

SRR NO. 66L2596

Messrs : Centara Grand Mirage Beach Resort Pattaya

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

Factory Site : Centara Grand Pattaya Date : 27 กรกฎาคม 2566

Recommendation For : คุณภาพน้ำใช้และน้ำดื่มประจำเดือนกรกฎาคม 2566

Report Reference : R17517-18, R17519-22, R17523-24, R17525, R17095-96, R16931-32,  
R16933-34, R16935-36/66

## RECOMMENDATION

### 1. คุณภาพน้ำใช้

**1.1 Storage Tank** : คุณภาพน้ำ มีค่าความขุ่นต่ำ ค่าเหล็กต่ำ ค่าความกระด้างมีค่าต่ำ, ค่าคลอไรด์มีค่าต่ำ  
ตรวจไม่พบเชื้อ Coliform/E.Coli (คุณภาพน้ำมีค่าสารละลายต่างๆ ใกล้เคียงจากเดือนมิถุนายน 2566)

**หมายเหตุ** : การดูแล

- เติมน้ำจืดในระบบผลิตน้ำ และน้ำเชื้อก่อนเก็บในถังพัก
- ควรตรวจสอบถังพัก 2 ครั้ง/เดือน และล้างถังเพื่อลดการสะสมของเหล็ก
- ควรดูแลขบวนการปรับสภาพน้ำส่วนต่อเนื่อง

### **1.2 Soft Water (Main Point)** :

- pH ปกติ, ความขุ่นต่ำ
- ค่าความกระด้าง มีค่าต่ำ
- ค่าเหล็กตรวจไม่พบ
- ค่าเมกานีสต่ำ
- ตรวจไม่พบเชื้อ Coliform, E.Coli
- คุณภาพน้ำทางเคมีอื่น ๆ ปกติอยู่ในมาตรฐาน

**หมายเหตุ** : การดูแลระบบ

- ควบคุมค่าเหล็กของน้ำในถังพักให้มีค่าต่ำ เพื่อลดการสะสมของเหล็กใน Softener
- ล้างกลับระบบ Softener ให้บ่อย เพื่อลดการสะสมของเหล็กและเชื้อในระบบกรอง
- ตรวจสอบค่าความกระด้าง และควบคุมการล้างเกลือ Softener ให้ต่อเนื่อง  
เพื่อควบคุมค่าความกระด้าง และควบคุมการล้างเกลือที่ตกค้างให้หมด ก่อนใช้งานปกติ
- ควรเติมน้ำจืดในถังพักน้ำใช้ และ Regenerate Softener ด้วยน้ำหลังเติมน้ำจืด  
เพื่อลดการสะสมของเหล็กใน Softener และฆ่าเชื้อที่สะสมในระบบกรอง

**1.3 Hot Water System (Main Point) :**

- ค่า pH ปกติ, ความขุ่นต่ำ
- ค่าเหล็กต่ำ
- ค่าแมงกานีสต่ำ
- ตรวจไม่พบ Coliform/E.Coli
- ค่าความกระด้างต่ำ

**หมายเหตุ :** - ควร Flushing ในระบบผลิตน้ำร้อน เพื่อลดการสะสมของเหล็กในระบบ  
- ควบคุม Softener เพื่อควบคุมความกระด้างในระบบผลิตน้ำร้อน อาจก่อให้เกิดปัญหาตะกอนในระบบ

**1.4 Guest Room Usage Water (Cold Water) :** คุณภาพน้ำเย็นห้องพักแยก 2 จุด North A # 1501

และ South A # 1616 พบค่าดังนี้

- ค่าเหล็กตรวจไม่พบ
- ค่าแมงกานีสตรวจไม่พบ
- ค่าความกระด้างและคลอไรด์ใกล้เคียงน้ำในถังพัก
- ตรวจไม่พบ Coliform/ E.Coli

**หมายเหตุ :** ในกรณีไม่ค่อยเปิดใช้ห้อง ควร Flushing ท่อก่อนเปิดใช้ในโซนที่ไม่ค่อยเปิดห้องพัก เพื่อลดการสะสมของเหล็ก/แมงกานีสในเส้นท่อ  
- ตรวจสอบการเติมคลอรีนในถังพักน้ำประปา เพื่อฆ่าเชื้อที่สะสม

**1.5 Guest Room Usage Water (Hot Water) :** คุณภาพน้ำ 2 จุด คือ North A # 1501

และ South A# 1616 พบค่าดังนี้

- คุณภาพน้ำทางเคมีพบความขุ่นต่ำ
- ค่าเหล็กต่ำ
- ค่าแมงกานีสต่ำ
- ตรวจไม่พบ Coliform/E.Coli
- ค่าความกระด้างและคลอไรด์ใกล้เคียงน้ำในถังพัก

**หมายเหตุ :** ควร Flushing ระบบท่อ ก่อนเปิดใช้ห้องพักเพื่อป้องกันการสะสมของตะกอนเหล็กในเส้นท่อ

### 1.6 Cooling :

- 1) คุณภาพน้ำมีค่าการนำไฟฟ้าต่ำ
- 2) ค่าความกระด้างสูง
- 3) ค่าเหล็กตรวจไม่พบ ค่าแมงกานีสต่ำ
- 4) เคมีป้องกันตะกรัน (phosphate) มีค่าต่ำ ควรตรวจสอบการเติมเคมี
- 5) ตรวจไม่พบ Legionella spp.

#### การดูแล

- ตรวจเช็คระบบ Softener และผลิตน้ำ Soft ใช้เป็น Make Up Water ให้เพียงพอ และควบคุมการล้างเกลือ เพื่อควบคุมค่าความกระด้าง  $\leq 20$  ppm
- ควบคุมการเติมเคมีป้องกันตะกรัน และตะไคร่น้ำ เนื่องจาก เคมีป้องกันตะกรัน (phosphate) ยังต่ำ
- ควบคุมการระบายน้ำทิ้ง ให้สม่ำเสมอ เพื่อควบคุมค่า การนำไฟฟ้า  $\leq 2500$  umhos/cm

**1.7 Chilled Water** : คุณภาพน้ำใส และค่าเหล็กมีค่าต่ำ ค่า Nitrite ตรวจพบ มีค่าต่ำกว่าเกณฑ์ควบคุม มีค่า pH สูง

หมายเหตุ : - ควรเติมเคมีเพิ่มในรอบการบำรุงรักษาถัดไป โดยล้างระบบก่อนเติมเคมีเพื่อลดการสะสมของเหล็กก่อนเติมเคมี

## 2. น้ำดื่ม

- 1) Canteen : ค่าความกระด้างต่ำกว่ามาตรฐาน ค่าเหล็กตรวจไม่พบ ค่าแมงกานีสตรวจไม่พบ คุณภาพน้ำทางเคมีอื่นๆ อยู่ในมาตรฐาน ตรวจไม่พบ Coliform/E.Coli
- 2) Oasis Kitchen : ค่าความกระด้างต่ำกว่ามาตรฐาน ค่าเหล็กตรวจไม่พบ ค่าแมงกานีสตรวจไม่พบ คุณภาพน้ำทางเคมีอื่นๆ อยู่ในมาตรฐาน ตรวจไม่พบ Coliform/E.Coli
- 3) Guest Room (1501) : ค่าความกระด้างต่ำ, ค่าเหล็กตรวจไม่พบ ค่าแมงกานีสต่ำ ตรวจไม่พบ Coliform/E.Coli

#### การดูแล :

- ล้างระบบกรอง Softener และล้างสม่ำเสมอ เพื่อลดค่าความกระด้าง
- Flushing line ด้วยน้ำหลังเติมคลอรีน เพื่อฆ่าเชื้อแบคทีเรียที่สะสมในระบบ
- ตรวจสอบความสะอาดของถังและแท็งก์บรรจุน้ำดื่ม

### 3. Swimming Pool :

- 1) Main Pool :
  - pH ปกติ
  - คลอรีนตรวจพบ 0.92 pm
  - ตรวจไม่พบ Coliform/ E.Coli
- 2) Lab Pool :
  - pH ปกติ
  - คลอรีนตรวจพบ 0.97 ppm
  - ตรวจไม่พบ Coliform/ E.Coli
- 3) Lazy Pool :
  - pH ปกติ
  - คลอรีนตรวจพบ 0.91 ppm
  - ตรวจไม่พบ Coliform/E.Coli
- 4) 18<sup>th</sup> Flr Pool :
  - pH ปกติ
  - คลอรีนตรวจพบ 0.92 ppm
  - ตรวจไม่พบ Coliform/E.Coli

#### หมายเหตุ : การดูแล

1. ควรตรวจสอบ pH สม่าเสมอในกรณีทีค่า pH ต่ำให้ปรับด้วยโซดาไฟหรือโซดาแอช และปรับด้วยกรดเกลือในกรณีค่า pH สูง
2. ตรวจสอบคลอรีนและเติมให้สม่าเสมอ
3. หมุนเวียนน้ำผ่านกรอง เพื่อให้ตะกอนสะสม และเชื้อแบคทีเรีย

### 4. น้ำแข็ง :

- 1) Canteen (Cube) : ตรวจไม่พบ Coliform/E.Coli
- 2) Banquet (Flake) : ตรวจไม่พบ Coliform/E.Coli
- 3) Flames : ตรวจไม่พบ Coliform/E.Coli
- 4) Oasis Kitchen (Flake) : ตรวจไม่พบ Coliform/E.Coli



**การดูแล :**

1. เติมน้ำในน้ำประปา และล้างระบบผลิตน้ำแข็งด้วยน้ำหลังเติมน้ำ
  2. ตรวจสอบความสะอาดระบบผลิตน้ำแข็ง
  3. ภาชนะตักน้ำแข็งต้องสะอาด และถังบรรจุต้องสะอาด และควรล้างทุกวัน
  4. อย่าแช่อาหารปะปนในถังบรรจุน้ำแข็ง
  5. ในกรณีน้ำแข็งซื้อ ควรตรวจสอบถุงบรรจุ
5. น้ำเสียออกจากระบบ : ลักษณะน้ำเหลืองขุ่น BOD ~ 453 mg/l และอยู่ในเกณฑ์การควบคุมของ  
พหุยา ในการปล่อยน้ำทิ้งลงระบบบำบัดรวม (BOD ≤ 1000 mg/l) โดยต้องจ่ายค่าบริการบำบัดน้ำทิ้ง  
ตามข้อกำหนด

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

*July, 2023*

**บริษัท เทสต์ เทค จำกัด**

30, 32 ซอยพระรามที่ 2 ซอย 63 ถนนพระรามที่ 2 แขวงสามตำ เขตบางขุนเทียน กรุงเทพฯ 10150  
Tel. 0 – 2893-4211 - 17 Fax : 0 – 2893-4218





SRR NO. 66L2596

Messrs : Centara Grand Mirage Beach Resort Pattaya

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

Factory Site : Centara Grand Pattaya Date : July 27, 2023

Recommendation For : Water Analysis of July, 2023

Report Reference : R17517-18, R17519-22, R17523-24, R17525, R17095-96, R16931-32,  
R16933-34, R16935-36/66

## RECOMMENDATION

### 1. Raw Water

#### 1.1 Storage Tank :

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

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 low.
- 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 low.
- Manganese was low.
- 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 A # 1501, South A # 1616)**

- 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 A # 1501, South A # 1616)**

- Hardness was like raw water.
- Turbidity was low.
- Iron was low.
- Manganese was low.
- 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 low. Hardness was high.
- 2) Iron was not found. Manganese was low.
- 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 Anticorrosion 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 was not found. Manganese was low.  
Other water quality was in standard. Coliform/E.Coli was not found.
- 2) Oasis Kitchen : Hardness was low. Manganese was not found.  
Iron was not found. Other water quality was in standard. Coliform/E.Coli was not found.
- 3) Guest Room (1501) : Other water quality was in standard. Hardness was low. Iron was not found.  
Manganese was not found. 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.

**3. Swimming Water :**

- 1) Main Pool : On used.
  - pH was normal.
  - Chlorine was found 0.92 ppm.
  - Coliform/ E.Coli was not found.
- 2) Lab Pool : On used.
  - pH was normal.
  - Chlorine was found 0.97 ppm.
  - Coliform/ E.Coli was not found.
- 3) Lazy Pool :
  - pH was normal.
  - Chlorine was found 0.91 ppm.
  - Coliform/E.Coli was not found.
- 4) 18<sup>th</sup> Flr Pool
  - pH was normal.
  - Chlorine was found 0.92 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 ~453 mg/L was in Pattaya Regulation ( $\leq 1000$  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 : 12/07/2023

Sampling Time : 10:30 AM

Received Date : 12/07/2023

Analytical Date : 12 - 24/07/2023

Report Date : 25/07/2023

Report No. : R17517/66

Parameters	Unit	Method	TW15878 /66	TW15879 /66	TW15880 /66	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 2017 (4500-H <sup>+</sup> B)	7.6	7.4	7.4	6.5-8.5
Turbidity <sup>#</sup>	NTU	SM 2017 (2130 B)	0.54	< 0.50	< 0.50	5
Conductivity <sup>#</sup>	uS/cm	SM 2017 (2510 B)	332	332	333	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	199	199	200	1000
Total Hardness <sup>@</sup>	mg/L as CaCO <sub>3</sub>	SM 2017 (2340 C)	75	80	79	300
Chloride <sup>@</sup>	mg/L as Cl <sup>-</sup>	SM 2017 (4500-Cl <sup>-</sup> B)	40	40	38	250
Total Iron <sup>#</sup>	mg/L as Fe	SM 2017 (3500-Fe B)	< 0.10	< 0.10	0.10	0.3
Manganese <sup>#</sup>	mg/L	SM 2017 (3500-Mn B)	0.08	0.09	0.04	0.1
Nitrate <sup>#</sup>	mg/L as NO <sub>3</sub> <sup>-</sup>	SM 2017 (4500-NO <sub>3</sub> <sup>-</sup> E)	1.20	1.16	1.44	50
Sulfate <sup>#</sup>	mg/L as SO <sub>4</sub> <sup>2-</sup>	Based on SM 2017 (4500-SO <sub>4</sub> <sup>2-</sup> E)	37.62	37.32	36.12	250
Sample Condition		Observation	Clear	Clear	Clear	

Remark : 1. SM 2017 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23<sup>rd</sup> ed., 2017

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

25/07/2023

Technical Manager

25/07/2023

Reported results refer to the sample as received only.

Test report shall not be reproduced except in full, without written approved of the laboratory.



## 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)

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**Sampling by** : Test Tech Co., Ltd.

**Sampling Method** : Grab

**Sampling Date** : 12/07/2023

**Sampling Time** : 10:30 AM

**Received Date** : 12/07/2023

**Analytical Date** : 12 - 24/07/2023

**Report Date** : 25/07/2023

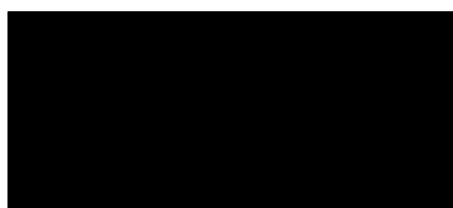
**Report No.** : R17518/66

Parameters	Unit	Method	TW15878 /66	TW15879 /66	TW15880 /66	Standard <sup>a</sup>
			Water in Storage Tank	Soft Water System (Main Point)	Hot Water System (Main Point)	
Coliform Bacteria	MPN/100 mL	SM 2017 (9221 B)	< 1.1	< 1.1	< 1.1	not found
E. coli	/100 mL	SM 2017 (9221 F, Detection)	not found	not found	not found	not found
Sample Condition		Observation	Clear	Clear	Clear	

Remark : 1. SM 2017 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23<sup>rd</sup> ed., 2017

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

3. Coliform Bacteria < 1.1 MPN/100 mL is meaning not found



Analyst

25/07/2023



Technical Manager

25/07/2023

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Sample Type : Usage Water

Sampling by : Test Tech Co., Ltd.

Sampling Method : Grab

Sampling Date : 12/07/2023

Sampling Time : 10:30 AM

Received Date : 12/07/2023

Analytical Date : 12 - 24/07/2023

Report Date : 25/07/2023

Report No. : R17519/66

Parameters	Unit	Method	TW15881 /66	TW15882 /66	Standard <sup>a</sup>
			Guest Room Cold Water (North A1501)	Guest Room Cold Water (South A1616)	
pH (25°C) <sup>#</sup>	-	Based on SM 2017 (4500-H <sup>+</sup> B)	7.7	7.7	6.5-8.5
Turbidity <sup>#</sup>	NTU	SM 2017 (2130 B)	< 0.50	< 0.50	5
Conductivity <sup>#</sup>	uS/cm	SM 2017 (2510 B)	332	334	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	199	200	1000
Total Hardness <sup>@</sup>	mg/L as CaCO <sub>3</sub>	SM 2017 (2340 C)	80	79	300
Chloride <sup>@</sup>	mg/L as Cl <sup>-</sup>	SM 2017 (4500-Cl <sup>-</sup> B)	40	40	250
Total Iron <sup>#</sup>	mg/L as Fe	SM 2017 (3500-Fe B)	< 0.10	< 0.10	0.3
Manganese <sup>#</sup>	mg/L	SM 2017 (3500-Mn B)	< 0.04	< 0.04	0.1
Nitrate <sup>#</sup>	mg/L as NO <sub>3</sub> <sup>-</sup>	SM 2017 (4500-NO <sub>3</sub> <sup>-</sup> E)	1.33	1.18	50
Sulfate <sup>#</sup>	mg/L as SO <sub>4</sub> <sup>2-</sup>	Based on SM 2017 (4500-SO <sub>4</sub> <sup>2-</sup> E)	37.32	38.53	250
Sample Condition		Observation	Clear	Clear	

Remark : 1. SM 2017 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23<sup>rd</sup> ed., 2017

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

25/07/2023

Technical Manager

25/07/2023

Reported results refer to the sample as received only.

Test report shall not be reproduced except in full, without written approved of the laboratory.



## 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 : 12/07/2023

Sampling Time : 10:30 AM

Received Date : 12/07/2023

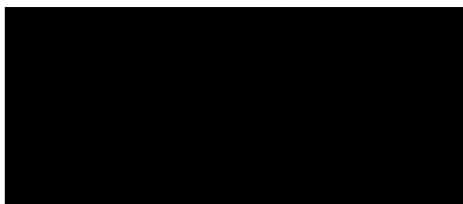
Analytical Date : 12 - 24/07/2023

Report Date : 25/07/2023

Report No. : R17520/66

Parameters	Unit	Method	TW15881 /66	TW15882 /66	Standard <sup>a</sup>
			Guest Room Cold Water (North A1501)	Guest Room Cold Water (South A1616)	
Coliform Bacteria	MPN/100 mL	SM 2017 (9221 B)	< 1.1	< 1.1	not found
<i>E. coli</i>	/100 mL	SM 2017 (9221 F, Detection)	not found	not found	not found
Sample Condition		Observation	Clear	Clear	

Remark : 1. SM 2017 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23<sup>rd</sup> ed., 2017  
 2. a : Specification for Water Supply Quality of Metropolitan Waterworks Authority.  
 3. Coliform Bacteria < 1.1 MPN/100 mL is meaning not found



Analyst

25/07/2023



Technical Manager

25/07/2023

Reported results refer to the sample as received only.

Test report shall not be reproduced except in full, without written approved of the laboratory.





## 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 : 12/07/2023

Sampling Time : 10:30 AM

Received Date : 12/07/2023

Analytical Date : 12 - 24/07/2023

Report Date : 25/07/2023

Report No. : R17521/66

Parameters	Unit	Method	TW15883 /66	TW15884 /66	Standard <sup>a</sup>
			Guest Room Hot Water (North A 1501)	Guest Room Hot Water (South A 1616)	
pH (25°C) <sup>#</sup>	-	Based on SM 2017 (4500-H <sup>+</sup> B)	7.6	7.3	6.5-8.5
Turbidity <sup>#</sup>	NTU	SM 2017 (2130 B)	< 0.50	0.54	5
Conductivity <sup>#</sup>	uS/cm	SM 2017 (2510 B)	333	333	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	200	200	1000
Total Hardness <sup>@</sup>	mg/L as CaCO <sub>3</sub>	SM 2017 (2340 C)	80	78	300
Chloride <sup>@</sup>	mg/L as Cl <sup>-</sup>	SM 2017 (4500-Cl <sup>-</sup> B)	40	38	250
Total Iron <sup>#</sup>	mg/L as Fe	SM 2017 (3500-Fe B)	0.11	0.10	0.3
Manganese <sup>#</sup>	mg/L	SM 2017 (3500-Mn B)	0.04	0.04	0.1
Nitrate <sup>#</sup>	mg/L as NO <sub>3</sub> <sup>-</sup>	SM 2017 (4500-NO <sub>3</sub> <sup>-</sup> E)	1.32	1.40	50
Sulfate <sup>#</sup>	mg/L as SO <sub>4</sub> <sup>2-</sup>	Based on SM 2017 (4500-SO <sub>4</sub> <sup>2-</sup> E)	37.62	37.62	250
Sample Condition		Observation	Clear	Clear	

Remark : 1. SM 2017 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23<sup>rd</sup> ed., 2017

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-DMS.

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

25/07/2023

Technical Manager

25/07/2023

Reported results refer to the sample as received only.

Test report shall not be reproduced except in full, without written approved of the laboratory.



## 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 : 12/07/2023

Sampling Time : 10:30 AM

Received Date : 12/07/2023

Analytical Date : 12 - 24/07/2023

Report Date : 25/07/2023

Report No. : R17522/66

Parameters	Unit	Method	TW15883 /66	TW15884 /66	Standard <sup>a</sup>
			Guest Room Hot Water (North A 1501)	Guest Room Hot Water (South A 1616)	
Coliform Bacteria	MPN/100 mL	SM 2017 (9221 B)	< 1.1	< 1.1	not found
<i>E. coli</i>	/100 mL	SM 2017 (9221 F, Detection)	not found	not found	not found
Sample Condition		Observation	Clear	Clear	

Remark : 1. SM 2017 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23<sup>rd</sup> ed., 2017

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

3. Coliform Bacteria &lt; 1.1 MPN/100 mL is meaning not found

Analyst

25/07/2023

Technical Manager

25/07/2023

Reported results refer to the sample as received only.

Test report shall not be reproduced except in full, without written approved of the laboratory.



## 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 : 12/07/2023

Sampling Time : 10:30 AM

Received Date : 12/07/2023

Analytical Date : 12 - 24/07/2023

Report Date : 25/07/2023

Report No. : R17523/66

Parameters	Unit	Method	TW15885 /66	Standard <sup>a</sup>
			Cooling Water	( Cooling Water )
pH (25°C) <sup>#</sup>	-	Based on SM 2017 (4500-H <sup>+</sup> B)	8.4	8.5 - 9.5
Conductivity <sup>#</sup>	uS/cm	SM 2017 (2510 B)	988	< 2500
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	593	< 2000
* P-Alkalinity	mg/L as CaCO <sub>3</sub>	Titration	5	-
* M-Alkalinity	mg/L as CaCO <sub>3</sub>	Titration	80	-
Total Hardness <sup>@</sup>	mg/L as CaCO <sub>3</sub>	SM 2017 (2340 C)	215	< 100
Chloride <sup>@</sup>	mg/L as Cl <sup>-</sup>	SM 2017 (4500-Cl <sup>-</sup> B)	144	< 400
Total Iron <sup>#</sup>	mg/L as Fe	SM 2017 (3500-Fe B)	< 0.10	< 1.0
Manganese <sup>#</sup>	mg/L	SM 2017 (3500-Mn B)	0.05	-
Sulfate <sup>#</sup>	mg/L as SO <sub>4</sub> <sup>2-</sup>	Based on SM 2017 (4500-SO <sub>4</sub> <sup>2-</sup> E)	131	-
* Silica	mg/L as SiO <sub>2</sub>	SM 2017 (4500-SiO <sub>2</sub> C)	18.99	-
* Total Phosphorus	mg/L as P	Stannous Chloride	0.05	-
Sample Condition		Observation	Clear	

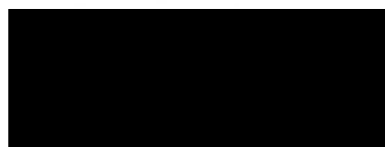
Remark : 1. SM 2017 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23<sup>rd</sup> ed., 2017

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 : เกณฑ์ควบคุมคุณภาพน้ำในระบบต่าง ๆ



Analyst

25/07/2023



Technical Manager

25/07/2023

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Test report shall not be reproduced except in full, without written approved of the laboratory.



## 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 : 12/07/2023

Sampling Time : 10:30 AM

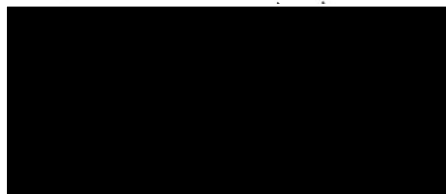
Received Date : 12/07/2023

Analytical Date : 12 - 24/07/2023

Report Date : 25/07/2023

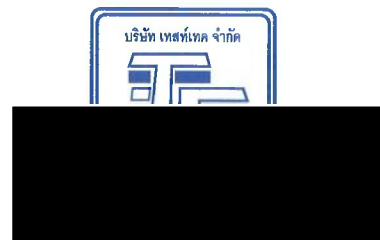
Report No. : R17524/66

Parameters	Unit	Method	TW15885 /66
			Cooling Water
<i>Legionella spp.</i>	CFU/L	ISO 11731 : 2017	not detected
Sample Condition		Observation	Clear



Analyst

25/07/2023



Technical Manager

25/07/2023

Reported results refer to the sample as received only.

Test report shall not be reproduced except in full, without written approved of the laboratory.



## 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 : 12/07/2023

Sampling Time : 10:30 AM

Received Date : 12/07/2023

Analytical Date : 12 - 24/07/2023

Report Date : 25/07/2023

Report No. : R17525/66

Parameters	Unit	Method	TW15886 /66	Standard <sup>a</sup> ( Chilled Water )
			Chilled Water	
* pH (25°C)	-	Based on SM 2017 (4500-H <sup>+</sup> B)	10.4	7.5 - 9.5
Conductivity <sup>#</sup>	uS/cm	SM 2017 (2510 B)	1004	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	602	-
* P-Alkalinity	mg/L as CaCO <sub>3</sub>	Titration	135	-
* M-Alkalinity	mg/L as CaCO <sub>3</sub>	Titration	225	-
* Total Hardness	mg/L as CaCO <sub>3</sub>	SM 2017 (2340 C)	7	-
Chloride <sup>@</sup>	mg/L as Cl <sup>-</sup>	SM 2017 (4500-Cl <sup>-</sup> B)	40	-
Total Iron <sup>#</sup>	mg/L as Fe	SM 2017 (3500-Fe B)	0.49	< 1.0
Manganese <sup>#</sup>	mg/L	SM 2017 (3500-Mn B)	< 0.04	-
Sulfate <sup>#</sup>	mg/L as SO <sub>4</sub> <sup>2-</sup>	Based on SM 2017 (4500-SO <sub>4</sub> <sup>2-</sup> E)	38.53	-
Silica <sup>#</sup>	mg/L as SiO <sub>2</sub>	SM 2017 (4500-SiO <sub>2</sub> C)	3.92	-
* Nitrite	mg/L as NO <sub>2</sub> <sup>-</sup>	SM 2017 (4500-NO <sub>2</sub> <sup>-</sup> B)	100	500 - 1000
Sample Condition		Observation	Colorless, Brown Particles	

Remark : 1. SM 2017 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23<sup>rd</sup> ed., 2017

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 : เกณฑ์ควบคุมคุณภาพน้ำในระบบต่าง ๆ (Chilled Water)



Analyst

25/07/2023

Technical Manager

25/07/2023

Reported results refer to the sample as received only.

Test report shall not be reproduced except in full, without written approved of the laboratory.



## 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 : 12/07/2023

Sampling Time : 10:30 AM

Received Date : 12/07/2023

Analytical Date : 12 - 19/07/2023

Report Date : 20/07/2023

Report No. : R17095/66

Parameters	Unit	Method	TW15887 /66	TW15888 /66	TW15889 /66	Standard <sup>a</sup>
			Drinking Water (Canteen)	Drinking Water (Oasis Kitchen)	Drinking Water (Guest Room 1501)	
pH (25°C) <sup>#</sup>	-	Based on SM 2017 (4500-H <sup>+</sup> B)	7.6	7.5	7.3	6.5-8.5
Turbidity <sup>#</sup>	NTU	SM 2017 (2130 B)	< 0.50	< 0.50	0.54	≤ 5.0
Conductivity <sup>#</sup>	uS/cm	SM 2017 (2510 B)	331	330	330	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	199	198	198	-
Total Hardness <sup>@</sup>	mg/L as CaCO <sub>3</sub>	SM 2017 (2340 C)	82	80	82	≤ 100.0
Chloride <sup>@</sup>	mg/L as Cl <sup>-</sup>	SM 2017 (4500-Cl <sup>-</sup> B)	40	38	40	≤ 250.0
Total Iron <sup>#</sup>	mg/L as Fe	SM 2017 (3500-Fe B)	< 0.10	< 0.10	< 0.10	≤ 0.3
Manganese <sup>#</sup>	mg/L	SM 2017 (3500-Mn B)	< 0.04	< 0.04	< 0.04	≤ 0.05
Nitrate Nitrogen <sup>#</sup>	mg/L as NO <sub>3</sub> <sup>-</sup> N	SM 2017 (4500-NO <sub>3</sub> <sup>-</sup> E)	0.21	0.14	0.15	≤ 4.0
Sulfate <sup>#</sup>	mg/L as SO <sub>4</sub> <sup>2-</sup>	Based on SM 2017 (4500-SO <sub>4</sub> <sup>2-</sup> E)	37.02	34.31	36.42	≤ 250.0
Sample Condition		Observation	Clear	Clear	Clear	

Remark : 1. SM 2017 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23<sup>rd</sup> ed., 2017

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

20/07/2023

Technical Manager

20/07/2023

Reported results refer to the sample as received only.

Test report shall not be reproduced except in full, without written approved of the laboratory.



## 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** : 12/07/2023

**Sampling Time** : 10:30 AM

**Received Date** : 12/07/2023

**Analytical Date** : 12 - 19/07/2023

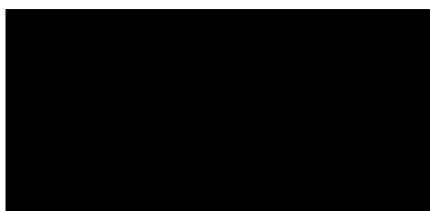
**Report Date** : 20/07/2023

**Report No.** : R17096/66

Parameters	Unit	Method	TW15887 /66	TW15888 /66	TW15889 /66	Standard <sup>a</sup>
			Drinking Water (Canteen)	Drinking Water (Oasis Kitchen)	Drinking Water (Guest Room 1501)	
Coliform Bacteria	MPN/100 mL	SM 2017 (9221 B)	< 1.1	< 1.1	< 1.1	< 2.2
<i>E. coli</i>	/100 mL	SM 2017 (9221 F, Detection)	not found	not found	not found	negative
Sample Condition		Observation	Clear	Clear	Clear	

Remark : 1. SM 2017 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23<sup>rd</sup> ed., 2017

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

20/07/2023



Technical Manager

20/07/2023

Reported results refer to the sample as received only.

Test report shall not be reproduced except in full, without written approved of the laboratory.

## 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 : 12/07/2023

Sampling Time : 10:30 AM

Received Date : 12/07/2023

Analytical Date : 12 - 17/07/2023

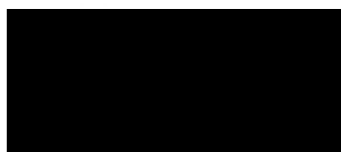
Report Date : 18/07/2023

Report No. : R16931/66

Parameters	Unit	Method	TW15890 /66	TW15891 /66	Standard <sup>a</sup>
			Main Pool	Lab Pool	
pH (25°C)	-	Based on SM 2017 (4500-H <sup>+</sup> B)	7.8	7.7	7.2-8.4
Residual Chlorine	mg/L as Cl <sub>2</sub>	DPD Colorimetric	0.92	0.97	0.6-1.0
Sample Condition		Observation	Clear	Clear	

Remark : 1. SM 2017 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23<sup>rd</sup> ed., 2017

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



Analyst

18/07/2023



Technical Manager

18/07/2023

Reported results refer to the sample as received only.

Test report shall not be reproduced except in full, without written approved of the laboratory.



## 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** : 12/07/2023

**Sampling Time** : 10:30 AM

**Received Date** : 12/07/2023

**Analytical Date** : 12 - 17/07/2023

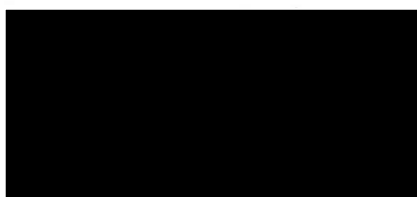
**Report Date** : 18/07/2023

**Report No.** : R16932/66

Parameters	Unit	Method	TW15890 /66	TW15891 /66	Standard <sup>a</sup>
			Main Pool	Lab Pool	
Coliform Bacteria	MPN/100 mL	SM 2017 (9221 B)	< 1.8	< 1.8	< 10
<i>E. coli</i>	/100 mL	SM 2017 (9221 F, Detection)	not found	not found	negative
Sample Condition		Observation	Clear	Clear	

Remark : 1. SM 2017 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23<sup>rd</sup> ed., 2017

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



Analyst

18/07/2023



Technical Manager

18/07/2023

Reported results refer to the sample as received only.

Test report shall not be reproduced except in full, without written approved of the laboratory.



## 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 : 12/07/2023

Sampling Time : 10:30 AM

Received Date : 12/07/2023

Analytical Date : 12 - 17/07/2023

Report Date : 18/07/2023

Report No. : R16933/66

Parameters	Unit	Method	TW15892 /66	TW15893 /66	Standard <sup>a</sup>
			Lazy Pool	18 <sup>th</sup> Flr Pool	
pH (25°C)	-	Based on SM 2017 (4500-H <sup>+</sup> B)	7.6	7.6	7.2-8.4
Residual Chlorine	mg/L as Cl <sub>2</sub>	DPD Colorimetric	0.91	0.92	0.6-1.0
Sample Condition		Observation	Clear	Clear	

Remark : 1. SM 2017 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23<sup>rd</sup> ed., 2017

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

Analyst

18/07/2023

Technical Manager

18/07/2023

Reported results refer to the sample as received only.

Test report shall not be reproduced except in full, without written approved of the laboratory.



## 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** : 12/07/2023

**Sampling Time** : 10:30 AM

**Received Date** : 12/07/2023

**Analytical Date** : 12 - 17/07/2023

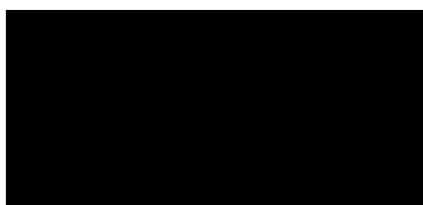
**Report Date** : 18/07/2023

**Report No.** : R16934/66

Parameters	Unit	Method	TW15892 /66	TW15893 /66	Standard <sup>a</sup>
			Lazy Pool	18 <sup>th</sup> Flr Pool	
Coliform Bacteria	MPN/100 mL	SM 2017 (9221 B)	< 1.8	< 1.8	< 10
<i>E. coli</i>	/100 mL	SM 2017 (9221 F, Detection)	not found	not found	negative
Sample Condition		Observation	Clear	Clear	

Remark : 1. SM 2017 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23<sup>rd</sup> ed., 2017

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



Analyst

18/07/2023



Technical Manager

18/07/2023

Reported results refer to the sample as received only.

Test report shall not be reproduced except in full, without written approved of the laboratory.

## 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 : 12/07/2023

Sampling Time : 10:30 AM

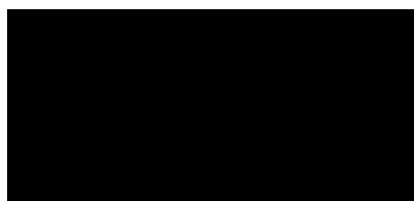
Received Date : 12/07/2023

Analytical Date : 12 - 17/07/2023

Report Date : 18/07/2023

Report No. : R16935/66

Parameters	Unit	Method	TW15894 /66	TW15895 /66	Standard <sup>a</sup>
			Canteen (Cube)	Banquet (Flake)	
Coliform Bacteria	MPN/100 mL	SM 2017 (9221 B)	< 1.1	< 1.1	< 2.2
<i>E. coli</i>	/100 mL	SM 2017 (9221 F, Detection)	not found	not found	negative
Sample Condition		Observation	Clear	Clear	

Remark : 1. SM 2017 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23<sup>rd</sup> ed., 20172. 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

18/07/2023



Technical Manager

18/07/2023

Reported results refer to the sample as received only.

Test report shall not be reproduced except in full, without written approved of the laboratory.

## 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 : 12/07/2023

Sampling Time : 10:30 AM

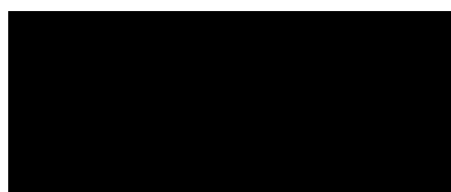
Received Date : 12/07/2023

Analytical Date : 12 - 17/07/2023

Report Date : 18/07/2023

Report No. : R16936/66

Parameters	Unit	Method	TW15896 /66	TW15897 /66	Standard <sup>a</sup>
			Flames	Oasis Kitchen (Flake)	
Coliform Bacteria	MPN/100 mL	SM 2017 (9221 B)	< 1.1	< 1.1	< 2.2
<i>E. coli</i>	/100 mL	SM 2017 (9221 F, Detection)	not found	not found	negative
Sample Condition		Observation	Clear	Clear	

Remark : 1. SM 2017 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23<sup>rd</sup> ed., 20172. 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

18/07/2023



Technical Manager

18/07/2023

Reported results refer to the sample as received only.

Test report shall not be reproduced except in full, without written approved of the laboratory.

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 : Waste Water

Sampling by : Test Tech Co., Ltd.

Sampling Method : Grab

Sampling Date : 12/07/2023

Sampling Time : 10:30 AM

Received Date : 12/07/2023

Analytical Date : 12 - 19/07/2023

Report Date : 20/07/2023

Report No. : R17097/66

Parameters	Unit	Method	TW15898 /66	Standard <sup>a</sup>
			Effluent	
pH	-	SM 2017 (4500-H <sup>+</sup> B)	6.8	-
BOD	mg/L	SM 2017 (5210 B, 4500-O G)	453	≤ 1000
Total Suspended Solids	mg/L	SM 2017 (2540 D)	151	-
* Oil & Grease	mg/L	SM 2017 (5520 D)	146	-
Sample Condition		Observation	Light Yellow, Cloud	

Remark : 1. SM 2017 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23<sup>rd</sup> ed., 2017

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

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



Analyst

20/07/2023

Technical Manager

20/07/2023

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