Coliform Bacteria	MPN/100 mL	SM 2023 (9221 B)	< 1.1	< 1.1	not found
<i>E. coli</i>	/100 mL	SM 2023 (9221 F, Detection)	not found	not found	not found
Sample Condition		Observation	Clear	Clear	

Remark : 1. SM 2023 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023

2. a : Specification for Water Supply Quality of Metropolitan Waterworks Authority.



Analyst

04/03/2025



Technical Manager

04/03/2025

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TESTING
NO.0001

Analysis/Test Report

Customer Name : Centara Grand Mirage Beach Resort Pattaya

Address : 277 Moo 5, Naklua, Banglamung, Pattaya, Chonburi 20150, Thailand

Sampling Site : Centara Grand (Pattaya)

Sample Type : Usage Water

Sampling by : Test Tech Co., Ltd.

Sampling Method : Grab

Sampling Date : 19/02/2025

Sampling Time : 10:30 AM

Received Date : 19/02/2025

Analytical Date : 19/02 - 03/03/2025

Report Date : 04/03/2025

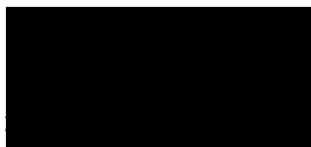
Report No. : R04581/68

Parameters	Unit	Method	TW03592 /68	Standard ^a (Cooling Water)
			Cooling Water	
pH (25°C)	-	Based on SM 2023 (4500-H ⁺ B)	8.6	8.5 - 9.5
* Conductivity	uS/cm	SM 2023 (2510 B)	8330	< 2500
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	4998	< 2000
* P-Alkalinity	mg/L as CaCO ₃	Titration	30	-
* M-Alkalinity	mg/L as CaCO ₃	Titration	240	-
* Total Hardness	mg/L as CaCO ₃	SM 2023 (2340 C)	1740	< 100
* Chloride	mg/L as Cl ⁻	SM 2023 (4500-Cl ⁻ B)	1400	< 400
Total Iron	mg/L as Fe	SM 2023 (3500-Fe B)	< 0.10	< 1.0
Manganese	mg/L	SM 2023 (3500-Mn B)	< 0.04	-
* Sulfate	mg/L as SO ₄ ²⁻	Based on SM 2023 (4500-SO ₄ ²⁻ E)	1622	-
* Silica	mg/L as SiO ₂	SM 2023 (4500-SiO ₂ C)	99.98	-
* Total Phosphorus	mg/L as P	Stannous Chloride	0.21	-
Sample Condition		Observation	Light Yellow, Clear	

Remark : 1. SM 2023 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023

2. Test marked " * " on this report are not included in scope of Accreditation

3. a : เกณฑ์ควบคุมคุณภาพน้ำในระบบต่าง ๆ



Analyst

04/03/2025



Technical Manager

04/03/2025

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Analysis/Test Report

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Address : 277 Moo 5, Naklua, Banglamung, Pattaya, Chonburi 20150, Thailand

Sampling Site : Centara Grand (Pattaya)

Sampling by : Test Tech Co., Ltd.

Sampling Date : 19/02/2025

Received Date : 19/02/2025

Report Date : 04/03/2025

Sample Type : Usage Water

Sampling Method : Grab

Sampling Time : 10:30 AM

Analytical Date : 19/02 - 03/03/2025

Report No. : R04582/68

Parameters	Unit	Method	TW03592 /68
			Cooling Water
<i>Legionella spp.</i>	/L	ISO 11731 : 2017	not detected
Sample Condition		Observation	Light Yellow, Clear

Analyst

04/03/2025

Technical Manager

04/03/2025

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Analysis/Test Report

Customer Name : Centara Grand Mirage Beach Resort Pattaya

Address : 277 Moo 5, Naklua, Banglamung, Pattaya, Chonburi 20150, Thailand

Sampling Site : Centara Grand (Pattaya)

Sample Type : Usage Water

Sampling by : Test Tech Co., Ltd.

Sampling Method : Grab

Sampling Date : 19/02/2025

Sampling Time : 10:30 AM

Received Date : 19/02/2025

Analytical Date : 19/02 - 03/03/2025

Report Date : 04/03/2025

Report No. : R04583/68

Parameters	Unit	Method	TW03593 /68	Standard ^a (Chilled Water)
			Chilled Water	
* pH (25°C)	-	Based on SM 2023 (4500-H ⁺ B)	9.8	7.5 - 9.5
Conductivity [#]	uS/cm	SM 2023 (2510 B)	919	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	551	-
* P-Alkalinity	mg/L as CaCO ₃	Titration	45	-
* M-Alkalinity	mg/L as CaCO ₃	Titration	125	-
Total Hardness [@]	mg/L as CaCO ₃	SM 2023 (2340 C)	74	-
Chloride [@]	mg/L as Cl ⁻	SM 2023 (4500-Cl ⁻ B)	46	-
Total Iron [#]	mg/L as Fe	SM 2023 (3500-Fe B)	0.85	< 1.0
Manganese [#]	mg/L	SM 2023 (3500-Mn B)	< 0.04	-
Sulfate [#]	mg/L as SO ₄ ²⁻	Based on SM 2023 (4500-SO ₄ ²⁻ E)	52.42	-
Silica [#]	mg/L as SiO ₂	SM 2023 (4500-SiO ₂ C)	3.62	-
* Nitrite	mg/L as NO ₂ ⁻	SM 2023 (4500-NO ₂ ⁻ B)	143	500 - 1000
Sample Condition		Observation	Light Yellow, a little bit Particles	

Remark : 1. SM 2023 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023

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5. a : เกณฑ์ควบคุมคุณภาพน้ำในระบบต่าง ๆ (Chilled Water)

Analyst

04/03/2025

Technical Manager

04/03/2025

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Analysis/Test Report

Customer Name : Centara Grand Mirage Beach Resort Pattaya

Address : 277 Moo 5, Naklua, Banglamung, Pattaya, Chonburi 20150, Thailand

Sampling Site : Centara Grand (Pattaya)

Sample Type : Drinking Water

Sampling by : Test Tech Co., Ltd.

Sampling Method : Grab

Sampling Date : 19/02/2025

Sampling Time : 10:30 AM

Received Date : 19/02/2025

Analytical Date : 19 - 24/02/2025

Report Date : 25/02/2025

Report No. : R03988/68

Parameters	Unit	Method	TW03594 /68	TW03595 /68	TW03596 /68	Standard ^a
			Drinking Water (Canteen)	Drinking Water (Oasis Kitchen)	Drinking Water (Guest Room 1218)	
pH (25°C) [#]	-	Based on SM 2023 (4500-H ⁺ B)	7.6	7.0	7.2	6.5-8.5
Turbidity [#]	NTU	SM 2023 (2130 B)	< 0.50	< 0.50	< 0.50	≤ 5.0
Conductivity [#]	uS/cm	SM 2023 (2510 B)	293	292	293	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	176	175	176	-
Total Hardness [@]	mg/L as CaCO ₃	SM 2023 (2340 C)	73	73	74	≤ 100.0
Chloride [@]	mg/L as Cl ⁻	SM 2023 (4500-Cl ⁻ B)	26	26	26	≤ 250.0
Total Iron [#]	mg/L as Fe	SM 2023 (3500-Fe B)	< 0.10	< 0.10	< 0.10	≤ 0.3
Manganese [#]	mg/L	SM 2023 (3500-Mn B)	< 0.04	< 0.04	< 0.04	≤ 0.05
Nitrate Nitrogen [#]	mg/L as NO ₃ ⁻ N	SM 2023 (4500-NO ₃ ⁻ E)	1.82	1.72	1.98	≤ 4.0
Sulfate [#]	mg/L as SO ₄ ²⁻	Based on SM 2023 (4500-SO ₄ ²⁻ E)	37.95	38.22	37.40	≤ 250.0
Sample Condition		Observation	Clear	Clear	Clear	

- Remark : 1. SM 2023 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023
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5. a : Notification of the Ministry of Public Health, No. 284 , B.E. 2547 (2004) on "Drinking Water in Sealed Container" (No.5)
(Included No. 135 , B.E. 2534 (1991) and No. 61, B.E. 2524 (1981))

Analyst

25/02/2025

Technical Manager

25/02/2025

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Sampling Site : Centara Grand (Pattaya)

Sampling by : Test Tech Co., Ltd.

Sampling Date : 19/02/2025

Received Date : 19/02/2025

Report Date : 25/02/2025

Sample Type : Drinking Water

Sampling Method : Grab

Sampling Time : 10:30 AM

Analytical Date : 19 - 24/02/2025

Report No. : R03989/68

Parameters	Unit	Method	TW03594 /68	TW03595 /68	TW03596 /68	Standard ^a
			Drinking Water (Canteen)	Drinking Water (Oasis Kitchen)	Drinking Water (Guest Room 1218)	
Coliform Bacteria	MPN/100 mL	SM 2023 (9221 B)	< 1.1	< 1.1	< 1.1	< 2.2
<i>E. coli</i>	/100 mL	SM 2023 (9221 F, Detection)	not found	not found	not found	negative
Sample Condition		Observation	Clear	Clear	Clear	

Remark : 1. SM 2023 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 20232. a : Notification of the Ministry of Public Health, No. 284 , B.E. 2547 (2004) on "Drinking Water in Sealed Container" (No.5)
(Included No. 135 , B.E. 2534 (1991) and No. 61, B.E. 2524 (1981))

Analyst

25/02/2025

Technical Manager

25/02/2025

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The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025

Analysis/Test Report

Customer Name : Centara Grand Mirage Beach Resort Pattaya

Address : 277 Moo 5, Naklua, Banglamung, Pattaya, Chonburi 20150, Thailand

Sampling Site : Centara Grand (Pattaya)

Sample Type : Swimming Water

Sampling by : Test Tech Co., Ltd.

Sampling Method : Grab

Sampling Date : 19/02/2025

Sampling Time : 10:30 AM

Received Date : 19/02/2025

Analytical Date : 19 - 24/02/2025

Report Date : 25/02/2025

Report No. : R03990/68

Parameters	Unit	Method	TW03601 /68	TW03602 /68	Standard ^a
			Main Pool	Lab Pool	
pH (25°C)	-	Based on SM 2023 (4500-H ⁺ B)	7.6	7.2	7.2-8.4
Residual Chlorine	mg/L as Cl ₂	DPD Colorimetric	0.92	0.91	0.6-1.0
Sample Condition			Clear	Clear	

Remark : 1. SM 2023 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023

2. a : Bangkok Metropolitan Administration published in the Royal Government Gazette, Vol.104 ,Part 205,dated October 14, B.E.2530 (1987)

Analyst

25/02/2025

บริษัท เทสท์ เทค จำกัด

Technical Manager

25/02/2025

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Accreditation No. 1201/54

Analysis/Test Report

Customer Name : Centara Grand Mirage Beach Resort Pattaya

Address : 277 Moo 5, Naklua, Banglamung, Pattaya, Chonburi 20150, Thailand

Sampling Site : Centara Grand (Pattaya)

Sampling by : Test Tech Co., Ltd.

Sampling Date : 19/02/2025

Received Date : 19/02/2025

Report Date : 25/02/2025

Sample Type : Swimming Water

Sampling Method : Grab

Sampling Time : 10:30 AM

Analytical Date : 19 - 24/02/2025

Report No. : R03991/68

Parameters	Unit	Method	TW03601 /68	TW03602 /68	Standard ^a
			Main Pool	Lab Pool	
Coliform Bacteria	MPN/100 mL	SM 2023 (9221 B)	< 1.8	< 1.8	< 10
<i>E. coli</i>	/100 mL	SM 2023 (9221 F, Detection)	not found	not found	negative
Sample Condition		Observation	Clear	Clear	

Remark : 1. SM 2023 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023

2. a : Bangkok Metropolitan Administration published in the Royal Government Gazette, Vol.104 ,Part 205,dated October 14, B.E.2530 (1987)

Analyst

25/02/2025

Technical Manager

25/02/2025

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Analysis/Test Report

Customer Name : Centara Grand Mirage Beach Resort Pattaya

Address : 277 Moo 5, Naklua, Banglamung, Pattaya, Chonburi 20150, Thailand

Sampling Site : Centara Grand (Pattaya)

Sample Type : Swimming Water

Sampling by : Test Tech Co., Ltd.

Sampling Method : Grab

Sampling Date : 19/02/2025

Sampling Time : 10:30 AM

Received Date : 19/02/2025

Analytical Date : 19 - 24/02/2025

Report Date : 25/02/2025

Report No. : R03992/68

Parameters	Unit	Method	TW03603 /68	TW03604 /68	Standard ^a
			Lazy Pool	18 th Flr Pool	
pH (25°C)	-	Based on SM 2023 (4500-H ⁺ B)	7.8	7.5	7.2-8.4
Residual Chlorine	mg/L as Cl ₂	DPD Colorimetric	0.97	0.97	0.6-1.0
Sample Condition		Observation	Clear	Clear	

Remark : 1. SM 2023 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023

2. a : Bangkok Metropolitan Administration published in the Royal Government Gazette, Vol.104 ,Part 205,dated October 14, B.E.2530 (1987)

Analyst

25/02/2025

บริษัท เทสท์ เทค จำกัด

Technical Manager

25/02/2025

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Analysis/Test Report

Customer Name : Centara Grand Mirage Beach Resort Pattaya

Address : 277 Moo 5, Naklua, Banglamung, Pattaya, Chonburi 20150, Thailand

Sampling Site : Centara Grand (Pattaya)

Sampling by : Test Tech Co., Ltd.

Sampling Date : 19/02/2025

Received Date : 19/02/2025

Report Date : 25/02/2025

Sample Type : Swimming Water

Sampling Method : Grab

Sampling Time : 10:30 AM

Analytical Date : 19 - 24/02/2025

Report No. : R03993/68

Parameters	Unit	Method	TW03603 /68	TW03604 /68	Standard ^a
			Lazy Pool	18 th Flr Pool	
Coliform Bacteria	MPN/100 mL	SM 2023 (9221 B)	< 1.8	< 1.8	< 10
<i>E. coli</i>	/100 mL	SM 2023 (9221 F, Detection)	not found	not found	negative
Sample Condition		Observation	Clear	Clear	

Remark : 1. SM 2023 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023
2. a : Bangkok Metropolitan Administration published in the Royal Government Gazette, Vol.104 ,Part 205,dated October 14, B.E.2530 (1987)



Analyst

25/02/2025



Technical Manager

25/02/2025

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Analysis/Test Report

Customer Name : Centara Grand Mirage Beach Resort Pattaya

Address : 277 Moo 5, Naklua, Banglamung, Pattaya, Chonburi 20150, Thailand

Sampling Site : Centara Grand (Pattaya)

Sample Type : Ice

Sampling by : Test Tech Co., Ltd.

Sampling Method : Grab

Sampling Date : 19/02/2025

Sampling Time : 10:30 AM

Received Date : 19/02/2025

Analytical Date : 19 - 24/02/2025

Report Date : 26/02/2025

Report No. : R04104/68

Parameters	Unit	Method	TW03597 /68	TW03598 /68	Standard ^a
			Canteen (Cube)	Banquet (Flake)	
Coliform Bacteria	MPN/100 mL	SM 2023 (9221 B)	< 1.1	< 1.1	< 2.2
<i>E. coli</i>	/100 mL	SM 2023 (9221 F, Detection)	not found	not found	negative
Sample Condition		Observation	Clear	Clear	

Remark : 1. SM 2023 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 20232. a : Notification of the Ministry of Public Health, No. 284 , B.E. 2547 (2004) on "Drinking Water in Sealed Container" (No.5)
(Included No. 135 , B.E. 2534 (1991) and No. 61, B.E. 2524 (1981))

Analyst

26/02/2025

บริษัท เทสท์ เทค จำกัด

Technical Manager

26/02/2025

Reported results refer to the sample as received only.

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The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025

Analysis/Test Report

Customer Name : Centara Grand Mirage Beach Resort Pattaya

Address : 277 Moo 5, Naklua, Banglamung, Pattaya, Chonburi 20150, Thailand

Sampling Site : Centara Grand (Pattaya)

Sample Type : Ice

Sampling by : Test Tech Co., Ltd.

Sampling Method : Grab

Sampling Date : 19/02/2025

Sampling Time : 10:30 AM

Received Date : 19/02/2025

Analytical Date : 19 - 24/02/2025

Report Date : 26/02/2025

Report No. : R04105/68

Parameters	Unit	Method	TW03599 /68	TW03600 /68	Standard ^a
			Flames	Oasis Kitchen (Flake)	
Coliform Bacteria	MPN/100 mL	SM 2023 (9221 B)	< 1.1	< 1.1	< 2.2
<i>E. coli</i>	/100 mL	SM 2023 (9221 F, Detection)	not found	not found	negative
Sample Condition		Observation	Clear	Clear	

Remark : 1. SM 2023 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 20232. a : Notification of the Ministry of Public Health, No. 284 , B.E. 2547 (2004) on "Drinking Water in Sealed Container" (No.5)
(Included No. 135 , B.E. 2534 (1991) and No. 61, B.E. 2524 (1981))

Analyst

26/02/2025

บริษัท เทสท์ เทค จำกัด

Technical Manager

26/02/2025

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Analysis/Test Report

Customer Name : Centara Grand Mirage Beach Resort Pattaya

Address : 277 Moo 5, Naklua, Banglamung, Pattaya, Chonburi 20150, Thailand

Sampling Site : Centara Grand (Pattaya)

Sample Type : Waste Water

Sampling by : Test Tech Co., Ltd.

Sampling Method : Grab

Sampling Date : 19/02/2025

Sampling Time : 10:30 AM

Received Date : 19/02/2025

Analytical Date : 19 - 26/02/2025

Report Date : 27/02/2025

Report No. : R04159/68

Parameters	Unit	Method	TW03605 /68	Standard ^a
			Effluent	
pH	-	SM 2023 (4500-H ⁺ B)	7.7	-
BOD	mg/L	SM 2023 (5210 B, 4500-O G)	98	≤ 1000
Total Suspended Solids	mg/L	SM 2023 (2540 D)	93	-
Oil & Grease	mg/L	SM 2023 (5520 D)	19.7	-
Sample Condition		Observation	Light Yellow, Cloud	

Remark : 1. SM 2023 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023

2. a : ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 22 (พ.ศ. 2544) เรื่อง กำหนดอัตราค่าบริการบำบัดน้ำเสียของระบบบำบัดน้ำเสียรวมเมืองพัทยา

Analyst

27/02/2025

Technical Manager

27/02/2025

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