

ประเมินผลคุณภาพน้ำใช้ น้ำดื่ม และน้ำเสีย

เสนอ

Centara Grand Mirage Beach Resort Pattaya

มิถุนายน 2568

บริษัท เทสต์ เทค จำกัด

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



Messrs : Centara Grand Mirage Beach Resort Pattaya

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

Factory Site : Centara Grand Pattaya Date : 30 มิถุนายน 2568

Recommendation For : คุณภาพน้ำใช้และน้ำดื่มประจำเดือนมิถุนายน 2568

Report Reference : R13111-19/68, R12831-32/68, R12661-64/68, R12756-57/68, R12833/68

RECOMMENDATION

1. คุณภาพน้ำใช้

1.1 Storage Tank : คุณภาพน้ำ มีค่าความขุ่นต่ำ ค่าเหล็กและแมงกานีสไม่พบ, ค่าความกระด้างมีค่าต่ำ, ค่าคลอไรด์มีค่าต่ำ ตรวจไม่พบเชื้อ Coliform/E.Coli

หมายเหตุ : การดูแล

- เติมน้ำคลอรีนในระบบผลิตน้ำ และน้ำเชื้อก่อนเก็บในถังพัก
- ควบคุมตรวจสอบถังพัก 2 ครั้ง/เดือน และล้างถังเพื่อลดการสะสมของเหล็ก
- ควบคุมเลขบวการปรับสภาพน้ำส่วนต่อเนื่อง

1.2 Soft Water (Main Point) :

- pH ปกติ, ความขุ่นต่ำ
- ค่าความกระด้าง มีค่าต่ำ
- ค่าเหล็กไม่พบ
- ค่าแมงกานีสไม่พบ
- ตรวจไม่พบเชื้อ Coliform, E.Coli
- คุณภาพน้ำทางเคมีอื่น ๆ ปกติอยู่ในมาตรฐาน

หมายเหตุ : การดูแลระบบ

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

1.3 Hot Water System (Main Point) :

- ค่า pH ปกติ, ความขุ่นต่ำ
- ค่าความกระด้างต่ำ
- ค่าเหล็กไม่พบ
- ค่าแมงกานีสไม่พบ
- ตรวจไม่พบ Coliform/E.Coli

หมายเหตุ : - ควร Flushing ในระบบผลิตน้ำร้อน เพื่อลดการสะสมของเหล็กในระบบ
- ควบคุม Softener เพื่อควบคุมความกระด้างในระบบผลิตน้ำร้อน อาจก่อให้เกิดปัญหาตะกรันในระบบ

1.4 Guest Room Usage Water (Cold Water) : คุณภาพน้ำเย็นห้องพักแขก 2 จุด North A 1023

และ North A 1025 พบค่าดังนี้

- ค่าความกระด้างและคลอไรด์ใกล้เคียงน้ำในถังพัก
- ค่าความขุ่นต่ำ
- ค่าเหล็กไม่พบ
- ค่าแมงกานีสไม่พบ
- 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 1023

และ North A 1025 พบค่าดังนี้

- ค่าความกระด้างและคลอไรด์ใกล้เคียงน้ำในถังพัก
- ค่าความขุ่นต่ำ
- ค่าเหล็กไม่พบ
- ค่าแมงกานีสไม่พบ
- ตรวจไม่พบ Coliform/E.Coli

หมายเหตุ : ควร Flushing ระบบท่อ ก่อนเปิดใช้ห้องพักเพื่อป้องกันการสะสมของ
ตะกอนเหล็กในเส้นท่อ

1.6 Cooling :

- 1) คุณภาพน้ำมีค่าการนำไฟฟ้าต่ำ
- 2) ค่าความกระด้างสูงกว่ามาตรฐานเล็กน้อย
- 3) ค่าเหล็กตรวจไม่พบ, ค่าแมงกานีสไม่พบ
- 4) เคมิป้องกันตะกรัน (phosphate) มีค่าต่ำ ควรตรวจสอบการเติมเคมี
- 5) ตรวจไม่พบ Legionella spp.

การดูแล

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

1.7 Chilled Water : คุณภาพน้ำมีค่าเหล็กอยู่ในเกณฑ์ควบคุม pH สูง ค่า Nitrite ตรวจพบ มีค่าต่ำกว่าเกณฑ์
ควบคุม

หมายเหตุ : - ควรเติมเคมีเพิ่มในรอบการบำรุงรักษาถัดไป

2. น้ำดื่ม

- 1) Canteen : ค่าความกระด้างอยู่ในเกณฑ์มาตรฐาน ไม่พบค่าเหล็กและแมงกานีส
คุณภาพน้ำทางเคมีอื่นๆ อยู่ในมาตรฐาน ตรวจไม่พบ Coliform/E.Coli
- 2) Oasis Kitchen : ค่าความกระด้างอยู่ในเกณฑ์มาตรฐาน ไม่พบค่าเหล็กและแมงกานีส
คุณภาพน้ำทางเคมีอื่นๆ อยู่ในมาตรฐาน ตรวจไม่พบ Coliform/E.Coli
- 3) Guest Room (1023) : ค่าความกระด้างอยู่ในเกณฑ์มาตรฐาน ไม่พบค่าเหล็กและแมงกานีส
คุณภาพน้ำทางเคมีอื่นๆ อยู่ในมาตรฐาน ตรวจไม่พบ Coliform/E.Coli

การดูแล :

- ถ้างระบบกรอง Softener และถ้างสม่ำเสมอ เพื่อลดค่าความกระด้าง
- Flushing line ด้วยน้ำหลังเติมคลอรีน เพื่อฆ่าเชื้อแบคทีเรียที่สะสมในระบบ
- ตรวจสอบความสะอาดของถังและแท่งคาร์บอนน้ำดื่ม

3. Swimming Pool :

1) Main Pool :

- pH ปกติ
- คลอรีนตรวจพบ 0.94 pm
- ตรวจไม่พบ Coliform/ E.Coli

2) Lab Pool :

- pH ปกติ
- คลอรีนตรวจพบ 0.87 ppm
- ตรวจไม่พบ Coliform/ E.Coli

3) Lazy Pool :

- pH ปกติ
- คลอรีนตรวจพบ 0.92 ppm
- ตรวจไม่พบ Coliform/E.Coli

4) 18th Flr Pool :

- pH ปกติ
- คลอรีนตรวจพบ 0.81 ppm
- ตรวจไม่พบ Coliform/E.Coli

หมายเหตุ : การดูแล

1. ควรตรวจสอบ pH สม่ำเสมอในกรณีทีค่า pH ต่ำให้ปรับด้วยโซดาไฟหรือโซดาแอช และปรับด้วยกรดเกลือในกรณีค่า pH สูง
2. ตรวจสอบคลอรีนและเติมให้สม่ำเสมอ
3. หมุนเวียนน้ำผ่านกรอง เพื่อไม่ให้ตะกอนสะสม 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. เติมหาลอรีนในน้ำประปา และล้างระบบผลิตน้ำแข็งด้วยน้ำหลังเติมหาลอรีน
2. ตรวจสอบความสะอาดระบบผลิตน้ำแข็ง
3. ภาชนะตักน้ำแข็งต้องสะอาด และถังบรรจุต้องสะอาด และควรล้างทุกวัน
4. อย่าให้อาหารปะปนในถังบรรจุน้ำแข็ง
5. ในกรณีน้ำแข็งซื้อ ควรตรวจสอบถุงบรรจุ

5. น้ำเสียออกจากระบบ : ลักษณะน้ำเหลืองจางตะกอนน้ำตาล BOD 35 mg/L และอยู่ในเกณฑ์การควบคุมของ
พหยา ในการปล่อยน้ำทิ้งลงระบบบำบัดรวม (BOD \leq 1000 mg/l) โดยต้องจ่ายค่าบริการบำบัดน้ำทิ้ง
ตามข้อกำหนด



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 : 12/06/2025

Sampling Time : 11:00 AM

Received Date : 12/06/2025

Analytical Date : 12 - 23/06/2025

Report Date : 24/06/2025

Report No. : R13111/68

Parameters	Unit	Method	TW11545 /68	TW11546 /68	TW11547 /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)	7.2	7.0	7.1	6.5-8.5
Turbidity [#]	NTU	SM 2023 (2130 B)	< 0.50	< 0.50	< 0.50	5
Conductivity [#]	uS/cm	SM 2023 (2510 B)	477	480	470	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	286	288	282	1000
Total Hardness [@]	mg/L as CaCO ₃	SM 2023 (2340 C)	110	106	100	300
Chloride [@]	mg/L as Cl ⁻	SM 2023 (4500-Cl ⁻ B)	45	46	47	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)	15.45	16.32	15.45	50
Sulfate [#]	mg/L as SO ₄ ²⁻	Based on SM 2023 (4500-SO ₄ ²⁻ E)	49.69	46.68	53.24	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

24/06/2025

Technical Manager

24/06/2025

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

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

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Sample Type : Usage Water

Sampling by : Test Tech Co., Ltd.

Sampling Method : Grab

Sampling Date : 12/06/2025

Sampling Time : 11:00 AM

Received Date : 12/06/2025

Analytical Date : 12 - 23/06/2025

Report Date : 24/06/2025

Report No. : R13112/68

Parameters	Unit	Method	TW11545 /68	TW11546 /68	TW11547 /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		Observation	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

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Technical Manager

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Sampling by : Test Tech Co., Ltd.

Sampling Date : 12/06/2025

Received Date : 12/06/2025

Report Date : 24/06/2025

Sample Type : Usage Water

Sampling Method : Grab

Sampling Time : 11:00 AM

Analytical Date : 12 - 23/06/2025

Report No. : R13113/68

Parameters	Unit	Method	TW11548 /68	TW11549 /68	Standard ^a
			Guest Room Cold Water (North A 1023)	Guest Room Cold Water (North A 1025)	
pH (25°C) [#]	-	Based on SM 2023 (4500-H ⁺ B)	7.0	7.1	6.5-8.5
Turbidity [#]	NTU	SM 2023 (2130 B)	< 0.50	< 0.50	5
Conductivity [#]	uS/cm	SM 2023 (2510 B)	478	478	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	287	287	1000
Total Hardness [@]	mg/L as CaCO ₃	SM 2023 (2340 C)	106	102	300
Chloride [@]	mg/L as Cl ⁻	SM 2023 (4500-Cl ⁻ B)	47	46	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)	16.10	15.23	50
Sulfate [#]	mg/L as SO ₄ ²⁻	Based on SM 2023 (4500-SO ₄ ²⁻ E)	49.14	49.96	250
Sample Condition		Observation	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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บริษัท เทสท์ เทค จำกัด

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Sampling Site : Centara Grand (Pattaya)

Sampling by : Test Tech Co., Ltd.

Sampling Date : 12/06/2025

Received Date : 12/06/2025

Report Date : 24/06/2025

Sample Type : Usage Water

Sampling Method : Grab

Sampling Time : 11:00 AM

Analytical Date : 12 - 23/06/2025

Report No. : R13114/68

Parameters	Unit	Method	TW11548 /68	TW11549 /68	Standard ^a
			Guest Room Cold Water (North A 1023)	Guest Room Cold Water (North A 1025)	
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

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Analyst

24/06/2025

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Sampling Site : Centara Grand (Pattaya)

Sample Type : Usage Water

Sampling by : Test Tech Co., Ltd.

Sampling Method : Grab

Sampling Date : 12/06/2025

Sampling Time : 11:00 AM

Received Date : 12/06/2025

Analytical Date : 12 - 23/06/2025

Report Date : 24/06/2025

Report No. : R13115/68

Parameters	Unit	Method	TW11550 /68	TW11551 /68	Standard ^a
			Guest Room Hot Water (North A 1023)	Guest Room Hot Water (North A 2025)	
pH (25°C) [#]	-	Based on SM 2023 (4500-H ⁺ B)	7.2	7.2	6.5-8.5
Turbidity [#]	NTU	SM 2023 (2130 B)	< 0.50	< 0.50	5
Conductivity [#]	uS/cm	SM 2023 (2510 B)	470	470	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	282	282	1000
Total Hardness [@]	mg/L as CaCO ₃	SM 2023 (2340 C)	104	98	300
Chloride [@]	mg/L as Cl ⁻	SM 2023 (4500-Cl ⁻ B)	45	44	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)	14.91	13.06	50
Sulfate [#]	mg/L as SO ₄ ²⁻	Based on SM 2023 (4500-SO ₄ ²⁻ E)	48.59	49.69	250
Sample Condition		Observation	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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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 : 12/06/2025

Sampling Time : 11:00 AM

Received Date : 12/06/2025

Analytical Date : 12 - 23/06/2025

Report Date : 24/06/2025

Report No. : R13116/68

Parameters	Unit	Method	TW11550 /68	TW11551 /68	Standard ^a
			Guest Room Hot Water (North A 1023)	Guest Room Hot Water (North A 2025)	
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

24/06/2025

Technical Manager

24/06/2025

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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 : 12/06/2025

Sampling Time : 11:00 AM

Received Date : 12/06/2025

Analytical Date : 12 - 23/06/2025

Report Date : 24/06/2025

Report No. : R13117/68

Parameters	Unit	Method	TW11552 /68	^a Standard
			Cooling Water	(Cooling Water)
pH (25°C) [#]	-	Based on SM 2023 (4500-H ⁺ B)	7.7	8.5 - 9.5
Conductivity [#]	uS/cm	SM 2023 (2510 B)	483	< 2500
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	290	< 2000
* P-Alkalinity	mg/L as CaCO ₃	Titration	< 1	-
* M-Alkalinity	mg/L as CaCO ₃	Titration	70	-
Total Hardness [@]	mg/L as CaCO ₃	SM 2023 (2340 C)	102	< 100
Chloride [@]	mg/L as Cl ⁻	SM 2023 (4500-Cl ⁻ B)	49	< 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)	44.77	-
* Silica	mg/L as SiO ₂	SM 2023 (4500-SiO ₂ C)	12.17	-
* Total Phosphorus	mg/L as P	Stannous Chloride	0.04	-
Sample Condition	Observation		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 : เกณฑ์ควบคุมคุณภาพน้ำในระบบต่าง ๆ

Analyst

24/06/2025

บริษัท เทสท์ เทค จำกัด

Technical Manager

24/06/2025

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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 : 12/06/2025

Sampling Time : 11:00 AM

Received Date : 12/06/2025

Analytical Date : 12 - 23/06/2025

Report Date : 24/06/2025

Report No. : R13118/68

Parameters	Unit	Method	TW11552 /68
			Cooling Water
Legionella spp.	/L	ISO 11731 : 2017	not detected
Sample Condition		Observation	Clear

Analyst

24/06/2025

บริษัท เทสท์ เทค จำกัด

Technical Manager

24/06/2025

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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 : Usage Water

Sampling by : Test Tech Co., Ltd.

Sampling Method : Grab

Sampling Date : 12/06/2025

Sampling Time : 11:00 AM

Received Date : 12/06/2025

Analytical Date : 12 - 23/06/2025

Report Date : 24/06/2025

Report No. : R13119/68

Parameters	Unit	Method	TW11553 /68	^a Standard
			Chilled Water	(Chilled Water)
* pH (25°C)	-	Based on SM 2023 (4500-H ⁺ B)	10.1	7.5 - 9.5
Conductivity [#]	uS/cm	SM 2023 (2510 B)	881	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	529	-
* P-Alkalinity	mg/L as CaCO ₃	Titration	65	-
* M-Alkalinity	mg/L as CaCO ₃	Titration	155	-
Total Hardness [@]	mg/L as CaCO ₃	SM 2023 (2340 C)	21	-
Chloride [@]	mg/L as Cl ⁻	SM 2023 (4500-Cl ⁻ B)	47	-
Total Iron [#]	mg/L as Fe	SM 2023 (3500-Fe B)	0.16	< 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)	46.41	-
Silica [#]	mg/L as SiO ₂	SM 2023 (4500-SiO ₂ C)	5.24	-
* Nitrite	mg/L as NO ₂ ⁻	SM 2023 (4500-NO ₂ ⁻ B)	111	500 - 1000
Sample Condition		Observation	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 : เกณฑ์ควบคุมคุณภาพน้ำในระบบต่าง ๆ (Chilled Water)

Analyst

24/06/2025

Technical Manager

24/06/2025

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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 : 12/06/2025

Sampling Time : 11:00 AM

Received Date : 12/06/2025

Analytical Date : 12 - 18/06/2025

Report Date : 20/06/2025

Report No. : R12831/68

Parameters	Unit	Method	TW11554 /68	TW11555 /68	TW11556 /68	Standard ^a
			Drinking Water (Canteen)	Drinking Water (Oasis Kitchen)	Drinking Water (Guest Room 1023)	
pH (25°C) [#]	-	Based on SM 2023 (4500-H ⁺ B)	7.1	7.5	8.0	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)	474	474	676	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	284	284	406	-
Total Hardness [@]	mg/L as CaCO ₃	SM 2023 (2340 C)	100	98	2 *	≤ 100.0
Chloride [@]	mg/L as Cl ⁻	SM 2023 (4500-Cl ⁻ B)	46	47	1 *	≤ 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)	3.12	3.44	0.11	≤ 4.0
Sulfate [#]	mg/L as SO ₄ ²⁻	Based on SM 2023 (4500-SO ₄ ²⁻ E)	49.69	49.69	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
 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

20/06/2025

Technical Manager

20/06/2025

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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)

Sampling by : Test Tech Co., Ltd.

Sampling Date : 12/06/2025

Received Date : 12/06/2025

Report Date : 20/06/2025

Sample Type : Drinking Water

Sampling Method : Grab

Sampling Time : 11:00 AM

Analytical Date : 12 - 18/06/2025

Report No. : R12832/68

Parameters	Unit	Method	TW11554 /68	TW11555 /68	TW11556 /68	Standard ^a
			Drinking Water (Canteen)	Drinking Water (Oasis Kitchen)	Drinking Water (Guest Room 1023)	
Coliform Bacteria <i>E. coli</i>	MPN/100 mL /100 mL	SM 2023 (9221 B) SM 2023 (9221 F, Detection)	< 1.1 not found	< 1.1 not found	< 1.1 not found	< 2.2 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., 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))

[Redacted Signature]

Analyst

20/06/2025

[Redacted Signature]

Technical Manager

20/06/2025

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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 : 12/06/2025

Sampling Time : 11:00 AM

Received Date : 12/06/2025

Analytical Date : 12 - 16/06/2025

Report Date : 17/06/2025

Report No. : R12661/68

Parameters	Unit	Method	TW11557 /68	TW11558 /68	Standard ^a
			Main Pool	Lab Pool	
pH (25°C)	-	Based on SM 2023 (4500-H ⁺ B)	7.8	7.4	7.2-8.4
Residual Chlorine	mg/L as Cl ₂	DPD Colorimetric	0.94	0.87	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

17/06/2025

Technical Manager

17/06/2025

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 : 12/06/2025

Sampling Time : 11:00 AM

Received Date : 12/06/2025

Analytical Date : 12 - 16/06/2025

Report Date : 17/06/2025

Report No. : R12662/68

Parameters	Unit	Method	TW11557 /68	TW11558 /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., 20232. a : Bangkok Metropolitan Administration published in the Royal Government Gazette, Vol.104 ,Part 205,dated October 14,
B.E.2530 (1987)

Analyst

17/06/2025

Technical Manager

17/06/2025

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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 : 12/06/2025

Sampling Time : 11:00 AM

Received Date : 12/06/2025

Analytical Date : 12 - 16/06/2025

Report Date : 17/06/2025

Report No. : R12663/68

Parameters	Unit	Method	TW11559 /68	TW11560 /68	Standard ^a
			Lazy Pool	18 th Flr Pool	
pH (25°C)	-	Based on SM 2023 (4500-H ⁺ B)	7.6	7.6	7.2-8.4
Residual Chlorine	mg/L as Cl ₂	DPD Colorimetric	0.92	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, 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

17/06/2025

Technical Manager

17/06/2025

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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 : 12/06/2025

Received Date : 12/06/2025

Report Date : 17/06/2025

Sample Type : Swimming Water

Sampling Method : Grab

Sampling Time : 11:00 AM

Analytical Date : 12 - 16/06/2025

Report No. : R12664/68

Parameters	Unit	Method	TW11559 /68	TW11560 /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

17/06/2025



Technical Manager

17/06/2025

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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 : 12/06/2025

Sampling Time : 11:00 AM

Received Date : 12/06/2025

Analytical Date : 12 - 16/06/2025

Report Date : 18/06/2025

Report No. : R12756/68

Parameters	Unit	Method	TW11561 /68	TW11562 /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

18/06/2025

Technical Manager

18/06/2025

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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 : 12/06/2025

Sampling Time : 11:00 AM

Received Date : 12/06/2025

Analytical Date : 12 - 16/06/2025

Report Date : 18/06/2025

Report No. : R12757/68

Parameters	Unit	Method	TW11563 /68	TW11564 /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

18/06/2025

บริษัท เทสท์ เทค จำกัด

Technical Manager

18/06/2025

Reported results refer to the sample as received only.

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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 : 12/06/2025

Sampling Time : 11:00 AM

Received Date : 12/06/2025

Analytical Date : 12 - 19/06/2025

Report Date : 20/06/2025

Report No. : R12833/68

Parameters	Unit	Method	TW11565 /68	Standard ^a
			Effluent	
pH	-	SM 2023 (4500-H ⁺ B)	7.1	-
BOD	mg/L	SM 2023 (5210 B, 4500-O G)	35	≤ 1000
Total Suspended Solids	mg/L	SM 2023 (2540 D)	32	-
Oil & Grease	mg/L	SM 2023 (5520 D)	4.3	-
Sample Condition		Observation	Light Yellow, Brown Particles	

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

20/06/2025

บริษัท เทสท์ เทค จำกัด

Technical Manager

20/06/2025

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