

SRR NO. 68L0995

Messrs : Centara Grand Mirage Beach Resort Pattaya

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

Factory Site : Centara Grand Pattaya Date : March 28, 2025

Recommendation For : Water Analysis of March, 2025

Report Reference : R06285-66/68, R05779-80/68, R05604-09/68, R5868/68

## 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 routine 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) :

- 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 routine 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) :

- 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) : (North 1103, North 1105)

- 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) : (North 1103, North 1105)

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

**3. Swimming Water :**

- 1) Main Pool : On used.
  - pH was normal.
  - Chlorine was found 0.87 ppm.
  - Coliform/ E.Coli was not found.
- 2) Lab Pool : On used.
  - pH was normal.
  - Chlorine was found 0.91 ppm.
  - Coliform/ E.Coli was not found.
- 3) Lazy Pool :
  - pH was normal.
  - Chlorine was found 0.89 ppm.
  - Coliform/E.Coli was not found.
- 4) 18<sup>th</sup> Flr Pool
  - pH was normal.
  - Chlorine was found 0.81 ppm.
  - Coliform/E.Coli was not found.

**Recommendation :**

1. pH should be routine checked. If pH low, the feeding of NaOH or Na<sub>2</sub>CO<sub>3</sub> should be done.  
If pH high , the pH adjustment by HCl should be added.
2. Chlorine should be routine checked to control ~ 1 – 3 ppm
3. Circulation water should be passed through filter for reduce bacteria accumulation.

**4. Ice**

- 1) Canteen (Cube) : Coliform/E.Coli was not found.
- 2) Banquet (Flake) : Coliform/E.Coli was not found.
- 3) Flames : Coliform/E.Coli was not found.
- 4) Oasis Kitchen (Flake): Coliform/E.Coli was not found.

**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 ~ 37 mg/L was in Pattaya Regulation ( $\leq 1000$  mg/l).

The owner should pay for treatment following regulation rate.

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)

Sample Type : Usage Water

Sampling by : Test Tech Co., Ltd.

Sampling Method : Grab

Sampling Date : 11/03/2025

Sampling Time : 11:00 AM

Received Date : 11/03/2025

Analytical Date : 11 - 22/03/2025

Report Date : 24/03/2025

Report No. : R06258/68

Parameters	Unit	Method	TW05031 /68	TW05032 /68	TW05033 /68	Standard <sup>a</sup>
			Water in Storage Tank	Soft Water System (Main Point)	Hot Water System (Main Point)	
pH (25°C) <sup>#</sup>	-	Based on SM 2023 (4500-H <sup>+</sup> B)	7.1	7.1	7.3	6.5-8.5
Turbidity <sup>#</sup>	NTU	SM 2023 (2130 B)	< 0.50	< 0.50	< 0.50	5
Conductivity <sup>#</sup>	uS/cm	SM 2023 (2510 B)	257	263	240	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	154	158	144	1000
Total Hardness <sup>@</sup>	mg/L as CaCO <sub>3</sub>	SM 2023 (2340 C)	72	70	65	300
Chloride <sup>@</sup>	mg/L as Cl <sup>-</sup>	SM 2023 (4500-Cl <sup>-</sup> B)	23	22	20	250
Total Iron <sup>#</sup>	mg/L as Fe	SM 2023 (3500-Fe B)	< 0.10	< 0.10	< 0.10	0.3
Manganese <sup>#</sup>	mg/L	SM 2023 (3500-Mn B)	< 0.04	< 0.04	< 0.04	0.1
Nitrate <sup>#</sup>	mg/L as NO <sub>3</sub> <sup>-</sup>	SM 2023 (4500-NO <sub>3</sub> <sup>-</sup> E)	6.37	6.64	5.71	50
Sulfate <sup>#</sup>	mg/L as SO <sub>4</sub> <sup>2-</sup>	Based on SM 2023 (4500-SO <sub>4</sub> <sup>2-</sup> E)	31.94	31.67	28.94	250
Sample Condition		Observation	Clear	Clear	Clear	

Remark : 1. SM 2023 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24<sup>th</sup> 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-DMSQ.

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

24/03/2025



Technical Manager

24/03/2025

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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 : 11/03/2025

Received Date : 11/03/2025

Report Date : 24/03/2025

Sample Type : Usage Water

Sampling Method : Grab

Sampling Time : 11:00 AM

Analytical Date : 11 - 22/03/2025

Report No. : R06259/68

Parameters	Unit	Method	TW05031 /68	TW05032 /68	TW05033 /68	Standard <sup>a</sup>
			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		Observation	Clear	Clear	Clear	

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

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



Analyst

24/03/2025



Technical Manager

24/03/2025

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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 : 11/03/2025

Received Date : 11/03/2025

Report Date : 24/03/2025

Sample Type : Usage Water

Sampling Method : Grab

Sampling Time : 11:00 AM

Analytical Date : 11 - 22/03/2025

Report No. : R06260/68

Parameters	Unit	Method	TW05034 /68	TW05035 /68	Standard <sup>a</sup>
			Guest Room Cold Water (North 1103)	Guest Room Cold Water (North 1105)	
pH (25°C) <sup>#</sup>	-	Based on SM 2023 (4500-H <sup>+</sup> B)	7.4	7.2	6.5-8.5
Turbidity <sup>#</sup>	NTU	SM 2023 (2130 B)	< 0.50	< 0.50	5
Conductivity <sup>#</sup>	uS/cm	SM 2023 (2510 B)	257	254	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	154	152	1000
Total Hardness <sup>@</sup>	mg/L as CaCO <sub>3</sub>	SM 2023 (2340 C)	67	67	300
Chloride <sup>@</sup>	mg/L as Cl <sup>-</sup>	SM 2023 (4500-Cl <sup>-</sup> B)	22	21	250
Total Iron <sup>#</sup>	mg/L as Fe	SM 2023 (3500-Fe B)	< 0.10	< 0.10	0.3
Manganese <sup>#</sup>	mg/L	SM 2023 (3500-Mn B)	< 0.04	< 0.04	0.1
Nitrate <sup>#</sup>	mg/L as NO <sub>3</sub> <sup>-</sup>	SM 2023 (4500-NO <sub>3</sub> <sup>-</sup> E)	5.89	5.87	50
Sulfate <sup>#</sup>	mg/L as SO <sub>4</sub> <sup>2-</sup>	Based on SM 2023 (4500-SO <sub>4</sub> <sup>2-</sup> E)	30.30	29.76	250
Sample Condition		Observation	Clear	Clear	

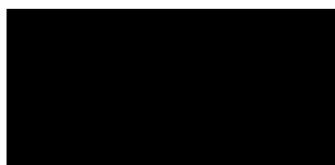
Remark : 1. SM 2023 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24<sup>th</sup> ed., 2023

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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

24/03/2025



Technical Manager

24/03/2025

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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** : 11/03/2025

**Received Date** : 11/03/2025

**Report Date** : 24/03/2025

**Sample Type** : Usage Water

**Sampling Method** : Grab

**Sampling Time** : 11:00 AM

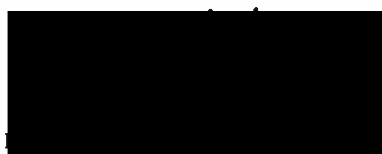
**Analytical Date** : 11 - 22/03/2025

**Report No.** : R06261/68

Parameters	Unit	Method	TW05034 /68	TW05035 /68	Standard <sup>a</sup>
			Guest Room Cold Water (North 1103)	Guest Room Cold Water (North 1105)	
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, 24<sup>th</sup> ed., 2023

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



Analyst

24/03/2025



Technical Manager

24/03/2025

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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 : 11/03/2025

Received Date : 11/03/2025

Report Date : 24/03/2025

Sample Type : Usage Water

Sampling Method : Grab

Sampling Time : 11:00 AM

Analytical Date : 11 - 22/03/2025

Report No. : R06262/68

Parameters	Unit	Method	TW05036 /68	TW05037 /68	Standard <sup>a</sup>
			Guest Room Hot Water (North 1103)	Guest Room Hot Water (North 1105)	
pH (25°C) <sup>#</sup>	-	Based on SM 2023 (4500-H <sup>+</sup> B)	7.2	7.6	6.5-8.5
Turbidity <sup>#</sup>	NTU	SM 2023 (2130 B)	< 0.50	< 0.50	5
Conductivity <sup>#</sup>	uS/cm	SM 2023 (2510 B)	240	239	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	144	143	1000
Total Hardness <sup>@</sup>	mg/L as CaCO <sub>3</sub>	SM 2023 (2340 C)	65	65	300
Chloride <sup>@</sup>	mg/L as Cl <sup>-</sup>	SM 2023 (4500-Cl <sup>-</sup> B)	19	20	250
Total Iron <sup>#</sup>	mg/L as Fe	SM 2023 (3500-Fe B)	< 0.10	< 0.10	0.3
Manganese <sup>#</sup>	mg/L	SM 2023 (3500-Mn B)	< 0.04	< 0.04	0.1
Nitrate <sup>#</sup>	mg/L as NO <sub>3</sub> <sup>-</sup>	SM 2023 (4500-NO <sub>3</sub> <sup>-</sup> E)	5.77	5.54	50
Sulfate <sup>#</sup>	mg/L as SO <sub>4</sub> <sup>2-</sup>	Based on SM 2023 (4500-SO <sub>4</sub> <sup>2-</sup> E)	29.21	29.48	250
Sample Condition		Observation	Clear	Clear	

- Remark : 1. SM 2023 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24<sup>th</sup> ed., 2023
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Analyst

24/03/2025

Technical Manager

24/03/2025

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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 : 11/03/2025

Sampling Time : 11:00 AM

Received Date : 11/03/2025

Analytical Date : 11 - 22/03/2025

Report Date : 24/03/2025

Report No. : R06263/68

Parameters	Unit	Method	TW05036 /68	TW05037 /68	Standard <sup>a</sup>
			Guest Room Hot Water (North 1103)	Guest Room Hot Water (North 1105)	
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, 24<sup>th</sup> ed., 2023

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

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24/03/2025

Technical Manager

24/03/2025

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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 : 11/03/2025

Sampling Time : 11:00 AM

Received Date : 11/03/2025

Analytical Date : 11 - 22/03/2025

Report Date : 24/03/2025

Report No. : R06264/68

Parameters	Unit	Method	TW05038 /68	Standard <sup>a</sup>
			Cooling Water	(Cooling Water)
pH (25°C)	-	Based on SM 2023 (4500-H <sup>+</sup> B)	8.6	8.5 - 9.5
• Conductivity	uS/cm	SM 2023 (2510 B)	10840	< 2500
• Dissolved Solids	mg/L as NaCl	Electrical Conductivity	6504	< 2000
• P-Alkalinity	mg/L as CaCO <sub>3</sub>	Titration	10	-
• M-Alkalinity	mg/L as CaCO <sub>3</sub>	Titration	215	-
• Total Hardness	mg/L as CaCO <sub>3</sub>	SM 2023 (2340 C)	2350	< 100
• Chloride	mg/L as Cl <sup>-</sup>	SM 2023 (4500-Cl <sup>-</sup> B)	1999	< 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 <sub>4</sub> <sup>2-</sup>	Based on SM 2023 (4500-SO <sub>4</sub> <sup>2-</sup> E)	2075	-
• Silica	mg/L as SiO <sub>2</sub>	SM 2023 (4500-SiO <sub>2</sub> C)	86.33	-
• Total Phosphorus	mg/L as P	Stannous Chloride	0.30	-
Sample Condition		Observation	Light Yellow, Clear	

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

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

3. a : เกณฑ์ควบคุมคุณภาพน้ำในระบบต่าง ๆ

Analyst

24/03/2025

Technical Manager

24/03/2025

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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 : 11/03/2025

Sampling Time : 11:00 AM

Received Date : 11/03/2025

Analytical Date : 11 - 22/03/2025

Report Date : 24/03/2025

Report No. : R06265/68

Parameters	Unit	Method	TW05038 /68
			Cooling Water
Legionella spp.	/L	ISO 11731 : 2017	not detected
Sample Condition		Observation	Light Yellow, Clear



Analyst

24/03/2025



Technical Manager

24/03/2025

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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 : 11/03/2025

Sampling Time : 11:00 AM

Received Date : 11/03/2025

Analytical Date : 11 - 22/03/2025

Report Date : 24/03/2025

Report No. : R06266/68

Parameters	Unit	Method	TW05039 /68	Standard <sup>a</sup> ( Chilled Water )
			Chilled Water	
* pH (25°C)	-	Based on SM 2023 (4500-H <sup>+</sup> B)	10.0	7.5 - 9.5
Conductivity <sup>#</sup>	uS/cm	SM 2023 (2510 B)	971	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	583	-
* P-Alkalinity	mg/L as CaCO <sub>3</sub>	Titration	60	-
* M-Alkalinity	mg/L as CaCO <sub>3</sub>	Titration	135	-
Total Hardness <sup>@</sup>	mg/L as CaCO <sub>3</sub>	SM 2023 (2340 C)	38	-
Chloride <sup>@</sup>	mg/L as Cl <sup>-</sup>	SM 2023 (4500-Cl <sup>-</sup> B)	55	-
Total Iron <sup>#</sup>	mg/L as Fe	SM 2023 (3500-Fe B)	0.58	< 1.0
Manganese <sup>#</sup>	mg/L	SM 2023 (3500-Mn B)	< 0.04	-
Sulfate <sup>#</sup>	mg/L as SO <sub>4</sub> <sup>2-</sup>	Based on SM 2023 (4500-SO <sub>4</sub> <sup>2-</sup> E)	46.41	-
Silica <sup>#</sup>	mg/L as SiO <sub>2</sub>	SM 2023 (4500-SiO <sub>2</sub> C)	3.87	-
* Nitrite	mg/L as NO <sub>2</sub> <sup>-</sup>	SM 2023 (4500-NO <sub>2</sub> <sup>-</sup> B)	173	500 - 1000
Sample Condition		Observation	Clear	

- Remark : 1. SM 2023 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24<sup>th</sup> ed., 2023
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4. Test marked " \* " on this report are not included in scope of Accreditation
5. a : เกณฑ์ควบคุมคุณภาพน้ำในระบบต่าง ๆ (Chilled Water)

Analyst

24/03/2025

Technical Manager

24/03/2025

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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 : 11/03/2025

Sampling Time : 11:00 AM

Received Date : 11/03/2025

Analytical Date : 11 - 17/03/2025

Report Date : 18/03/2025

Report No. : R05779/68

Parameters	Unit	Method	TW05040 /68	TW05041 /68	TW05042 /68	Standard <sup>a</sup>
			Drinking Water (Canteen)	Drinking Water (Oasis Kitchen)	Drinking Water (Guest Room 1103)	
pH (25°C) <sup>#</sup>	-	Based on SM 2023 (4500-H <sup>+</sup> B)	7.5	7.4	7.2	6.5-8.5
Turbidity <sup>#</sup>	NTU	SM 2023 (2130 B)	< 0.50	< 0.50	< 0.50	≤ 5.0
Conductivity <sup>#</sup>	uS/cm	SM 2023 (2510 B)	240	240	240	-
Dissolved Solids	mg/L as NaCl	Electrical Conductivity	144	144	144	-
Total Hardness <sup>@</sup>	mg/L as CaCO <sub>3</sub>	SM 2023 (2340 C)	63	72	64	≤ 100.0
Chloride <sup>@</sup>	mg/L as Cl <sup>-</sup>	SM 2023 (4500-Cl <sup>-</sup> B)	19	16	18	≤ 250.0
Total Iron <sup>#</sup>	mg/L as Fe	SM 2023 (3500-Fe B)	< 0.10	< 0.10	< 0.10	≤ 0.3
Manganese <sup>#</sup>	mg/L	SM 2023 (3500-Mn B)	< 0.04	0.51	< 0.04	≤ 0.05
Nitrate Nitrogen <sup>#</sup>	mg/L as NO <sub>3</sub> -N	SM 2023 (4500-NO <sub>3</sub> <sup>-</sup> E)	1.30	0.13	1.24	≤ 4.0
Sulfate <sup>#</sup>	mg/L as SO <sub>4</sub> <sup>2-</sup>	Based on SM 2023 (4500-SO <sub>4</sub> <sup>2-</sup> E)	28.66	20.86	28.39	≤ 250.0
Sample Condition		Observation	Clear	Clear	Clear	

- Remark :
1. SM 2023 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24<sup>th</sup> 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 : 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

18/03/2025

Technical Manager

18/03/2025

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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 : Drinking Water

Sampling by : Test Tech Co., Ltd.

Sampling Method : Grab

Sampling Date : 11/03/2025

Sampling Time : 11:00 AM

Received Date : 11/03/2025

Analytical Date : 11 - 17/03/2025

Report Date : 18/03/2025

Report No. : R05780/68

Parameters	Unit	Method	TW05040 /68	TW05041 /68	TW05042 /68	Standard <sup>a</sup>
			Drinking Water (Canteen)	Drinking Water (Oasis Kitchen)	Drinking Water (Guest Room 1103)	
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, 24<sup>th</sup> 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

18/03/2025

Technical Manager

18/03/2025

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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 : Swimming Water

Sampling by : Test Tech Co., Ltd.

Sampling Method : Grab

Sampling Date : 11/03/2025

Sampling Time : 11:00 AM

Received Date : 11/03/2025

Analytical Date : 11 - 15/03/2025

Report Date : 17/03/2025

Report No. : R05604/68

Parameters	Unit	Method	TW05043 /68	TW05044 /68	Standard <sup>a</sup>
			Main Pool	Lab Pool	
pH (25°C)	-	Based on SM 2023 (4500-H <sup>+</sup> B)	7.6	7.6	7.2-8.4
Residual Chlorine	mg/L as Cl <sub>2</sub>	DPD Colorimetric	0.87	0.91	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, 24<sup>th</sup> 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

17/03/2025

บริษัท เทสท์ เทค จำกัด

TEST TECH CO., LTD.  
Technical Manager

17/03/2025

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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)

Sample Type : Swimming Water

Sampling by : Test Tech Co., Ltd.

Sampling Method : Grab

Sampling Date : 11/03/2025

Sampling Time : 11:00 AM

Received Date : 11/03/2025

Analytical Date : 11 - 15/03/2025

Report Date : 17/03/2025

Report No. : R05605/68

Parameters	Unit	Method	TW05043 /68	TW05044 /68	Standard <sup>a</sup>
			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, 24<sup>th</sup> 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

17/03/2025

Technical Manager

17/03/2025

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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 : Swimming Water

Sampling by : Test Tech Co., Ltd.

Sampling Method : Grab

Sampling Date : 11/03/2025

Sampling Time : 11:00 AM

Received Date : 11/03/2025

Analytical Date : 11 - 15/03/2025

Report Date : 17/03/2025

Report No. : R05606/68

Parameters	Unit	Method	TW05045 /68	TW05046 /68	Standard <sup>a</sup>
			Lazy Pool	18 <sup>th</sup> Fir Pool	
pH (25°C)	-	Based on SM 2023 (4500-H <sup>+</sup> B)	7.4	7.5	7.2-8.4
Residual Chlorine	mg/L as Cl <sub>2</sub>	DPD Colorimetric	0.89	0.81	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, 24<sup>th</sup> ed., 20232. a : Bangkok Metropolitan Administration published in the Royal Government Gazette, Vol.104 ,Part 205,dated October 14,  
B.E.2530 (1987)

Analyst

17/03/2025

บริษัท เทสท์ เทค จำกัด

Technical Manager

17/03/2025

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 : Swimming Water

Sampling by : Test Tech Co., Ltd.

Sampling Method : Grab

Sampling Date : 11/03/2025

Sampling Time : 11:00 AM

Received Date : 11/03/2025

Analytical Date : 11 - 15/03/2025

Report Date : 17/03/2025

Report No. : R05607/68

Parameters	Unit	Method	TW05045 /68	TW05046 /68	Standard <sup>a</sup>
			Lazy Pool	18 <sup>th</sup> 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, 24<sup>th</sup> ed., 20232. a : Bangkok Metropolitan Administration published in the Royal Government Gazette, Vol.104 ,Part 205,dated October 14,  
B.E.2530 (1987)

Analyst

17/03/2025

Technical Manager

17/03/2025

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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 : Ice

Sampling by : Test Tech Co., Ltd.

Sampling Method : Grab

Sampling Date : 11/03/2025

Sampling Time : 11:00 AM

Received Date : 11/03/2025

Analytical Date : 11 - 15/03/2025

Report Date : 17/03/2025

Report No. : R05608/68

Parameters	Unit	Method	TW05047 /68	TW05048 /68	Standard <sup>a</sup>
			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, 24<sup>th</sup> 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

17/03/2025

บริษัท เทสท์ เทค จำกัด

Technical Manager

17/03/2025

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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 : Ice

Sampling by : Test Tech Co., Ltd.

Sampling Method : Grab

Sampling Date : 11/03/2025

Sampling Time : 11:00 AM

Received Date : 11/03/2025

Analytical Date : 11 - 15/03/2025

Report Date : 17/03/2025

Report No. : R05609/68

Parameters	Unit	Method	TW05049 /68	TW05050 /68	Standard <sup>a</sup>
			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, 24<sup>th</sup> ed., 2023

2. 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

17/03/2025

บริษัท เทสท์ เทค จำกัด

Technical Manager

17/03/2025

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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 : Waste Water

Sampling by : Test Tech Co., Ltd.

Sampling Method : Grab

Sampling Date : 11/03/2025

Sampling Time : 11:00 AM

Received Date : 11/03/2025

Analytical Date : 11 - 18/03/2025

Report Date : 19/03/2025

Report No. : R05868/68

Parameters	Unit	Method	TW05051 /68	Standard <sup>a</sup>
			Effluent	
pH	-	SM 2023 (4500-H <sup>+</sup> B)	7.0	-
BOD	mg/L	SM 2023 (5210 B, 4500-O G)	37	≤ 1000
Total Suspended Solids	mg/L	SM 2023 (2540 D)	58	-
Oil & Grease	mg/L	SM 2023 (5520 D)	< 3.0	-
Sample Condition		Observation	Light Yellow, Cloud	

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

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

Analyst

19/03/2025

Technical Manager

19/03/2025

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