

ภาคผนวก ซ

เอกสารการติดตามตรวจสอบระบบหอฝิ่งเย็น
และผลการตรวจวิเคราะห์คุณภาพน้ำ



ภาคผนวก ซ-1
เอกสารบันทึกการบำรุงรักษาระบบท่อฝังน้ำ



Machine Code: CT-A30
LOCATION: A3 NO 2A



DATE : 3/5/05

Service code: ☐ W ☒ M ☐ Q ☐ H ☐ Y

TYPE				DESCRIPTION	STATUS	
M	Q	H	Y	Check belt tension and condition, adjust / replace if necessary.	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Adjusted
M	Q	H	Y	Check and clean water basin.	<input checked="" type="checkbox"/> Clean	<input type="checkbox"/> Dirty
	Q	H	Y	Check make - up float valve.	<input type="checkbox"/> Normal	<input type="checkbox"/> Adjusted
	Q	H	Y	Clean filling without removing.	<input type="checkbox"/> Clean	<input type="checkbox"/> Dirty
	Q	H	Y	Flush drain pipe & overflow pipe.	<input type="checkbox"/> Clean	<input type="checkbox"/> Dirty
			Y	Check fan's ball bearing.	<input type="checkbox"/> Normal	<input type="checkbox"/> Changed
			Y	Check fan condition, balance & vibration.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Check casing internal and external condition.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Check foundation & Vibration Isolators.	<input type="checkbox"/> Tight	<input type="checkbox"/> Loose
M			Y	Check for lost bolts & nuts .	<input checked="" type="checkbox"/> Tight	<input type="checkbox"/> Loose
			Y	Lubricate all moving parts.	<input type="checkbox"/> Re-lubricate and clean	
			Y	Remove filling block clean it and put back.	<input type="checkbox"/> Clean	<input type="checkbox"/> Dirty
			Y	Operating valves & Check condition.	<input type="checkbox"/> Closed	<input type="checkbox"/> Not Closed
			Y	Check rust & paint if necessary.	<input type="checkbox"/> Clean and repaint	
MOTOR						
M	Q	H	Y	Check cooling air intake and clean if necessary.	<input checked="" type="checkbox"/> Tight	<input type="checkbox"/> Loose
M	Q	H	Y	Check motor ampere draw , compare with specification .	1.....Amp.	2.....Amp.
					3.....Amp.	
	Q	H	Y	Check motor bearing .	<input type="checkbox"/> Normal	<input type="checkbox"/> Changed
	Q	H	Y	Grease replenishment bearing . (should be done during operation)	Re-lubricate and clean	
			Y	Clean motor's body and cooling fan.	<input type="checkbox"/> Clean	<input type="checkbox"/> Dirty
			Y	Check pulley alignment , linear and angular.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Check rust & paint if necessary.	<input type="checkbox"/> Clean and repaint	
		H	Y	- Examine Electrical terminal	<input type="checkbox"/> Tight	<input type="checkbox"/> Loose
		H	Y	- Examine insulation between coil and motor by using M.ohm.meter	1.....M.ohm	2.....M.ohm.
					3.....M.ohm	
M	Q	H	Y	- Notice motor sound while operating	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
		H	Y	- Measure current phase A.B.C	1.....Amp.	2.....Amp.
					3.....Amp.	
		H	Y	- Measure motor speedrpm.	
	Q	H	Y	- Measure blower wheelrpm.	
	Q	H	Y	- Measure nozzle speedrpm.	
		H	Y	- Examine screw, nut if still fixed	<input type="checkbox"/> Normal	<input type="checkbox"/> Loose
	Q	H	Y	- Examine pulley, key shaft and lock screw of pulley	<input type="checkbox"/> Tight	<input type="checkbox"/> Loose
CONTROL PANEL						
M				Check warning and operating light for proper operation , replace if necessary.	<input checked="" type="checkbox"/> Loose	<input type="checkbox"/> Tight every point
	Q			Check control panel general function condition .	<input type="checkbox"/> Operating well	<input type="checkbox"/> Not cut off
			Y	Check insulation & ground for electric components.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Tightening of all electrical conditions (Switch off the power first) .	<input type="checkbox"/> Loose	<input type="checkbox"/> Tight every point
			Y	Check overload device . adjust if necessary.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Clean outside the cabinet and remove the dust from inside.	<input type="checkbox"/> Clean and repaint	

Comment :

Check By : _____

Date : _____

Asst. Of DE / Director Of Engineering By : _____

Date : _____

COOLING TOWER

P.M. WEEK :

Machine Code: CT-A3 04
LOCATION: A3 No 2B



DATE : 3/3/67

Service code: ☐ W ☒ M ☐ Q ☐ H ☐ Y

TYPE				DESCRIPTION	STATUS	
M	Q	H	Y	Check belt tension and condition, adjust / replace if necessary.	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Adjusted
M	Q	H	Y	Check and clean water basin.	<input checked="" type="checkbox"/> Clean	<input type="checkbox"/> Dirty
	Q	H	Y	Check make - up float valve.	<input type="checkbox"/> Normal	<input type="checkbox"/> Adjusted
	Q	H	Y	Clean filling without removing.	<input type="checkbox"/> Clean	<input type="checkbox"/> Dirty
	Q	H	Y	Flush drain pipe & overflow pipe.	<input type="checkbox"/> Clean	<input type="checkbox"/> Dirty
			Y	Check fan's ball bearing.	<input type="checkbox"/> Normal	<input type="checkbox"/> Changed
			Y	Check fan condition, balance & vibration.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Check casing internal and external condition.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Check foundation & Vibration Isolators.	<input type="checkbox"/> Tight	<input type="checkbox"/> Loose
M			Y	Check for lost bolts & nuts .	<input checked="" type="checkbox"/> Tight	<input type="checkbox"/> Loose
			Y	Lubricate all moving parts.	<input type="checkbox"/> Re-lubricate and clean	
			Y	Remove filling block clean it and put back.	<input type="checkbox"/> Clean	<input type="checkbox"/> Dirty
			Y	Operating valves & Check condition.	<input type="checkbox"/> Closed	<input type="checkbox"/> Not Closed
			Y	Check rust & paint if necessary.	<input type="checkbox"/> Clean and repaint	
MOTOR						
M	Q	H	Y	Check cooling air intake and clean if necessary.	<input checked="" type="checkbox"/> Tight	<input type="checkbox"/> Loose
M	Q	H	Y	Check motor ampere draw , compare with specification .	1.....Amp.	2.....Amp.
					3.....Amp.	
	Q	H	Y	Check motor bearing .	<input type="checkbox"/> Normal	<input type="checkbox"/> Changed
	Q	H	Y	Grease replenishment bearing . (should be done during operation)	Re-lubricate and clean	
			Y	Clean motor's body and cooling fan.	<input type="checkbox"/> Clean	<input type="checkbox"/> Dirty
			Y	Check pulley alignment , linear and angular.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Check rust & paint if necessary	<input type="checkbox"/> Clean and repaint	
		H	Y	- Examine Electrical terminal	<input type="checkbox"/> Tight	<input type="checkbox"/> Loose
		H	Y	- Examine insulation between coil and motor by using M.ohm.meter	1.....M.ohm	2.....M.ohm.
					3.....M.ohm	
M	Q	H	Y	- Notice motor sound while operating	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
		H	Y	- Measure current phase A.B.C	1.....Amp.	2.....Amp.
					3.....Amp.	
		H	Y	- Measure motor speedrpm.	
	Q	H	Y	- Measure blower wheelrpm.	
	Q	H	Y	- Measure nozzle speedrpm.	
		H	Y	- Examine screw, nut if still fixed	<input type="checkbox"/> Normal	<input type="checkbox"/> Loose
	Q	H	Y	- Examine pulley, key shaft and lock screw of pulley	<input type="checkbox"/> Tight	<input type="checkbox"/> Loose
CONTROL PANEL						
M				Check warning and operating light for proper operation , replace if necessary.	<input checked="" type="checkbox"/> Loose	<input type="checkbox"/> Tight every point
	Q			Check control panel general function condition .	<input type="checkbox"/> Operating well	<input type="checkbox"/> Not cut off
			Y	Check insulation & ground for electric components.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Tightening of all electrical conditions (Switch off the power first) .	<input type="checkbox"/> Loose	<input type="checkbox"/> Tight every point
			Y	Check overload device . adjust if necessary.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Clean outside the cabinet and remove the dust from inside.	<input type="checkbox"/> Clean and repaint	

Comment :

Action 8

Date : _____

Check By : _____

Date : _____

Asst. Of DE / Director Of Engineering By : _____

Date : _____

PREVENTIVE MAINTENANCE

COOLING TOWER

P.M. WEEK :

Machine Code: CT - A3 06
LOCATION : A3 NO 2ADATE : 3/5/65Service code: ☐ W ☒ M ☐ O ☐ H ☐ Y

TYPE				DESCRIPTION	STATUS	
M	Q	H	Y	Check belt tension and condition, adjust / replace if necessary.	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Adjusted
M	Q	H	Y	Check and clean water basin.	<input checked="" type="checkbox"/> Clean	<input type="checkbox"/> Dirty
	Q	H	Y	Check make - up float valve.	<input type="checkbox"/> Normal	<input type="checkbox"/> Adjusted
	Q	H	Y	Clean filling without removing.	<input type="checkbox"/> Clean	<input type="checkbox"/> Dirty
	Q	H	Y	Flush drain pipe & overflow pipe.	<input type="checkbox"/> Clean	<input type="checkbox"/> Dirty
			Y	Check fan's ball bearing.	<input type="checkbox"/> Normal	<input type="checkbox"/> Changed
			Y	Check fan condition, balance & vibration.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Check casing internal and external condition.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Check foundation & Vibration Isolators.	<input type="checkbox"/> Tight	<input type="checkbox"/> Loose
M			Y	Check for lost bolts & nuts.	<input checked="" type="checkbox"/> Tight	<input type="checkbox"/> Loose
			Y	Lubricate all moving parts.	<input type="checkbox"/> Re-lubricate and clean	
			Y	Remove filling block clean it and put back.	<input type="checkbox"/> Clean	<input type="checkbox"/> Dirty
			Y	Operating valves & Check condition.	<input type="checkbox"/> Closed	<input type="checkbox"/> Not Closed
			Y	Check rust & paint if necessary.	<input type="checkbox"/> Clean and repaint	
MOTOR						
M	Q	H	Y	Check cooling air intake and clean if necessary.	<input checked="" type="checkbox"/> Tight	<input type="checkbox"/> Loose
M	Q	H	Y	Check motor ampere draw, compare with specification.	1.....Amp.	2.....Amp.
					3.....Amp.	
	Q	H	Y	Check motor bearing.	<input type="checkbox"/> Normal	<input type="checkbox"/> Changed
	Q	H	Y	Grease replenishment bearing. (should be done during operation)	Re-lubricate and clean	
			Y	Clean motor's body and cooling fan.	<input type="checkbox"/> Clean	<input type="checkbox"/> Dirty
			Y	Check pulley alignment, linear and angular.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Check rust & paint if necessary.	<input type="checkbox"/> Clean and repaint	
		H	Y	- Examine Electrical terminal	<input type="checkbox"/> Tight	<input type="checkbox"/> Loose
		H	Y	- Examine insulation between coil and motor by using M.ohm.meter	1.....M.ohm	2.....M.ohm.
					3.....M.ohm	
M	Q	H	Y	- Notice motor sound while operating	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
		H	Y	- Measure current phase A.B.C	1.....Amp.	2.....Amp.
					3.....Amp.	
		H	Y	- Measure motor speedrpm.	
	Q	H	Y	- Measure blower wheelrpm.	
	Q	H	Y	- Measure nozzle speedrpm.	
		H	Y	- Examine screw, nut if still fixed	<input type="checkbox"/> Normal	<input type="checkbox"/> Loose
	Q	H	Y	- Examine pulley, key shaft and lock screw of pulley	<input type="checkbox"/> Tight	<input type="checkbox"/> Loose
CONTROL PANEL						
M				Check warning and operating light for proper operation, replace if necessary.	<input checked="" type="checkbox"/> Loose	<input type="checkbox"/> Tight every point
	Q			Check control panel general function condition.	<input type="checkbox"/> Operating well	<input type="checkbox"/> Not cut off
			Y	Check insulation & ground for electric components.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Tightening of all electrical conditions (Switch off the power first).	<input type="checkbox"/> Loose	<input type="checkbox"/> Tight every point
			Y	Check overload device, adjust if necessary.	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			Y	Clean outside the cabinet and remove the dust from inside.	<input type="checkbox"/> Clean and repaint	

Comment :

Check By : _____

Date : _____

Asst. Of DE / Director Of Engineering By : _____

Date : _____

ภาคผนวก ซ-2

เอกสารรายงานผลการวิเคราะห์คุณภาพน้ำ



เดือนมกราคม พ.ศ. 2565





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 : 13/01/2022

Sampling Time : 11:00 AM

Received Date : 14/01/2022

Analytical Date : 14 - 25/01/2022

Report Date : 26/01/2022

Report No. : R01802/65

Parameters	Unit	Method	TW00923 /65	TW00924 /65	TW00925 /65	Standard ^a
			Water in Storage Tank	Soft Water System (Main Point)	Hot Water System (Main Point)	
pH (25°C) [#]	-	Based on SM 2017 (4500-H ⁺ B)	7.9	7.3	7.5	6.5-8.5
Turbidity [#]	NTU	SM 2017 (2130 B)	< 0.50	2.75	0.77	4
Conductivity [#]	umhos/cm	SM 2017 (2510 B)	446	455	500	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	268	273	300	600
Total Hardness [@]	mg/L as CaCO ₃	SM 2017 (2340 C)	110	112	124	300
Chloride [@]	mg/L as Cl ⁻	SM 2017 (4500-Cl ⁻ B)	40	44	50	250
Total Iron [#]	mg/L as Fe	SM 2017 (3500-Fe B)	< 0.10	0.39	0.13	0.3
Manganese [#]	mg/L	SM 2017 (3500-Mn B)	< 0.04	0.06	< 0.04	0.3
Nitrate [#]	mg/L as NO ₃ ⁻	SM 2017 (4500-NO ₃ ⁻ E)	13.84	14.25	17.14	50
Sulfate [#]	mg/L as SO ₄ ²⁻	Based on SM 2017 (4500-SO ₄ ²⁻ E)	53.88	52.07	62.31	250
Sample Condition		Observation	Clear	Colorless, a little bit Particles	Clear	

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



Miss JITRA LIMSUEBPONG

Deputy Technical Manager

26/01/2022

Miss ORASA YUBUA

Technical Manager

26/01/2022

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 : 13/01/2022

Sampling Time : 11:00 AM

Received Date : 14/01/2022

Analytical Date : 14 - 25/01/2022

Report Date : 26/01/2022

Report No. : R01803/65

Parameters	Unit	Method	TW00923 /65	TW00924 /65	TW00925 /65	Standard ^a
			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
<i>E. coli</i>	/100 mL	SM 2017 (9221 F, Detection)	not found	not found	not found	not found
Sample Condition		Observation	Clear	Colorless, a little bit Particles	Clear	

- Remark : 1. SM 2017 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd 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



Miss NISACHOL EUNGKLIENG

Analyst

26/01/2022

Miss SIRIWAN HUSAWONG

Deputy Technical Manager

26/01/2022

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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 : 13/01/2022

Sampling Time : 11:00 AM

Received Date : 14/01/2022

Analytical Date : 14 - 25/01/2022

Report Date : 26/01/2022

Report No. : R01804/65

Parameters	Unit	Method	TW00926 /65	TW00927 /65	Standard ^a
			Guest Room Cold Water (North A 225)	Guest Room Cold Water (South A 229)	
pH (25°C) [#]	-	Based on SM 2017 (4500-H ⁺ B)	7.2	7.4	6.5-8.5
Turbidity [#]	NTU	SM 2017 (2130 B)	1.69	0.58	4
Conductivity [#]	umhos/cm	SM 2017 (2510 B)	381	425	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	229	255	600
Total Hardness [@]	mg/L as CaCO ₃	SM 2017 (2340 C)	88	96	300
Chloride [@]	mg/L as Cl ⁻	SM 2017 (4500-Cl ⁻ B)	40	42	250
Total Iron [#]	mg/L as Fe	SM 2017 (3500-Fe B)	0.25	0.14	0.3
Manganese [#]	mg/L	SM 2017 (3500-Mn B)	0.05	< 0.04	0.3
Nitrate [#]	mg/L as NO ₃ ⁻	SM 2017 (4500-NO ₃ ⁻ E)	< 0.22	9.79	50
Sulfate [#]	mg/L as SO ₄ ²⁻	Based on SM 2017 (4500-SO ₄ ²⁻ E)	53.58	49.66	250
Sample Condition		Observation	Clear	Clear	

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



Miss JITRA LIMSUEBPONG

Deputy Technical Manager

26/01/2022

Miss ORASA YUBUA

Technical Manager

26/01/2022

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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 : 13/01/2022

Sampling Time : 11:00 AM

Received Date : 14/01/2022

Analytical Date : 14 - 25/01/2022

Report Date : 26/01/2022

Report No. : R01805/65

Parameters	Unit	Method	TW00926 /65	TW00927 /65	Standard ^a
			Guest Room Cold Water (North A 225)	Guest Room Cold Water (South A 229)	
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, 23rd 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



Miss NISACHOL EUNGKLIENG

Analyst

26/01/2022

Miss SRIWAN HUSAWONG

Deputy Technical Manager

26/01/2022

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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 : 13/01/2022

Sampling Time : 11:00 AM

Received Date : 14/01/2022

Analytical Date : 14 - 25/01/2022

Report Date : 26/01/2022

Report No. : R01806/65

Parameters	Unit	Method	TW00928 /65	TW00929 /65	Standard ^a
			Guest Room Hot Water (North A 225)	Guest Room Hot Water (South A 229)	
pH (25°C) [#]	-	Based on SM 2017 (4500-H ⁺ B)	7.5	7.3	6.5-8.5
Turbidity [#]	NTU	SM 2017 (2130 B)	< 0.50	< 0.50	4
Conductivity [#]	umhos/cm	SM 2017 (2510 B)	436	434	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	262	260	600
Total Hardness [@]	mg/L as CaCO ₃	SM 2017 (2340 C)	108	110	300
Chloride [@]	mg/L as Cl ⁻	SM 2017 (4500-Cl ⁻ B)	40	38	250
Total Iron [#]	mg/L as Fe	SM 2017 (3500-Fe B)	< 0.10	< 0.10	0.3
Manganese [#]	mg/L	SM 2017 (3500-Mn B)	0.05	< 0.04	0.3
Nitrate [#]	mg/L as NO ₃ ⁻	SM 2017 (4500-NO ₃ ⁻ E)	14.18	14.10	50
Sulfate [#]	mg/L as SO ₄ ²⁻	Based on SM 2017 (4500-SO ₄ ²⁻ E)	53.43	53.88	250
Sample Condition		Observation	Clear	Clear	

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

Miss JITRA LIMSUEBPONG

Deputy Technical Manager

26/01/2022

Miss ORASA YUBUA

Technical Manager

26/01/2022

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 : Usage Water

Sampling by : Test Tech Co., Ltd.

Sampling Method : Grab

Sampling Date : 13/01/2022

Sampling Time : 11:00 AM

Received Date : 14/01/2022

Analytical Date : 14 - 25/01/2022

Report Date : 26/01/2022

Report No. : R01807/65

Parameters	Unit	Method	TW00928 /65	TW00929 /65	Standard ^a
			Guest Room Hot Water (North A 225)	Guest Room Hot Water (South A 229)	
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, 23rd 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

Miss NISACHOL EUNGKLIENG

Analyst

26/01/2022

Miss SIRIWAN HUSAWONG

Deputy Technical Manager

26/01/2022

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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 : 13/01/2022

Sampling Time : 11:00 AM

Received Date : 14/01/2022

Analytical Date : 14 - 25/01/2022

Report Date : 26/01/2022

Report No. : R01808/65

Parameters	Unit	Method	TW00930 /65	Standard ^a (Cooling Water)
			Cooling Water	
pH (25°C) [#]	-	Based on SM 2017 (4500-H ⁺ B)	8.9	8.5 - 9.5
Conductivity [#]	umhos/cm	SM 2017 (2510 B)	1399	< 2500
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	839	< 2000
* P-Alkalinity	mg/L as CaCO ₃	Titration	10	-
* M-Alkalinity	mg/L as CaCO ₃	Titration	170	-
Total Hardness [@]	mg/L as CaCO ₃	SM 2017 (2340 C)	340	< 100
Chloride [@]	mg/L as Cl ⁻	SM 2017 (4500-Cl ⁻ B)	167	< 400
Total Iron [#]	mg/L as Fe	SM 2017 (3500-Fe B)	< 0.10	< 1.0
Manganese [#]	mg/L	SM 2017 (3500-Mn B)	0.06	-
Sulfate [#]	mg/L as SO ₄ ²⁻	Based on SM 2017 (4500-SO ₄ ²⁻ E)	196	-
* Silica	mg/L as SiO ₂	SM 2017 (4500-SiO ₂ C)	42.36	-
* Total Phosphorus	mg/L as P	Stannous Chloride	0.07	-
Sample Condition		Observation	Clear	

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

บริษัท เทสท์ เทค จำกัด

Miss JITRA LIMSUEBPONG

Deputy Technical Manager

26/01/2022

Miss ORASA YUBUA

Technical Manager

26/01/2022

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)

Sampling by : Test Tech Co., Ltd.

Sampling Date : 13/01/2022

Received Date : 14/01/2022

Report Date : 26/01/2022

Sample Type : Usage Water

Sampling Method : Grab

Sampling Time : 11:00 AM

Analytical Date : 14 - 25/01/2022

Report No. : R01809/65

Parameters	Unit	Method	TW00930 /65
			Cooling Water
<i>Legionella spp.</i>	CFU/L	ISO 11731 : 2017	6.7×10^2
Sample Condition		Observation	Clear

บริษัท เทสท์ เทค จำกัด

Miss NISACHOL EUNGKLIENG

Analyst

26/01/2022

Miss SIRIWAN HUSAWONG

Deputy Technical Manager

26/01/2022

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 : 13/01/2022

Sampling Time : 11:00 AM

Received Date : 14/01/2022

Analytical Date : 14 - 25/01/2022

Report Date : 26/01/2022

Report No. : R01810/65

Parameters	Unit	Method	TW00931 /65	Standard ^a (Chilled Water)
			Chilled Water	
pH (25°C) [#]	-	Based on SM 2017 (4500-H ⁺ B)	8.2	7.5 - 9.5
Conductivity [#]	umhos/cm	SM 2017 (2510 B)	382	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	229	-
* P-Alkalinity	mg/L as CaCO ₃	Titration	< 1	-
* M-Alkalinity	mg/L as CaCO ₃	Titration	65	-
Total Hardness [@]	mg/L as CaCO ₃	SM 2017 (2340 C)	23	-
Chloride [@]	mg/L as Cl ⁻	SM 2017 (4500-Cl ⁻ B)	30	-
Total Iron [#]	mg/L as Fe	SM 2017 (3500-Fe B)	1.36	< 1.0
Manganese [#]	mg/L	SM 2017 (3500-Mn B)	0.05	-
Sulfate [#]	mg/L as SO ₄ ²⁻	Based on SM 2017 (4500-SO ₄ ²⁻ E)	26.97	-
Silica [#]	mg/L as SiO ₂	SM 2017 (4500-SiO ₂ C)	1.57	-
* Nitrite	mg/L as NO ₂ ⁻	SM 2017 (4500-NO ₂ ⁻ B)	19.35	500 - 1000
Sample Condition		Observation	Light Yellow, Colloid	

- Remark : 1. SM 2017 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd 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)



Miss JITRA LIMSUEBPONG

Deputy Technical Manager

26/01/2022

Miss ORASA YUBUA

Technical Manager

26/01/2022

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 : 13/01/2022

Sampling Time : 11:00 AM

Received Date : 14/01/2022

Analytical Date : 14 - 22/01/2022

Report Date : 25/01/2022

Report No. : R01712/65

Parameters	Unit	Method	TW00932 /65	TW00933 /65	TW00934 /65	Standard ^a
			Drinking Water (Canteen)	Drinking Water (Oasis Kitchen)	Drinking Water (Guest Room 225)	
pH (25°C) [#]	-	Based on SM 2017 (4500-H ⁺ B)	7.5	7.4	7.4	6.5-8.5
Turbidity [#]	NTU	SM 2017 (2130 B)	1.02	< 0.50	0.72	≤ 5.0
Conductivity [#]	umhos/cm	SM 2017 (2510 B)	497	494	495	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	298	296	297	-
Total Hardness [@]	mg/L as CaCO ₃	SM 2017 (2340 C)	114	122	124	≤ 100.0
Chloride [@]	mg/L as Cl ⁻	SM 2017 (4500-Cl ⁻ B)	48	50	44	≤ 250.0
Total Iron [#]	mg/L as Fe	SM 2017 (3500-Fe B)	< 0.10	0.12	< 0.10	≤ 0.3
Manganese [#]	mg/L	SM 2017 (3500-Mn B)	< 0.04	0.05	< 0.04	≤ 0.05
Nitrate Nitrogen [#]	mg/L as NO ₃ ⁻ N	SM 2017 (4500-NO ₃ ⁻ E)	3.52	3.73	3.70	≤ 4.0
Sulfate [#]	mg/L as SO ₄ ²⁻	Based on SM 2017 (4500-SO ₄ ²⁻ E)	60.80	60.50	58.09	≤ 250.0
Sample Condition		Observation	Clear	Clear	Clear	

Remark : 1. SM 2017 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd 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))

Miss JITRA LIMSUEBPONG

Deputy Technical Manager

25/01/2022

Miss ORASA YUBUA

Technical Manager

25/01/2022

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 : 13/01/2022

Sampling Time : 11:00 AM

Received Date : 14/01/2022

Analytical Date : 14 - 22/01/2022

Report Date : 25/01/2022

Report No. : R01713/65

Parameters	Unit	Method	TW00932 /65	TW00933 /65	TW00934 /65	Standard ^a
			Drinking Water (Canteen)	Drinking Water (Oasis Kitchen)	Drinking Water (Guest Room 225)	
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, 23rd 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))

Miss NISACHOL EUNGKLIENG

Analyst

25/01/2022

Miss SIRIWAN HUSAWONG

Deputy Technical Manager

25/01/2022

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 : 13/01/2022

Sampling Time : 11:00 AM

Received Date : 14/01/2022

Analytical Date : 14 - 17/01/2022

Report Date : 18/01/2022

Report No. : R01032/65

Parameters	Unit	Method	TW00935 /65	TW00936 /65	Standard ^a
			Main Pool	Lab Pool	
pH (25°C)	-	Based on SM 2017 (4500-H ⁺ B)	6.8	7.2	7.2-8.4
Residual Chlorine	mg/L as Cl ₂	DPD Colorimetric	1.00	1.00	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, 23rd ed., 2017

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

Miss JITRA LIMSUEBPONG

Deputy Technical Manager

18/01/2022

Miss ORASA YUBUA

Technical Manager

18/01/2022

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 : 13/01/2022

Sampling Time : 11:00 AM

Received Date : 14/01/2022

Analytical Date : 14 - 17/01/2022

Report Date : 18/01/2022

Report No. : R01033/65

Parameters	Unit	Method	TW00935 /65	TW00936 /65	Standard ^a
			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, 23rd ed., 2017

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

Miss NISACHOL EUNGKLIENG

Analyst

18/01/2022

Miss SIRIWAN HUSAWONG

Deputy Technical Manager

18/01/2022

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 : 13/01/2022

Sampling Time : 11:00 AM

Received Date : 14/01/2022

Analytical Date : 14 - 17/01/2022

Report Date : 18/01/2022

Report No. : R01034/65

Parameters	Unit	Method	TW00937 /65	TW00938 /65	Standard ^a
			Lazy Pool	18 th Flr Pool	
pH (25°C)	-	Based on SM 2017 (4500-H ⁺ B)	7.1	7.1	7.2-8.4
Residual Chlorine	mg/L as Cl ₂	DPD Colorimetric	1.20	1.00	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, 23rd ed., 2017

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



Miss JITRA LIMSUEBPONG

Deputy Technical Manager

18/01/2022

Miss ORASA YUBUA

Technical Manager

18/01/2022

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 : 13/01/2022

Sampling Time : 11:00 AM

Received Date : 14/01/2022

Analytical Date : 14 - 17/01/2022

Report Date : 18/01/2022

Report No. : R01035/65

Parameters	Unit	Method	TW00937 /65	TW00938 /65	Standard ^a
			Lazy Pool	18 th 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, 23rd ed., 2017
2. a : Bangkok Metropolitan Administration published in the Royal Government Gazette, Vol.104 ,Part 205,dated October 14, B.E.2530 (1987)

Miss NISACHOL EUNGKLIENG

Analyst

18/01/2022

Miss SIRIWAN HUSAWONG

Deputy Technical Manager

18/01/2022

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 : 13/01/2022

Sampling Time : 11:00 AM

Received Date : 14/01/2022

Analytical Date : 14 - 20/01/2022

Report Date : 21/01/2022

Report No. : R01477/65

Parameters	Unit	Method	TW00943 /65	Standard ^a
			Effluent	
pH	-	SM 2017 (4500-H ⁺ B)	6.9	-
BOD	mg/L	SM 2017 (5210 B, 4500-O C)	44	≤ 1000
Total Suspended Solids	mg/L	SM 2017 (2540 D)	27	-
Oil & Grease	mg/L	SM 2017 (5520 D)	< 3.0	-
Sample Condition		Observation	Light Yellow, Colloid	

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

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



Miss MARISA WISETSANG

Analyst

21/01/2022

Miss ORASA YUBUA

Technical Manager

21/01/2022

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 : 13/01/2022

Sampling Time : 11:00 AM

Received Date : 14/01/2022

Analytical Date : 14 - 17/01/2022

Report Date : 19/01/2022

Report No. : R01218/65

Parameters	Unit	Method	TW00939 /65	TW00940 /65	Standard ^a
			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, 23rd 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))

Miss NISACHOL EUNGKLIENG

Analyst

19/01/2022

Miss SRIWAN HUSAWONG

Deputy Technical Manager

19/01/2022

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 : 13/01/2022

Sampling Time : 11:00 AM

Received Date : 14/01/2022

Analytical Date : 14 - 17/01/2022

Report Date : 19/01/2022

Report No. : R01219/65

Parameters	Unit	Method	TW00941 /65	TW00942 /65	Standard ^a
			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, 23rd 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))

Miss NISACHOL EUNGKLIENG

Analyst

19/01/2022

Miss SRIWAN HUSAWONG

Deputy Technical Manager

19/01/2022

Reported results refer to the sample as received only.

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

เดือนกุมภาพันธ์ พ.ศ. 2565



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 : 10/02/2022

Sampling Time : 11:00 AM

Received Date : 11/02/2022

Analytical Date : 11 - 14/02/2022

Report Date : 15/02/2022

Report No. : R03324/65

Parameters	Unit	Method	TW03095 /65	TW03096 /65	Standard ^a
			Main Pool	Lab Pool	
pH (25°C)	-	Based on SM 2017 (4500-H ⁺ B)	7.3	7.4	7.2-8.4
Residual Chlorine	mg/L as Cl ₂	DPD Colorimetric	1.12	1.14	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, 23rd ed., 2017

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

Miss KANKAMON KHAYA

Analyst

15/02/2022

Miss ORASA YUBUA

Technical Manager

15/02/2022

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)

Sampling by : Test Tech Co., Ltd.

Sampling Date : 10/02/2022

Received Date : 11/02/2022

Report Date : 15/02/2022

Sample Type : Swimming Water

Sampling Method : Grab

Sampling Time : 11:00 AM

Analytical Date : 11 - 14/02/2022

Report No. : R03325/65

Parameters	Unit	Method	TW03095 /65	TW03096 /65	Standard ^a
			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, 23rd ed., 2017

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

Miss NISACHOL EUNGKLIENG

Analyst

15/02/2022

Miss SIRIWAN HUSAWONG

Deputy Technical Manager

15/02/2022

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 : 10/02/2022

Sampling Time : 11:00 AM

Received Date : 11/02/2022

Analytical Date : 11 - 14/02/2022

Report Date : 15/02/2022

Report No. : R03326/65

Parameters	Unit	Method	TW03097 /65	TW03098 /65	Standard ^a
			Lazy Pool	18 th Flr Pool	
pH (25°C)	-	Based on SM 2017 (4500-H ⁺ B)	7.5	7.6	7.2-8.4
Residual Chlorine	mg/L as Cl ₂	DPD Colorimetric	1.16	1.15	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, 23rd ed., 2017

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

Miss KANKAMON KHAYA

Analyst

15/02/2022

Miss ORASA YUBUA

Technical Manager

15/02/2022

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 : 10/02/2022

Sampling Time : 11:00 AM

Received Date : 11/02/2022

Analytical Date : 11 - 14/02/2022

Report Date : 15/02/2022

Report No. : R03327/65

Parameters	Unit	Method	TW03097 /65	TW03098 /65	Standard ^a
			Lazy Pool	18 th 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, 23rd ed., 2017

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

Miss NISACHOL EUNGKLIENG

Analyst

15/02/2022

Miss SIRIWAN HUSAWONG

Deputy Technical Manager

15/02/2022

Reported results refer to the sample as received only.

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

เดือนมีนาคม พ.ศ. 2565





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 : 16/03/2022

Sampling Time : 02:00 PM

Received Date : 17/03/2022

Analytical Date : 17 - 28/03/2022

Report Date : 29/03/2022

Report No. : R06671/65

Parameters	Unit	Method	TW05738 /65	TW05739 /65	TW05740 /65	Standard ^a
			Water in Storage Tank	Soft Water System (Main Point)	Hot Water System (Main Point)	
pH (25°C) [#]	-	Based on SM 2017 (4500-H ⁺ B)	7.8	7.5	7.6	6.5-8.5
Turbidity [#]	NTU	SM 2017 (2130 B)	0.67	< 0.50	< 0.50	4
Conductivity [#]	umhos/cm	SM 2017 (2510 B)	280	284	290	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	168	170	174	600
Total Hardness [@]	mg/L as CaCO ₃	SM 2017 (2340 C)	64	66	68	300
Chloride [@]	mg/L as Cl ⁻	SM 2017 (4500-Cl ⁻ B)	28	28	30	250
Total Iron [#]	mg/L as Fe	SM 2017 (3500-Fe B)	0.26	< 0.10	0.13	0.3
Manganese [#]	mg/L	SM 2017 (3500-Mn B)	< 0.04	< 0.04	< 0.04	0.3
Nitrate [#]	mg/L as NO ₃ ⁻	SM 2017 (4500-NO ₃ ⁻ E)	3.50	3.74	3.46	50
Sulfate [#]	mg/L as SO ₄ ²⁻	Based on SM 2017 (4500-SO ₄ ²⁻ E)	36.72	36.12	38.68	250
Sample Condition		Observation	Clear	Clear	Clear	

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



Miss KANKAMON KHAYA

Analyst

29/03/2022

Miss ORASA YUBUA

Technical Manager

29/03/2022

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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 : 16/03/2022

Sampling Time : 02:00 PM

Received Date : 17/03/2022

Analytical Date : 17 - 28/03/2022

Report Date : 29/03/2022

Report No. : R06672/65

Parameters	Unit	Method	TW05738 /65	TW05739 /65	TW05740 /65	Standard ^a
			Water in Storage Tank	Soft Water System (Main Point)	Hot Water System (Main Point)	
Coliform Bacteria	MPN/100 mL	SM 2017 (9221 B)	5.1	> 23	< 1.1	not found
<i>E. coli</i>	/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, 23rd 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

Miss NISACHOL EUNGKLIENG

Analyst

29/03/2022

Miss SRIWAN HUSAWONG

Deputy Technical Manager

29/03/2022

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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 : 16/03/2022

Sampling Time : 02:00 PM

Received Date : 17/03/2022

Analytical Date : 17 - 28/03/2022

Report Date : 29/03/2022

Report No. : R06673/65

Parameters	Unit	Method	TW05741 /65	TW05742 /65	Standard ^a
			Guest Room Cold Water (North A401)	Guest Room Cold Water (South A407)	
pH (25°C) [#]	-	Based on SM 2017 (4500-H ⁺ B)	7.7	7.8	6.5-8.5
Turbidity [#]	NTU	SM 2017 (2130 B)	< 0.50	< 0.50	4
Conductivity [#]	umhos/cm	SM 2017 (2510 B)	278	289	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	167	173	600
Total Hardness [@]	mg/L as CaCO ₃	SM 2017 (2340 C)	64	70	300
Chloride [@]	mg/L as Cl ⁻	SM 2017 (4500-Cl ⁻ B)	28	28	250
Total Iron [#]	mg/L as Fe	SM 2017 (3500-Fe B)	0.26	0.41	0.3
Manganese [#]	mg/L	SM 2017 (3500-Mn B)	0.04	< 0.04	0.3
Nitrate [#]	mg/L as NO ₃ ⁻	SM 2017 (4500-NO ₃ ⁻ E)	2.84	3.70	50
Sulfate [#]	mg/L as SO ₄ ²⁻	Based on SM 2017 (4500-SO ₄ ²⁻ E)	37.32	38.23	250
Sample Condition		Observation	Clear	Clear	

- Remark :
1. SM 2017 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd 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.



Miss KANKAMON KHAYA

Analyst

29/03/2022

Miss ORASA YUBUA

Technical Manager

29/03/2022

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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 : 16/03/2022

Sampling Time : 02:00 PM

Received Date : 17/03/2022

Analytical Date : 17 - 28/03/2022

Report Date : 29/03/2022

Report No. : R06674/65

Parameters	Unit	Method	TW05741 /65	TW05742 /65	Standard ^a
			Guest Room Cold Water (North A401)	Guest Room Cold Water (South A407)	
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, 23rd 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

Miss NISACHOL EUNGKLIENG

Analyst

29/03/2022

Miss SRIWAN HUSAWONG

Deputy Technical Manager

29/03/2022

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Accreditation No. 1201/54

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 : 16/03/2022

Sampling Time : 02:00 PM

Received Date : 17/03/2022

Analytical Date : 17 - 28/03/2022

Report Date : 29/03/2022

Report No. : R06675/65

Parameters	Unit	Method	TW05743 /65	TW05744 /65	Standard ^a
			Guest Room Hot Water (North A401)	Guest Room Hot Water (South A407)	
pH (25°C) [#]	-	Based on SM 2017 (4500-H ⁺ B)	7.6	7.5	6.5-8.5
Turbidity [#]	NTU	SM 2017 (2130 B)	< 0.50	< 0.50	4
Conductivity [#]	umhos/cm	SM 2017 (2510 B)	289	289	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	173	173	600
Total Hardness [@]	mg/L as CaCO ₃	SM 2017 (2340 C)	69	69	300
Chloride [@]	mg/L as Cl ⁻	SM 2017 (4500-Cl ⁻ B)	28	28	250
Total Iron [#]	mg/L as Fe	SM 2017 (3500-Fe B)	< 0.10	< 0.10	0.3
Manganese [#]	mg/L	SM 2017 (3500-Mn B)	< 0.04	< 0.04	0.3
Nitrate [#]	mg/L as NO ₃ ⁻	SM 2017 (4500-NO ₃ ⁻ E)	3.63	3.64	50
Sulfate [#]	mg/L as SO ₄ ²⁻	Based on SM 2017 (4500-SO ₄ ²⁻ E)	38.53	38.83	250
Sample Condition		Observation	Clear	Clear	

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



Miss KANKAMON KHAYA

Analyst

29/03/2022

Miss ORASA YUBUA

Technical Manager

29/03/2022

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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 : 16/03/2022

Sampling Time : 02:00 PM

Received Date : 17/03/2022

Analytical Date : 17 - 28/03/2022

Report Date : 29/03/2022

Report No. : R06676/65

Parameters	Unit	Method	TW05743 /65	TW05744 /65	Standard ^a
			Guest Room Hot Water (North A401)	Guest Room Hot Water (South A407)	
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, 23rd 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



Miss NISACHOL EUNGKLIENG

Analyst

29/03/2022

Miss SRIWAN HUSAWONG

Deputy Technical Manager

29/03/2022

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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 : 16/03/2022

Sampling Time : 02:00 PM

Received Date : 17/03/2022

Analytical Date : 17 - 28/03/2022

Report Date : 29/03/2022

Report No. : R06677/65

Parameters	Unit	Method	TW05745 /65	Standard ^a (Cooling Water)
			Cooling Water	
pH (25°C) [#]	-	Based on SM 2017 (4500-H ⁺ B)	8.7	8.5 - 9.5
Conductivity [#]	umhos/cm	SM 2017 (2510 B)	1526	< 2500
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	916	< 2000
* P-Alkalinity	mg/L as CaCO ₃	Titration	15	-
* M-Alkalinity	mg/L as CaCO ₃	Titration	160	-
Total Hardness [@]	mg/L as CaCO ₃	SM 2017 (2340 C)	360	< 100
Chloride [@]	mg/L as Cl ⁻	SM 2017 (4500-Cl ⁻ B)	212	< 400
Total Iron [#]	mg/L as Fe	SM 2017 (3500-Fe B)	< 0.10	< 1.0
Manganese [#]	mg/L	SM 2017 (3500-Mn B)	< 0.04	-
* Sulfate	mg/L as SO ₄ ²⁻	Based on SM 2017 (4500-SO ₄ ²⁻ E)	242	-
* Silica	mg/L as SiO ₂	SM 2017 (4500-SiO ₂ C)	47.78	-
* Total Phosphorus	mg/L as P	Stannous Chloride	0.10	-
Sample Condition		Observation	Clear	

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



Miss KANKAMON KHAYA

Analyst

29/03/2022

Miss ORASA YUBUA

Technical Manager

29/03/2022

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 : Usage Water

Sampling by : Test Tech Co., Ltd.

Sampling Method : Grab

Sampling Date : 16/03/2022

Sampling Time : 02:00 PM

Received Date : 17/03/2022

Analytical Date : 17 - 28/03/2022

Report Date : 29/03/2022

Report No. : R06678/65

Parameters	Unit	Method	TW05745 /65
			Cooling Water
<i>Legionella spp.</i>	CFU/L	ISO 11731 : 2017	2.3 x 10 ³
Sample Condition		Observation	Clear

Miss NISACHOL EUNGKLIENG

Analyst

29/03/2022

Miss SRIWAN HUSAWONG

Deputy Technical Manager

29/03/2022

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 : 16/03/2022

Sampling Time : 02:00 PM

Received Date : 17/03/2022

Analytical Date : 17 - 28/03/2022

Report Date : 29/03/2022

Report No. : R06679/65

Parameters	Unit	Method	TW05746 /65	Standard ^a (Chilled Water)
			Chilled Water	
* pH (25°C)	-	Based on SM 2017 (4500-H ⁺ B)	10.3	7.5 - 9.5
Conductivity [#]	umhos/cm	SM 2017 (2510 B)	716	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	430	-
* P-Alkalinity	mg/L as CaCO ₃	Titration	70	-
* M-Alkalinity	mg/L as CaCO ₃	Titration	165	-
Total Hardness [@]	mg/L as CaCO ₃	SM 2017 (2340 C)	11	-
Chloride [@]	mg/L as Cl ⁻	SM 2017 (4500-Cl ⁻ B)	38	-
* Total Iron	mg/L as Fe	SM 2017 (3500-Fe B)	17.41	< 1.0
Manganese [#]	mg/L	SM 2017 (3500-Mn B)	0.29	-
Sulfate [#]	mg/L as SO ₄ ²⁻	Based on SM 2017 (4500-SO ₄ ²⁻ E)	34.01	-
Silica [#]	mg/L as SiO ₂	SM 2017 (4500-SiO ₂ C)	1.82	-
* Nitrite	mg/L as NO ₂ ⁻	SM 2017 (4500-NO ₂ ⁻ B)	79.76	500 - 1000
Sample Condition		Observation	Light Yellow, Brown Particles	

- Remark : 1. SM 2017 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd 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 : เกณฑ์ควบคุมคุณภาพน้ำในระบบต่าง ๆ (Chilled Water)



Miss KANKAMON KHAYA

Analyst

29/03/2022

Miss ORASA YUBUA

Technical Manager

29/03/2022

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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 : Drinking Water

Sampling by : Test Tech Co., Ltd.

Sampling Method : Grab

Sampling Date : 16/03/2022

Sampling Time : 02:00 PM

Received Date : 17/03/2022

Analytical Date : 17 - 23/03/2022

Report Date : 25/03/2022

Report No. : R06417/65

Parameters	Unit	Method	TW05747 /65	TW05748 /65	TW05749 /65	Standard ^a
			Drinking Water (Canteen)	Drinking Water (Oasis Kitchen)	Drinking Water (Guest Room 401)	
pH (25°C) [#]	-	Based on SM 2017 (4500-H ⁺ B)	7.7	7.7	7.6	6.5-8.5
Turbidity [#]	NTU	SM 2017 (2130 B)	0.76	0.89	0.96	≤ 5.0
Conductivity [#]	umhos/cm	SM 2017 (2510 B)	285	288	286	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	171	173	172	-
Total Hardness [@]	mg/L as CaCO ₃	SM 2017 (2340 C)	67	66	70	≤ 100.0
Chloride [@]	mg/L as Cl ⁻	SM 2017 (4500-Cl ⁻ B)	28	28	28	≤ 250.0
Total Iron [#]	mg/L as Fe	SM 2017 (3500-Fe B)	< 0.10	< 0.10	0.10	≤ 0.3
Manganese [#]	mg/L	SM 2017 (3500-Mn B)	0.04	0.04	< 0.04	≤ 0.05
Nitrate Nitrogen [#]	mg/L as NO ₃ ⁻ -N	SM 2017 (4500-NO ₃ ⁻ E)	0.70	0.82	0.77	≤ 4.0
Sulfate [#]	mg/L as SO ₄ ²⁻	Based on SM 2017 (4500-SO ₄ ²⁻ E)	36.42	37.62	37.93	≤ 250.0
Sample Condition		Observation	Clear	Clear	Clear	

- Remark :
1. SM 2017 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd 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))



Miss KANKAMON KHAYA

Analyst

25/03/2022

Miss ORASA YUBUA

Technical Manager

25/03/2022

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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 : 16/03/2022

Sampling Time : 02:00 PM

Received Date : 17/03/2022

Analytical Date : 17 - 23/03/2022

Report Date : 25/03/2022

Report No. : R06418/65

Parameters	Unit	Method	TW05747 /65	TW05748 /65	TW05749 /65	Standard ^a
			Drinking Water (Canteen)	Drinking Water (Oasis Kitchen)	Drinking Water (Guest Room 401)	
Coliform Bacteria	MPN/100 mL	SM 2017 (9221 B)	5.1	3.6	2.2	< 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, 23rd 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))



Miss NISACHOL EUNGKLIENG

Analyst

25/03/2022

Miss SIRIWAN HUSAWONG

Deputy Technical Manager

25/03/2022

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 : 16/03/2022

Sampling Time : 02:00 PM

Received Date : 17/03/2022

Analytical Date : 17 - 23/03/2022

Report Date : 24/03/2022

Report No. : R06339/65

Parameters	Unit	Method	TW05750 /65	TW05751 /65	Standard ^a
			Main Pool	Lab Pool	
pH (25°C)	-	Based on SM 2017 (4500-H ⁺ B)	7.3	7.2	7.2-8.4
Residual Chlorine	mg/L as Cl ₂	DPD Colorimetric	1.00	1.02	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, 23rd ed., 2017

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



Miss KANKAMON KHAYA

Analyst

24/03/2022

Miss ORASA YUBUA

Technical Manager

24/03/2022

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 : 16/03/2022

Sampling Time : 02:00 PM

Received Date : 17/03/2022

Analytical Date : 17 - 23/03/2022

Report Date : 24/03/2022

Report No. : R06340/65

Parameters	Unit	Method	TW05750 /65	TW05751 /65	Standard ^a
			Main Pool	Lab Pool	
Coliform Bacteria	MPN/100 mL	SM 2017 (9221 B)	9.2×10^2	< 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, 23rd 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

24/03/2022

Deputy Technical Manager

24/03/2022

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 : 16/03/2022

Sampling Time : 02:00 PM

Received Date : 17/03/2022

Analytical Date : 17 - 23/03/2022

Report Date : 24/03/2022

Report No. : R06341/65

Parameters	Unit	Method	TW05752 /65	TW05753 /65	Standard ^a
			Lazy Pool	18 th Flr Pool	
pH (25°C)	-	Based on SM 2017 (4500-H ⁺ B)	7.3	7.2	7.2-8.4
Residual Chlorine	mg/L as Cl ₂	DPD Colorimetric	1.03	1.00	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, 23rd ed., 2017

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



24/03/2022

24/03/2022

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 : 16/03/2022

Sampling Time : 02:00 PM

Received Date : 17/03/2022

Analytical Date : 17 - 23/03/2022

Report Date : 24/03/2022

Report No. : R06342/65

Parameters	Unit	Method	TW05752 /65	TW05753 /65	Standard ^a
			Lazy Pool	18 th 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, 23rd ed., 2017

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

Miss

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 : 16/03/2022

Sampling Time : 02:00 PM

Received Date : 17/03/2022

Analytical Date : 17 - 21/03/2022

Report Date : 23/03/2022

Report No. : R06239/65

Parameters	Unit	Method	TW05754 /65	TW05755 /65	Standard ^a
			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, 23rd 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))

23/03/2022

23/03/2022

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 : 16/03/2022

Sampling Time : 02:00 PM

Received Date : 17/03/2022

Analytical Date : 17 - 21/03/2022

Report Date : 23/03/2022

Report No. : R06240/65

Parameters	Unit	Method	TW05756 /65	TW05757 /65	Standard ^a
			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, 23rd 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))

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 : Waste Water

Sampling by : Test Tech Co., Ltd.

Sampling Method : Grab

Sampling Date : 16/03/2022

Sampling Time : 02:00 PM

Received Date : 17/03/2022

Analytical Date : 17 - 23/03/2022

Report Date : 24/03/2022

Report No. : R06343/65

Parameters	Unit	Method	TW05758 /65	Standard ^a
			Effluent	
pH	-	SM 2017 (4500-H ⁺ B)	7.4	-
BOD	mg/L	SM 2017 (5210 B, 4500-O C)	161	≤ 1000
Total Suspended Solids	mg/L	SM 2017 (2540 D)	56	-
Oil & Grease	mg/L	SM 2017 (5520 D)	43.5	-
Sample Condition		Observation	Light Yellow, Cloud	

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

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

Reported results refer to the sample as received only.

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

เดือนเมษายน พ.ศ. 2565





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 : 07/04/2022

Sampling Time : 10:40 AM

Received Date : 07/04/2022

Analytical Date : 07 - 19/04/2022

Report Date : 21/04/2022

Report No. : R08123/65

Parameters	Unit	Method	TW07376 /65	TW07377 /65	TW07378 /65	Standard ^a
			Water in Storage Tank	Soft Water System (Main Point)	Hot Water System (Main Point)	
pH (25°C) [#]	-	Based on SM 2017 (4500-H ⁺ B)	7.6	7.2	7.7	6.5-8.5
Turbidity [#]	NTU	SM 2017 (2130 B)	< 0.50	3.52	0.83	5
Conductivity [#]	umhos/cm	SM 2017 (2510 B)	398	444	411	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	239	266	247	1000
Total Hardness [@]	mg/L as CaCO ₃	SM 2017 (2340 C)	94	108	97	300
Chloride [@]	mg/L as Cl ⁻	SM 2017 (4500-Cl ⁻ B)	44	44	44	250
Total Iron [#]	mg/L as Fe	SM 2017 (3500-Fe B)	< 0.10	0.26	0.11	0.3
Manganese [#]	mg/L	SM 2017 (3500-Mn B)	0.04	0.05	< 0.04	0.1
Nitrate [#]	mg/L as NO ₃ ⁻	SM 2017 (4500-NO ₃ ⁻ E)	4.97	7.80	8.13	50
Sulfate [#]	mg/L as SO ₄ ²⁻	Based on SM 2017 (4500-SO ₄ ²⁻ E)	48.01	45.75	48.46	250
Sample Condition		Observation	Clear	Clear	Clear	

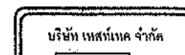
Remark : 1. SM 2017 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017

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.





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 : 07/04/2022

Sampling Time : 10:40 AM

Received Date : 07/04/2022

Analytical Date : 07 - 19/04/2022

Report Date : 21/04/2022

Report No. : R08124/65

Parameters	Unit	Method	TW07376 /65	TW07377 /65	TW07378 /65	Standard ^a
			Water in Storage Tank	Soft Water System (Main Point)	Hot Water System (Main Point)	
Coliform Bacteria	MPN/100 mL	SM 2017 (9221 B)	23	6.9	<1.1	not found
<i>E. coli</i>	MPN/100 mL	SM 2017 (9221 F, MPN)	9.2			not found
<i>E. coli</i>	/100 mL	SM 2017 (9221 F, Detection)		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, 23rd 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

บริษัท เทสท์ เทค จำกัด

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 : 07/04/2022

Sampling Time : 10:40 AM

Received Date : 07/04/2022

Analytical Date : 07 - 19/04/2022

Report Date : 21/04/2022

Report No. : R08125/65

Parameters	Unit	Method	TW07379 /65	TW07380 /65	Standard ^a
			Guest Room Cold Water (North A 501)	Guest Room Cold Water (South A 527)	
pH (25°C) [#]	-	Based on SM 2017 (4500-H ⁺ B)	7.4	7.5	6.5-8.5
Turbidity [#]	NTU	SM 2017 (2130 B)	0.66	< 0.50	5
Conductivity [#]	umhos/cm	SM 2017 (2510 B)	393	393	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	236	236	1000
Total Hardness [@]	mg/L as CaCO ₃	SM 2017 (2340 C)	88	86	300
Chloride [@]	mg/L as Cl ⁻	SM 2017 (4500-Cl ⁻ B)	42	42	250
Total Iron [#]	mg/L as Fe	SM 2017 (3500-Fe B)	< 0.10	< 0.10	0.3
Manganese [#]	mg/L	SM 2017 (3500-Mn B)	< 0.04	< 0.04	0.1
Nitrate [#]	mg/L as NO ₃ ⁻	SM 2017 (4500-NO ₃ ⁻ E)	4.92	5.11	50
Sulfate [#]	mg/L as SO ₄ ²⁻	Based on SM 2017 (4500-SO ₄ ²⁻ E)	46.05	45.45	250
Sample Condition		Observation	Clear	Clear	

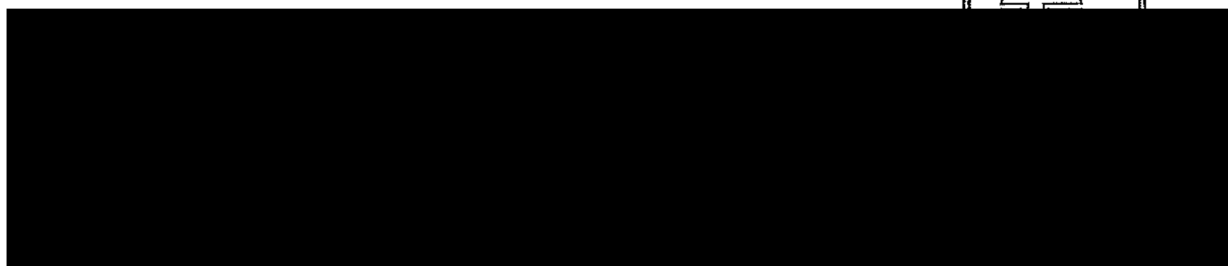
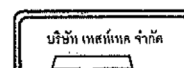
Remark : 1. SM 2017 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017

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.



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 : 07/04/2022

Sampling Time : 10:40 AM

Received Date : 07/04/2022

Analytical Date : 07 - 19/04/2022

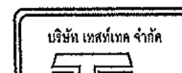
Report Date : 21/04/2022

Report No. : R08126/65

Parameters	Unit	Method	TW07379 /65	TW07380 /65	Standard ^a
			Guest Room Cold Water (North A 501)	Guest Room Cold Water (South A 527)	
Coliform Bacteria	MPN/100 mL	SM 2017 (9221 B)	> 23	> 23	not found
<i>E. coli</i>	MPN/100 mL	SM 2017 (9221 F, MPN)	9.2	5.1	not found
Sample Condition		Observation	Clear	Clear	

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

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



Analyst

21/04/2022

Deputy Technical Manager

21/04/2022

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 : 07/04/2022

Sampling Time : 10:40 AM

Received Date : 07/04/2022

Analytical Date : 07 - 19/04/2022

Report Date : 21/04/2022

Report No. : R08127/65

Parameters	Unit	Method	TW07381 /65	TW07382 /65	Standard ^a
			Guest Room Hot Water (North A 501)	Guest Room Hot Water (South A 527)	
pH (25°C) [#]	-	Based on SM 2017 (4500-H ⁺ B)	7.5	7.5	6.5-8.5
Turbidity [#]	NTU	SM 2017 (2130 B)	0.78	0.88	5
Conductivity [#]	umhos/cm	SM 2017 (2510 B)	411	411	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	247	247	1000
Total Hardness [@]	mg/L as CaCO ₃	SM 2017 (2340 C)	92	92	300
Chloride [@]	mg/L as Cl ⁻	SM 2017 (4500-Cl ⁻ B)	42	42	250
Total Iron [#]	mg/L as Fe	SM 2017 (3500-Fe B)	0.14	0.10	0.3
Manganese [#]	mg/L	SM 2017 (3500-Mn B)	<0.04	0.04	0.1
Nitrate [#]	mg/L as NO ₃ ⁻	SM 2017 (4500-NO ₃ ⁻ E)	7.68	7.57	50
Sulfate [#]	mg/L as SO ₄ ²⁻	Based on SM 2017 (4500-SO ₄ ²⁻ E)	48.76	49.06	250
Sample Condition		Observation	Clear	Clear	

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



Miss Jitra Limsuebpong

Deputy Technical Manager

21/04/2022

Miss Orasa Tubua

Technical Manager

21/04/2022

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 : 07/04/2022

Sampling Time : 10:40 AM

Received Date : 07/04/2022

Analytical Date : 07 - 19/04/2022

Report Date : 21/04/2022

Report No. : R08128/65

Parameters	Unit	Method	TW07381 /65	TW07382 /65	Standard ^a
			Guest Room Hot Water (North A 501)	Guest Room Hot Water (South A 527)	
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, 23rd 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

บริษัท เทสท์ เทค จำกัด

Analyst

21/04/2022

Deputy Technical Manager

21/04/2022

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 : 07/04/2022

Sampling Time : 10:40 AM

Received Date : 07/04/2022

Analytical Date : 07 - 19/04/2022

Report Date : 21/04/2022

Report No. : R08129/65

Parameters	Unit	Method	TW07383 /65	Standard ^a (Cooling Water)
			Cooling Water	
pH (25°C) [#]	-	Based on SM 2017 (4500-H ⁺ B)	8.7	8.5 - 9.5
Conductivity [#]	umhos/cm	SM 2017 (2510 B)	4820	< 2500
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	2892	< 2000
* P-Alkalinity	mg/L as CaCO ₃	Titration	20	-
* M-Alkalinity	mg/L as CaCO ₃	Titration	245	-
Total Hardness [@]	mg/L as CaCO ₃	SM 2017 (2340 C)	970	< 100
Chloride [@]	mg/L as Cl ⁻	SM 2017 (4500-Cl ⁻ B)	900	< 400
Total Iron [#]	mg/L as Fe	SM 2017 (3500-Fe B)	< 0.10	< 1.0
Manganese [#]	mg/L	SM 2017 (3500-Mn B)	< 0.04	-
* Sulfate	mg/L as SO ₄ ²⁻	Based on SM 2017 (4500-SO ₄ ²⁻ E)	970	-
* Silica	mg/L as SiO ₂	SM 2017 (4500-SiO ₂ C)	94.03	-
* Total Phosphorus	mg/L as P	Stannous Chloride	0.09	-
Sample Condition		Observation	Light Yellow, Clear	

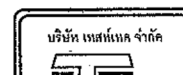
Remark : 1. SM 2017 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017

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



Miss JITRA LIMSUEBPONG

Deputy Technical Manager

21/04/2022

Miss ORASA YUBUA

Technical Manager

21/04/2022

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 : 07/04/2022

Sampling Time : 10:40 AM

Received Date : 07/04/2022

Analytical Date : 07 - 19/04/2022

Report Date : 21/04/2022

Report No. : R08130/65

Parameters	Unit	Method	TW07383 /65
			Cooling Water
<i>Legionella spp.</i>	CFU/L	ISO 11731 : 2017	not detected
Sample Condition		Observation	Light Yellow, Clear

Miss NISACHOL EUNGKLIENG

Analyst

21/04/2022

Miss SRIWAN HUSAWONG

Deputy Technical Manager

21/04/2022

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 : 07/04/2022

Sampling Time : 10:40 AM

Received Date : 07/04/2022

Analytical Date : 07 - 19/04/2022

Report Date : 21/04/2022

Report No. : R08131/65

Parameters	Unit	Method	TW07384 /65	Standard ^a (Chilled Water)
			Chilled Water	
* pH (25°C)	-	Based on SM 2017 (4500-H ⁺ B)	10.3	7.5 - 9.5
Conductivity [#]	umhos/cm	SM 2017 (2510 B)	701	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	421	-
* P-Alkalinity	mg/L as CaCO ₃	Titration	90	-
* M-Alkalinity	mg/L as CaCO ₃	Titration	155	-
* Total Hardness	mg/L as CaCO ₃	SM 2017 (2340 C)	8	-
Chloride [@]	mg/L as Cl ⁻	SM 2017 (4500-Cl ⁻ B)	34	-
* Total Iron	mg/L as Fe	SM 2017 (3500-Fe B)	9.07	< 1.0
Manganese [#]	mg/L	SM 2017 (3500-Mn B)	0.11	-
Sulfate [#]	mg/L as SO ₄ ²⁻	Based on SM 2017 (4500-SO ₄ ²⁻ E)	34.31	-
Silica [#]	mg/L as SiO ₂	SM 2017 (4500-SiO ₂ C)	2.45	-
* Nitrite	mg/L as NO ₂ ⁻	SM 2017 (4500-NO ₂ ⁻ B)	67.51	500 - 1000
Sample Condition		Observation	Light Yellow, Particles	

Remark : 1. SM 2017 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd 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)



Miss JITRA LIMSUEBPONG

Deputy Technical Manager

21/04/2022

Miss ORASA YUBUA

Technical Manager

21/04/2022

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 : 07/04/2022

Sampling Time : 10:40 AM

Received Date : 07/04/2022

Analytical Date : 07 - 19/04/2022

Report Date : 21/04/2022

Report No. : R08132/65

Parameters	Unit	Method	TW07385 /65	TW07386 /65	TW07387 /65	Standard ^a
			Drinking Water (Canteen)	Drinking Water (Oasis Kitchen)	Drinking Water (Guest Room 501)	
pH (25°C) [#]	-	Based on SM 2017 (4500-H ⁺ B)	6.5	7.5	7.5	6.5-8.5
Turbidity [#]	NTU	SM 2017 (2130 B)	< 0.50	< 0.50	< 0.50	≤ 5.0
Conductivity [#]	umhos/cm	SM 2017 (2510 B)	435	435	436	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	261	261	262	-
Total Hardness [@]	mg/L as CaCO ₃	SM 2017 (2340 C)	96	94	94	≤ 100.0
Chloride [@]	mg/L as Cl ⁻	SM 2017 (4500-Cl ⁻ B)	40	42	42	≤ 250.0
Total Iron [#]	mg/L as Fe	SM 2017 (3500-Fe B)	< 0.10	< 0.10	< 0.10	≤ 0.3
Manganese [#]	mg/L	SM 2017 (3500-Mn B)	< 0.04	< 0.04	< 0.04	≤ 0.05
Nitrate Nitrogen [#]	mg/L as NO ₃ -N	SM 2017 (4500-NO ₃ -E)	1.85	1.98	1.92	≤ 4.0
Sulfate [#]	mg/L as SO ₄ ²⁻	Based on SM 2017 (4500-SO ₄ ²⁻ E)	47.56	48.46	48.76	≤ 250.0
Sample Condition	Observation		Clear	Clear	Clear	

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

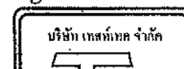
2. Test marked "# " on this report are Accredited International Standard ISO/IEC 17025 by BLA-DSS.

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))



Miss JITRA LIMSUEBPONG

Deputy Technical Manager

21/04/2022

Miss ORASA YUBUA

Technical Manager

21/04/2022

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 : 07/04/2022

Sampling Time : 10:40 AM

Received Date : 07/04/2022

Analytical Date : 07 - 19/04/2022

Report Date : 21/04/2022

Report No. : R08133/65

Parameters	Unit	Method	TW07385 /65	TW07386 /65	TW07387 /65	Standard ^a
			Drinking Water (Canteen)	Drinking Water (Oasis Kitchen)	Drinking Water (Guest Room 501)	
Coliform Bacteria	MPN/100 mL	SM 2017 (9221 B)	< 1.1	6.9	5.1	< 2.2
<i>E. coli</i>	MPN/100 mL	SM 2017 (9221 F, MPN)			3.6	negative
<i>E. coli</i>	/100 mL	SM 2017 (9221 F, Detection)	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, 23rd 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))

Miss NISACHOL EUNGKLIENG

Analyst

21/04/2022

Miss SIRIWAN HUSAWONG

Deputy Technical Manager

21/04/2022

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 : 07/04/2022

Sampling Time : 10:40 AM

Received Date : 07/04/2022

Analytical Date : 07 - 11/04/2022

Report Date : 12/04/2022

Report No. : R07576/65

Parameters	Unit	Method	TW07388 /65	TW07389 /65	Standard ^a
			Main Pool	Lab Pool	
pH (25°C)	-	Based on SM 2017 (4500-H ⁺ B)	7.4	7.3	7.2-8.4
Residual Chlorine	mg/L as Cl ₂	DPD Colorimetric	1.00	1.00	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, 23rd ed., 2017
 2. a : Bangkok Metropolitan Administration published in the Royal Government Gazette, Vol.104 ,Part 205, dated October 14, B.E.2530 (1987)

บริษัท เทสท์ เทค จำกัด

Miss JITRA LIMSUEBPONG

Deputy Technical Manager

12/04/2022

Miss ORASA YUBUA

Technical Manager

12/04/2022

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 : 07/04/2022

Sampling Time : 10:40 AM

Received Date : 07/04/2022

Analytical Date : 07 - 11/04/2022

Report Date : 12/04/2022

Report No. : R07577/65

Parameters	Unit	Method	TW07388 /65	TW07389 /65	Standard ^a
			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, 23rd ed., 2017

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

Miss

Analyst

12/04/2022

Deputy Technical Manager

12/04/2022

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 : 07/04/2022

Sampling Time : 10:40 AM

Received Date : 07/04/2022

Analytical Date : 07 - 11/04/2022

Report Date : 12/04/2022

Report No. : R07578/65

Parameters	Unit	Method	TW07390 /65	TW07391 /65	Standard ^a
			Lazy Pool	18 th Flr Pool	
pH (25°C)	-	Based on SM 2017 (4500-H ⁺ B)	7.3	7.4	7.2-8.4
Residual Chlorine	mg/L as Cl ₂	DPD Colorimetric	0.99	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, 23rd ed., 2017

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

Miss JITRA LIMSUEBPONG

Deputy Technical Manager

12/04/2022

Miss ORASA YUBUA

Technical Manager

12/04/2022

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 : Swimming Water

Sampling by : Test Tech Co., Ltd.

Sampling Method : Grab

Sampling Date : 07/04/2022

Sampling Time : 10:40 AM

Received Date : 07/04/2022

Analytical Date : 07 - 11/04/2022

Report Date : 12/04/2022

Report No. : R07579/65

Parameters	Unit	Method	TW07390 /65	TW07391 /65	Standard ^a
			Lazy Pool	18 th 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, 23rd ed., 2017

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

Miss NISACHOL EUNGKLIENG

Analyst

12/04/2022

Miss SIRIWAN HUSAWONG

Deputy Technical Manager

12/04/2022

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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 : 07/04/2022

Sampling Time : 10:40 AM

Received Date : 07/04/2022

Analytical Date : 07 - 11/04/2022

Report Date : 12/04/2022

Report No. : R07580/65

Parameters	Unit	Method	TW07392 /65	TW07393 /65	Standard ^a
			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, 23rd 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))

Miss NISACHOL EUNGKLIENG

Analyst

12/04/2022

Miss SRIWAN HUSAWONG

Deputy Technical Manager

12/04/2022

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 : 07/04/2022

Sampling Time : 10:40 AM

Received Date : 07/04/2022

Analytical Date : 07 - 11/04/2022

Report Date : 12/04/2022

Report No. : R07581/65

Parameters	Unit	Method	TW07394 /65	TW07395 /65	Standard ^a
			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, 23rd 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))

Miss NISACHOL EUNGKLIENG

Analyst

12/04/2022

Miss SRIWAN HUSAWONG

Deputy Technical Manager

12/04/2022

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 : 07/04/2022

Sampling Time : 10:40 AM

Received Date : 07/04/2022

Analytical Date : 07 - 18/04/2022

Report Date : 19/04/2022

Report No. : R07792/65

Parameters	Unit	Method	TW07396 /65	Standard ^a
			Effluent	
pH	-	SM 2017 (4500-H ⁺ B)	7.3	-
BOD	mg/L	SM 2017 (5210 B, 4500-O C)	200	≤ 1000
Total Suspended Solids	mg/L	SM 2017 (2540 D)	98	-
* Oil & Grease	mg/L	SM 2017 (5520 D)	69.3	-
Sample Condition		Observation	Light Yellow, Cloud	

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

บริษัท เทสท์ เทค จำกัด

Miss SOPITTHA JAIDEECHEY

Analyst

19/04/2022

Miss ORASA YUBUA

Technical Manager

19/04/2022

Reported results refer to the sample as received only.

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

เดือนพฤษภาคม พ.ศ. 2565



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 : 12/05/2022

Sampling Time : 10:00 AM

Received Date : 12/05/2022

Analytical Date : 12 - 24/05/2022

Report Date : 25/05/2022

Report No. : R10737/65

Parameters	Unit	Method	TW09772 /65	TW09773 /65	TW09774 /65	TW09775 /65
			Point 1 A1	Point 2 A1	Point 3 A2	Point 4 A2
			Head	Head	Head	Head
			Shower	Shower	Shower	Shower
			Room (1427)	Room (1428)	Room (1242)	Room (1243)
Legionella spp.	CFU/L	ISO 11731 : 2017	not detected	not detected	not detected	not detected
Sample Condition		Observation	Clear	Clear	Clear	Clear



Miss NISACHOL EUNGKLIENG

Analyst

25/05/2022

Miss SIRWAN HUSAWONG

Deputy Technical Manager

25/05/2022

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 : 12/05/2022

Sampling Time : 10:00 AM

Received Date : 12/05/2022

Analytical Date : 12 - 24/05/2022

Report Date : 25/05/2022

Report No. : R10738/65

Parameters	Unit	Method	TW09776 /65	TW09777 /65	TW09778 /65	TW09779 /65
			Point 5 A1 Condensate from FCU Room (1427)	Point 6 A1 Condensate from FCU Room (1428)	Point 7 A2 Condensate from FCU Room (1242)	Point 8 A2 Condensate from FCU Room (1243)
<i>Legionella spp.</i>	CFU/L	ISO 11731 : 2017	not detected	not detected	not detected	not detected
Sample Condition	Observation		Clear	Clear	Clear	Clear

E. Nisachol

Miss NISACHOL EUNGKLIENG

Analyst

25/05/2022


 Miss SRIWAN HUSAWONG

Deputy Technical Manager

25/05/2022

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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 : 12/05/2022

Sampling Time : 10:00 AM

Received Date : 12/05/2022

Analytical Date : 12 - 24/05/2022

Report Date : 25/05/2022

Report No. : R10739/65

Parameters	Unit	Method	TW09780 /65	TW09781 /65	TW09782 /65	TW09783 /65
			Point 9 Lazy River	Point 10 Main Pool	Point 11 Lab Pool	Point 12 Water in Storage Tank
<i>Legionella spp.</i>	CFU/L	ISO 11731 : 2017	not detected	not detected	not detected	not detected
Sample Condition			Clear	Clear	Clear	Clear

Mis

Analyst

25/05/2022

Deputy Technical Manager

25/05/2022

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 : 12/05/2022

Sampling Time : 10:00 AM

Received Date : 12/05/2022

Analytical Date : 12 - 24/05/2022

Report Date : 25/05/2022

Report No. : R10740/65

Parameters	Unit	Method	TW09784 /65	TW09785 /65	TW09786 /65
			Point 13 Jacuzzi (Finess (F))	Point 14 Fitness (Locker (F))	Point 18 Restaurant (Banquet)
<i>Legionella spp.</i>	CFU/L	ISO 11731 : 2017	not detected	not detected	not detected
Sample Condition		Observation	Clear	Clear	Clear

บริษัท เทสท์ เทค จำกัด

M

Analyst

Deputy Technical Manager

25/05/2022

25/05/2022

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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 : Drinking Water

Sampling by : Test Tech Co., Ltd.

Sampling Method : Grab

Sampling Date : 12/05/2022

Sampling Time : 10:00 AM

Received Date : 12/05/2022

Analytical Date : 12 - 24/05/2022

Report Date : 25/05/2022

Report No. : R10741/65

Parameters	Unit	Method	TW09787 /65
			Point 16 Drinking Water (Banquet)
<i>Legionella spp.</i>	CFU/L	ISO 11731 : 2017	not detected
Sample Condition		Observation	Clear

Mi

Analyst

25/05/2022

Deputy Technical Manager

25/05/2022

Reported results refer to the sample as received only.

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

เดือนมิถุนายน พ.ศ. 2565





Accreditation No. 1201/54

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 : 16/06/2022

Sampling Time : 10:30 AM

Received Date : 16/06/2022

Analytical Date : 16 - 28/06/2022

Report Date : 29/06/2022

Report No. : R13731/65

Parameters	Unit	Method	TW12567 /65	TW12568 /65	TW12569 /65	Standard ^a
			Water in Storage Tank	Soft Water System (Main Point)	Hot Water System (Main Point)	
pH (25°C) [#]	-	Based on SM 2017 (4500-H ⁺ B)	7.7	7.4	7.6	6.5-8.5
Turbidity [#]	NTU	SM 2017 (2130 B)	< 0.50	1.34	0.56	5
Conductivity [#]	uS/cm	SM 2017 (2510 B)	405	424	418	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	243	254	251	1000
Total Hardness [@]	mg/L as CaCO ₃	SM 2017 (2340 C)	84	88	90	300
Chloride [@]	mg/L as Cl ⁻	SM 2017 (4500-Cl ⁻ B)	54	58	54	250
Total Iron [#]	mg/L as Fe	SM 2017 (3500-Fe B)	< 0.10	< 0.10	< 0.10	0.3
Manganese [#]	mg/L	SM 2017 (3500-Mn B)	0.04	< 0.04	< 0.04	0.1
Nitrate [#]	mg/L as NO ₃ ⁻	SM 2017 (4500-NO ₃ ⁻ E)	3.43	3.99	4.56	50
Sulfate [#]	mg/L as SO ₄ ²⁻	Based on SM 2017 (4500-SO ₄ ²⁻ E)	38.83	40.94	40.33	250
Sample Condition		Observation	Clear	Clear	Clear	

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

29/06/2022

Laboratory Management

29/06/2022

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 : 16/06/2022

Sampling Time : 10:30 AM

Received Date : 16/06/2022

Analytical Date : 16 - 28/06/2022

Report Date : 29/06/2022

Report No. : R13732/65

Parameters	Unit	Method	TW12567 /65	TW12568 /65	TW12569 /65	Standard ^a
			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
<i>E. coli</i>	/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, 23rd 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

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Analyst

29/06/2022

Deputy Technical Manager

29/06/2022

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 : 16/06/2022

Sampling Time : 10:30 AM

Received Date : 16/06/2022

Analytical Date : 16 - 28/06/2022

Report Date : 29/06/2022

Report No. : R13733/65

Parameters	Unit	Method	TW12570 /65	TW12571 /65	Standard ^a
			Guest Room Cold Water (North A 713)	Guest Room Cold Water (South A 720)	
pH (25°C) [#]	-	Based on SM 2017 (4500-H ⁺ B)	7.6	7.6	6.5-8.5
Turbidity [#]	NTU	SM 2017 (2130 B)	< 0.50	< 0.50	5
Conductivity [#]	uS/cm	SM 2017 (2510 B)	418	418	-
Dissolved Solids [*]	mg/L as NaCl	Electrical Conductivity	251	251	1000
Total Hardness [@]	mg/L as CaCO ₃	SM 2017 (2340 C)	90	90	300
Chloride [@]	mg/L as Cl ⁻	SM 2017 (4500-Cl ⁻ B)	50	50	250
Total Iron [#]	mg/L as Fe	SM 2017 (3500-Fe B)	< 0.10	< 0.10	0.3
Manganese [#]	mg/L	SM 2017 (3500-Mn B)	< 0.04	< 0.04	0.1
Nitrate [#]	mg/L as NO ₃ ⁻	SM 2017 (4500-NO ₃ ⁻ E)	4.68	5.24	50
Sulfate [#]	mg/L as SO ₄ ²⁻	Based on SM 2017 (4500-SO ₄ ²⁻ E)	37.93	41.84	250
Sample Condition		Observation	Clear	Clear	

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

29/06/2022

Laboratory Management

29/06/2022

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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 : 16/06/2022

Sampling Time : 10:30 AM

Received Date : 16/06/2022

Analytical Date : 16 - 28/06/2022

Report Date : 29/06/2022

Report No. : R13734/65

Parameters	Unit	Method	TW12570 /65	TW12571 /65	Standard ^a
			Guest Room Cold Water (North A 713)	Guest Room Cold Water (South A 720)	
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, 23rd 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



29/06/2022

29/06/2022

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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 : 16/06/2022

Sampling Time : 10:30 AM

Received Date : 16/06/2022

Analytical Date : 16 - 28/06/2022

Report Date : 29/06/2022

Report No. : R13735/65

Parameters	Unit	Method	TW12572 /65	TW12573 /65	Standard ^a
			Guest Room Hot Water (North A 713)	Guest Room Hot Water (South A 720)	
pH (25°C) [#]	-	Based on SM 2017 (4500-H ⁺ B)	8.1	7.7	6.5-8.5
Turbidity [#]	NTU	SM 2017 (2130 B)	< 0.50	< 0.50	5
Conductivity [#]	uS/cm	SM 2017 (2510 B)	420	418	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	252	251	1000
Total Hardness [@]	mg/L as CaCO ₃	SM 2017 (2340 C)	92	92	300
Chloride [@]	mg/L as Cl ⁻	SM 2017 (4500-Cl ⁻ B)	52	51	250
Total Iron [#]	mg/L as Fe	SM 2017 (3500-Fe B)	0.15	< 0.10	0.3
Manganese [#]	mg/L	SM 2017 (3500-Mn B)	0.24	< 0.04	0.1
Nitrate [#]	mg/L as NO ₃ ⁻	SM 2017 (4500-NO ₃ ⁻ E)	5.09	4.56	50
Sulfate [#]	mg/L as SO ₄ ²⁻	Based on SM 2017 (4500-SO ₄ ²⁻ E)	39.73	38.83	250
Sample Condition		Observation	Colorless, a little bit Particles	Clear	

Remark : 1. SM 2017 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd 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-DMSO.

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

29/06/2022

Laboratory Management

29/06/2022

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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 : 16/06/2022

Sampling Time : 10:30 AM

Received Date : 16/06/2022

Analytical Date : 16 - 28/06/2022

Report Date : 29/06/2022

Report No. : R13736/65

Parameters	Unit	Method	TW12572 /65	TW12573 /65	Standard ^a
			Guest Room Hot Water (North A 713)	Guest Room Hot Water (South A 720)	
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	Colorless, a little bit Particles	Clear	

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

29/06/2022

Deputy Technical Manager

29/06/2022

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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 : 16/06/2022

Sampling Time : 10:30 AM

Received Date : 16/06/2022

Analytical Date : 16 - 28/06/2022

Report Date : 29/06/2022

Report No. : R13737/65

Parameters	Unit	Method	TW12574 /65	Standard ^a
			Cooling Water	(Cooling Water)
pH (25°C) [#]	-	Based on SM 2017 (4500-H ⁺ B)	8.8	8.5 - 9.5
Conductivity [#]	uS/cm	SM 2017 (2510 B)	1914	< 2500
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	1148	< 2000
* P-Alkalinity	mg/L as CaCO ₃	Titration	20	-
* M-Alkalinity	mg/L as CaCO ₃	Titration	205	-
Total Hardness [@]	mg/L as CaCO ₃	SM 2017 (2340 C)	375	< 100
Chloride [@]	mg/L as Cl ⁻	SM 2017 (4500-Cl ⁻ B)	310	< 400
Total Iron [#]	mg/L as Fe	SM 2017 (3500-Fe B)	< 0.10	< 1.0
Manganese [#]	mg/L	SM 2017 (3500-Mn B)	< 0.04	-
Sulfate [#]	mg/L as SO ₄ ²⁻	Based on SM 2017 (4500-SO ₄ ²⁻ E)	203	-
* Silica	mg/L as SiO ₂	SM 2017 (4500-SiO ₂ C)	18.99	-
* Total Phosphorus	mg/L as P	Stannous Chloride	0.09	-
Sample Condition		Observation	Light Yellow, a little bit Particles	

- Remark : 1. SM 2017 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd 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

29/06/2022

Laboratory Management

29/06/2022

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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 : 16/06/2022

Sampling Time : 10:30 AM

Received Date : 16/06/2022

Analytical Date : 16 - 28/06/2022

Report Date : 29/06/2022

Report No. : R13738/65

Parameters	Unit	Method	TW12574 /65
			Cooling Water
<i>Legionella spp.</i>	CFU/L	ISO 11731 : 2017	not detected
Sample Condition		Observation	Light Yellow, a little bit Particles



Analyst

29/06/2022

Deputy Technical Manager

29/06/2022

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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)

Sampling by : Test Tech Co., Ltd.

Sampling Date : 16/06/2022

Received Date : 16/06/2022

Report Date : 29/06/2022

Sample Type : Usage Water

Sampling Method : Grab

Sampling Time : 10:30 AM

Analytical Date : 16 - 28/06/2022

Report No. : R13739/65

Parameters	Unit	Method	TW12575 /65	^a Standard
			Chilled Water	(Chilled Water)
* pH (25°C)	-	Based on SM 2017 (4500-H ⁺ B)	10.2	7.5 - 9.5
Conductivity [#]	uS/cm	SM 2017 (2510 B)	961	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	577	-
* P-Alkalinity	mg/L as CaCO ₃	Titration	85	-
* M-Alkalinity	mg/L as CaCO ₃	Titration	200	-
* Total Hardness	mg/L as CaCO ₃	SM 2017 (2340 C)	9	-
Chloride [@]	mg/L as Cl ⁻	SM 2017 (4500-Cl ⁻ B)	44	-
* Total Iron	mg/L as Fe	SM 2017 (3500-Fe B)	2.50	< 1.0
Manganese [#]	mg/L	SM 2017 (3500-Mn B)	0.04	-
Sulfate [#]	mg/L as SO ₄ ²⁻	Based on SM 2017 (4500-SO ₄ ²⁻ E)	32.51	-
Silica [#]	mg/L as SiO ₂	SM 2017 (4500-SiO ₂ C)	0.40	-
* Nitrite	mg/L as NO ₂ ⁻	SM 2017 (4500-NO ₂ ⁻ B)	140	500 - 1000
Sample Condition		Observation	Light Yellow, Brown Particles	

- Remark :
1. SM 2017 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 197
 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 : เกณฑ์ควบคุมคุณภาพน้ำในระบบต่าง ๆ (Chilled Water)



Analyst

29/06/2022

Laboratory Management

29/06/2022

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



Accreditation No. 1201/54

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 : Drinking Water

Sampling by : Test Tech Co., Ltd.

Sampling Method : Grab

Sampling Date : 16/06/2022

Sampling Time : 10:30 AM

Received Date : 16/06/2022

Analytical Date : 16 - 21/06/2022

Report Date : 23/06/2022

Report No. : R13255/65

Parameters	Unit	Method	TW12576 /65	TW12577 /65	TW12578 /65	Standard ^a
			Drinking Water (Canteen)	Drinking Water (Oasis Kitchen)	Drinking Water (Guest Room 720)	
pH (25°C) [#]	-	Based on SM 2017 (4500-H ⁺ B)	7.5	7.4	7.3	6.5-8.5
Turbidity [#]	NTU	SM 2017 (2130 B)	0.52	< 0.50	< 0.50	≤ 5.0
Conductivity [#]	uS/cm	SM 2017 (2510 B)	418	420	417	-
* Dissolved Solids	mg/L as NaCl	Electrical Conductivity	251	252	250	-
Total Hardness [@]	mg/L as CaCO ₃	SM 2017 (2340 C)	86	88	86	≤ 100.0
Chloride [@]	mg/L as Cl ⁻	SM 2017 (4500-Cl ⁻ B)	52	54	52	≤ 250.0
Total Iron [#]	mg/L as Fe	SM 2017 (3500-Fe B)	< 0.10	< 0.10	< 0.10	≤ 0.3
Manganese [#]	mg/L	SM 2017 (3500-Mn B)	< 0.04	< 0.04	< 0.04	≤ 0.05
Nitrate Nitrogen [#]	mg/L as NO ₃ -N	SM 2017 (4500-NO ₃ ⁻ E)	0.98	0.90	0.92	≤ 4.0
Sulfate [#]	mg/L as SO ₄ ²⁻	Based on SM 2017 (4500-SO ₄ ²⁻ E)	37.93	41.54	40.33	≤ 250.0
Sample Condition		Observation	Clear	Clear	Clear	

- Remark :
1. SM 2017 : Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd 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

23/06/2022

Laboratory Management

23/06/2022

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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 : 16/06/2022

Sampling Time : 10:30 AM

Received Date : 16/06/2022

Analytical Date : 16 - 21/06/2022

Report Date : 23/06/2022

Report No. : R13256/65

Parameters	Unit	Method	TW12576 /65	TW12577 /65	TW12578 /65	Standard ^a
			Drinking Water (Canteen)	Drinking Water (Oasis Kitchen)	Drinking Water (Guest Room 720)	
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, 23rd 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

23/06/2022

Deputy Technical Manager

23/06/2022

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 : Swimming Water

Sampling by : Test Tech Co., Ltd.

Sampling Method : Grab

Sampling Date : 16/06/2022

Sampling Time : 10:30 AM

Received Date : 16/06/2022

Analytical Date : 16 - 20/06/2022

Report Date : 21/06/2022

Report No. : R13055/65

Parameters	Unit	Method	TW12579 /65	TW12580 /65	Standard ^a
			Main Pool	Lab Pool	
pH (25°C)	-	Based on SM 2017 (4500-H ⁺ B)	7.3	7.4	7.2-8.4
Residual Chlorine	mg/L as Cl ₂	DPD Colorimetric	0.96	0.94	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, 23rd ed., 2017

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



Miss KANKAMON KHAYA

Analyst

21/06/2022

Miss REWADEE SIRIMONGKOL

Laboratory Management

21/06/2022

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 : 16/06/2022

Sampling Time : 10:30 AM

Received Date : 16/06/2022

Analytical Date : 16 - 20/06/2022

Report Date : 21/06/2022

Report No. : R13056/65

Parameters	Unit	Method	TW12579 /65	TW12580 /65	Standard ^a
			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, 23rd 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

21/06/2022

Deputy Technical Manager

21/06/2022

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 : 16/06/2022

Sampling Time : 10:30 AM

Received Date : 16/06/2022

Analytical Date : 16 - 20/06/2022

Report Date : 21/06/2022

Report No. : R13057/65

Parameters	Unit	Method	TW12581 /65	TW12582 /65	Standard ^a
			Lazy Pool	18 th Flr Pool	
pH (25°C)	-	Based on SM 2017 (4500-H ⁺ B)	7.5	7.4	7.2-8.4
Residual Chlorine	mg/L as Cl ₂	DPD Colorimetric	0.95	0.96	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, 23rd 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
21/06/2022Laboratory Management
21/06/2022

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 : 16/06/2022

Sampling Time : 10:30 AM

Received Date : 16/06/2022

Analytical Date : 16 - 20/06/2022

Report Date : 21/06/2022

Report No. : R13058/65

Parameters	Unit	Method	TW12581 /65	TW12582 /65	Standard ^a
			Lazy Pool	18 th 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, 23rd 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

21/06/2022

Deputy Technical Manager

21/06/2022

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 : 16/06/2022

Sampling Time : 10:30 AM

Received Date : 16/06/2022

Analytical Date : 16 - 20/06/2022

Report Date : 21/06/2022

Report No. : R13059/65

Parameters	Unit	Method	TW12583 /65	TW12584 /65	Standard ^a
			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, 23rd 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

21/06/2022

Deputy Technical Manager

21/06/2022

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 : 16/06/2022

Sampling Time : 10:30 AM

Received Date : 16/06/2022

Analytical Date : 16 - 20/06/2022

Report Date : 21/06/2022

Report No. : R13060/65

Parameters	Unit	Method	TW12585 /65	TW12586 /65	Standard ^a
			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, 23rd 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))

บริษัท เทสท์ เทค จำกัด

Analyst

21/06/2022

Deputy Technical Manager

21/06/2022

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 : Waste Water

Sampling by : Test Tech Co., Ltd.

Sampling Method : Grab

Sampling Date : 16/06/2022

Sampling Time : 10:30 AM

Received Date : 16/06/2022

Analytical Date : 16 - 23/06/2022

Report Date : 24/06/2022

Report No. : R13359/65

Parameters	Unit	Method	TW12587 /65	Standard ^a
			Effluent	
pH	-	SM 2017 (4500-H ⁺ B)	6.9	-
BOD	mg/L	SM 2017 (5210 B, 4500-O C)	148	≤ 1000
Total Suspended Solids	mg/L	SM 2017 (2540 D)	68	-
Oil & Grease	mg/L	SM 2017 (5520 D)	29.6	-
Sample Condition		Observation	Light Yellow, Cloud	

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

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

บริษัท เทสท์ เทค จำกัด

Miss MARISA WISETSANG

Analyst

24/06/2022

Miss REWADEE SIRIMONGKOL

Laboratory Management

24/06/2022

Reported results refer to the sample as received only.

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