

เอกสารแนบ 12
ผลการตรวจวิเคราะห์คุณภาพน้ำทิ้งก่อนการบำบัด
คุณภาพน้ำทิ้งหลังการบำบัด และคุณภาพน้ำที่เข้าและออกหอฟุ้งเย็น

SES-26003/WW

January 16, 2026.

ANALYSIS REPORT

Customer : Bangkok Hospital/HuaHin
Address : 888 Petchkasem Road, HuaHin Sub District, HuaHin District, Prachuapkhirikhan 77110
Sample Type : Wastewater
Sampling Date : January 6, 2026.
Sampling By : SES

Item	Parameter	Unit	Method of Analysis	Result		Standard ⁽¹⁾
				Wastewater Treatment System		
				Influent *	Effluent	
	Sample Description	–	–	yellow turbid	yellow	–
1	pH	–	Electrometric (pH Meter)	6.08	7.21	5.5 - 9.0
2	BOD (Biochemical Oxygen Demand)	mg/L	5 Days BOD test, Azide Modification	297	17	≤20
3	COD (Chemical Oxygen Demand)	mg/L	Close Reflux Titrimetric	–	114	≤120 ⁽²⁾
4	TSS (Total Suspended Solids)	mg/L	Dried at 103-105°C	269	29	≤30
5	TDS (Total Dissolved Solids)	mg/L	Dried at 180°C	–	480	≤1,000
6	Sulfide	mg/L	Iodometric	2.84	<1.0	≤1.0
7	TKN (Total Kjeldahl Nitrogen)	mg/L	Semi Micro Kjeldahl	266.7	33.5	≤35
8	Oil & Grease	mg/L	Liquid-Liquid, Partition-Gravimetric	29.1	3.2	≤20
9	Total Coliform Bacteria	MPN/100ml	Multiple Tube Fermentation Technique	>1.6x10 ⁵	4.9x10 ³	≤5,000
10	Fecal Coliform Bacteria	MPN/100ml	Multiple Tube Fermentation Technique	–	9.3x10 ²	≤1,000
11	Free Chlorine	mg/L	Iodometric Electrode	–	0.02	≤1.0

Method of analysis based on Standard Method for the Examination of Water and Wastewater, APHA, AWWA, WEF 23rd Edition 2017

Standard : ⁽¹⁾ Notification of the Ministry of Natural Resources and Environment; Building (B.E.2567), n Building

: ⁽²⁾ Notification of the Ministry of Natural Resources and Environment (B.E.2559)

Remark : TDS in the effluent is increase from TDS in water supply (TDS in water supply = 100 mg/L)

: * Influent no established standard



Approved

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ANALYST BY : V CARE ENVIRONMENT SERVICES CO.,LTD. (PRIVATE LABORATORY REGISTERED No.210)

SES-26029/WW

February 16, 2026.

ANALYSIS REPORT

Customer : Bangkok Hospital/HuaHin
Address : 888 Petchkasem Road, HuaHin Sub District, HuaHin District, Prachuapkhirikhan 77110
Sample Type : Wastewater
Sampling Date : February 5, 2026.
Sampling By : SES

Item	Parameter	Unit	Method of Analysis	Result		Standard ⁽¹⁾
				Wastewater Treatment System		
				Influent *	Effluent	
	Sample Description	–	–	yellow turbid	yellow	–
1	pH	–	Electrometric (pH Meter)	7.33	7.27	5.5 - 9.0
2	BOD (Biochemical Oxygen Demand)	mg/L	5 Days BOD test, Azide Modification	286	15	≤20
3	COD (Chemical Oxygen Demand)	mg/L	Close Reflux Titrimetric	–	107	≤120 ⁽²⁾
4	TSS (Total Suspended Solids)	mg/L	Dried at 103-105°C	255	25	≤30
5	TDS (Total Dissolved Solids)	mg/L	Dried at 180°C	–	390	≤1,000
6	Sulfide	mg/L	Iodometric	2.71	<1.0	≤1.0
7	TKN (Total Kjeldahl Nitrogen)	mg/L	Semi Micro Kjeldahl	269.6	31.6	≤35
8	Oil & Grease	mg/L	Liquid-Liquid, Partition-Gravimetric	27.2	3.7	≤20
9	Total Coliform Bacteria	MPN/100ml	Multiple Tube Fermentation Technique	>1.6x10 ⁵	4.3x10 ³	≤5,000
10	Fecal Coliform Bacteria	MPN/100ml	Multiple Tube Fermentation Technique	–	8.2x10 ²	≤1,000
11	Free Chlorine	mg/L	Iodometric Electrode	–	0.01	≤1.0

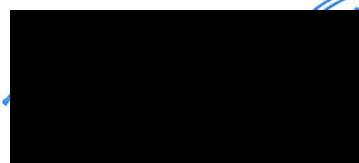
Method of analysis based on Standard Method for the Examination of Water and Wastewater, APHA, AWWA, WEF 23rd Edition 2017

Standard : ⁽¹⁾ Notification of the Ministry of Natural Resources and Environment; Building (B.E.2567), n Building

: ⁽²⁾ Notification of the Ministry of Natural Resources and Environment (B.E.2559)

Remark : TDS in the effluent is increase from TDS in water supply (TDS in water supply = 120 mg/L)

: * Influent no established standard



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ANALYST BY : V CARE ENVIRONMENT SERVICES CO., LTD. (PRIVATE LABORATORY REGISTERED No. 2.210)

SES-26049/WW

March 16, 2026.

ANALYSIS REPORT

Customer : Bangkok Hospital/HuaHin
Address : 888 Petchkasem Road, HuaHin Sub District, HuaHin District, Prachuapkhirikhan 77110
Sample Type : Wastewater
Sampling Date : March 6, 2026.
Sampling By : SES

Item	Parameter	Unit	Method of Analysis	Result		Standard ⁽¹⁾
				Wastewater Treatment System		
				Influent *	Effluent	
	Sample Description	–	–	yellow turbid	yellow	–
1	pH	–	Electrometric (pH Meter)	6.52	6.04	5.5 - 9.0
2	BOD (Biochemical Oxygen Demand)	mg/L	5 Days BOD test, Azide Modification	253	10	≤20
3	COD (Chemical Oxygen Demand)	mg/L	Close Reflux Titrimetric	–	71	≤120 ⁽²⁾
4	TSS (Total Suspended Solids)	mg/l.	Dried at 103-105°C	127	23	≤30
5	TDS (Total Dissolved Solids)	mg/L	Dried at 180°C	–	333	≤1,000
6	Sulfide	mg/L	Iodometric	2.82	<1.0	≤1.0
7	TKN (Total Kjeldahl Nitrogen)	mg/L	Semi Micro Kjeldahl	195.1	10.8	≤35
8	Oil & Grease	mg/L	Liquid-Liquid, Partition-Gravimetric	23.6	2.9	≤20
9	Total Coliform Bacteria	MPN/100ml	Multiple Tube Fermentation Technique	>1.6x10 ⁵	2.2x10 ²	≤5,000
10	Fecal Coliform Bacteria	MPN/100ml	Multiple Tube Fermentation Technique	–	<1.8	≤1,000
11	Free Chlorine	mg/L	Iodometric Electrode	–	0.01	≤1.0

Method of analysis based on Standard Method for the Examination of Water and Wastewater, APHA, AWWA, WEF 23rd Edition 2017

Standard : ⁽¹⁾ Notification of the Ministry of Natural Resources and Environment; Building (B.E.2567), n Building

: ⁽²⁾ Notification of the Ministry of Natural Resources and Environment (B.E.2559)

Remark : TDS in the effluent is increase from TDS in water supply (TDS in water supply = 120 mg/L)

: * Influent no established standard



Approved

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ANALYST BY : V CARE ENVIRONMENT SERVICES CO.,LTD. (PRIVATE LABORATORY REGISTERED No.2.210)

SES-26082/WW

April 17, 2026.

ANALYSIS REPORT

Customer : Bangkok Hospital/HuaHin
Address : 888 Petchkasem Road, HuaHin Sub District, HuaHin District, Prachuapkhirikhan 77110
Sample Type : Wastewater
Sampling Date : April 7, 2026.
Sampling By : SES

Item	Parameter	Unit	Method of Analysis	Result		Standard ⁽¹⁾
				Wastewater Treatment System		
				Influent *	Effluent	
	Sample Description	–	–	brown turbid sediment	yellow	–
1	pH	–	Electrometric (pH Meter)	6.24	6.18	5.5 - 9.0
2	BOD (Biochemical Oxygen Demand)	mg/L	5 Days BOD test, Azide Modification	367	7	≤20
3	COD (Chemical Oxygen Demand)	mg/L	Close Reflux Titrimetric	–	45	≤120 ⁽²⁾
4	TSS (Total Suspended Solids)	mg/L	Dried at 103-105°C	294.6	<10	≤30
5	TDS (Total Dissolved Solids)	mg/L	Dried at 180°C	–	357	≤1,000
6	Sulfide	mg/L	Iodometric	2.91	<1.0	≤1.0
7	TKN (Total Kjeldahl Nitrogen)	mg/L	Semi Micro Kjeldahl	205.3	7.2	≤35
8	Oil & Grease	mg/L	Liquid-Liquid, Partition-Gravimetric	29.8	<3.0	≤20
9	Total Coliform Bacteria	MPN/100ml	Multiple Tube Fermentation Technique	>1.6x10 ⁵	1.4x10 ³	≤5,000
10	Fecal Coliform Bacteria	MPN/100ml	Multiple Tube Fermentation Technique	–	2.4x10 ²	≤1,000
11	Free Chlorine	mg/L	Iodometric Electrode	–	0.01	≤1.0

Method of analysis based on Standard Method for the Examination of Water and Wastewater, APHA, AWWA, WEF 23rd Edition 2017

Standard : ⁽¹⁾ Notification of the Ministry of Natural Resources and Environment; Building (B.E.2567), n Building

: ⁽²⁾ Notification of the Ministry of Natural Resources and Environment (B.E.2559)

Remark : TDS in the effluent is increase from TDS in water supply (TDS in water supply = 120 mg/L)

: * Influent no established standard



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ANALYST BY : V CARE ENVIRONMENT SERVICES CO.,LTD. (PRIVATE LABORATORY REGISTERED No.210)

SES-26100/WW

May 21, 2026.

ANALYSIS REPORT

Customer : Bangkok Hospital/HuaHin
Address : 888 Petchkasem Road, HuaHin Sub District, HuaHin District, Prachuapkhirikhan 77110
Sample Type : Wastewater
Sampling Date : May 14, 2026.
Sampling By : SES

Item	Parameter	Unit	Method of Analysis	Result		Standard ⁽¹⁾
				Wastewater Treatment System		
				Influent *	Effluent	
	Sample Description	–	–	yellow turbid	yellow	–
1	pH	–	Electrometric (pH Meter)	6.08	6.47	5.5 - 9.0
2	BOD (Biochemical Oxygen Demand)	mg/L	5 Days BOD test, Azide Modification	109	4	≤20
3	COD (Chemical Oxygen Demand)	mg/L	Close Reflux Titrimetric	–	30	≤120 ⁽²⁾
4	TSS (Total Suspended Solids)	mg/l.	Dried at 103-105°C	49	<10	≤30
5	TDS (Total Dissolved Solids)	mg/L	Dried at 180°C	–	539	≤1,000
6	Sulfide	mg/L	Iodometric	2.97	<1.0	≤1.0
7	TKN (Total Kjeldahl Nitrogen)	mg/L	Semi Micro Kjeldahl	98.3	6.4	≤35
8	Oil & Grease	mg/L	Liquid-Liquid, Partition-Gravimetric	16.5	<3.0	≤20
9	Total Coliform Bacteria	MPN/100ml	Multiple Tube Fermentation Technique	>1.6x10 ⁵	4.5x10 ²	≤5,000
10	Fecal Coliform Bacteria	MPN/100ml	Multiple Tube Fermentation Technique	–	94	≤1,000
11	Free Chlorine	mg/L	Iodometric Electrode	–	0.11	≤1.0

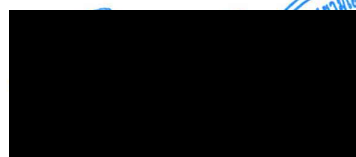
Method of analysis based on Standard Method for the Examination of Water and Wastewater, APHA, AWWA, WEF 23rd Edition 2017

Standard : ⁽¹⁾ Notification of the Ministry of Natural Resources and Environment; Building (B.E.2567), ๓ Building

: ⁽²⁾ Notification of the Ministry of Natural Resources and Environment (B.E.2559)

Remark : TDS in the effluent is increase from TDS in water supply (TDS in water supply = 120 mg/L)

: * Influent no established standard



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ANALYST BY : V CARE ENVIRONMENT SERVICES CO.,LTD. (PRIVATE LABORATORY REGISTERED No.2.210)

SES-26117/WW

June 19, 2026.

ANALYSIS REPORT

Customer : Bangkok Hospital/HuaHin
Address : 888 Petchkasem Road, HuaHin Sub District, HuaHin District, Prachuapkhirikhan 77110
Sample Type : Wastewater
Sampling Date : June 11, 2026.
Sampling By : SES

Item	Parameter	Unit	Method of Analysis	Result		Standard ⁽¹⁾
				Wastewater Treatment System		
				Influent *	Effluent	
	Sample Description	–	–	yellow turbid	yellow	–
1	pH	–	Electrometric (pH Meter)	6.27	6.48	5.5 - 9.0
2	BOD (Biochemical Oxygen Demand)	mg/L	5 Days BOD test, Azide Modification	85.6	12	≤20
3	COD (Chemical Oxygen Demand)	mg/L	Close Reflux Titrimetric	–	79	≤120 ⁽²⁾
4	TSS (Total Suspended Solids)	mg/L	Dried at 103-105°C	52	21	≤30
5	TDS (Total Dissolved Solids)	mg/L	Dried at 180°C	–	578	≤1,000
6	Sulfide	mg/L	Iodometric	1.46	<1.0	≤1.0
7	TKN (Total Kjeldahl Nitrogen)	mg/L	Semi Micro Kjeldahl	9.4	4.9	≤35
8	Oil & Grease	mg/L	Liquid-Liquid, Partition-Gravimetric	17.3	<3.0	≤20
9	Total Coliform Bacteria	MPN/100ml	Multiple Tube Fermentation Technique	>1.6x10 ⁵	2.4x10 ²	≤5,000
10	Fecal Coliform Bacteria	MPN/100ml	Multiple Tube Fermentation Technique	–	<1.8	≤1,000
11	Free Chlorine	mg/L	Iodometric Electrode	–	0.05	≤1.0
12	E.Coli (Escherichia Coli)	MPN/100ml	Multiple Tube Fermentation Technique	–	<1.8	<1,000 ⁽³⁾
13	ไขมันปนเปื้อน	ฟอง/ลิตร	Centrifugal Sedimentation, Formalin-Ethyl Acetate Sedimentation, Flotation	–	Not Found	<1 ⁽³⁾

Method of analysis based on Standard Method for the Examination of Water and Wastewater, APHA, AWWA, WEF 23rd Edition 2017

Standard : ⁽¹⁾ Notification of the Ministry of Natural Resources and Environment; Building (B.E.2567), n Building

: ⁽²⁾ Notification of the Ministry of Natural Resources and Environment (B.E.2559)

: ⁽³⁾ Notification of the Ministry of Public Health (B.E.2561)

Remark : TDS in the effluent is increase from TDS in water supply (TDS in water supply = 100 mg/L)

: * Influent no established standard

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ANALYST BY : V CARE ENVIRONMENT SERVICES CO.,LTD. (PRIVATE LABORATORY REGISTERED No.210)

SES-26029/WS

February 16, 2026.

ANALYSIS REPORT

Customer : Bangkok Hospital/HuaHin
Address : 888 Petchkasem Road, HuaHin Sub District, HuaHin District, Prachuapkhirikhan 77110
Sample Type : Cooling Tower
Sampling Date : February 5, 2026.
Sampling by : SES

Item	Description	Unit	Method	Result	
				Cooling Tower	
				อ่างรองรับน้ำ (น้ำเข้า)	อ่างน้ำทิ้งจากหอผึ่งเย็น (น้ำออก)
	Sample Description	-	-	clear	clear
1	Legionella pneumophila	CFU/1000 ml.	Direct Count	Not-Detected	Not-Detected

Method of analysis based on Standard Method for the Examination of Water and Wastewater, APHA, AWWA, WEF, 23rd Edition 2017

Standard : Notification of the Ministry of Public Health, Department of Health (B.E.2544); Legionella pneumophilla

Remark : Not-Detected = ไม่พบ



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ANALYST BY : V CARE ENVIRONMENT SERVICES CO.,LTD. (PRIVATE LABORATORY REGISTERED No.จ.210)

SES-26100/WS

May 21, 2026.

ANALYSIS REPORT

Customer : Bangkok Hospital/HuaHin
Address : 888 Petchkasem Road, HuaHin Sub District, HuaHin District, Prachuapkhirikhan 77110
Sample Type : Cooling Water
Sampling Date : May 14, 2026.
Sampling by : SES

Item	Description	Unit	Method	Result	
				Cooling Tower	
				อ่างรองรับน้ำ (น้ำเข้า)	อ่างน้ำทิ้งจากหอผึ่งเย็น (น้ำออก)
	Sample Description	-	-	clear	clear
1	Legionella pneumophila	CFU/1000 ml.	Direct Count	Not-Detected	Not-Detected

Method of analysis based on Standard Method for the Examination of Water and Wastewater, APHA, AWWA, WEF 23rd Edition 2017

Standard : Notification of the Ministry of Public Health, Department of Health (B.E.2544); Legionella pneumophilla

Remark : Not-Detected = ไม่พบ



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ANALYST BY : V CARE ENVIRONMENT SERVICES CO.,LTD. (PRIVATE LABORATORY REGISTERED No.จ.210)