

Ref No.: 0303/17008

CERTIFICATE OF TESTING LABORATORY ACCREDITATION

This is to certify that

Laboratory of Water Analysis Center Co., Ltd. 1/94 Moo 5, Tambon Kanharm, Amphoe U-Thai, Changwat Phra Nakhon Si Ayutthaya 13210

has successfully undergone assessment according to ISO/IEC 17025 : 2017 and under the Bureau of Laboratory Accreditation, Department of Science Service for the requirements, regulations and criteria for the competence of testing laboratories

Accreditation Number TESTING - 0029

The scope of accreditation is as annexed hereto

Issue date : 7th November 2022

Expired date : 6th November 2026

Signature

(Mrs. Pochaman Tagheen)

Director of Bureau of Laboratory Accreditation

Bureau of Laboratory Accreditation, Department of Science Service, Ministry of Higher Education, Science, Research and Innovation

Scope of Testing Laboratory Accreditation

: Laboratory of Water Analysis Center Co., Ltd. Laboratory Name

Address 1/94 Moo 5, Tambon Kanharm, Amphoe U-Thai,

Changwat Phra Nakhon Si Ayutthaya 13210

Accreditation Number : Testing - 0029

. **☑** Permanent ☐ Site ☐ Temporary ☐ Mobile Laboratory Status

Item	Test Material /	Test Item /	Test Method /
Number	Product	Range of Testing	Technique Used
1	Bottled drinking water	- Chloride	Standard Methods for the Examination
		6 mg/L to 1 000 mg/L	of Water and Wastewater, APHA,
			AWWA & WEF, 23 rd ed., 2017,
			part 4500-Cl ⁻ B
		- Total hardness	Standard Methods for the Examination
		(Calculated as CaCo ₃)	of Water and Wastewater, APHA,
		5 mg/L to 2 000 mg/L	AWWA & WEF, 23 rd ed., 2017,
			part 2340 C
		- Total solids	Standard Methods for the Examination
		dried at 103 °C to 105 °C	of Water and Wastewater, APHA,
		25 mg/L to 4 000 mg/L	AWWA & WEF, 23 rd ed., 2017,
			part 2540 B

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Scope of Testing Laboratory Accreditation

Laboratory Name : Laboratory of Water Analysis Center Co., Ltd.

Address : 1/94 Moo 5, Tambon Kanharm, Amphoe U-Thai,

Changwat Phra Nakhon Si Ayutthaya 13210

Accreditation Number : Testing - 0029

Laboratory Status Permanent Site Temporary Mobile

Laborato	y Status : 💌 P	ermanent 🚨 Site 🔲 Tem	nporary $igsqcup Mobile$
ltem	Test Material /	Test Item /	Test Method /
Number	Product	Range of Testing	Technique Used
1	Bottled drinking water	- Manganese	Standard Methods for the Examination
(cont.)		0.05 mg/L to 5 mg/L	of Water and Wastewater, APHA,
		- Iron	AWWA & WEF, 23 rd ed., 2017,
		0.10 mg/L to 5 mg/L	part 3111 B, 3030 E
		- Cadmium	Standard Methods for the Examination
		1 μg/L to 5 μg/L	of Water and Wastewater, APHA,
		- Lead	AWWA & WEF, 23 rd ed., 2017,
		10 μg/L to 50 μg/L	part 3113 B, 3030 E
		- pH	In - house method : TM 001
		6.0 to 8.0	based on Standard Methods for the
			Examination of Water and Wastewater,
			APHA, AWWA & WEF, 23 rd ed., 2017,
			part 4500-H [†] B

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Scope of Testing Laboratory Accreditation

Laboratory Name : Laboratory of Water Analysis Center Co., Ltd.

Address 2 1/94 Moo 5, Tambon Kanharm, Amphoe U-Thai,

Changwat Phra Nakhon Si Ayutthaya 13210

Accreditation Number : Testing - 0029

Item	Test Material /	Test Item /	Test Method /
Number	Product	Range of Testing	Technique Used
			`
2	Water	- Cadmium	Standard Methods for the Examination
(cont.)		0.02 mg/L to 0.9 mg/L	of Water and Wastewater, APHA,
		- Copper	AWWA & WEF, 23 rd ed., 2017,
		0.05 mg/L to 5 mg/L	part 3111 B, 3030 E
		- Zinc	
		0.05 mg/L to 5 mg/L	
		- Chromium	
		0.05 mg/L to 5 mg/L	
		- Nickel	
		0.10 mg/L to 4 mg/L	
		- Manganese	
		0.05 mg/L to 5 mg/L	
		- Lead	
		0.10 mg/L to 2 mg/L	
		- Iron	
		0.10 mg/L to 5 mg/L	

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Address : 1/94 Moo 5, Tambon Kanharm, Amphoe U-Thai,

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Accreditation Number : Testing - 0029

Laboratory Status : ☑ Permanent ☐ Site ☐ Temporary ☐ Mobile

Item	Test Material /	Test Item /	Test Method /
Number	Product	Range of Testing	Technique Used
2	Water	- Water soluble silica	Standard Methods for the Examination
(cont.)		(Calculated as SiO ₂)	of Water and Wastewater, APHA,
		1.1 mg/L to 26 mg/L	AWWA & WEF, 23 rd ed., 2017,
			part 4500-SiO ₂ C
		- Chloride	Standard Methods for the Examination
		6 mg/L to 1 000 mg/L	of Water and Wastewater, APHA,
			AWWA & WEF, 23 rd ed., 2017,
			part 4500-Cl B
	* =	- Total hardness	Standard Methods for the Examination
		(Calculated as CaCO ₃)	of Water and Wastewater, APHA,
		5 mg/L to 2 000 mg/L	AWWA & WEF, 23 rd ed., 2017,
			part 2340 C

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Item	Test Material /	Test Item /	Test Method /
Number	Product	Range of Testing	Technique Used
2	Water	- BOD	In - house method : TM 041
(cont.)		2 mg/L to 500 mg/L	based on Standard Methods for the
			Examination of Water and Wastewater,
			APHA, AWWA & WEF, 23 rd ed., 2017,
			part 5210 B
		- BOD	In - house method : TM 013
		2 mg/L to 500 mg/L	based on Standard Methods for the
			Examination of Water and Wastewater,
			APHA, AWWA & WEF, 23 rd ed., 2017,
			part 5210 B, part 4500-O C
		- COD	Standard Methods for the Examination
		40 mg/L to 200 mg/L	of Water and Wastewater, APHA,
			AWWA & WEF, 23 rd ed., 2017,
			part 5220 C

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Laboratory Status : 🗹 Permanent 🔲 Site 🔲 Temporary 🔲 Mobile

Laborator		ermanent L site L ren	iporary — Mobile
Item	Test Material /	Test Item /	Test Method /
Number	Product	Range of Testing	Technique Used
2	Water	- Total Kjeldahl Nitrogen	Standard Methods for the Examination
(cont.)		5 mg/L to 200 mg/L	of Water and Wastewater, APHA,
			AWWA & WEF, 23 rd ed., 2017,
			part 4500-NH ₃ C, part 4500-N _{org} B
		- Oil and grease	Standard Methods for the Examination
		2 mg/L to 100 mg/L	of Water and Wastewater, APHA,
			AWWA & WEF, 23 rd ed., 2017,
			part 5520 D
	= =	- Total solids	Standard Methods for the Examination
		dried at 103 °C to 105 °C	of Water and Wastewater, APHA,
		25 mg/L to 4 000 mg/L	AWWA & WEF, 23 rd ed., 2017,
			part 2540 B

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Laborator	,	ermanent – site – – ren	ipolary - Mobile
Item	Test Material /	Test Item /	Test Method /
Number	Product	Range of Testing	Technique Used
2	Water	- Selenium	Standard Methods for the Examination
(cont.)		5 μg/L to 50 μg/L	of Water and Wastewater, APHA,
		- Arsenic	AWWA & WEF, 23 rd ed., 2017,
		5 µg/L to 50 µg/L	part 3114 C
		- Barium	Standard Methods for the Examination
		0.5 mg/L to 5 mg/L	of Water and Wastewater, APHA,
			AWWA & WEF, 23 rd ed., 2017,
			part 3111 D, 3030 E
	7 1	- Cadmium	Standard Methods for the Examination
		1 μg/L to 5 μg/L	of Water and Wastewater, APHA,
		- Lead	AWWA & WEF, 23 rd ed., 2017,
		10 μg/L to 50 μg/L	part 3113 B, 3030 E

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Laborator	ry Status Pe	ermanent 🗀 Site 🗀 Tem	nporary LI Mobile
Item	Test Material /	Test Item /	Test Method /
Number	Product	Range of Testing	Technique Used
3	Wastewater	- pH	In - house method : TM 001
		4.0 to 10.0	based on Standard Methods for the
			Examination of Water and Wastewater,
			APHA, AWWA & WEF, 23 rd ed., 2017,
			part 4500 - H ⁺ B
		- Total suspended solids	Standard Methods for the Examination
		dried at 103 °C to 105 °C	of Water and Wastewater, APHA,
		10 mg/L to 1 000 mg/L	AWWA & WEF, 23 rd ed., 2017,
			part 2540 D
		- Total dissolved solids	Standard Methods for the Examination
		dried at 180 °C	of Water and Wastewater, APHA,
		50 mg/L to 4 000 mg/L	AWWA & WEF, 23 rd ed., 2017,
			part 2540 C

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Item	Test Material /	Test Item /	Test Method /
item			
Number	Product	Range of Testing	Technique Used
3	Wastewater	- Cadmium	Standard Methods for the Examination
(cont.)		0.02 mg/L to 0.9 mg/L	of Water and Wastewater, APHA,
		- Copper	AWWA & WEF, 23 rd ed., 2017,
		0.05 mg/L to 5 mg/L	part 3111 B, 3030 E
		- Zinc	
		0.05 mg/L to 5 mg/L	
		- Chromium	
		0.05 mg/L to 5 mg/L	
		- Nickel	
		0.10 mg/L to 4 mg/L	
		- Manganese	
		0.05 mg/L to 5 mg/L	
		- Lead	
		0.10 mg/L to 2 mg/L	
		- Iron	
		0.10 mg/L to 5 mg/L	

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Item	Test Material /	Test Item /	Test Method /		
Number	Product	Range of Testing	Technique Used		
3	Wastewater	- Total hardness	Standard Methods for the Examination		
(cont.)		(Calculated as CaCO ₃)	of Water and Wastewater, APHA,		
		5 mg/L to 2 000 mg/L	AWWA & WEF, 23 rd ed., 2017,		
			part 2340 C		
		- BOD	In - house method : TM 041		
		4 mg/L to 7 000 mg/L	based on Standard Methods for the		
			Examination of Water and Wastewater,		
			APHA, AWWA & WEF, 23 rd ed., 2017,		
			part 5210 B		
	·				
		- BOD	In - house method : TM 013		
		4 mg/L to 7 000 mg/L	based on Standard Methods for the		
			Examination of Water and Wastewater,		
			APHA, AWWA & WEF, 23 rd ed., 2017,		
			part 5210 B, part 4500-O C		

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Laborator	y Status	ennanent 🗀 site 🗀 Ten	iporary — Mobile
Item	Test Material /	Test Item /	Test Method /
Number	Product	Range of Testing	Technique Used
3	Wastewater	- COD	Standard Methods for the Examination
(cont.)		40 mg/L to 3 000 mg/L	of Water and Wastewater, APHA,
			AWWA & WEF, 23 rd ed., 2017,
			part 5220 C
		- Total Kjeldahl Nitrogen	Standard Methods for the Examination
		5 mg/L to 200 mg/L	of Water and Wastewater, APHA,
			AWWA & WEF, 23 rd ed., 2017,
			part 4500-NH ₃ C, 4500-N _{org} B
		- Oil and grease	Standard Methods for the Examination
		2 mg/L to 1 000 mg/L	of Water and Wastewater, APHA,
			AWWA & WEF, 23 rd ed., 2017,
			part 5520 D
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Item	Test Material /	Test Item /	Test Method /
Number	Product	Range of Testing	Technique Used
3	Wastewater	- Total solids	Standard Methods for the Examination
(cont.)		dried at 103 °C to 105 °C	of Water and Wastewater, APHA,
		25 mg/L to 4 000 mg/L	AWWA & WEF, 23 rd ed., 2017,
			part 2540 B
		- Selenium	Standard Methods for the Examination
		5 µg/L to 50 µg/L	of Water and Wastewater, APHA,
		- Arsenic	AWWA & WEF, 23 rd ed., 2017,
		5 µg/L to 50 µg/L	part 3114 C
		- Barium	Standard Methods for the Examination
		0.5 mg/L to 5 mg/L	of Water and Wastewater, APHA,
			AWWA & WEF, 23 rd ed., 2017,
			part 3111 D, 3030 E

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Accreditat	tion Number : Testin	ng - 0029		
Laborator	y Status : P	ermanent 🗹 Site 🔲 Tem	porary D Mobile	
Item	Test Material /	Test Item /	Test Method /	
Number	Product	Range of Testing	Technique Used	
4	Environmental noise	- Sound level	In - house method : TM 201	
		Equivalent sound level	based on ISO 1996-2 : 2017	
		L _{eq,T} 30 dB (A) to 120 dB (A)		
		Maximum sound level		
		L _{max} 30 dB (A) to 120 dB (A)		
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Issue Date: 7th November 2022

Signature :

(Mrs. Pochaman Tagheen)

Director of Bureau of Laboratory Accreditation

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