

ภาคผนวก ง

ใบรับรองผลการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม

คุณภาพอากาศในบรรยากาศ



Meteorological Monitoring Results : Wind Rose MTR-RW Cogen

Location : Ban Hat Samran Health Promotion Hospital

Monitor period : 04-11 Jun 2025

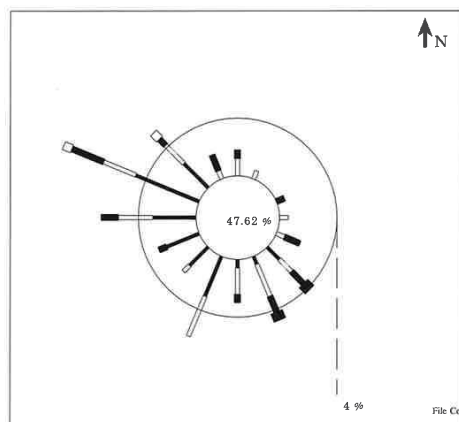
Wind Speed Model : Novalynx WS-25

Serial No : A5091

Wind Direction Model : Novalynx WS-25

Serial No : A5091

Direction	Percentage of Occurrence of Wind Direct Grouped in Various Wind Speed						Total
	0.5-1 m/s	1-2 m/s	2-3 m/s	3-4 m/s	4-6 m/s	More than 6	
N	0.0000	0.0119	0.0060	0.0000	0.0000	0.0000	0.0179
NNE	0.0000	0.0060	0.0000	0.0000	0.0000	0.0000	0.0060
NE	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
ENE	0.0000	0.0000	0.0060	0.0000	0.0000	0.0000	0.0060
E	0.0000	0.0060	0.0000	0.0000	0.0000	0.0000	0.0060
ESE	0.0000	0.0060	0.0119	0.0000	0.0000	0.0000	0.0179
SE	0.0119	0.0119	0.0119	0.0000	0.0060	0.0000	0.0417
SSE	0.0060	0.0238	0.0119	0.0000	0.0060	0.0000	0.0476
S	0.0060	0.0179	0.0060	0.0000	0.0000	0.0000	0.0298
SSW	0.0298	0.0298	0.0000	0.0000	0.0000	0.0000	0.0595
SW	0.0179	0.0060	0.0000	0.0000	0.0000	0.0000	0.0238
WSW	0.0238	0.0000	0.0060	0.0000	0.0000	0.0000	0.0298
W	0.0298	0.0238	0.0119	0.0000	0.0000	0.0000	0.0655
WNW	0.0476	0.0238	0.0238	0.0060	0.0000	0.0000	0.1012
NW	0.0238	0.0179	0.0060	0.0060	0.0000	0.0000	0.0536
NNW	0.0000	0.0060	0.0119	0.0000	0.0000	0.0000	0.0179
CALM	0.4762						

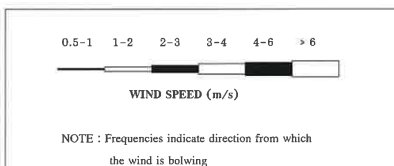


Application : WindPro Ver.1.0

Control : 16 Direction Calculation With
Calm Wind < 0.5 m/s

Data Unit : Direction in Deg.

Wind Speed in m/s



File Control : R:\Database\Windrose\FileControl\Win-225011-Ban Hat Samran Health Promotion Hospital 04-11 Jun 2025

(Miss Katesarin Vorradetwittaya)
Environmental Scientist

Preeda S.
(Miss Preeda Somjai)
Technical Management Team



Meteorological Monitoring Results : Wind Rose MTR-RW Cogen

Location : Ban Hat Samran Health Promotion Hospital

Monitor period : 04-11 Jun 2025

Wind Speed Model : Novalynx WS-25

Serial No : A5091

Wind Direction Model : Novalynx WS-25

Serial No : A5091

Time	04-05 Jun 2025		05-06 Jun 2025		06-07 Jun 2025		07-08 Jun 2025	
	WS(m/s)	WD	WS(m/s)	WD	WS(m/s)	WD	WS(m/s)	WD
13:00 - 14:00	2.5	W	2.3	NW	1.6	SW	2.8	S
14:00 - 15:00	1.4	NW	3.1	WNW	2.3	WNW	0.8	SSW
15:00 - 16:00	1.7	W	0.9	NW	1.7	NNE	1.5	S
16:00 - 17:00	0.3	SW	2.5	SE	0.0	NNW	0.5	SW
17:00 - 18:00	1.9	SSW	1.0	SSE	1.9	S	0.7	SSW
18:00 - 19:00	0.5	S	1.6	N	0.6	SSE	0.0	SSW
19:00 - 20:00	0.8	SSW	1.0	E	0.4	SSW	0.0	W
20:00 - 21:00	0.3	WNW	0.0	NNE	0.3	SSW	0.0	NW
21:00 - 22:00	0.0	WNW	0.0	E	0.7	W	0.4	NW
22:00 - 23:00	0.0	NW	0.0	N	0.5	WNW	0.0	WNW
23:00 - 24:00	0.0	S	0.0	SSW	0.4	WNW	0.0	WNW
00:00 - 01:00	0.1	SSW	0.0	NNW	0.3	WNW	0.0	WNW
01:00 - 02:00	0.0	SSW	0.0	SSW	0.9	W	0.0	WNW
02:00 - 03:00	0.7	SSW	0.0	N	0.2	WNW	0.0	WNW
03:00 - 04:00	0.0	SW	0.0	SSW	0.0	WNW	0.0	WSW
04:00 - 05:00	0.0	W	0.0	WNW	0.3	W	0.0	WSW
05:00 - 06:00	0.0	NNW	0.0	WNW	0.5	WNW	0.0	WSW
06:00 - 07:00	0.0	SSW	0.0	SSW	1.9	W	0.4	S
07:00 - 08:00	0.5	WSW	0.0	W	1.8	W	1.3	W
08:00 - 09:00	0.5	WSW	0.6	NW	1.8	WNW	0.8	WSW
09:00 - 10:00	2.4	WNW	2.1	WNW	2.2	NNW	1.9	SSE
10:00 - 11:00	0.7	WSW	2.3	W	2.1	WSW	1.6	SSE
11:00 - 12:00	0.7	WNW	2.4	N	2.3	NNW	0.9	SE
12:00 - 13:00	3.6	NW	1.5	WNW	0.3	N	2.1	ENE

Wind Rose



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(Miss Katesarin Vorradetwittaya)
Environmental Scientist

Preeda S.
(Miss Preeda Somjai)
Technical Management Team



Meteorological Monitoring Results : Wind Rose MTR-RW Cogen

Location : Ban Hat Samran Health Promotion Hospital

Monitor period : 04-11 Jun 2025

Wind Speed Model : Novalynx WS-25

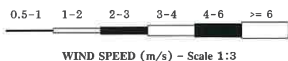
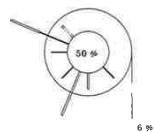
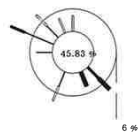
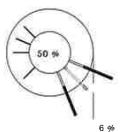
Serial No : A5091

Wind Direction Model : Novalynx WS-25

Serial No : A5091

Time	08-09 Jun 2025		09-10 Jun 2025		10-11 Jun 2025		
	WS(m/s)	WD	WS(m/s)	WD	WS(m/s)	WD	
13:00 - 14:00	2.0	ESE	1.0	SSW	0.9	SE	
14:00 - 15:00	2.5	SSE	4.7	SE	1.6	WNW	
15:00 - 16:00	2.7	SSE	5.8	SSE	1.1	SSW	
16:00 - 17:00	1.6	SE	2.7	SE	1.8	SSW	
17:00 - 18:00	0.0	SSW	0.9	NW	1.5	S	
18:00 - 19:00	0.0	S	0.2	WNW	0.9	SW	
19:00 - 20:00	0.1	WSW	0.2	WNW	0.3	W	
20:00 - 21:00	0.0	SW	0.0	W	0.3	WSW	
21:00 - 22:00	0.9	SW	0.6	SSW	0.0	WSW	
22:00 - 23:00	0.0	SSW	0.0	SSW	0.2	WNW	
23:00 - 24:00	0.0	W	0.0	WNW	1.0	SSW	
00:00 - 01:00	0.0	W	0.5	WNW	0.0	SSW	
01:00 - 02:00	0.2	WNW	0.0	WNW	0.0	SSW	
02:00 - 03:00	0.0	WSW	0.0	WNW	0.0	SW	
03:00 - 04:00	0.5	NW	0.0	WNW	0.0	S	
04:00 - 05:00	0.0	NW	0.0	SSW	0.7	WNW	
05:00 - 06:00	0.3	NW	0.0	NNW	0.2	NW	
06:00 - 07:00	0.5	W	0.7	W	0.2	W	
07:00 - 08:00	0.2	SW	1.4	NNW	1.6	NW	
08:00 - 09:00	0.5	WNW	2.6	WNW	1.5	WNW	
09:00 - 10:00	1.3	SSE	1.0	N	0.7	W	
10:00 - 11:00	1.8	SE	0.2	ENE	0.5	WNW	
11:00 - 12:00	2.5	ESE	1.4	NW	0.4	WNW	
12:00 - 13:00	1.7	ESE	0.6	WNW	0.3	WNW	

Wind Rose



File Control : R:\Database\Windrose\FileControl\Win-225011-Ban Hat Samran Health Promotion Hospital 04-11 Jun 2025

(Miss Katesarin Vorradetwittaya)
Environmental Scientist

(Miss Preeda Somjai)
Technical Management Team

SECOT CO.,LTD

239 Rimklongrupu Rd.

Bangkok, Bangkok 10800

Tel: 66(0)2959-3600 Fax: 66(0)2959-3535



Meteorological Monitoring Results : Wind Rose MTR-RW Cogen

Location : Wat Don Sai

Monitor period : 04-11 Jun 2025

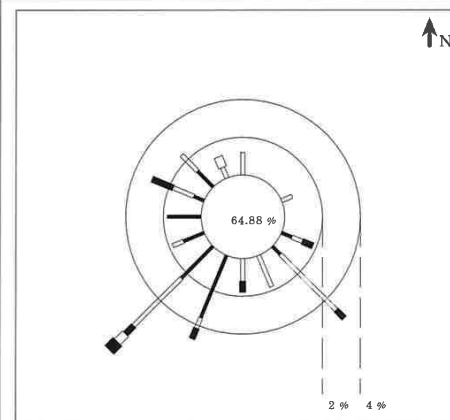
Wind Speed Model : Novalynx WS-25

Serial No : A5084

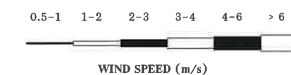
Wind Direction Model : Novalynx WS-25

Serial No : A5084

Direction	Percentage of Occurrence of Wind Direct Grouped in Various Wind Speed						
	0.5-1 m/s	1-2 m/s	2-3 m/s	3-4 m/s	4-6 m/s	More than 6	Total
N	0.0000	0.0119	0.0000	0.0000	0.0000	0.0000	0.0119
NNE	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NE	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
ENE	0.0000	0.0060	0.0000	0.0000	0.0000	0.0000	0.0060
E	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
ESE	0.0060	0.0060	0.0060	0.0000	0.0000	0.0000	0.0179
SE	0.0060	0.0417	0.0060	0.0000	0.0000	0.0000	0.0536
SSE	0.0000	0.0179	0.0000	0.0000	0.0000	0.0000	0.0179
S	0.0000	0.0119	0.0060	0.0000	0.0000	0.0000	0.0179
SSW	0.0357	0.0060	0.0060	0.0000	0.0000	0.0000	0.0476
SW	0.0238	0.0357	0.0060	0.0060	0.0060	0.0000	0.0774
WSW	0.0119	0.0060	0.0000	0.0000	0.0000	0.0000	0.0179
W	0.0179	0.0000	0.0000	0.0000	0.0000	0.0000	0.0179
WNW	0.0060	0.0119	0.0119	0.0000	0.0000	0.0000	0.0298
NW	0.0119	0.0119	0.0000	0.0000	0.0000	0.0000	0.0238
NNW	0.0000	0.0060	0.0000	0.0060	0.0000	0.0000	0.0119
CALM	0.6488						



Application : WindPro Ver.1.0

Control : 16 Direction Calculation With
Calm Wind < 0.5 m/sData Unit : Direction in Deg.
Wind Speed in m/sNOTE : Frequencies indicate direction from which
the wind is blowing

File Control : R:\Database\Windrose\FileControl\Win-225011-Wat Don Sai 04-11 Jun 2025

(Miss Katesarin Vorradetwittaya)
Environmental Scientist

(Miss Preeda Somjai)
Technical Management Team

SECOT CO.,LTD

239 Rimklongrupu Rd.

Bangkok, Bangkok 10800

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Meteorological Monitoring Results : Wind Rose MTR-RW Cogen

Location : Wat Don Sai

Monitor period : 04-11 Jun 2025

Wind Speed Model : Novalynx WS-25

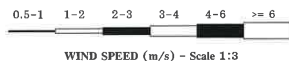
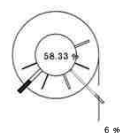
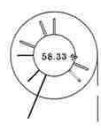
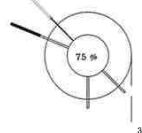
Serial No : A5084

Wind Direction Model : Novalynx WS-25

Serial No : A5084

Time	04-05 Jun 2025		05-06 Jun 2025		06-07 Jun 2025		07-08 Jun 2025	
	WS(m/s)	WD	WS(m/s)	WD	WS(m/s)	WD	WS(m/s)	WD
14:00 - 15:00	0.4	N	1.3	WNW	1.9	WNW	0.6	ESE
15:00 - 16:00	1.9	SW	0.0	WNW	0.2	W	3.0	SW
16:00 - 17:00	0.0	SW	1.6	SE	1.7	ESE	4.1	SW
17:00 - 18:00	2.5	SW	1.0	S	0.9	SSW	0.5	SSW
18:00 - 19:00	1.4	SW	0.0	SSW	0.8	SSW	0.3	SW
19:00 - 20:00	0.5	SW	0.4	ESE	0.4	SW	0.0	SW
20:00 - 21:00	0.0	SW	0.0	WNW	0.0	SSW	0.2	SW
21:00 - 22:00	0.0	SW	0.0	NE	0.0	W	0.0	SW
22:00 - 23:00	0.0	SW	0.0	NE	0.4	SW	0.0	W
23:00 - 24:00	0.0	SW	0.4	W	0.2	W	0.0	W
00:00 - 01:00	0.0	SW	0.0	W	0.0	W	0.0	W
01:00 - 02:00	0.0	SW	0.3	SSW	0.0	W	0.0	W
02:00 - 03:00	0.0	SW	0.0	SW	0.2	W	0.0	W
03:00 - 04:00	0.0	SW	0.0	SW	0.0	W	0.0	W
04:00 - 05:00	0.0	W	0.0	SW	0.0	WSW	0.0	W
05:00 - 06:00	0.0	W	0.0	SW	0.0	W	0.0	W
06:00 - 07:00	0.2	S	0.4	WSW	0.4	W	0.0	WSW
07:00 - 08:00	0.0	SW	0.0	SW	0.5	SW	0.0	WSW
08:00 - 09:00	0.3	W	0.3	SSW	0.0	WNW	1.9	SE
09:00 - 10:00	0.3	WNW	0.0	SW	0.9	SSW	0.5	WSW
10:00 - 11:00	1.1	SW	2.6	WNW	0.6	W	1.0	SSE
11:00 - 12:00	3.7	NNW	0.8	NW	1.4	N	1.8	SE
12:00 - 13:00	1.1	NW	1.2	NW	1.7	NNW	1.4	SE
13:00 - 14:00	0.0	W	0.0	NW	1.5	SE	1.8	ENE

Wind Rose



WIND SPEED (m/s) - Scale 1:3

File Control : R:\Database\Windrose\FileControl\Win-225011-Wat Don Sai 04-11 Jun 2025

(Miss Katesarin Vorradetwittaya)
Environmental Scientist

(Miss Preeda Somjai)
Technical Management Team



Meteorological Monitoring Results : Wind Rose MTR-RW Cogen

Location : Wat Don Sai

Monitor period : 04-11 Jun 2025

Wind Speed Model : Novalynx WS-25

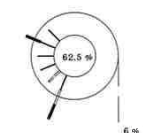
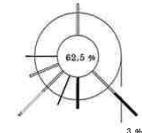
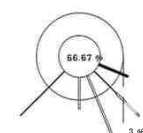
Serial No : A5084

Wind Direction Model : Novalynx WS-25

Serial No : A5084

Time	08-09 Jun 2025		09-10 Jun 2025		10-11 Jun 2025	
	WS(m/s)	WD	WS(m/s)	WD	WS(m/s)	WD
14:00 - 15:00	1.6	SSE	2.5	SE	0.6	NW
15:00 - 16:00	0.6	SE	1.4	SE	0.2	SSW
16:00 - 17:00	1.2	SSE	2.5	S	2.4	SSW
17:00 - 18:00	0.5	SW	0.0	SSW	0.9	WSW
18:00 - 19:00	0.0	SW	0.0	WSW	1.3	SW
19:00 - 20:00	0.0	SW	0.0	WSW	0.4	SSW
20:00 - 21:00	0.6	SW	0.0	WSW	0.1	SW
21:00 - 22:00	0.3	SW	0.0	WSW	0.6	SSW
22:00 - 23:00	0.0	SW	0.0	WSW	0.4	S
23:00 - 24:00	0.0	WSW	0.0	WSW	1.8	SSW
00:00 - 01:00	0.3	WNW	0.0	WSW	0.0	SSW
01:00 - 02:00	0.0	SW	0.0	WSW	0.0	WSW
02:00 - 03:00	0.0	WSW	0.0	SSW	0.4	SSW
03:00 - 04:00	0.0	W	0.0	SSW	0.0	SSW
04:00 - 05:00	0.0	W	0.0	SSW	0.3	SW
05:00 - 06:00	0.0	W	0.0	SSW	0.0	W
06:00 - 07:00	0.4	WNW	0.0	SSW	0.1	WNW
07:00 - 08:00	0.0	SW	1.2	SW	0.5	WNW
08:00 - 09:00	1.5	SE	0.9	SSW	0.6	W
09:00 - 10:00	0.4	NW	0.0	NNW	0.4	WSW
10:00 - 11:00	1.1	S	1.4	N	0.0	SW
11:00 - 12:00	0.0	E	0.6	W	0.3	SSW
12:00 - 13:00	2.4	ESE	1.2	WSW	0.0	SW
13:00 - 14:00	0.4	WSW	1.4	SW	2.6	WNW

Wind Rose



WIND SPEED (m/s) - Scale 1:3

File Control : R:\Database\Windrose\FileControl\Win-225011-Wat Don Sai 04-11 Jun 2025

(Miss Katesarin Vorradetwittaya)
Environmental Scientist

(Miss Preeda Somjai)
Technical Management Team



บริษัท ซีคอต จำกัด

SECOT CO., LTD.

239 ถนนริมคลองประปา แขวงบางซื่อ เขตบางซื่อ กรุงเทพฯ 10800

239 RIMKOLNGPRAPA ROAD, BANGSUE, BANGKOK 10800, THAILAND

TEL : +66(0) 2959-3600 FAX : +66(0) 2959-3535 E-mail : envserv@secot.co.th

AMBIENT AIR QUALITY ANALYSIS REPORT

CLIENT NAME : Ratchaburi World Cogeneration Co., Ltd. REFERENCE NO. : 225011-Ambient-2505-0016

SAMPLING BY : SECOT Co., Ltd. SAMPLING DATE : 04-11/06/2025

RECEIVED DATE : 13/06/2025 ANALYTICAL DATE : 14-20/06/2025

REPORT DATE : 23/06/2025 SAMPLE CONDITION : Good

SITE OPERATOR : Mr. Supakit Tamooka

LOCATION DESCRIPTION : 1. Ban Hat Samran Health Promotion Hospital

2. Wat Don Sai

PARAMETER	SAMPLING DATE	UNIT	RESULT		STANDARD*	REFERENCE METHOD
			1	2		
TSP (24 hr)	04-05/06/2025	mg/cu.m.	0.033	0.042	0.330	High Volume Air
	05-06/06/2025	mg/cu.m.	0.036	0.041		Sampler/Gravimetric
	06-07/06/2025	mg/cu.m.	0.028	0.038		Method
	07-08/06/2025	mg/cu.m.	0.019	0.026		
	08-09/06/2025	mg/cu.m.	0.014	0.020		
	09-10/06/2025	mg/cu.m.	0.017	0.016		
	10-11/06/2025	mg/cu.m.	0.018	0.019		

Bongpa Puthum

(Miss Pornnapa Budthum)

Analyst

Narisa Poowasanpetch

(Miss Narisa Poowasanpetch)

Technical Management Team

Remark : 1. Reported analysis refers to submitted sample only.

2. This report shall not be reproduced, except in full, without official approval.

3. * Notification of the National Environment Board, No.24, B.E.2547 (2004).



บริษัท ซีคอต จำกัด

SECOT CO., LTD.

239 ถนนริมคลองประปา แขวงบางซื่อ เขตบางซื่อ กรุงเทพฯ 10800

239 RIMKOLNGPRAPA ROAD, BANGSUE, BANGKOK 10800, THAILAND

TEL : +66(0) 2959-3600 FAX : +66(0) 2959-3535 E-mail : envserv@secot.co.th

AMBIENT AIR QUALITY ANALYSIS REPORT

CLIENT NAME : Ratchaburi World Cogeneration Co., Ltd. REFERENCE NO. : 225011-Ambient-2505-0016

SAMPLING BY : SECOT Co., Ltd. SAMPLING DATE : 04-11/06/2025

RECEIVED DATE : 13/06/2025 ANALYTICAL DATE : 14-20/06/2025

REPORT DATE : 23/06/2025 SAMPLE CONDITION : Good

SITE OPERATOR : Mr. Supakit Tamooka

LOCATION DESCRIPTION : 1. Ban Hat Samran Health Promotion Hospital

2. Wat Don Sai

PARAMETER	SAMPLING DATE	UNIT	RESULT		STANDARD*	REFERENCE METHOD
			1	2		
PM-10 (24 hr)	04-05/06/2025	mg/cu.m.	0.021	0.028	0.120	High Volume Air
	05-06/06/2025	mg/cu.m.	0.031	0.027		Sampler (Hi-Vol PM-10
	06-07/06/2025	mg/cu.m.	0.025	0.026		Size Selective Inlet)/
	07-08/06/2025	mg/cu.m.	0.013	0.014		Gravimetric Method
	08-09/06/2025	mg/cu.m.	0.011	0.011		
	09-10/06/2025	mg/cu.m.	0.011	0.013		
	10-11/06/2025	mg/cu.m.	0.013	0.015		

Bongpa Puthum

(Miss Pornnapa Budthum)

Analyst

Narisa Poowasanpetch

(Miss Narisa Poowasanpetch)

Technical Management Team

Remark : 1. Reported analysis refers to submitted sample only.

2. This report shall not be reproduced, except in full, without official approval.

3. * Notification of the National Environment Board, No.24, B.E.2547 (2004).



Ambient Air Monitoring Results : Nitrogen dioxide MTR-RW Cogen

Location : Ban Hat Samran Health Promotion Hospital	Monitor Period : 04-11 Jun 2025
Analyzer Model : API 200A	Station No : Shelter 17
Serial No : 2365	Site Operator : Mr.Supakit Tamooka
Calibrator Model : Teledyne 700E	Serial No : 587
Calibration Gas Cylinder I.D.: EB0102326	
Certified Date : 08 Jan 2025	Cal Concentration (ppb) : 0,100,200,400
Expire Date : 07 Jan 2026	

Time	NO2 Concentration (ppm)						
	04-05 Jun 2025	05-06 Jun 2025	06-07 Jun 2025	07-08 Jun 2025	08-09 Jun 2025	09-10 Jun 2025	10-11 Jun 2025
13:00 - 14:00	0.0076	0.0058	0.0076	0.0047	0.0174	0.0064	0.0124
14:00 - 15:00	0.0137	0.0059	0.0072	0.0175	0.0123	0.0063	0.0126
15:00 - 16:00	0.0118	0.0081	0.0081	0.0123	0.0112	0.0153	0.0096
16:00 - 17:00	0.0108	0.0074	0.0080	0.0163	0.0116	0.0113	0.0082
17:00 - 18:00	0.0076	0.0064	0.0070	0.0074	0.0079	0.0112	0.0091
18:00 - 19:00	0.0075	0.0065	0.0050	0.0062	0.0086	0.0116	0.0073
19:00 - 20:00	0.0082	0.0086	0.0036	0.0072	0.0048	0.0026	0.0074
20:00 - 21:00	0.0114	0.0086	0.0036	0.0037	0.0030	0.0047	0.0079
21:00 - 22:00	0.0068	0.0068	0.0049	0.0032	0.0036	0.0035	0.0036
22:00 - 23:00	0.0063	0.0051	0.0050	0.0058	0.0020	0.0029	0.0049
23:00 - 00:00	0.0052	0.0036	0.0042	0.0066	0.0074	0.0024	0.0050
00:00 - 01:00	0.0058	0.0043	0.0068	0.0074	0.0064	0.0023	0.0056
01:00 - 02:00	0.0032	0.0054	0.0063	0.0064	0.0034	0.0027	0.0060
02:00 - 03:00	0.0038	0.0069	0.0052	0.0034	0.0038	0.0034	0.0028
03:00 - 04:00	0.0074	0.0064	0.0058	0.0038	0.0035	0.0042	0.0031
04:00 - 05:00	0.0053	0.0054	0.0032	0.0048	0.0037	0.0024	0.0064
05:00 - 06:00	0.0043	0.0067	0.0085	0.0035	0.0042	0.0028	0.0064
06:00 - 07:00	0.0117	0.0094	0.0084	0.0028	0.0113	0.0046	0.0097
07:00 - 08:00	0.0107	0.0102	0.0052	0.0019	0.0098	0.0161	0.0106
08:00 - 09:00	0.0080	0.0076	0.0073	0.0023	0.0042	0.0120	0.0085
09:00 - 10:00	0.0094	0.0091	0.0052	0.0021	0.0048	0.0125	0.0153
10:00 - 11:00	0.0070	0.0131	0.0089	0.0095	0.0049	0.0112	0.0104
11:00 - 12:00	0.0065	0.0101	0.0098	0.0073	0.0073	0.0136	0.0095
12:00 - 13:00	0.0064	0.0073	0.0142	0.0052	0.0093	0.0163	0.0109
Average-24Hr*	0.0078	0.0073	0.0066	0.0063	0.0069	0.0076	0.0081
Max-1Hr	0.0137	0.0131	0.0142	0.0175	0.0174	0.0163	0.0153
Min-1Hr	0.0032	0.0036	0.0032	0.0019	0.0020	0.0023	0.0028
Standard-1Hr	0.17 ppm(320 ug/cu.m)						
Standard-24Hr	-						

Remark : * Average time between 13:00-13:00


(Miss Katesarin Vorradetwittaya)
Environmental Scientist


(Miss Preeda Somjai)
Technical Management Team




Ambient Air Monitoring Results : Nitrogen dioxide MTR-RW Cogen

Location : Wat Don Sai	Monitor Period : 04-11 Jun 2025
Analyzer Model : API 200A	Station No : SS2-01
Serial No : 1523	Site Operator : Mr.Supakit Tamooka
Calibrator Model : Teledyne 700E	Serial No : 587
Calibration Gas Cylinder I.D.: EB0102326	
Certified Date : 08 Jan 2025	Cal Concentration (ppb) : 0,100,200,400
Expire Date : 07 Jan 2026	

Time	NO2 Concentration (ppm)						
	04-05 Jun 2025	05-06 Jun 2025	06-07 Jun 2025	07-08 Jun 2025	08-09 Jun 2025	09-10 Jun 2025	10-11 Jun 2025
14:00 - 15:00	0.0108	0.0136	0.0115	0.0073	0.0086	0.0116	0.0073
15:00 - 16:00	0.0085	0.0128	0.0117	0.0119	0.0073	0.0088	0.0104
16:00 - 17:00	0.0074	0.0088	0.0103	0.0108	0.0094	0.0188	0.0115
17:00 - 18:00	0.0069	0.0074	0.0105	0.0073	0.0058	0.0174	0.0102
18:00 - 19:00	0.0097	0.0097	0.0097	0.0089	0.0042	0.0094	0.0117
19:00 - 20:00	0.0046	0.0073	0.0094	0.0063	0.0057	0.0117	0.0124
20:00 - 21:00	0.0037	0.0106	0.0082	0.0180	0.0106	0.0142	0.0117
21:00 - 22:00	0.0068	0.0125	0.0098	0.0095	0.0086	0.0093	0.0094
22:00 - 23:00	0.0059	0.0052	0.0042	0.0062	0.0124	0.0057	0.0092
23:00 - 00:00	0.0064	0.0063	0.0035	0.0079	0.0063	0.0042	0.0032
00:00 - 01:00	0.0108	0.0068	0.0063	0.0027	0.0053	0.0079	0.0012
01:00 - 02:00	0.0164	0.0063	0.0087	0.0040	0.0059	0.0103	0.0056
02:00 - 03:00	0.0063	0.0053	0.0095	0.0045	0.0064	0.0096	0.0021
03:00 - 04:00	0.0107	0.0059	0.0056	0.0073	0.0046	0.0113	0.0035
04:00 - 05:00	0.0174	0.0064	0.0063	0.0110	0.0148	0.0184	0.0079
05:00 - 06:00	0.0156	0.0053	0.0107	0.0088	0.0124	0.0188	0.0096
06:00 - 07:00	0.0135	0.0042	0.0114	0.0082	0.0098	0.0096	0.0086
07:00 - 08:00	0.0057	0.0064	0.0127	0.0090	0.0063	0.0112	0.0074
08:00 - 09:00	0.0074	0.0113	0.0104	0.0091	0.0097	0.0157	0.0146
09:00 - 10:00	0.0112	0.0104	0.0085	0.0070	0.0074	0.0149	0.0207
10:00 - 11:00	0.0094	0.0107	0.0124	0.0105	0.0083	0.0112	0.0052
11:00 - 12:00	0.0079	0.0081	0.0095	0.0096	0.0113	0.0112	0.0076
12:00 - 13:00	0.0115	0.0107	0.0074	0.0112	0.0169	0.0052	0.0104
13:00 - 14:00	0.0145	0.0096	0.0078	0.0126	0.0196	0.0049	0.0102
Average-24Hr*	0.0095	0.0084	0.0090	0.0087	0.0091	0.0113	0.0088
Max-1Hr	0.0174	0.0136	0.0127	0.0180	0.0196	0.0188	0.0207
Min-1Hr	0.0037	0.0042	0.0035	0.0027	0.0042	0.0042	0.0012
Standard-1Hr	0.17 ppm(320 ug/cu.m)						
Standard-24Hr	-						

Remark : * Average time between 14:00-14:00


(Miss Katesarin Vorradetwittaya)
Environmental Scientist


(Miss Preeda Somjai)
Technical Management Team



Ambient Air Monitoring Results : Sulfur dioxide MTR-RW Cogen

Location : Ban Hat Samran Health Promotion Hospital Monitor Period : 04-11 Jun 2025
Analyzer Model : API 100A Station No : Shelter 17
Serial No : 382 Site Operator : Mr.Supakit Tamooka

Calibrator Model : Teledyne 700E Serial No : 587
Calibration Gas Cylinder I.D.: EB0102326
Certified Date : 10 Jan 2025 Cal Concentration (ppb) : 0,100,200,400
Expire Date : 09 Jan 2026

Time	SO2 Concentration (ppm)						
	04-05 Jun 2025	05-06 Jun 2025	06-07 Jun 2025	07-08 Jun 2025	08-09 Jun 2025	09-10 Jun 2025	10-11 Jun 2025
13:00 - 14:00	0.0019	0.0025	0.0020	0.0025	0.0021	0.0020	0.0016
14:00 - 15:00	0.0018	0.0020	0.0017	0.0043	0.0015	0.0017	0.0022
15:00 - 16:00	0.0017	0.0012	0.0013	0.0025	0.0013	0.0015	0.0025
16:00 - 17:00	0.0018	0.0016	0.0010	0.0014	0.0018	0.0015	0.0020
17:00 - 18:00	0.0019	0.0016	0.0012	0.0025	0.0023	0.0015	0.0012
18:00 - 19:00	0.0017	0.0015	0.0011	0.0025	0.0026	0.0015	0.0027
19:00 - 20:00	0.0018	0.0013	0.0014	0.0025	0.0026	0.0016	0.0023
20:00 - 21:00	0.0017	0.0014	0.0012	0.0025	0.0026	0.0016	0.0022
21:00 - 22:00	0.0016	0.0019	0.0014	0.0030	0.0026	0.0014	0.0022
22:00 - 23:00	0.0016	0.0024	0.0011	0.0025	0.0026	0.0012	0.0022
23:00 - 00:00	0.0015	0.0010	0.0016	0.0022	0.0026	0.0027	0.0022
00:00 - 01:00	0.0015	0.0014	0.0015	0.0024	0.0026	0.0025	0.0022
01:00 - 02:00	0.0014	0.0016	0.0016	0.0021	0.0026	0.0014	0.0023
02:00 - 03:00	0.0014	0.0020	0.0017	0.0020	0.0026	0.0019	0.0022
03:00 - 04:00	0.0013	0.0017	0.0017	0.0020	0.0010	0.0025	0.0023
04:00 - 05:00	0.0013	0.0018	0.0015	0.0017	0.0026	0.0021	0.0024
05:00 - 06:00	0.0026	0.0018	0.0015	0.0015	0.0025	0.0035	0.0023
06:00 - 07:00	0.0034	0.0014	0.0013	0.0015	0.0025	0.0022	0.0025
07:00 - 08:00	0.0061	0.0012	0.0012	0.0025	0.0031	0.0022	0.0022
08:00 - 09:00	0.0051	0.0015	0.0016	0.0025	0.0043	0.0013	0.0012
09:00 - 10:00	0.0059	0.0010	0.0016	0.0026	0.0024	0.0019	0.0018
10:00 - 11:00	0.0027	0.0013	0.0014	0.0030	0.0036	0.0012	0.0014
11:00 - 12:00	0.0023	0.0014	0.0012	0.0011	0.0040	0.0014	0.0012
12:00 - 13:00	0.0022	0.0016	0.0027	0.0022	0.0026	0.0010	0.0015

Average-24Hr*	0.0023	0.0016	0.0015	0.0023	0.0025	0.0018	0.0020
Max-1Hr	0.0061	0.0025	0.0027	0.0043	0.0043	0.0035	0.0027
Min-1Hr	0.0013	0.0010	0.0010	0.0011	0.0010	0.0010	0.0012

Standard-1Hr 0.30 ppm(780 ug/cu.m)
Standard-24Hr 0.12 ppm(300 ug/cu.m)

Remark : * Average time between 13:00-13:00

(Miss Katesarin Vorradetwittaya)
Environmental Scientist

(Miss Preeda Somjai)
Technical Management Team



Ambient Air Monitoring Results : Sulfur dioxide MTR-RW Cogen

Location : Wat Don Sai Monitor Period : 04-11 Jun 2025
Analyzer Model : Teledyne T100 Station No : SS2-01
Serial No : 119 Site Operator : Mr.Supakit Tamooka

Calibrator Model : Teledyne 700E Serial No : 587
Calibration Gas Cylinder I.D.: EB0102326
Certified Date : 10 Jan 2025 Cal Concentration (ppb) : 0,100,200,400
Expire Date : 09 Jan 2026

Time	SO2 Concentration (ppm)						
	04-05 Jun 2025	05-06 Jun 2025	06-07 Jun 2025	07-08 Jun 2025	08-09 Jun 2025	09-10 Jun 2025	10-11 Jun 2025
14:00 - 15:00	0.0024	0.0037	0.0040	0.0048	0.0038	0.0031	0.0029
15:00 - 16:00	0.0020	0.0021	0.0025	0.0059	0.0033	0.0025	0.0037
16:00 - 17:00	0.0034	0.0022	0.0039	0.0056	0.0032	0.0022	0.0033
17:00 - 18:00	0.0040	0.0026	0.0033	0.0062	0.0029	0.0027	0.0036
18:00 - 19:00	0.0027	0.0021	0.0026	0.0037	0.0023	0.0036	0.0047
19:00 - 20:00	0.0024	0.0018	0.0023	0.0034	0.0025	0.0013	0.0041
20:00 - 21:00	0.0029	0.0022	0.0021	0.0037	0.0025	0.0017	0.0023
21:00 - 22:00	0.0021	0.0027	0.0013	0.0037	0.0027	0.0024	0.0025
22:00 - 23:00	0.0012	0.0028	0.0013	0.0026	0.0034	0.0020	0.0024
23:00 - 00:00	0.0018	0.0030	0.0014	0.0018	0.0024	0.0012	0.0028
00:00 - 01:00	0.0014	0.0021	0.0013	0.0017	0.0025	0.0018	0.0017
01:00 - 02:00	0.0017	0.0011	0.0024	0.0012	0.0022	0.0014	0.0019
02:00 - 03:00	0.0016	0.0018	0.0026	0.0017	0.0017	0.0024	0.0015
03:00 - 04:00	0.0014	0.0023	0.0017	0.0021	0.0016	0.0036	0.0011
04:00 - 05:00	0.0014	0.0027	0.0036	0.0022	0.0027	0.0031	0.0015
05:00 - 06:00	0.0016	0.0039	0.0068	0.0026	0.0022	0.0045	0.0023
06:00 - 07:00	0.0022	0.0048	0.0026	0.0021	0.0021	0.0032	0.0027
07:00 - 08:00	0.0022	0.0022	0.0038	0.0023	0.0034	0.0030	0.0026
08:00 - 09:00	0.0037	0.0013	0.0033	0.0028	0.0040	0.0025	0.0031
09:00 - 10:00	0.0037	0.0047	0.0032	0.0024	0.0047	0.0028	0.0025
10:00 - 11:00	0.0026	0.0022	0.0029	0.0037	0.0041	0.0022	0.0022
11:00 - 12:00	0.0023	0.0019	0.0023	0.0036	0.0023	0.0026	0.0027
12:00 - 13:00	0.0028	0.0035	0.0031	0.0068	0.0027	0.0039	0.0033
13:00 - 14:00	0.0024	0.0022	0.0052	0.0026	0.0026	0.0031	0.0032

Average-24Hr*	0.0023	0.0026	0.0029	0.0033	0.0028	0.0026	0.0027
Max-1Hr	0.0040	0.0048	0.0068	0.0068	0.0047	0.0045	0.0047
Min-1Hr	0.0012	0.0011	0.0013	0.0012	0.0016	0.0012	0.0011

Standard-1Hr 0.30 ppm(780 ug/cu.m)
Standard-24Hr 0.12 ppm(300 ug/cu.m)

Remark : * Average time between 14:00-14:00

(Miss Katesarin Vorradetwittaya)
Environmental Scientist

(Miss Preeda Somjai)
Technical Management Team




Ambient Air Monitoring Results : Ozone
MTR-RW Cogen

Location : Wat Don Sai		Monitor Period : 04-11 Jun 2025	
Analyzer Model : Teledyne 400		Station No : SS2-01	
Serial No : 578		Site Operator : Mr.Supakit Tamooka	
Calibrator Model : Teledyne 700E		Serial No : 587	
Calibration Gas Cylinder I.D.: EB0102326			
Certified Date : 08 Jan 2025		Cal Concentration (ppb) : 0,100,200,400	
Expire Date : 07 Jan 2026			

Time	O3 Concentration (ppm)						
	04-05 Jun 2025	05-06 Jun 2025	06-07 Jun 2025	07-08 Jun 2025	08-09 Jun 2025	09-10 Jun 2025	10-11 Jun 2025
14:00 - 15:00	0.0156	0.0089	0.0169	0.0113	0.0093	0.0167	0.0097
15:00 - 16:00	0.0139	0.0076	0.0125	0.0104	0.0185	0.0108	0.0137
16:00 - 17:00	0.0168	0.0078	0.0112	0.0167	0.0112	0.0101	0.0125
17:00 - 18:00	0.0194	0.0070	0.0119	0.0161	0.0107	0.0101	0.0086
18:00 - 19:00	0.0148	0.0069	0.0124	0.0160	0.0097	0.0105	0.0094
19:00 - 20:00	0.0126	0.0100	0.0192	0.0100	0.0113	0.0108	0.0113
20:00 - 21:00	0.0113	0.0091	0.0189	0.0102	0.0104	0.0112	0.0108
21:00 - 22:00	0.0097	0.0078	0.0123	0.0081	0.0167	0.0094	0.0129
22:00 - 23:00	0.0100	0.0080	0.0078	0.0077	0.0086	0.0086	0.0113
23:00 - 00:00	0.0075	0.0113	0.0078	0.0081	0.0086	0.0079	0.0122
00:00 - 01:00	0.0067	0.0094	0.0085	0.0084	0.0111	0.0084	0.0105
01:00 - 02:00	0.0073	0.0077	0.0052	0.0088	0.0085	0.0097	0.0132
02:00 - 03:00	0.0068	0.0056	0.0070	0.0094	0.0082	0.0146	0.0127
03:00 - 04:00	0.0067	0.0036	0.0056	0.0099	0.0091	0.0086	0.0109
04:00 - 05:00	0.0075	0.0045	0.0055	0.0095	0.0093	0.0093	0.0111
05:00 - 06:00	0.0185	0.0060	0.0113	0.0094	0.0109	0.0103	0.0090
06:00 - 07:00	0.0223	0.0072	0.0094	0.0077	0.0094	0.0112	0.0113
07:00 - 08:00	0.0147	0.0063	0.0182	0.0071	0.0145	0.0159	0.0100
08:00 - 09:00	0.0165	0.0087	0.0170	0.0184	0.0238	0.0134	0.0129
09:00 - 10:00	0.0109	0.0105	0.0112	0.0179	0.0196	0.0149	0.0151
10:00 - 11:00	0.0110	0.0096	0.0107	0.0193	0.0123	0.0139	0.0205
11:00 - 12:00	0.0095	0.0073	0.0203	0.0153	0.0138	0.0116	0.0193
12:00 - 13:00	0.0093	0.0088	0.0253	0.0146	0.0142	0.0109	0.0234
13:00 - 14:00	0.0106	0.0183	0.0097	0.0086	0.0145	0.0113	0.0210
Average-24Hr*	0.0121	0.0082	0.0123	0.0116	0.0123	0.0113	0.0131
Max-1Hr	0.0223	0.0183	0.0253	0.0193	0.0238	0.0167	0.0234
Min-1Hr	0.0067	0.0036	0.0052	0.0071	0.0082	0.0079	0.0086
Standard-1Hr	0.10 ppm(200 ug/cu.m)						
Standard-24Hr	-						

Remark : * Average time between 14:00-14:00


(Miss Katesarin Vorradetwittaya)
Environmental Scientist


(Miss Preeda Somjai)
Technical Management Team

คุณภาพอากาศจากปล่องหน่วยผลิตไอน้ำ



บริษัท ซีคอต จำกัด
SECOT CO., LTD.

239 ถนนริมคลองประปา แขวงบางซื่อ เขตบางซื่อ กรุงเทพฯ 10800

239 RIMKLONGPRAPA ROAD, BANGSUE, BANGKOK 10800, THAILAND

TEL : +66(0) 2959-3600 FAX : +66(0) 2959-3535 E-mail : envserv@secot.co.th

STACK EMISSION ANALYSIS REPORT

CLIENT NAME	: Ratchaburi World Cogeneration Co., Ltd.	REFERENCE NO.	: 225011-Cems-2505-0015
SAMPLING BY	: SECOT Co., Ltd.	SAMPLING DATE	: 05/06/2025
RECEIVED DATE	: 07/06/2025	ANALYTICAL DATE	: 11-13/06/2025
REPORT DATE	: 16/06/2025	SAMPLE CONDITION	: Good
STACK LOCATION	: HRSG 11	SITE OPERATOR	: Mr. Supakit Tamooka
SOURCE DESCRIPTION	: Combustion	FUEL TYPE	: Natural Gas
STACK DESCRIPTION			

Height	: 34.7 m	Gas Velocity	: 18.4 m/s
Diameter	: 3.05 m	Flow rate*	: 5,604 Ncu.m./min
Temperature	: 104.3 °C	Excess Oxygen	: 14.4 %
Moisture	: 11.5 %		

PARAMETER	UNIT	RESULT			STANDARD		REFERENCE
		14.4%O ₂	7%O ₂	g/s	7%O ₂	g/s	
Particulate Matter	mg/Ncu.m.	1.46	3.10	0.14	60 ^{1/} , 10 ^{2/}	0.50 ^{2/}	US. EPA Method 5

Pornnapa Budthum

(Miss Pornnapa Budthum)

Analyst

REG.NO. 2-239-0-0018

Narisa Poowasanpetch

(Miss Narisa Poowasanpetch)

Technical Management Team

REG.NO. 2-239-0-0010

Remark : 1. Reported analysis refers to submitted sample only.

2. This report shall not be reproduced, except in full, without official approval.

3. * At standard pressure of 760 mm.Hg and temperature of 25 °C, dry basis.

4. ^{1/} Notification of Ministry Natural Resources and Environmental, B.E.2566 (2023).

5. ^{2/} The value was assigned in EIA report.

The Monitoring Result of Emission Concentration
HRSG 11
Ratchaburi World Cogeneration Co.,Ltd
June 5, 2025

Run Number	Oxygen content (%)		Oxide of Nitrogen (ppm)		
	RM Stack Gas Conc	Corrected Gas Conc	RM Stack Gas Conc	Corrected Gas Conc @Actual O ₂	Corrected Gas Conc @7% O ₂
1	14.40	14.36	20.18	20.16	42.85
2	14.40	14.35	20.42	20.40	43.29
3	14.40	14.34	20.32	20.30	43.01
Average	14.40	14.35	20.31	20.29	43.05

Run Number	Oxygen content (%)		Sulfur dioxide (ppm)		
	RM Stack Gas Conc	Corrected Gas Conc	RM Stack Gas Conc	Corrected Gas Conc @Actual O ₂	Corrected Gas Conc @7% O ₂
1	14.40	14.36	0.16	0.11	0.23
2	14.40	14.35	0.39	0.34	0.72
3	14.40	14.34	0.54	0.50	1.06
Average	14.40	14.35	0.36	0.32	0.67

Ratchaburi World Cogenertion Co.,Ltd EMISSION TEST RESULT

Date: June 5, 2025
Start time: 10:40 AM
O₂ instrument Model: AMI 70
NO_x instrument Model: Teledyne 200 EM
SO₂ instrument Model: API 100 AH
Fuel Type : Natural Gas

Run # : 1
Location : HRSG 11
Finish time : 11:00 AM
Serial No.: 161212-14
Serial No.: 433
Serial No.: 118
Test Operator : Kittipong T.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
10:40 AM	14.40	19.40	0.05
10:41 AM	14.40	19.41	0.06
10:42 AM	14.40	20.55	0.13
10:43 AM	14.40	19.39	0.10
10:44 AM	14.40	19.94	0.12
10:45 AM	14.40	21.29	0.10
10:46 AM	14.40	20.10	0.11
10:47 AM	14.40	20.05	0.13
10:48 AM	14.40	20.92	0.17
10:49 AM	14.40	20.07	0.17
10:50 AM	14.40	20.08	0.15
10:51 AM	14.40	19.66	0.17
10:52 AM	14.40	20.25	0.16
10:53 AM	14.40	20.37	0.15
10:54 AM	14.40	20.33	0.17
10:55 AM	14.40	20.26	0.18
10:56 AM	14.40	19.38	0.20
10:57 AM	14.40	20.52	0.22
10:58 AM	14.40	21.07	0.28
10:59 AM	14.40	20.44	0.26
11:00 AM	14.40	20.40	0.26
Average	14.40	20.18	0.16

Signature



(Miss Katesarin Vorradetwittaya)

Environmental Scientist

Ratchaburi World Cogenertion Co.,Ltd EMISSION TEST RESULT

Date: June 5, 2025
Start time: 11:01 AM
O₂ instrument Model: AMI 70
NO_x instrument Model: Teledyne 200 EM
SO₂ instrument Model: API 100 AH
Fuel Type : Natural Gas

Run # : 2
Location : HRSG 11
Finish time : 11:21 AM
Serial No.: 161212-14
Serial No.: 433
Serial No.: 118
Test Operator : Kittipong T.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
11:01 AM	14.40	21.37	0.26
11:02 AM	14.40	19.61	0.26
11:03 AM	14.40	20.29	0.35
11:04 AM	14.40	20.98	0.33
11:05 AM	14.40	20.25	0.36
11:06 AM	14.40	20.61	0.38
11:07 AM	14.40	19.98	0.38
11:08 AM	14.40	19.61	0.36
11:09 AM	14.40	20.83	0.38
11:10 AM	14.40	21.04	0.40
11:11 AM	14.40	20.41	0.42
11:12 AM	14.40	21.45	0.42
11:13 AM	14.40	20.48	0.42
11:14 AM	14.40	20.32	0.42
11:15 AM	14.40	19.94	0.39
11:16 AM	14.40	20.63	0.41
11:17 AM	14.40	20.54	0.43
11:18 AM	14.40	20.00	0.43
11:19 AM	14.40	20.69	0.44
11:20 AM	14.40	19.18	0.46
11:21 AM	14.40	20.67	0.49
Average	14.40	20.42	0.39

Signature



(Miss Katesarin Vorradetwittaya)

Environmental Scientist

Ratchaburi World Cogeneration Co.,Ltd

EMISSION TEST RESULT

Date: June 5, 2025
Start time: 11:22 AM
O₂ instrument Model: AMI 70
NO_x instrument Model: Teledyne 200 EM
SO₂ instrument Model: API 100 AH
Fuel Type : Natural Gas

Run # : 3
Location : HRSG 11
Finish time : 11:42 AM
Serial No.: 161212-14
Serial No.: 433
Serial No.: 118
Test Operator : Kittipong T.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
11:22 AM	14.40	19.88	0.47
11:23 AM	14.40	20.23	0.50
11:24 AM	14.40	20.37	0.49
11:25 AM	14.40	19.32	0.47
11:26 AM	14.40	20.22	0.54
11:27 AM	14.40	19.86	0.49
11:28 AM	14.40	20.20	0.52
11:29 AM	14.40	20.69	0.52
11:30 AM	14.40	19.74	0.50
11:31 AM	14.40	20.32	0.54
11:32 AM	14.42	21.16	0.53
11:33 AM	14.41	20.26	0.53
11:34 AM	14.40	20.45	0.54
11:35 AM	14.42	20.53	0.55
11:36 AM	14.40	20.47	0.55
11:37 AM	14.40	20.85	0.59
11:38 AM	14.40	19.64	0.58
11:39 AM	14.40	20.59	0.59
11:40 AM	14.40	21.08	0.61
11:41 AM	14.40	20.24	0.61
11:42 AM	14.40	20.57	0.61
Average	14.40	20.32	0.54

Signature

(Miss Katesarin Vorradetwittaya)

Environmental Scientist



บริษัท ซีคอต จำกัด
SECOT CO., LTD.

239 ถนนริมคลองประปา แขวงบางซื่อ เขตบางซื่อ กรุงเทพฯ 10800

239 RIMKLONGPRAPA ROAD, BANGSUE, BANGKOK 10800, THAILAND

TEL : +66(0) 2959-3600 FAX : +66(0) 2959-3535 E-mail : envserv@secot.co.th

STACK EMISSION ANALYSIS REPORT

CLIENT NAME : Ratchaburi World Cogeneration Co., Ltd. **REFERENCE NO.** : 225011-Cems-2505-0015
SAMPLING BY : SECOT Co., Ltd. **SAMPLING DATE** : 05/06/2025
RECEIVED DATE : 07/06/2025 **ANALYTICAL DATE** : 11-13/06/2025
REPORT DATE : 16/06/2025 **SAMPLE CONDITION** : Good
STACK LOCATION : HRSG 12 **SITE OPERATOR** : Mr. Supakit Tamooka
SOURCE DESCRIPTION : Combustion **FUEL TYPE** : Natural Gas

STACK DESCRIPTION

Height : 34.7 m **Gas Velocity** : 16.9 m/s
Diameter : 3.05 m **Flow rate*** : 5,166 Ncu.m./min
Temperature : 103.3 °C **Excess Oxygen** : 14.9 %
Moisture : 11.5 %

PARAMETER	UNIT	RESULT			STANDARD		REFERENCE
		14.9%O ₂	7%O ₂	g/s	7%O ₂	g/s	
Particulate Matter	mg/Ncu.m.	1.61	3.71	0.14	60 ^{1/} , 10 ^{2/}	0.50 ^{2/}	US. EPA Method 5

(Miss Pornnapa Budthum)

Analyst

REG.NO. 2-239-0-0018

(Miss Narisa Poowasanpetch)

Technical Management Team

REG.NO. 2-239-0-0010

Remark : 1. Reported analysis refers to submitted sample only.

2. This report shall not be reproduced, except in full, without official approval.

3. * At standard pressure of 760 mm.Hg and temperature of 25 °C, dry basis.

4. ^{1/} Notification of Ministry Natural Resources and Environmental, B.E.2566 (2023).

5. ^{2/} The value was assigned in EIA report.

The Monitoring Result of Emission Concentration
HRSG 12
Ratchaburi World Cogenertion Co.,Ltd
June 5, 2025

Run Number	Oxygen content (%)		Oxide of Nitrogen (ppm)		
	RM Stack Gas Conc	Corrected Gas Conc	RM Stack Gas Conc	Corrected Gas Conc @Actual O ₂	Corrected Gas Conc @7% O ₂
1	14.96	14.87	12.45	12.43	28.65
2	14.97	14.87	13.13	13.11	30.22
3	14.97	14.86	13.47	13.45	30.95
Average	14.97	14.87	13.02	13.00	29.94

Run Number	Oxygen content (%)		Sulfur dioxide (ppm)		
	RM Stack Gas Conc	Corrected Gas Conc	RM Stack Gas Conc	Corrected Gas Conc @Actual O ₂	Corrected Gas Conc @7% O ₂
1	14.96	14.87	0.11	0.09	0.21
2	14.97	14.87	0.14	0.11	0.25
3	14.97	14.86	0.16	0.13	0.30
Average	14.97	14.87	0.14	0.11	0.25

Ratchaburi World Cogenertion Co.,Ltd
EMISSION TEST RESULT

Date: June 5, 2025
 Start time: 10:40 AM
 O₂ instrument Model: AMI 70
 NO_x instrument Model: API 200 AH
 SO₂ instrument Model: API 100 AH
 Fuel Type : Natural Gas

Run #: 1
 Location : HRSG 12
 Finish time : 11:00 AM
 Serial No.: 121121-10
 Serial No.: 441
 Serial No.: 060
 Test Operator : Kittipong T.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
10:40 AM	14.94	12.28	0.07
10:41 AM	14.95	12.26	0.08
10:42 AM	14.95	12.07	0.08
10:43 AM	14.95	11.93	0.13
10:44 AM	14.93	12.08	0.08
10:45 AM	14.94	12.56	0.10
10:46 AM	14.95	12.61	0.11
10:47 AM	14.94	12.54	0.12
10:48 AM	14.96	12.66	0.12
10:49 AM	14.97	12.68	0.11
10:50 AM	14.97	12.49	0.10
10:51 AM	14.98	12.48	0.13
10:52 AM	14.98	12.46	0.11
10:53 AM	14.99	12.42	0.14
10:54 AM	14.99	12.30	0.14
10:55 AM	14.99	12.38	0.10
10:56 AM	15.00	12.40	0.11
10:57 AM	14.99	12.53	0.14
10:58 AM	14.97	12.74	0.10
10:59 AM	14.97	12.67	0.10
11:00 AM	14.95	12.92	0.14
Average	14.96	12.45	0.11

Signature

(Miss Katesarin Vorradetwittaya)

Environmental Scientist

Ratchaburi World Cogeneration Co.,Ltd EMISSION TEST RESULT

Date: June 5, 2025
Start time: 11:01 AM
O₂ instrument Model: AMI 70
NO_x instrument Model: API 200 AH
SO₂ instrument Model: API 100 AH
Fuel Type : Natural Gas

Run # : 2
Location : HRSG 12
Finish time : 11:21 AM
Serial No.: 121121-10
Serial No.: 441
Serial No.: 060
Test Operator : Kittipong T.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
11:01 AM	14.95	13.53	0.14
11:02 AM	14.97	13.23	0.13
11:03 AM	14.96	13.26	0.12
11:04 AM	14.97	13.27	0.14
11:05 AM	14.97	13.15	0.11
11:06 AM	14.97	13.18	0.14
11:07 AM	14.96	13.28	0.15
11:08 AM	14.97	13.18	0.15
11:09 AM	14.97	13.15	0.13
11:10 AM	14.97	13.25	0.15
11:11 AM	14.97	13.13	0.14
11:12 AM	14.96	13.15	0.15
11:13 AM	14.97	13.19	0.16
11:14 AM	14.97	13.18	0.15
11:15 AM	14.97	13.12	0.15
11:16 AM	14.99	13.01	0.16
11:17 AM	14.98	13.14	0.14
11:18 AM	15.00	13.05	0.14
11:19 AM	14.98	12.76	0.16
11:20 AM	14.99	12.88	0.16
11:21 AM	15.00	12.67	0.16
Average	14.97	13.13	0.14

Signature



(Miss Katesarin Vorradetwittaya)

Environmental Scientist

Ratchaburi World Cogeneration Co.,Ltd EMISSION TEST RESULT

Date: June 5, 2025
Start time: 11:22 AM
O₂ instrument Model: AMI 70
NO_x instrument Model: API 200 AH
SO₂ instrument Model: API 100 AH
Fuel Type : Natural Gas

Run # : 3
Location : HRSG 12
Finish time : 11:42 AM
Serial No.: 121121-10
Serial No.: 441
Serial No.: 060
Test Operator : Kittipong T.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
11:22 AM	14.99	12.81	0.15
11:23 AM	14.98	12.94	0.16
11:24 AM	14.97	13.02	0.16
11:25 AM	14.97	13.22	0.16
11:26 AM	14.96	13.18	0.16
11:27 AM	14.99	13.42	0.16
11:28 AM	14.98	13.45	0.16
11:29 AM	14.99	13.45	0.17
11:30 AM	14.98	13.30	0.16
11:31 AM	14.97	13.30	0.16
11:32 AM	14.97	13.51	0.16
11:33 AM	14.97	13.32	0.16
11:34 AM	14.97	13.29	0.16
11:35 AM	14.98	13.77	0.16
11:36 AM	14.98	13.59	0.16
11:37 AM	14.96	13.61	0.16
11:38 AM	14.97	14.04	0.21
11:39 AM	14.96	13.71	0.16
11:40 AM	14.97	14.15	0.17
11:41 AM	14.98	14.08	0.16
11:42 AM	14.97	13.76	0.16
Average	14.97	13.47	0.16

Signature



(Miss Katesarin Vorradetwittaya)

Environmental Scientist



บริษัท ซีคอต จำกัด
SECOT CO., LTD.

239 ถนนวิมลคลองประปา แขวงบางซื่อ เขตบางซื่อ กรุงเทพฯ 10800

239 RIMKLONGPRAPA ROAD, BANGSUE, BANGKOK 10800, THAILAND

TEL : +66(0) 2959-3600 FAX : +66(0) 2959-3535 E-mail : envserv@secot.co.th

STACK EMISSION ANALYSIS REPORT

CLIENT NAME	: Ratchaburi World Cogeneration Co., Ltd.	REFERENCE NO.	: 225011-Cems-2505-0015
SAMPLING BY	: SECOT Co., Ltd.	SAMPLING DATE	: 06/06/2025
RECEIVED DATE	: 07/06/2025	ANALYTICAL DATE	: 11-13/06/2025
REPORT DATE	: 16/06/2025	SAMPLE CONDITION	: Good
STACK LOCATION	: HRSG 21	SITE OPERATOR	: Mr. Supakit Tamooka
SOURCE DESCRIPTION	: Combustion	FUEL TYPE	: Natural Gas

STACK DESCRIPTION

Height	: 34.7	m	Gas Velocity	: 18.0	m/s
Diameter	: 3.05	m	Flow rate*	: 5,281	Ncu.m./min
Temperature	: 115.3	°C	Excess Oxygen	: 14.9	%
Moisture	: 12.2	%			

PARAMETER	UNIT	RESULT			STANDARD		REFERENCE
		14.9%O ₂	7%O ₂	g/s	7%O ₂	g/s	
Particulate Matter	mg/Ncu.m.	1.63	3.79	0.14	60 ^{1/} , 10 ^{2/}	0.50 ^{2/}	US. EPA Method 5

(Miss Pornnapa Budthum)

Analyst

REG.NO. 2-239-ก-0018

(Miss Narisa Poowasanetch)

Technical Management Team

REG.NO. 2-239-ก-0010

Remark : 1. Reported analysis refers to submitted sample only.

2. This report shall not be reproduced, except in full, without official approval.

3. * At standard pressure of 760 mm.Hg and temperature of 25 °C, dry basis.

4. ^{1/} Notification of Ministry Natural Resources and Environmental, B.E.2566 (2023).

5. ^{2/} The value was assigned in EIA report.

The Monitoring Result of Emission Concentration
HRSG 21

Ratchaburi World Cogeneration Co.,Ltd

June 6, 2025

Run Number	Oxygen content (%)		Oxide of Nitrogen (ppm)		
	RM Stack Gas Conc	Corrected Gas Conc	RM Stack Gas Conc	Corrected Gas Conc @Actual O2	Corrected Gas Conc @7% O2
1	14.95	14.90	11.91	11.89	27.55
2	14.97	14.93	11.80	11.77	27.40
3	14.95	14.90	12.05	12.02	27.85
Average	14.96	14.91	11.92	11.89	27.60

Run Number	Oxygen content (%)		Sulfur dioxide (ppm)		
	RM Stack Gas Conc	Corrected Gas Conc	RM Stack Gas Conc	Corrected Gas Conc @Actual O2	Corrected Gas Conc @7% O2
1	14.95	14.90	0.50	0.48	1.11
2	14.97	14.93	0.76	0.74	1.72
3	14.95	14.90	0.73	0.71	1.64
Average	14.96	14.91	0.66	0.64	1.49

Ratchaburi World Cogeneration Co.,Ltd EMISSION TEST RESULT

Date: June 6, 2025
Start time: 10:30 AM
O₂ instrument Model: AMI 70
NO_x instrument Model: Teledyne 200 EM
SO₂ instrument Model: API 100 AH
Fuel Type : Natural Gas

Run # : 1
Location : HRSG 21
Finish time : 10:50 AM
Serial No.: 161212-14
Serial No.: 433
Serial No.: 118
Test Operator : Kittipong T.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
10:30 AM	15.00	11.72	0.31
10:31 AM	14.93	12.68	0.35
10:32 AM	14.97	12.23	0.41
10:33 AM	14.98	12.01	0.46
10:34 AM	14.93	11.98	0.43
10:35 AM	14.95	12.04	0.45
10:36 AM	14.97	11.42	0.46
10:37 AM	14.92	12.63	0.47
10:38 AM	14.98	11.61	0.46
10:39 AM	14.96	11.99	0.45
10:40 AM	14.95	12.34	0.42
10:41 AM	14.92	12.08	0.41
10:42 AM	14.94	11.95	0.46
10:43 AM	14.95	11.16	0.53
10:44 AM	14.94	12.06	0.60
10:45 AM	14.92	11.88	0.63
10:46 AM	14.98	11.66	0.64
10:47 AM	14.98	11.76	0.63
10:48 AM	14.95	12.35	0.62
10:49 AM	14.98	11.37	0.65
10:50 AM	14.95	11.22	0.68
Average	14.95	11.91	0.50

Signature

(Miss Katesarin Vorradetwittaya)

Environmental Scientist

Ratchaburi World Cogeneration Co.,Ltd EMISSION TEST RESULT

Date: June 6, 2025
Start time: 10:51 AM
O₂ instrument Model: AMI 70
NO_x instrument Model: Teledyne 200 EM
SO₂ instrument Model: API 100 AH
Fuel Type : Natural Gas

Run # : 2
Location : HRSG 21
Finish time : 11:11 AM
Serial No.: 161212-14
Serial No.: 433
Serial No.: 118
Test Operator : Kittipong T.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
10:51 AM	14.98	11.90	0.64
10:52 AM	14.95	11.94	0.52
10:53 AM	14.98	11.70	0.50
10:54 AM	14.99	11.45	0.57
10:55 AM	14.95	11.72	0.61
10:56 AM	14.97	11.16	0.65
10:57 AM	14.95	11.30	0.71
10:58 AM	14.96	12.02	0.78
10:59 AM	14.97	11.60	0.78
11:00 AM	14.99	11.43	0.83
11:01 AM	14.97	11.99	0.82
11:02 AM	14.96	12.24	0.87
11:03 AM	14.98	11.70	0.86
11:04 AM	14.97	11.41	0.87
11:05 AM	14.96	11.91	0.87
11:06 AM	15.00	11.69	0.84
11:07 AM	14.97	12.13	0.84
11:08 AM	14.97	12.41	0.87
11:09 AM	14.98	11.97	0.85
11:10 AM	14.99	11.86	0.84
11:11 AM	14.98	12.30	0.84
Average	14.97	11.80	0.76

Signature

(Miss Katesarin Vorradetwittaya)

Environmental Scientist

Ratchaburi World Cogeneration Co.,Ltd EMISSION TEST RESULT

Date: June 6, 2025
Start time: 11:12 AM
O₂ instrument Model: AMI 70
NO_x instrument Model: Teledyne 200 EM
SO₂ instrument Model: API 100 AH
Fuel Type : Natural Gas

Run # : 3
Location : HRSG 21
Finish time : 11:32 AM
Serial No.: 161212-14
Serial No.: 433
Serial No.: 118
Test Operator : Kittipong T.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
11:12 AM	14.94	12.14	0.83
11:13 AM	14.95	12.15	0.85
11:14 AM	14.99	12.21	0.80
11:15 AM	14.96	12.03	0.79
11:16 AM	14.94	12.05	0.79
11:17 AM	14.98	11.66	0.79
11:18 AM	14.95	12.48	0.75
11:19 AM	14.94	12.07	0.74
11:20 AM	14.96	11.94	0.74
11:21 AM	14.89	12.60	0.74
11:22 AM	14.97	11.44	0.74
11:23 AM	14.93	12.51	0.72
11:24 AM	14.97	11.99	0.67
11:25 AM	15.00	12.10	0.72
11:26 AM	14.95	11.87	0.68
11:27 AM	14.93	12.12	0.68
11:28 AM	14.98	11.91	0.66
11:29 AM	14.92	12.59	0.65
11:30 AM	14.97	11.25	0.68
11:31 AM	14.96	11.76	0.65
11:32 AM	14.94	12.09	0.64
Average	14.95	12.05	0.73

Signature

(Miss Katesarin Vorradetwittaya)

Environmental Scientist



บริษัท ซีคอต จำกัด

SECOT CO., LTD.

239 ถนนริมคลองประปา แขวงบางซื่อ เขตบางซื่อ กรุงเทพฯ 10800

239 RIMKLONGPRAPA ROAD, BANGSUE, BANGKOK 10800, THAILAND

TEL : +66(0) 2959-3600 FAX : +66(0) 2959-3535 E-mail : envserv@secot.co.th

STACK EMISSION ANALYSIS REPORT

CLIENT NAME : Ratchaburi World Cogeneration Co., Ltd. **REFERENCE NO.** : 225011-Cems-2505-0015
SAMPLING BY : SECOT Co., Ltd. **SAMPLING DATE** : 06/06/2025
RECEIVED DATE : 07/06/2025 **ANALYTICAL DATE** : 11-13/06/2025
REPORT DATE : 16/06/2025 **SAMPLE CONDITION** : Good
STACK LOCATION : HRSG 22 **SITE OPERATOR** : Mr. Supakit Tamooka
SOURCE DESCRIPTION : Combustion **FUEL TYPE** : Natural Gas

STACK DESCRIPTION

Height : 34.7 m **Gas Velocity** : 17.5 m/s
Diameter : 3.05 m **Flow rate*** : 5,171 Ncu.m/min
Temperature : 112.8 °C **Excess Oxygen** : 15.0 %
Moisture : 12.1 %

PARAMETER	UNIT	RESULT			STANDARD		REFERENCE
		15.0%O ₂	7%O ₂	g/s	7%O ₂	g/s	
Particulate Matter	mg/Ncu.m.	1.57	3.72	0.14	60 ^{1/} , 10 ^{2/}	0.50 ^{2/}	US. EPA Method 5

(Miss Pornnapa Budthum)

Analyst

REG.NO. 2-239-ก-0018

(Miss Narisa Poowasanpetch)

Technical Management Team

REG.NO. 2-239-ก-0010

Remark : 1. Reported analysis refers to submitted sample only.

2. This report shall not be reproduced, except in full, without official approval.

3. * At standard pressure of 760 mm.Hg and temperature of 25 °C, dry basis.

4. ^{1/} Notification of Ministry Natural Resources and Environmental, B.E.2566 (2023).

5. ^{2/} The value was assigned in EIA report.

The Monitoring Result of Emission Concentration
HRSG 22
Ratchaburi World Cogeneration Co.,Ltd
June 6, 2025

Run Number	Oxygen content (%)		Oxide of Nitrogen (ppm)		
	RM Stack Gas Conc	Corrected Gas Conc	RM Stack Gas Conc	Corrected Gas Conc @Actual O2	Corrected Gas Conc @7% O2
1	15.06	15.02	8.72	8.68	20.52
2	15.07	15.02	9.12	9.08	21.46
3	15.08	15.03	9.49	9.46	22.40
Average	15.07	15.02	9.11	9.07	21.46

Run Number	Oxygen content (%)		Sulfur dioxide (ppm)		
	RM Stack Gas Conc	Corrected Gas Conc	RM Stack Gas Conc	Corrected Gas Conc @Actual O2	Corrected Gas Conc @7% O2
1	15.06	15.02	0.12	0.10	0.24
2	15.07	15.02	0.21	0.19	0.45
3	15.08	15.03	0.18	0.16	0.38
Average	15.07	15.02	0.17	0.15	0.35

Ratchaburi World Cogeneration Co.,Ltd
EMISSION TEST RESULT

Date: June 6, 2025
 Start time: 10:30 AM
 O₂ instrument Model: AMI 70
 NO_x instrument Model: API 200 AH
 SO₂ instrument Model: API 100 AH
 Fuel Type : Natural Gas

Run # : 1
 Location : HRSG 22
 Finish time : 10:50 AM
 Serial No.: 121121-10
 Serial No.: 441
 Serial No.: 060
 Test Operator : Kittipong T.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
10:30 AM	15.06	8.32	0.09
10:31 AM	15.06	8.43	0.09
10:32 AM	15.06	8.44	0.07
10:33 AM	15.06	8.44	0.08
10:34 AM	15.06	8.56	0.09
10:35 AM	15.06	8.60	0.09
10:36 AM	15.06	8.64	0.09
10:37 AM	15.06	8.67	0.09
10:38 AM	15.06	8.73	0.10
10:39 AM	15.07	8.61	0.10
10:40 AM	15.06	8.74	0.13
10:41 AM	15.06	8.87	0.16
10:42 AM	15.06	8.88	0.16
10:43 AM	15.07	8.81	0.13
10:44 AM	15.06	8.81	0.15
10:45 AM	15.07	8.87	0.13
10:46 AM	15.06	9.01	0.15
10:47 AM	15.07	8.90	0.17
10:48 AM	15.06	8.86	0.17
10:49 AM	15.06	9.01	0.17
10:50 AM	15.07	9.00	0.17
Average	15.06	8.72	0.12

Signature



(Miss Katesarin Vorradetwittaya)

Environmental Scientist

Ratchaburi World Cogeneration Co.,Ltd EMISSION TEST RESULT

Date: June 6, 2025 Run #: 2
 Start time: 10:51 AM Location: HRSG 22
 Finish time: 11:11 AM
 O₂ instrument Model: AMI 70 Serial No.: 121121-10
 NO_x instrument Model: API 200 AH Serial No.: 441
 SO₂ instrument Model: API 100 AH Serial No.: 060
 Fuel Type: Natural Gas Test Operator: Kittipong T.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
10:51 AM	15.07	8.99	0.17
10:52 AM	15.07	9.11	0.18
10:53 AM	15.06	9.15	0.18
10:54 AM	15.07	9.05	0.18
10:55 AM	15.06	9.10	0.23
10:56 AM	15.07	9.11	0.20
10:57 AM	15.07	8.94	0.21
10:58 AM	15.06	8.93	0.24
10:59 AM	15.07	9.10	0.25
11:00 AM	15.07	9.09	0.21
11:01 AM	15.08	9.02	0.25
11:02 AM	15.07	9.07	0.22
11:03 AM	15.06	9.22	0.22
11:04 AM	15.06	9.29	0.23
11:05 AM	15.06	9.27	0.20
11:06 AM	15.07	9.35	0.19
11:07 AM	15.09	9.25	0.20
11:08 AM	15.08	9.08	0.23
11:09 AM	15.09	9.09	0.24
11:10 AM	15.09	9.14	0.21
11:11 AM	15.08	9.09	0.19
Average	15.07	9.12	0.21

Signature



(Miss Katesarin Vorradetwittaya)

Environmental Scientist

Ratchaburi World Cogeneration Co.,Ltd EMISSION TEST RESULT

Date: June 6, 2025 Run #: 3
 Start time: 11:12 AM Location: HRSG 22
 Finish time: 11:32 AM
 O₂ instrument Model: AMI 70 Serial No.: 121121-10
 NO_x instrument Model: API 200 AH Serial No.: 441
 SO₂ instrument Model: API 100 AH Serial No.: 060
 Fuel Type: Natural Gas Test Operator: Kittipong T.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
11:12 AM	15.07	9.23	0.22
11:13 AM	15.09	9.30	0.20
11:14 AM	15.08	9.45	0.19
11:15 AM	15.08	9.46	0.22
11:16 AM	15.09	9.45	0.18
11:17 AM	15.09	9.45	0.17
11:18 AM	15.09	9.54	0.18
11:19 AM	15.09	9.49	0.17
11:20 AM	15.08	9.42	0.18
11:21 AM	15.06	9.36	0.21
11:22 AM	15.06	9.40	0.17
11:23 AM	15.08	9.51	0.17
11:24 AM	15.09	9.46	0.18
11:25 AM	15.08	9.51	0.17
11:26 AM	15.07	9.70	0.17
11:27 AM	15.08	9.75	0.17
11:28 AM	15.09	9.65	0.17
11:29 AM	15.08	9.63	0.17
11:30 AM	15.08	9.58	0.19
11:31 AM	15.08	9.50	0.18
11:32 AM	15.08	9.46	0.16
Average	15.08	9.49	0.18

Signature



(Miss Katesarin Vorradetwittaya)

Environmental Scientist

คุณภาพน้ำทิ้ง



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239 RIMKLONGPRAPA ROAD, BANGSUE, BANGKOK 10800, THAILAND
TEL. (662) 959-3600 FAX (662) 959-3535 Website : secot.co.th E-mail : envserv@secot.co.th

WATER AND WASTEWATER ANALYSIS REPORT

CLIENT NAME	: Ratchaburi World Cogeneration Co., Ltd.	REQUEST SERVICE No.	: 0105/68
SAMPLING BY	: SECOT Co., Ltd.	SAMPLING METHOD	: Grab
SAMPLING DATE	: 17/01/2025	SAMPLING TIME	: 13:20
RECEIVED DATE	: 18/01/2025	ANALYTICAL DATE	: 18-23/01/2025
REPORT DATE	: 24/01/2025	SITE OPERATOR	: Mr.Chanapon Oakkharaplon
SAMPLE CONDITION	: Normal	FILE CODE	: 225011_WW_January
SAMPLE DESCRIPTION	: 1 = จุดปล่อยน้ำทิ้งของโครงการ (Holding Basin) ก่อนระบายออกสู่ระบบบำบัดน้ำเสียส่วนกลางของนิคมฯ		

PARAMETER	UNIT	ANALYSIS	ND	STATION	STANDARD ^{1/}
		METHODS	(non-detectable)	1	
Flow Rate*	m ³ /hr	-	-	164	-
Temperature	°C	2550 B	< 0.5	28.5	≤ 45
pH	-	4500-H ⁺ B	< 0.10	7.78	5.5 -9.0
Color	ADMI	2120 F	< 6.0	23.2	≤ 600
Total Dissolved Solids	mg/l	2540 C	< 25	1,432	≤ 3,000
Total Suspended Solids	mg/l	2540 D	< 2.5	11	≤ 200
Free Chlorine	mg/l	4500-Cl G	< 0.01	0.09	≤ 1
Fat Oil & Grease	mg/l	5520 B	< 2.0	ND	≤ 10
BOD ₅	mg/l	5210 B	< 1.0	2.7	≤ 500
COD	mg/l	5220 D	< 40.00	56.45	≤ 750

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 23rd ED. 2017 (AWWA, APHA, WEF)

Khemchuda Insorn

(Miss Khemchuda Insorn)

Analyst

REG. NO. 2-239-ก-0005

Araya Tipparuk

(Mrs. Araya Tipparuk)

Technical Management Team

REG. NO. 2-239-ก-0004

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239 RIMKLONGPRAPA ROAD, BANGSUE, BANGKOK 10800, THAILAND
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WATER AND WASTEWATER ANALYSIS REPORT

CLIENT NAME	: Ratchaburi World Cogeneration Co., Ltd.	REQUEST SERVICE No.	: 0105/68
SAMPLING BY	: SECOT Co., Ltd.	SAMPLING METHOD	: Grab
SAMPLING DATE	: 17/01/2025	SAMPLING TIME	: 13:10
RECEIVED DATE	: 18/01/2025	ANALYTICAL DATE	: 18-23/01/2025
REPORT DATE	: 24/01/2025	SITE OPERATOR	: Mr.Chanapon Oakkharaplon
SAMPLE CONDITION	: Normal	FILE CODE	: 225011_WW_January
SAMPLE DESCRIPTION	: 2 = จุดปล่อยน้ำทิ้งของอาคารสำนักงาน ก่อนปล่อยออกสู่ระบบบำบัดน้ำเสียส่วนกลางของนิคมฯ		

PARAMETER	UNIT	ANALYSIS	ND	STATION	STANDARD ^{1/}
		METHODS	(non-detectable)	2	
Flow Rate*	m ³ /hr	-	-	0.3	-
Temperature	°C	2550 B	< 0.5	28.0	≤ 45
pH	-	4500-H ⁺ B	< 0.10	7.71	5.5 -9.0
Color	ADMI	2120 F	< 6.0	76.8	≤ 600
Total Dissolved Solids	mg/l	2540 C	< 25	397	≤ 3,000
Total Suspended Solids	mg/l	2540 D	< 2.5	46	≤ 200
Free Chlorine	mg/l	4500-Cl G	< 0.01	ND	≤ 1
Fat Oil & Grease	mg/l	5520 B	< 2.0	9.4	≤ 10
BOD ₅	mg/l	5210 B	< 1.0	159	≤ 500
COD	mg/l	5220 D	< 40.00	367	≤ 750

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 23rd ED. 2017 (AWWA, APHA, WEF)

Khemchuda Insorn

(Miss Khemchuda Insorn)

Analyst

REG. NO. 2-239-ก-0005

Araya Tipparuk

(Mrs. Araya Tipparuk)

Technical Management Team

REG. NO. 2-239-ก-0004

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WATER AND WASTEWATER ANALYSIS REPORT

CLIENT NAME	: Ratchaburi World Cogeneration Co., Ltd.	REQUEST SERVICE No.	: 0227/68
SAMPLING BY	: SECOT Co., Ltd.	SAMPLING METHOD	: Grab
SAMPLING DATE	: 07/02/2025	SAMPLING TIME	: 09:00
RECEIVED DATE	: 08/02/2025	ANALYTICAL DATE	: 08-17/02/2025
REPORT DATE	: 17/02/2025	SITE OPERATOR	: Miss Salisa Ainree
SAMPLE CONDITION	: Normal	FILE CODE	: 225011_WW_February
SAMPLE DESCRIPTION	: 1 = จุดปล่อยน้ำทิ้งของโครงการ (Holding Basin) ก่อนระบายออกสู่ระบบบำบัดน้ำเสียส่วนกลางของนิคมฯ		

PARAMETER	UNIT	ANALYSIS METHODS	ND (non-detectable)	STATION	STANDARD ^{1/}
				1	
Flow Rate*	m ³ /hr	-	-	125	-
Temperature	°C	2550 B	< 0.5	29.5	≤ 45
pH	-	4500-H ⁺ B	< 0.10	7.43	5.5 -9.0
Color	ADMI	2120 F	< 6.0	22.1	≤ 600
Total Dissolved Solids	mg/l	2540 C	< 25	1,469	≤ 3,000
Total Suspended Solids	mg/l	2540 D	< 2.5	10	≤ 200
Free Chlorine	mg/l	4500-Cl G	< 0.01	0.12	≤ 1
Fat Oil & Grease	mg/l	5520 B	< 2.0	ND	≤ 10
BOD ₅	mg/l	5210 B	< 1.0	4.3	≤ 500
COD	mg/l	5220 D	< 40.00	< 40.00	≤ 750

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 3rd ED. 2017 (AWWA, APHA, WEF)

(Miss Khemchuda Insorn)

Analyst

REG. NO. 2-239-ก-0005

(Mrs. Araya Tipparuk)

Technical Management Team

REG. NO. 2-239-ก-0004

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WATER AND WASTEWATER ANALYSIS REPORT

CLIENT NAME	: Ratchaburi World Cogeneration Co., Ltd.	REQUEST SERVICE No.	: 0227/68
SAMPLING BY	: SECOT Co., Ltd.	SAMPLING METHOD	: Grab
SAMPLING DATE	: 07/02/2025	SAMPLING TIME	: 09:12
RECEIVED DATE	: 08/02/2025	ANALYTICAL DATE	: 08-17/02/2025
REPORT DATE	: 17/02/2025	SITE OPERATOR	: Miss Salisa Ainree
SAMPLE CONDITION	: Normal	FILE CODE	: 225011_WW_February
SAMPLE DESCRIPTION	: 2 = จุดปล่อยน้ำทิ้งของอาคารสำนักงาน ก่อนปล่อยออกสู่ระบบบำบัดน้ำเสียส่วนกลางของนิคมฯ		

PARAMETER	UNIT	ANALYSIS METHODS	ND (non-detectable)	STATION	STANDARD ^{1/}
				2	
Flow Rate*	m ³ /hr	-	-	0.1	-
Temperature	°C	2550 B	< 0.5	27.6	≤ 45
pH	-	4500-H ⁺ B	< 0.10	7.49	5.5 -9.0
Color	ADMI	2120 F	< 6.0	176	≤ 600
Total Dissolved Solids	mg/l	2540 C	< 25	575	≤ 3,000
Total Suspended Solids	mg/l	2540 D	< 2.5	90	≤ 200
Free Chlorine	mg/l	4500-Cl G	< 0.01	ND	≤ 1
Fat Oil & Grease	mg/l	5520 B	< 2.0	8.8	≤ 10
BOD ₅	mg/l	5210 B	< 1.0	172	≤ 500
COD	mg/l	5220 D	< 40.00	557	≤ 750

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 3rd ED. 2017 (AWWA, APHA, WEF)

(Miss Khemchuda Insorn)

Analyst

REG. NO. 2-239-ก-0005

(Mrs. Araya Tipparuk)

Technical Management Team

REG. NO. 2-239-ก-0004

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WATER AND WASTEWATER ANALYSIS REPORT

CLIENT NAME	: Ratchaburi World Cogeneration Co., Ltd.	REQUEST SERVICE No.	: 0430/68
SAMPLING BY	: SECOT Co., Ltd.	SAMPLING METHOD	: Grab
SAMPLING DATE	: 07/03/2025	SAMPLING TIME	: 14:45
RECEIVED DATE	: 08/03/2025	ANALYTICAL DATE	: 08-16/03/2025
REPORT DATE	: 17/03/2025	SITE OPERATOR	: Mr.Sittichai Sawangwongchai
SAMPLE CONDITION	: Normal	FILE CODE	: 225011_WW_March
SAMPLE DESCRIPTION	: 1 = จุดปล่อยน้ำทิ้งของโครงการ (Holding Basin) ก่อนระบายออกสู่ระบบบำบัดน้ำเสียส่วนกลางของนิคมฯ		

PARAMETER	UNIT	ANALYSIS METHODS	ND (non-detectable)	STATION	STANDARD ^{1/}
				I	
Flow Rate*	m ³ /hr	-	-	128	-
Temperature	°C	2550 B	< 0.5	33.9	≤ 45
pH	-	4500-H ⁺ B	< 0.10	7.17	5.5 -9.0
Color	ADMI	2120 F	< 6.0	19.4	≤ 600
Total Dissolved Solids	mg/l	2540 C	< 25	1,906	≤ 3,000
Total Suspended Solids	mg/l	2540 D	< 2.5	7.6	≤ 200
Free Chlorine	mg/l	4500-Cl G	< 0.01	ND	≤ 1
Fat Oil & Grease	mg/l	5520 B	< 2.0	ND	≤ 10
BOD ₅	mg/l	5210 B	< 1.0	4.6	≤ 500
COD	mg/l	5220 D	< 40.00	< 40.00	≤ 750

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 21st ED., 2017 (AWWA, APHA, WEF)

(Miss Khemchuda Insorn)

Analyst

REG. NO. 2-239-n-0005

(Mrs. Araya Tipparuk)

Technical Management Team

REG. NO. 2-239-n-0004

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239 RIMKLONGPRAPA ROAD, BANGSUE, BANGKOK 10800, THAILAND
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WATER AND WASTEWATER ANALYSIS REPORT

CLIENT NAME	: Ratchaburi World Cogeneration Co., Ltd.	REQUEST SERVICE No.	: 0430/68
SAMPLING BY	: SECOT Co., Ltd.	SAMPLING METHOD	: Grab
SAMPLING DATE	: 07/03/2025	SAMPLING TIME	: 14:55
RECEIVED DATE	: 08/03/2025	ANALYTICAL DATE	: 08-16/03/2025
REPORT DATE	: 17/03/2025	SITE OPERATOR	: Mr.Sittichai Sawangwongchai
SAMPLE CONDITION	: Normal	FILE CODE	: 225011_WW_March
SAMPLE DESCRIPTION	: 2 = จุดปล่อยน้ำทิ้งของอาคารสำนักงาน ก่อนปล่อยออกสู่ระบบบำบัดน้ำเสียส่วนกลางของนิคมฯ		

PARAMETER	UNIT	ANALYSIS METHODS	ND (non-detectable)	STATION	STANDARD ^{1/}
				2	
Flow Rate*	m ³ /hr	-	-	0.1	-
Temperature	°C	2550 B	< 0.5	31.3	≤ 45
pH	-	4500-H ⁺ B	< 0.10	7.52	5.5 -9.0
Color	ADMI	2120 F	< 6.0	169	≤ 600
Total Dissolved Solids	mg/l	2540 C	< 25	514	≤ 3,000
Total Suspended Solids	mg/l	2540 D	< 2.5	40	≤ 200
Free Chlorine	mg/l	4500-Cl G	< 0.01	ND	≤ 1
Fat Oil & Grease	mg/l	5520 B	< 2.0	8.8	≤ 10
BOD ₅	mg/l	5210 B	< 1.0	170	≤ 500
COD	mg/l	5220 D	< 40.00	493	≤ 750

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 21st ED., 2017 (AWWA, APHA, WEF)

(Miss Khemchuda Insorn)

Analyst

REG. NO. 2-239-n-0005

(Mrs. Araya Tipparuk)

Technical Management Team

REG. NO. 2-239-n-0004

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WATER AND WASTEWATER ANALYSIS REPORT

CLIENT NAME	: Ratchaburi World Cogeneration Co., Ltd.	REQUEST SERVICE No.	: 0623/68
SAMPLING BY	: SECOT Co., Ltd.	SAMPLING METHOD	: Grab
SAMPLING DATE	: 04/04/2025	SAMPLING TIME	: 13:41
RECEIVED DATE	: 05/04/2025	ANALYTICAL DATE	: 05-17/04/2025
REPORT DATE	: 17/04/2025	SITE OPERATOR	: Mr.Natthachai Chaiyakhot
SAMPLE CONDITION	: Normal	FILE CODE	: 225011_WW_April
SAMPLE DESCRIPTION	: 1 = จุดปล่อยน้ำทิ้งของโครงการ (Holding Basin) ก่อนระบายออกสู่ระบบบำบัดน้ำเสียส่วนกลางของนิคมฯ		

PARAMETER	UNIT	ANALYSIS	ND	STATION	STANDARD ^{1/}
		METHODS	(non-detectable)	1	
Flow Rate*	m ³ /hr	-	-	155	-
Temperature	°C	2550 B	< 0.5	33.1	≤ 45
pH	-	4500-H ⁺ B	< 0.10	7.76	5.5 -9.0
Color	ADMI	2120 F	< 6.0	21.6	≤ 600
Total Dissolved Solids	mg/l	2540 C	< 25	1,688	≤ 3,000
Total Suspended Solids	mg/l	2540 D	< 2.5	10	≤ 200
Free Chlorine	mg/l	4500-Cl G	< 0.01	0.04	≤ 1
Fat Oil & Grease	mg/l	5520 B	< 2.0	ND	≤ 10
BOD ₅	mg/l	5210 B	< 1.0	2.3	≤ 500
COD	mg/l	5220 D	< 40.00	< 40.00	≤ 750

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 31st ED. 2017 (AWWA, APHA, WEF)

(Miss Khemchuda Insorn)

Analyst

REG. NO. 7-239-ก-0005

(Mrs. Araya Tipparuk)

Technical Management Team

REG. NO. 7-239-ก-0004

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TEL. (662) 959-3600 FAX (662) 959-3535 Website : secot.co.th E-mail : envserv@secot.co.th

WATER AND WASTEWATER ANALYSIS REPORT

CLIENT NAME	: Ratchaburi World Cogeneration Co., Ltd.	REQUEST SERVICE No.	: 0623/68
SAMPLING BY	: SECOT Co., Ltd.	SAMPLING METHOD	: Grab
SAMPLING DATE	: 04/04/2025	SAMPLING TIME	: 13:30
RECEIVED DATE	: 05/04/2025	ANALYTICAL DATE	: 05-17/04/2025
REPORT DATE	: 17/04/2025	SITE OPERATOR	: Mr.Natthachai Chaiyakhot
SAMPLE CONDITION	: Normal	FILE CODE	: 225011_WW_April
SAMPLE DESCRIPTION	: 2 = จุดปล่อยน้ำทิ้งของอาคารสำนักงาน ก่อนปล่อยออกสู่ระบบบำบัดน้ำเสียส่วนกลางของนิคมฯ		

PARAMETER	UNIT	ANALYSIS	ND	STATION	STANDARD ^{1/}
		METHODS	(non-detectable)	2	
Flow Rate*	m ³ /hr	-	-	0.1	-
Temperature	°C	2550 B	< 0.5	31.1	≤ 45
pH	-	4500-H ⁺ B	< 0.10	7.67	5.5 -9.0
Color	ADMI	2120 F	< 6.0	50.0	≤ 600
Total Dissolved Solids	mg/l	2540 C	< 25	346	≤ 3,000
Total Suspended Solids	mg/l	2540 D	< 2.5	46	≤ 200
Free Chlorine	mg/l	4500-Cl G	< 0.01	ND	≤ 1
Fat Oil & Grease	mg/l	5520 B	< 2.0	8.4	≤ 10
BOD ₅	mg/l	5210 B	< 1.0	184	≤ 500
COD	mg/l	5220 D	< 40.00	344	≤ 750

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 31st ED. 2017 (AWWA, APHA, WEF)

(Miss Khemchuda Insorn)

Analyst

REG. NO. 7-239-ก-0005

(Mrs. Araya Tipparuk)

Technical Management Team

REG. NO. 7-239-ก-0004

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WATER AND WASTEWATER ANALYSIS REPORT

CLIENT NAME	: Ratchaburi World Cogeneration Co., Ltd.	REQUEST SERVICE No.	: 0769/68
SAMPLING BY	: SECOT Co., Ltd.	SAMPLING METHOD	: Grab
SAMPLING DATE	: 02/05/2025	SAMPLING TIME	: 13:40
RECEIVED DATE	: 03/05/2025	ANALYTICAL DATE	: 03-13/05/2025
REPORT DATE	: 13/05/2025	SITE OPERATOR	: Mr.Natthachai Chaiyakhot
SAMPLE CONDITION	: Normal	FILE CODE	: 225011_WW_May
SAMPLE DESCRIPTION	: 1 = จุดปล่อยน้ำทิ้งของโครงการ (Holding Basin) ก่อนระบายออกสู่ระบบบำบัดน้ำเสียส่วนกลางของนิคมฯ		

PARAMETER	UNIT	ANALYSIS	ND	STATION	STANDARD ^{1/}
		METHODS	(non-detectable)	1	
Flow Rate*	m ³ /hr	-	-	138	-
Temperature	°C	2550 B	< 0.5	33.8	≤ 45
pH	-	4500-H ⁺ B	< 0.10	8.24	5.5 -9.0
Color	ADMI	2120 F	< 6.0	35.4	≤ 600
Total Dissolved Solids	mg/l	2540 C	< 25	1,396	≤ 3,000
Total Suspended Solids	mg/l	2540 D	< 2.5	10	≤ 200
Free Chlorine	mg/l	4500-Cl G	< 0.01	0.06	≤ 1
Fat Oil & Grease	mg/l	5520 B	< 2.0	ND	≤ 10
BOD ₅	mg/l	5210 B	< 1.0	3.8	≤ 500
COD	mg/l	5220 D	< 40.00	< 40.00	≤ 750

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 31st ED. 2017 (AWWA, APHA, WEF)

(Miss Khemchuda Insorn)

Analyst

REG. NO. 2-239-ก-0005

(Mrs. Araya Tipparuk)

Technical Management Team

REG. NO. 2-239-ก-0004

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WATER AND WASTEWATER ANALYSIS REPORT

CLIENT NAME	: Ratchaburi World Cogeneration Co., Ltd.	REQUEST SERVICE No.	: 0769/68
SAMPLING BY	: SECOT Co., Ltd.	SAMPLING METHOD	: Grab
SAMPLING DATE	: 02/05/2025	SAMPLING TIME	: 13:20
RECEIVED DATE	: 03/05/2025	ANALYTICAL DATE	: 03-13/05/2025
REPORT DATE	: 13/05/2025	SITE OPERATOR	: Mr.Natthachai Chaiyakhot
SAMPLE CONDITION	: Normal	FILE CODE	: 225011_WW_May
SAMPLE DESCRIPTION	: 2 = จุดปล่อยน้ำทิ้งของอาคารสำนักงาน ก่อนปล่อยออกสู่ระบบบำบัดน้ำเสียส่วนกลางของนิคมฯ		

PARAMETER	UNIT	ANALYSIS	ND	STATION	STANDARD ^{1/}
		METHODS	(non-detectable)	2	
Flow Rate*	m ³ /hr	-	-	0.1	-
Temperature	°C	2550 B	< 0.5	32.6	≤ 45
pH	-	4500-H ⁺ B	< 0.10	7.55	5.5 -9.0
Color	ADMI	2120 F	< 6.0	314	≤ 600
Total Dissolved Solids	mg/l	2540 C	< 25	342	≤ 3,000
Total Suspended Solids	mg/l	2540 D	< 2.5	80	≤ 200
Free Chlorine	mg/l	4500-Cl G	< 0.01	ND	≤ 1
Fat Oil & Grease	mg/l	5520 B	< 2.0	2.9	≤ 10
BOD ₅	mg/l	5210 B	< 1.0	218	≤ 500
COD	mg/l	5220 D	< 40.00	428	≤ 750

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 31st ED. 2017 (AWWA, APHA, WEF)

(Miss Khemchuda Insorn)

Analyst

REG. NO. 2-239-ก-0005

(Mrs. Araya Tipparuk)

Technical Management Team

REG. NO. 2-239-ก-0004

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WATER AND WASTEWATER ANALYSIS REPORT

CLIENT NAME	: Ratchaburi World Cogeneration Co., Ltd.	REQUEST SERVICE No.	: 1016/68
SAMPLING BY	: SECOT Co., Ltd.	SAMPLING METHOD	: Grab
SAMPLING DATE	: 04/06/2025	SAMPLING TIME	: 11:37
RECEIVED DATE	: 05/06/2025	ANALYTICAL DATE	: 05-12/06/2025
REPORT DATE	: 12/06/2025	SITE OPERATOR	: Mr. Chitpon Somprasong
SAMPLE CONDITION	: Normal	FILE CODE	: 225011_WW_June
SAMPLE DESCRIPTION	: 1 = จุดปล่อยน้ำทิ้งของโครงการ (Holding Basin) ก่อนระบายออกสู่ระบบบำบัดน้ำเสียส่วนกลางของนิคมฯ		

PARAMETER	UNIT	ANALYSIS	ND	STATION	STANDARD ^{1/}
		METHODS	(non-detectable)	1	
Flow Rate*	m ³ /hr	-	-	142	-
Temperature	°C	2550 B	< 0.5	33.6	≤ 45
pH	-	4500-H ⁺ B	< 0.10	7.29	5.5 - 9.0
Color	ADMI	2120 F	< 6.0	42.9	≤ 600
Total Dissolved Solids	mg/l	2540 C	< 25	1,392	≤ 3,000
Total Suspended Solids	mg/l	2540 D	< 2.5	11	≤ 200
Free Chlorine	mg/l	4500-Cl G	< 0.01	0.11	≤ 1
Fat Oil & Grease	mg/l	5520 B	< 2.0	ND	≤ 10
BOD ₅	mg/l	5210 B	< 1.0	2.5	≤ 500
COD	mg/l	5220 D	< 40.00	41.38	≤ 750

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 21st ED. 2012 (AWWA, APHA, WEF)

(Miss Khemchuda Insorn)

Analyst

REG. NO. 2-239-ก-0005

(Mrs. Araya Tipparuk)

Technical Management Team

REG. NO. 2-239-ก-0004

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WATER AND WASTEWATER ANALYSIS REPORT

CLIENT NAME	: Ratchaburi World Cogeneration Co., Ltd.	REQUEST SERVICE No.	: 1016/68
SAMPLING BY	: SECOT Co., Ltd.	SAMPLING METHOD	: Grab
SAMPLING DATE	: 04/06/2025	SAMPLING TIME	: 11:47
RECEIVED DATE	: 05/06/2025	ANALYTICAL DATE	: 05-12/06/2025
REPORT DATE	: 12/06/2025	SITE OPERATOR	: Mr. Chitpon Somprasong
SAMPLE CONDITION	: Normal	FILE CODE	: 225011_WW_June
SAMPLE DESCRIPTION	: 2 = จุดปล่อยน้ำทิ้งของอาคารสำนักงาน ก่อนปล่อยออกสู่ระบบบำบัดน้ำเสียส่วนกลางของนิคมฯ		

PARAMETER	UNIT	ANALYSIS	ND	STATION	STANDARD ^{1/}
		METHODS	(non-detectable)	2	
Flow Rate*	m ³ /hr	-	-	0.1	-
Temperature	°C	2550 B	< 0.5	32.4	≤ 45
pH	-	4500-H ⁺ B	< 0.10	7.15	5.5 - 9.0
Color	ADMI	2120 F	< 6.0	377	≤ 600
Total Dissolved Solids	mg/l	2540 C	< 25	496	≤ 3,000
Total Suspended Solids	mg/l	2540 D	< 2.5	74	≤ 200
Free Chlorine	mg/l	4500-Cl G	< 0.01	ND	≤ 1
Fat Oil & Grease	mg/l	5520 B	< 2.0	8.1	≤ 10
BOD ₅	mg/l	5210 B	< 1.0	286	≤ 500
COD	mg/l	5220 D	< 40.00	628	≤ 750

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 21st ED. 2012 (AWWA, APHA, WEF)

(Miss Khemchuda Insorn)

Analyst

REG. NO. 2-239-ก-0005

(Mrs. Araya Tipparuk)

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REG. NO. 2-239-ก-0004

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ระดับเสียงทั่วไปในบรรยากาศ



Noise Monitoring Result : Community Noise MTR-RW Cogen

Location : West Fence Monitor Period : 04-09 Jun 2025
SLM Model : Cirrus CR162B Serial No : G302740
Site Operator : Mr.Supakit Tamooka

Calibrator Model : Cirrus CR:515 Serial No : 97097
Calibration Ref dB(A) : 94.0 Certified Date : 02 Oct 2024
SLM Reading / Adjust dB(A) : 93.7/0.0 Expire Date : 01 Oct 2025
Cal Sheet No.: CR-515-2025-148

Time	Equivalent Sound Pressure Level (dB(A))				
	04-05 Jun 2025	05-06 Jun 2025	06-07 Jun 2025	07-08 Jun 2025	08-09 Jun 2025
10:00 - 11:00	54.2	54.7	56.2	55.5	52.3
11:00 - 12:00	55.5	55.1	55.2	54.7	53.5
12:00 - 13:00	53.4	54.0	54.2	54.4	51.8
13:00 - 14:00	54.4	54.1	54.7	54.3	52.9
14:00 - 15:00	54.3	54.7	54.5	55.2	53.8
15:00 - 16:00	54.5	55.0	55.1	55.8	53.6
16:00 - 17:00	56.3	55.2	54.7	56.7	55.8
17:00 - 18:00	56.1	58.7	56.6	58.8	56.0
18:00 - 19:00	62.1	61.8	60.9	60.9	59.5
19:00 - 20:00	62.1	62.9	61.3	62.0	62.2
20:00 - 21:00	56.5	60.8	55.3	55.8	55.2
21:00 - 22:00	55.7	57.1	54.1	54.9	54.3
22:00 - 23:00	55.6	56.2	54.4	55.1	53.7
23:00 - 00:00	55.2	55.7	54.1	55.2	53.5
00:00 - 01:00	55.4	56.0	54.9	56.0	53.3
01:00 - 02:00	54.7	55.0	54.2	59.9	54.1
02:00 - 03:00	55.0	55.0	53.8	55.7	55.9
03:00 - 04:00	59.9	58.1	57.0	59.6	59.6
04:00 - 05:00	67.0	66.8	65.7	68.9	68.6
05:00 - 06:00	66.2	66.7	66.3	67.4	67.3
06:00 - 07:00	58.6	56.7	54.8	55.5	56.0
07:00 - 08:00	57.3	57.6	55.9	57.7	55.3
08:00 - 09:00	56.0	56.7	54.8	55.8	54.4
09:00 - 10:00	54.8	55.7	54.5	52.8	56.8
Leq(24)*	59.3	59.6	58.5	60.1	59.5
Ldn	67.4	67.4	66.5	68.7	68.2
Lmax **	84.1	82.3	81.2	82.9	85.3
Standard-24Hr	70 dB(A)				
Standard-Max	115 dB(A)				

Remark : * Average time between 10:00-10:00

** Maximum Sound Pressure Level between 10:00-10:00

(Miss Katesarin Vorradetwittaya)
Environmental Scientist

(Miss Preeda Somjai)
Technical Management Team



Noise Monitoring Result : Background Noise MTR-RW Cogen

Location : West Fence Monitor Period : 04-09 Jun 2025
SLM Model : Cirrus CR162B Serial No : G302740
Site Operator : Mr.Supakit Tamooka

Calibrator Model : Cirrus CR:515 Serial No : 97097
Calibration Ref dB(A) : 94.0 Certified Date : 02 Oct 2024
SLM Reading / Adjust dB(A) : 93.7/0.0 Expire Date : 01 Oct 2025
Cal Sheet No.: CR-515-2025-148

Time	L90 (dB(A))				
	04-05 Jun 2025	05-06 Jun 2025	06-07 Jun 2025	07-08 Jun 2025	08-09 Jun 2025
10:00 - 11:00	52.5	53.0	53.7	52.5	50.6
11:00 - 12:00	52.8	52.5	52.8	52.3	50.8
12:00 - 13:00	52.0	52.5	52.8	51.7	49.8
13:00 - 14:00	51.7	52.4	52.9	52.9	50.6
14:00 - 15:00	52.2	52.7	52.5	53.2	52.2
15:00 - 16:00	52.4	53.0	53.0	54.6	52.2
16:00 - 17:00	53.4	53.2	53.4	54.3	53.9
17:00 - 18:00	54.0	55.2	54.5	55.2	53.9
18:00 - 19:00	56.2	57.2	56.4	55.7	54.2
19:00 - 20:00	56.3	57.8	55.7	56.0	55.6
20:00 - 21:00	54.7	57.9	54.1	54.7	53.4
21:00 - 22:00	54.7	56.2	53.7	54.4	53.4
22:00 - 23:00	54.7	55.4	53.6	54.5	53.2
23:00 - 00:00	54.6	55.0	53.5	54.4	52.8
00:00 - 01:00	54.5	54.8	53.7	54.1	52.6
01:00 - 02:00	54.3	54.6	53.6	54.5	52.8
02:00 - 03:00	54.4	54.5	53.3	53.9	54.2
03:00 - 04:00	55.5	55.2	53.9	54.2	55.2
04:00 - 05:00	63.6	62.2	61.1	64.8	65.0
05:00 - 06:00	58.9	58.6	56.3	57.4	56.9
06:00 - 07:00	55.1	54.9	53.6	53.3	54.1
07:00 - 08:00	54.4	55.2	53.3	52.4	53.1
08:00 - 09:00	53.8	54.8	53.0	51.9	53.0
09:00 - 10:00	53.4	53.5	52.8	50.5	53.4
L90(avg)*	55.6	55.9	54.6	55.7	55.4

Remark : * Average time between 10:00-10:00

(Miss Katesarin Vorradetwittaya)
Environmental Scientist

(Miss Preeda Somjai)
Technical Management Team



Noise Monitoring Result : Community Noise MTR-RW Cogen

Location : Plai Klong makham Community	Monitor Period : 04-09 Jun 2025
SLM Model : Cirrus CR162B	Serial No : G302333
Site Operator : Mr.Supakit Tamooka	
Calibrator Model : Cirrus CR:515	Serial No : 97097
Calibration Ref dB(A) : 94.0	Certified Date : 02 Oct 2024
SLM Reading / Adjust dB(A) : 93.7/0.0	Expire Date : 01 Oct 2025
Cal Sheet No.: CR-515-2025-148	

Time	Equivalent Sound Pressure Level (dB(A))				
	04-05 Jun 2025	05-06 Jun 2025	06-07 Jun 2025	07-08 Jun 2025	08-09 Jun 2025
12:00 ~ 13:00	46.6	44.3	45.6	44.8	47.7
13:00 ~ 14:00	45.9	43.0	45.4	45.1	53.2
14:00 ~ 15:00	43.8	43.8	45.8	55.3	48.2
15:00 ~ 16:00	48.6	46.1	60.6	51.1	50.4
16:00 ~ 17:00	51.1	44.9	52.0	55.8	44.1
17:00 ~ 18:00	47.1	47.6	51.5	57.4	49.5
18:00 ~ 19:00	53.1	48.8	54.6	55.3	51.9
19:00 ~ 20:00	51.4	54.2	55.3	52.1	49.1
20:00 ~ 21:00	51.8	57.0	53.7	50.7	47.6
21:00 ~ 22:00	53.8	54.6	54.6	50.0	46.7
22:00 ~ 23:00	52.8	55.3	56.5	50.7	49.4
23:00 ~ 00:00	51.8	58.3	55.7	51.1	46.5
00:00 ~ 01:00	45.9	55.5	51.1	42.8	46.8
01:00 ~ 02:00	41.4	48.8	45.0	40.7	45.0
02:00 ~ 03:00	39.7	43.0	50.0	43.4	48.3
03:00 ~ 04:00	40.3	42.7	39.1	38.6	40.0
04:00 ~ 05:00	42.5	42.8	42.9	42.5	40.7
05:00 ~ 06:00	52.0	51.1	53.5	53.6	53.6
06:00 ~ 07:00	49.4	48.8	56.0	58.4	54.0
07:00 ~ 08:00	48.0	47.7	49.6	49.4	48.5
08:00 ~ 09:00	48.1	46.9	48.2	46.5	46.9
09:00 ~ 10:00	45.9	48.0	45.7	49.6	52.2
10:00 ~ 11:00	48.3	45.3	46.0	49.4	50.9
11:00 ~ 12:00	46.4	47.6	48.9	50.5	52.0
Leq(24)*	49.3	51.4	53.0	52.0	49.7
Ldn	55.3	58.9	59.3	58.0	55.9
Lmax **	82.7	76.5	87.3	78.2	78.1
Standard-24Hr	70 dB(A)				
Standard-Max	115 dB(A)				

Remark : * Average time between 12:00-12:00

** Maximum Sound Pressure Level between 12:00-12:00

(Miss Katesarin Vorradetwittaya)
Environmental Scientist

(Miss Preeda Somjai)
Technical Management Team



Noise Monitoring Result : Background Noise MTR-RW Cogen

Location : Plai Klong makham Community	Monitor Period : 04-09 Jun 2025
SLM Model : Cirrus CR162B	Serial No : G302333
Site Operator : Mr.Supakit Tamooka	
Calibrator Model : Cirrus CR:515	Serial No : 97097
Calibration Ref dB(A) : 94.0	Certified Date : 02 Oct 2024
SLM Reading / Adjust dB(A) : 93.7/0.0	Expire Date : 01 Oct 2025
Cal Sheet No.: CR-515-2025-148	

Time	L90 (dB(A))				
	04-05 Jun 2025	05-06 Jun 2025	06-07 Jun 2025	07-08 Jun 2025	08-09 Jun 2025
12:00 ~ 13:00	37.3	36.8	39.2	37.8	37.9
13:00 ~ 14:00	37.8	36.9	38.0	36.2	40.3
14:00 ~ 15:00	37.6	38.0	38.2	42.1	38.2
15:00 ~ 16:00	38.6	37.9	47.0	43.5	42.9
16:00 ~ 17:00	40.5	38.5	42.7	46.0	40.5
17:00 ~ 18:00	42.9	40.0	45.1	50.5	43.7
18:00 ~ 19:00	45.3	43.7	47.9	50.4	44.6
19:00 ~ 20:00	49.1	47.0	53.2	49.6	45.7
20:00 ~ 21:00	49.8	53.7	51.6	46.8	43.9
21:00 ~ 22:00	50.0	52.7	51.3	46.6	41.8
22:00 ~ 23:00	50.7	53.4	55.2	49.1	38.3
23:00 ~ 00:00	47.8	57.2	53.5	44.8	37.5
00:00 ~ 01:00	40.8	52.3	46.6	39.3	35.4
01:00 ~ 02:00	38.1	44.9	40.6	38.1	34.4
02:00 ~ 03:00	36.2	39.9	38.1	37.5	34.2
03:00 ~ 04:00	36.2	38.3	35.5	36.4	35.0
04:00 ~ 05:00	36.6	40.4	37.7	38.6	36.1
05:00 ~ 06:00	40.1	43.1	42.5	41.2	38.8
06:00 ~ 07:00	43.3	43.3	49.8	50.1	47.7
07:00 ~ 08:00	42.5	42.4	42.0	41.7	41.4
08:00 ~ 09:00	40.0	41.7	39.8	38.9	38.6
09:00 ~ 10:00	38.9	41.2	39.0	38.4	40.2
10:00 ~ 11:00	39.1	38.8	40.6	38.0	38.9
11:00 ~ 12:00	38.2	39.0	38.1	37.0	41.4
L90(avg)*	44.4	48.3	47.9	45.2	41.4

Remark : * Average time between 12:00-12:00

(Miss Katesarin Vorradetwittaya)
Environmental Scientist

(Miss Preeda Somjai)
Technical Management Team

ระดับเสียงในสถานที่ทำงาน



Noise Monitoring Result : Working Noise

MTR-RW Cogen

LOCATION	: GTG 11	MEASUREMENT DATE	: 07-02-2025
SLM MODEL	: SCARLET TECH ST-21D	SERIAL No.	: 820729
SITE OPERATOR	: Miss Salisa Ainree		


CALIBRATOR MODEL	: Cirrus CR:515	SERIAL No.	: 97097
CALIBRATION REF/EFF dB(A)	: 94.0/93.8	CERTIFIED DATE	: 02-10-2024
SLM READING/ADJUST dB(A)	: 93.8/0.0	EXPIRE DATE	: 01-10-2025
CAL SHEET No.	: CAL-2502-0036-01		

TIME	EQUIVALENT SOUND PRESSURE LEVEL (dB(A))	
	07-02-2025	
00:00 - 01:00		
01:00 - 02:00		
02:00 - 03:00		
03:00 - 04:00		
04:00 - 05:00		
05:00 - 06:00		
06:00 - 07:00		
07:00 - 08:00		
08:00 - 09:00	78.7	
09:00 - 10:00	78.9	
10:00 - 11:00	78.7	
11:00 - 12:00	79.0	
12:00 - 13:00	79.8	
13:00 - 14:00	81.2	
14:00 - 15:00	81.9	
15:00 - 16:00	82.5	
16:00 - 17:00		
17:00 - 18:00		
18:00 - 19:00		
19:00 - 20:00		
20:00 - 21:00		
21:00 - 22:00		
22:00 - 23:00		
23:00 - 00:00		

Leq(8)	80.3
Lmax	86.9
Standard*	90 dB(A)
Standard-Max	140 dB(A)

Remark : * Notification of Ministry of Industry, B.E.2546


(Miss Katesarin Vorradetwittaya)
Environmental Scientist


(Miss Sununta Sirawuttinanon)
Technical Management Team



Noise Monitoring Result : Working Noise

MTR-RW Cogen

LOCATION	: GTG 12	MEASUREMENT DATE	: 07-02-2025
SLM MODEL	: SCARLET TECH ST-21D	SERIAL No.	: 820726
SITE OPERATOR	: Miss Salisa Ainree		

CALIBRATOR MODEL	: Cirrus CR:515	SERIAL No.	: 97097
CALIBRATION REF/EFF dB(A)	: 94.0/93.8	CERTIFIED DATE	: 02-10-2024
SLM READING/ADJUST dB(A)	: 93.8/0.0	EXPIRE DATE	: 01-10-2025
CAL SHEET No.	: CAL-2502-0036-01		

TIME	EQUIVALENT SOUND PRESSURE LEVEL (dB(A))	
	07-02-2025	
00:00 - 01:00		
01:00 - 02:00		
02:00 - 03:00		
03:00 - 04:00		
04:00 - 05:00		
05:00 - 06:00		
06:00 - 07:00		
07:00 - 08:00		
08:00 - 09:00	79.2	
09:00 - 10:00	79.1	
10:00 - 11:00	79.1	
11:00 - 12:00	79.2	
12:00 - 13:00	79.3	
13:00 - 14:00	79.2	
14:00 - 15:00	79.1	
15:00 - 16:00	79.1	
16:00 - 17:00		
17:00 - 18:00		
18:00 - 19:00		
19:00 - 20:00		
20:00 - 21:00		
21:00 - 22:00		
22:00 - 23:00		
23:00 - 00:00		

Leq(8)	79.2
Lmax	91.2
Standard*	90 dB(A)
Standard-Max	140 dB(A)

Remark : * Notification of Ministry of Industry, B.E.2546


(Miss Katesarin Vorradetwittaya)
Environmental Scientist


(Miss Sununta Sirawuttinanon)
Technical Management Team



Noise Monitoring Result : Working Noise

MTR-RW Cogen

LOCATION	: GTG 21	MEASUREMENT DATE	: 07-02-2025
SLM MODEL	: SCARLET TECH ST-21D	SERIAL No.	: 820731
SITE OPERATOR	: Miss Salisa Ainree		


CALIBRATOR MODEL	: Cirrus CR:515	SERIAL No.	: 97097
CALIBRATION REF/EFF dB(A)	: 94.0/93.8	CERTIFIED DATE	: 02-10-2024
SLM READING/ADJUST dB(A)	: 93.8/0.0	EXPIRE DATE	: 01-10-2025
CAL SHEET No.	: CAL-2502-0036-01		

TIME	EQUIVALENT SOUND PRESSURE LEVEL (dB(A))	
	07-02-2025	
00:00 - 01:00		
01:00 - 02:00		
02:00 - 03:00		
03:00 - 04:00		
04:00 - 05:00		
05:00 - 06:00		
06:00 - 07:00		
07:00 - 08:00		
08:00 - 09:00	81.3	
09:00 - 10:00	81.6	
10:00 - 11:00	81.4	
11:00 - 12:00	81.7	
12:00 - 13:00	81.3	
13:00 - 14:00	81.2	
14:00 - 15:00	81.1	
15:00 - 16:00	81.1	
16:00 - 17:00		
17:00 - 18:00		
18:00 - 19:00		
19:00 - 20:00		
20:00 - 21:00		
21:00 - 22:00		
22:00 - 23:00		
23:00 - 00:00		

Leq(8)	81.3
Lmax	84.6
Standard*	90 dB(A)
Standard-Max	140 dB(A)

Remark : * Notification of Ministry of Industry, B.E.2546


(Miss Katesarin Vorradetwitaya)
Environmental Scientist


(Miss Sununta Sirawuttinanon)
Technical Management Team



Noise Monitoring Result : Working Noise

MTR-RW Cogen

LOCATION	: GTG 22	MEASUREMENT DATE	: 07-02-2025
SLM MODEL	: SCARLET TECH ST-21D	SERIAL No.	: 820727
SITE OPERATOR	: Miss Salisa Ainree		

CALIBRATOR MODEL	: Cirrus CR:515	SERIAL No.	: 97097
CALIBRATION REF/EFF dB(A)	: 94.0/93.8	CERTIFIED DATE	: 02-10-2024
SLM READING/ADJUST dB(A)	: 93.8/0.0	EXPIRE DATE	: 01-10-2025
CAL SHEET No.	: CAL-2502-0036-01		

TIME	EQUIVALENT SOUND PRESSURE LEVEL (dB(A))	
	07-02-2025	
00:00 - 01:00		
01:00 - 02:00		
02:00 - 03:00		
03:00 - 04:00		
04:00 - 05:00		
05:00 - 06:00		
06:00 - 07:00		
07:00 - 08:00		
08:00 - 09:00	80.4	
09:00 - 10:00	80.7	
10:00 - 11:00	80.3	
11:00 - 12:00	80.0	
12:00 - 13:00	79.0	
13:00 - 14:00	78.9	
14:00 - 15:00	77.9	
15:00 - 16:00	77.8	
16:00 - 17:00		
17:00 - 18:00		
18:00 - 19:00		
19:00 - 20:00		
20:00 - 21:00		
21:00 - 22:00		
22:00 - 23:00		
23:00 - 00:00		

Leq(8)	79.5
Lmax	92.4
Standard*	90 dB(A)
Standard-Max	140 dB(A)

Remark : * Notification of Ministry of Industry, B.E.2546


(Miss Katesarin Vorradetwitaya)
Environmental Scientist


(Miss Sununta Sirawuttinanon)
Technical Management Team



Noise Monitoring Result : Working Noise

MTR-RW Cogen

LOCATION	: Air Compressor Block 1	MEASUREMENT DATE	: 07-02-2025
SLM MODEL	: SCARLET TECH ST-21D	SERIAL No.	: 820722
SITE OPERATOR	: Miss Salisa Ainree		


CALIBRATOR MODEL	: Cirrus CR:515	SERIAL No.	: 97097
CALIBRATION REF/EFF dB(A)	: 94.0/93.8	CERTIFIED DATE	: 02-10-2024
SLM READING/ADJUST dB(A)	: 93.8/0.0	EXPIRE DATE	: 01-10-2025
CAL SHEET No.	: CAL-2502-0036-01		

TIME	EQUIVALENT SOUND PRESSURE LEVEL (dB(A))	
	07-02-2025	
00:00 - 01:00		
01:00 - 02:00		
02:00 - 03:00		
03:00 - 04:00		
04:00 - 05:00		
05:00 - 06:00		
06:00 - 07:00		
07:00 - 08:00		
08:00 - 09:00		76.5
09:00 - 10:00		77.1
10:00 - 11:00		76.9
11:00 - 12:00		76.9
12:00 - 13:00		77.0
13:00 - 14:00		77.2
14:00 - 15:00		77.3
15:00 - 16:00		77.2
16:00 - 17:00		
17:00 - 18:00		
18:00 - 19:00		
19:00 - 20:00		
20:00 - 21:00		
21:00 - 22:00		
22:00 - 23:00		
23:00 - 00:00		

Leq(8)	77.0
Lmax	83.2
Standard*	90 dB(A)
Standard-Max	140 dB(A)

Remark : * Notification of Ministry of Industry, B.E.2546


(Miss Katesarin Vorradetwittaya)
Environmental Scientist


(Miss Sununta Sirawuttinanon)
Technical Management Team



Noise Monitoring Result : Working Noise

MTR-RW Cogen

LOCATION	: Air Compressor Block 2	MEASUREMENT DATE	: 07-02-2025
SLM MODEL	: SCARLET TECH ST-21D	SERIAL No.	: 820725
SITE OPERATOR	: Miss Salisa Ainree		


CALIBRATOR MODEL	: Cirrus CR:515	SERIAL No.	: 97097
CALIBRATION REF/EFF dB(A)	: 94.0/93.8	CERTIFIED DATE	: 02-10-2024
SLM READING/ADJUST dB(A)	: 93.8/0.0	EXPIRE DATE	: 01-10-2025
CAL SHEET No.	: CAL-2502-0036-01		

TIME	EQUIVALENT SOUND PRESSURE LEVEL (dB(A))	
	07-02-2025	
00:00 - 01:00		
01:00 - 02:00		
02:00 - 03:00		
03:00 - 04:00		
04:00 - 05:00		
05:00 - 06:00		
06:00 - 07:00		
07:00 - 08:00		
08:00 - 09:00		76.1
09:00 - 10:00		75.9
10:00 - 11:00		75.8
11:00 - 12:00		75.6
12:00 - 13:00		75.4
13:00 - 14:00		75.5
14:00 - 15:00		75.5
15:00 - 16:00		75.3
16:00 - 17:00		
17:00 - 18:00		
18:00 - 19:00		
19:00 - 20:00		
20:00 - 21:00		
21:00 - 22:00		
22:00 - 23:00		
23:00 - 00:00		

Leq(8)	75.6
Lmax	83.2
Standard*	90 dB(A)
Standard-Max	140 dB(A)

Remark : * Notification of Ministry of Industry, B.E.2546


(Miss Katesarin Vorradetwittaya)
Environmental Scientist


(Miss Sununta Sirawuttinanon)
Technical Management Team



Noise Monitoring Result : Working Noise

MTR-RW Cogen

LOCATION	: STG 1	MEASUREMENT DATE	: 07-02-2025
SLM MODEL	: SCARLET TECH ST-21D	SERIAL No.	: 820723
SITE OPERATOR	: Miss Salisa Ainree		
CALIBRATOR MODEL	: Cirrus CR:515	SERIAL No.	: 97097
CALIBRATION REF/EFF dB(A)	: 94.0/93.8	CERTIFIED DATE	: 02-10-2024
SLM READING/ADJUST dB(A)	: 93.8/0.0	EXPIRE DATE	: 01-10-2025
CAL SHEET No.	: CAL-2502-0036-01		
TIME	EQUIVALENT SOUND PRESSURE LEVEL (dB(A))		
	07-02-2025		
00:00 - 01:00			
01:00 - 02:00			
02:00 - 03:00			
03:00 - 04:00			
04:00 - 05:00			
05:00 - 06:00			
06:00 - 07:00			
07:00 - 08:00			
08:00 - 09:00		80.5	
09:00 - 10:00		81.3	
10:00 - 11:00		80.5	
11:00 - 12:00		79.9	
12:00 - 13:00		79.6	
13:00 - 14:00		78.5	
14:00 - 15:00		78.4	
15:00 - 16:00		79.1	
16:00 - 17:00			
17:00 - 18:00			
18:00 - 19:00			
19:00 - 20:00			
20:00 - 21:00			
21:00 - 22:00			
22:00 - 23:00			
23:00 - 00:00			
Leq(8)		79.8	
Lmax		85.1	
Standard*		90 dB(A)	
Standard-Max		140 dB(A)	

Remark : * Notification of Ministry of Industry, B.E.2546


(Miss Katesarin Vorradetwitaya)
Environmental Scientist


(Miss Sununta Sirawuttinanon)
Technical Management Team




Noise Monitoring Result : Working Noise

MTR-RW Cogen

LOCATION	: STG 2	MEASUREMENT DATE	: 07-02-2025
SLM MODEL	: SCARLET TECH ST-21D	SERIAL No.	: 820728
SITE OPERATOR	: Miss Salisa Ainree		
CALIBRATOR MODEL	: Cirrus CR:515	SERIAL No.	: 97097
CALIBRATION REF/EFF dB(A)	: 94.0/93.8	CERTIFIED DATE	: 02-10-2024
SLM READING/ADJUST dB(A)	: 93.8/0.0	EXPIRE DATE	: 01-10-2025
CAL SHEET No.	: CAL-2502-0036-01		
TIME	EQUIVALENT SOUND PRESSURE LEVEL (dB(A))		
	07-02-2025		
00:00 - 01:00			
01:00 - 02:00			
02:00 - 03:00			
03:00 - 04:00			
04:00 - 05:00			
05:00 - 06:00			
06:00 - 07:00			
07:00 - 08:00			
08:00 - 09:00		79.2	
09:00 - 10:00		79.7	
10:00 - 11:00		80.2	
11:00 - 12:00		80.1	
12:00 - 13:00		81.4	
13:00 - 14:00		81.9	
14:00 - 15:00		82.5	
15:00 - 16:00		82.1	
16:00 - 17:00			
17:00 - 18:00			
18:00 - 19:00			
19:00 - 20:00			
20:00 - 21:00			
21:00 - 22:00			
22:00 - 23:00			
23:00 - 00:00			
Leq(8)		81.0	
Lmax		86.2	
Standard*		90 dB(A)	
Standard-Max		140 dB(A)	

Remark : * Notification of Ministry of Industry, B.E.2546


(Miss Katesarin Vorradetwitaya)
Environmental Scientist


(Miss Sununta Sirawuttinanon)
Technical Management Team



Noise Monitoring Result : Working Noise

MTR-RW Cogen

LOCATION	: GTG 11	MEASUREMENT DATE	: 29/05/2025
SLM MODEL	: SCARLET TECH ST-21D	SERIAL No.	: 820722
SITE OPERATOR	: Miss Salisa Ainree		


CALIBRATOR MODEL	: Citrus CR:515	SERIAL No.	: 97097
CALIBRATION REF/EFF dB(A)	: 94.0/93.8	CERTIFIED DATE	: 02/10/2024
SLM READING/ADJUST dB(A)	: 93.8/0.0	EXPIRE DATE	: 01/10/2025
CAL SHEET No.	: CAL-2505-0018-01		

TIME	EQUIVALENT SOUND PRESSURE LEVEL (dB(A))
	29/05/2025
00:00 - 01:00	
01:00 - 02:00	
02:00 - 03:00	
03:00 - 04:00	
04:00 - 05:00	
05:00 - 06:00	
06:00 - 07:00	
07:00 - 08:00	
08:00 - 09:00	80.0
09:00 - 10:00	79.8
10:00 - 11:00	79.9
11:00 - 12:00	79.3
12:00 - 13:00	79.0
13:00 - 14:00	79.3
14:00 - 15:00	79.6
15:00 - 16:00	79.9
16:00 - 17:00	
17:00 - 18:00	
18:00 - 19:00	
19:00 - 20:00	
20:00 - 21:00	
21:00 - 22:00	
22:00 - 23:00	
23:00 - 00:00	

Leq(8)	79.6
Lmax	85.0
Standard*	90 dB(A)
Standard-Max	140 dB(A)

Remark : * Notification of Ministry of Industry, B.E.2546


(Miss Katesarin Vorradetwittaya)
Environmental Scientist


(Miss Sununta Sirawuttinanon)
Technical Management Team



Noise Monitoring Result : Working Noise

MTR-RW Cogen

LOCATION	: GTG 12	MEASUREMENT DATE	: 29/05/2025
SLM MODEL	: SCARLET TECH ST-21D	SERIAL No.	: 820723
SITE OPERATOR	: Miss Salisa Ainree		

CALIBRATOR MODEL	: Citrus CR:515	SERIAL No.	: 97097
CALIBRATION REF/EFF dB(A)	: 94.0/93.8	CERTIFIED DATE	: 02/10/2024
SLM READING/ADJUST dB(A)	: 93.8/0.0	EXPIRE DATE	: 01/10/2025
CAL SHEET No.	: CAL-2505-0018-01		

TIME	EQUIVALENT SOUND PRESSURE LEVEL (dB(A))
	29/05/2025
00:00 - 01:00	
01:00 - 02:00	
02:00 - 03:00	
03:00 - 04:00	
04:00 - 05:00	
05:00 - 06:00	
06:00 - 07:00	
07:00 - 08:00	
08:00 - 09:00	80.5
09:00 - 10:00	80.6
10:00 - 11:00	80.4
11:00 - 12:00	79.9
12:00 - 13:00	79.6
13:00 - 14:00	80.5
14:00 - 15:00	80.5
15:00 - 16:00	79.9
16:00 - 17:00	
17:00 - 18:00	
18:00 - 19:00	
19:00 - 20:00	
20:00 - 21:00	
21:00 - 22:00	
22:00 - 23:00	
23:00 - 00:00	

Leq(8)	80.3
Lmax	84.5
Standard*	90 dB(A)
Standard-Max	140 dB(A)

Remark : * Notification of Ministry of Industry, B.E.2546


(Miss Katesarin Vorradetwittaya)
Environmental Scientist


(Miss Sununta Sirawuttinanon)
Technical Management Team



Noise Monitoring Result : Working Noise

MTR-RW Cogen

LOCATION	: GTG 21	MEASUREMENT DATE	: 29/05/2025
SLM MODEL	: SCARLET TECH ST-21D	SERIAL No.	: 820724
SITE OPERATOR	: Miss Salisa Ainree		

CALIBRATOR MODEL	: Cirrus CR:515	SERIAL No.	: 97097
CALIBRATION REF/EFF dB(A)	: 94.0/93.8	CERTIFIED DATE	: 02/10/2024
SLM READING/ADJUST dB(A)	: 93.8/0.0	EXPIRE DATE	: 01/10/2025
CAL SHEET No.	: CAL-2505-0018-01		

TIME	EQUIVALENT SOUND PRESSURE LEVEL (dB(A))	
	29/05/2025	
00:00 - 01:00		
01:00 - 02:00		
02:00 - 03:00		
03:00 - 04:00		
04:00 - 05:00		
05:00 - 06:00		
06:00 - 07:00		
07:00 - 08:00		
08:00 - 09:00	80.3	
09:00 - 10:00	80.3	
10:00 - 11:00	80.2	
11:00 - 12:00	80.0	
12:00 - 13:00	80.1	
13:00 - 14:00	80.4	
14:00 - 15:00	80.1	
15:00 - 16:00	80.2	
16:00 - 17:00		
17:00 - 18:00		
18:00 - 19:00		
19:00 - 20:00		
20:00 - 21:00		
21:00 - 22:00		
22:00 - 23:00		
23:00 - 00:00		

Leq(8)	80.2
Lmax	87.7
Standard*	90 dB(A)
Standard-Max	140 dB(A)

Remark : * Notification of Ministry of Industry, B.E.2546

(Miss Katesarin Vorradetwittaya)
Environmental Scientist

(Miss Sununta Sirawuttinanon)
Technical Management Team



Noise Monitoring Result : Working Noise

MTR-RW Cogen

LOCATION	: GTG 22	MEASUREMENT DATE	: 29/05/2025
SLM MODEL	: SCARLET TECH ST-21D	SERIAL No.	: 820730
SITE OPERATOR	: Miss Salisa Ainree		

CALIBRATOR MODEL	: Cirrus CR:515	SERIAL No.	: 97097
CALIBRATION REF/EFF dB(A)	: 94.0/93.8	CERTIFIED DATE	: 02/10/2024
SLM READING/ADJUST dB(A)	: 93.8/0.0	EXPIRE DATE	: 01/10/2025
CAL SHEET No.	: CAL-2505-0018-01		

TIME	EQUIVALENT SOUND PRESSURE LEVEL (dB(A))	
	29/05/2025	
00:00 - 01:00		
01:00 - 02:00		
02:00 - 03:00		
03:00 - 04:00		
04:00 - 05:00		
05:00 - 06:00		
06:00 - 07:00		
07:00 - 08:00		
08:00 - 09:00	75.8	
09:00 - 10:00	75.7	
10:00 - 11:00	75.8	
11:00 - 12:00	76.9	
12:00 - 13:00	75.5	
13:00 - 14:00	75.5	
14:00 - 15:00	75.7	
15:00 - 16:00	75.8	
16:00 - 17:00		
17:00 - 18:00		
18:00 - 19:00		
19:00 - 20:00		
20:00 - 21:00		
21:00 - 22:00		
22:00 - 23:00		
23:00 - 00:00		

Leq(8)	75.9
Lmax	81.5
Standard*	90 dB(A)
Standard-Max	140 dB(A)

Remark : * Notification of Ministry of Industry, B.E.2546

(Miss Katesarin Vorradetwittaya)
Environmental Scientist

(Miss Sununta Sirawuttinanon)
Technical Management Team



Noise Monitoring Result : Working Noise

MTR-RW Cogen

LOCATION	: Air Compressor Block 1	MEASUREMENT DATE	: 29/05/2025
SLM MODEL	: SCARLET TECH ST-21D	SERIAL No.	: 820727
SITE OPERATOR	: Miss Salisa Ainree		

CALIBRATOR MODEL	: Cirrus CR:515	SERIAL No.	: 97097
CALIBRATION REF/EFF dB(A)	: 94.0/93.8	CERTIFIED DATE	: 02/10/2024
SLM READING/ADJUST dB(A)	: 93.8/0.0	EXPIRE DATE	: 01/10/2025
CAL SHEET No.	: CAL-2505-0018-01		

TIME	EQUIVALENT SOUND PRESSURE LEVEL (dB(A))	
	29/05/2025	
00:00 - 01:00		
01:00 - 02:00		
02:00 - 03:00		
03:00 - 04:00		
04:00 - 05:00		
05:00 - 06:00		
06:00 - 07:00		
07:00 - 08:00		
08:00 - 09:00	77.7	
09:00 - 10:00	77.9	
10:00 - 11:00	77.4	
11:00 - 12:00	77.6	
12:00 - 13:00	77.7	
13:00 - 14:00	78.0	
14:00 - 15:00	77.9	
15:00 - 16:00	77.9	
16:00 - 17:00		
17:00 - 18:00		
18:00 - 19:00		
19:00 - 20:00		
20:00 - 21:00		
21:00 - 22:00		
22:00 - 23:00		
23:00 - 00:00		
Leq(8)	77.8	
Lmax	88.4	
Standard*	90 dB(A)	
Standard-Max	140 dB(A)	

Remark : * Notification of Ministry of Industry, B.E.2546

(Miss Katesarin Vorradetwittaya)
Environmental Scientist

(Miss Sununta Sirawuttinanon)
Technical Management Team



Noise Monitoring Result : Working Noise

MTR-RW Cogen

LOCATION	: Air Compressor Block 2	MEASUREMENT DATE	: 29/05/2025
SLM MODEL	: SCARLET TECH ST-21D	SERIAL No.	: 820731
SITE OPERATOR	: Miss Salisa Ainree		

CALIBRATOR MODEL	: Cirrus CR:515	SERIAL No.	: 97097
CALIBRATION REF/EFF dB(A)	: 94.0/93.8	CERTIFIED DATE	: 02/10/2024
SLM READING/ADJUST dB(A)	: 93.8/0.0	EXPIRE DATE	: 01/10/2025
CAL SHEET No.	: CAL-2505-0018-01		

TIME	EQUIVALENT SOUND PRESSURE LEVEL (dB(A))	
	29/05/2025	
00:00 - 01:00		
01:00 - 02:00		
02:00 - 03:00		
03:00 - 04:00		
04:00 - 05:00		
05:00 - 06:00		
06:00 - 07:00		
07:00 - 08:00		
08:00 - 09:00	77.8	
09:00 - 10:00	78.6	
10:00 - 11:00	77.6	
11:00 - 12:00	77.5	
12:00 - 13:00	77.8	
13:00 - 14:00	77.6	
14:00 - 15:00	77.6	
15:00 - 16:00	77.7	
16:00 - 17:00		
17:00 - 18:00		
18:00 - 19:00		
19:00 - 20:00		
20:00 - 21:00		
21:00 - 22:00		
22:00 - 23:00		
23:00 - 00:00		
Leq(8)	77.8	
Lmax	92.1	
Standard*	90 dB(A)	
Standard-Max	140 dB(A)	

Remark : * Notification of Ministry of Industry, B.E.2546

(Miss Katesarin Vorradetwittaya)
Environmental Scientist

(Miss Sununta Sirawuttinanon)
Technical Management Team



Noise Monitoring Result : Working Noise

MTR-RW Cogen

LOCATION	: STG 1	MEASUREMENT DATE	: 29/05/2025
SLM MODEL	: SCARLET TECH ST-21D	SERIAL No.	: 820729
SITE OPERATOR	: Miss Salisa Ainree		
CALIBRATOR MODEL	: Cirrus CR:515	SERIAL No.	: 97097
CALIBRATION REF/EFF dB(A)	: 94.0/93.8	CERTIFIED DATE	: 02/10/2024
SLM READING/ADJUST dB(A)	: 93.8/0.0	EXPIRE DATE	: 01/10/2025
CAL SHEET No.	: CAL-2505-0018-01		
TIME	EQUIVALENT SOUND PRESSURE LEVEL (dB(A))		
	29/05/2025		
00:00 - 01:00			
01:00 - 02:00			
02:00 - 03:00			
03:00 - 04:00			
04:00 - 05:00			
05:00 - 06:00			
06:00 - 07:00			
07:00 - 08:00			
08:00 - 09:00		80.0	
09:00 - 10:00		80.2	
10:00 - 11:00		80.4	
11:00 - 12:00		80.3	
12:00 - 13:00		79.9	
13:00 - 14:00		80.0	
14:00 - 15:00		79.2	
15:00 - 16:00		79.4	
16:00 - 17:00			
17:00 - 18:00			
18:00 - 19:00			
19:00 - 20:00			
20:00 - 21:00			
21:00 - 22:00			
22:00 - 23:00			
23:00 - 00:00			
Leq(8)		79.9	
Lmax		84.8	
Standard*		90 dB(A)	
Standard-Max		140 dB(A)	

Remark : * Notification of Ministry of Industry, B.E.2546

(Miss Katesarin Vorradetwittaya)
Environmental Scientist

(Miss Sununta Sirawuttinanon)
Technical Management Team



Noise Monitoring Result : Working Noise

MTR-RW Cogen

LOCATION	: STG 2	MEASUREMENT DATE	: 29/05/2025
SLM MODEL	: SCARLET TECH ST-21D	SERIAL No.	: 820725
SITE OPERATOR	: Miss Salisa Ainree		
CALIBRATOR MODEL	: Cirrus CR:515	SERIAL No.	: 97097
CALIBRATION REF/EFF dB(A)	: 94.0/93.8	CERTIFIED DATE	: 02/10/2024
SLM READING/ADJUST dB(A)	: 93.8/0.0	EXPIRE DATE	: 01/10/2025
CAL SHEET No.	: CAL-2505-0018-01		
TIME	EQUIVALENT SOUND PRESSURE LEVEL (dB(A))		
	29/05/2025		
00:00 - 01:00			
01:00 - 02:00			
02:00 - 03:00			
03:00 - 04:00			
04:00 - 05:00			
05:00 - 06:00			
06:00 - 07:00			
07:00 - 08:00			
08:00 - 09:00		81.6	
09:00 - 10:00		82.0	
10:00 - 11:00		80.1	
11:00 - 12:00		79.7	
12:00 - 13:00		80.2	
13:00 - 14:00		81.0	
14:00 - 15:00		81.2	
15:00 - 16:00		82.0	
16:00 - 17:00			
17:00 - 18:00			
18:00 - 19:00			
19:00 - 20:00			
20:00 - 21:00			
21:00 - 22:00			
22:00 - 23:00			
23:00 - 00:00			
Leq(8)		81.1	
Lmax		86.2	
Standard*		90 dB(A)	
Standard-Max		140 dB(A)	

Remark : * Notification of Ministry of Industry, B.E.2546

(Miss Katesarin Vorradetwittaya)
Environmental Scientist

(Miss Sununta Sirawuttinanon)
Technical Management Team

ความร้อนในสถานที่ทำงาน



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239 RIMKLONGPRAPA ROAD, BANGSUE, BANGKOK 10800, THAILAND

TEL : (662) 959-3600 FAX : (662) 959-3535 E-mail : envserv@secot.co.th

HEAT STRESS MEASUREMENT REPORT

CLIENT NAME : Ratchaburi World Cogeneration Co., Ltd. REFERENCE NO. : 225011-Heat-2505-0020
MEASUREMENT BY : SECOT Co., Ltd. INSTRUMENT : Area Heat Stress Monitor
MEASUREMENT DATE : 29/05/2025 MODEL NO. : JT2011-E2A
MEASUREMENT LOCATION : Working area SERIAL NO. : 3522210179
SITE OPERATOR : Miss Salisa Ainree

LOCATION	TIME	MEASURED TEMPERATURE (°C)					STANDARD (°C) *
		NWB	DB	GT	WBGT _{out}	WBGT _{Avg}	
HRSG 11	10:00-10:30	28.5	30.8	33.2	29.7	30.4	34.0
	10:30-11:00	29.8	32.9	34.7	31.1		
	11:00-11:30	28.5	32.1	36.7	30.5		
	11:30-12:00	28.2	32.5	35.5	30.1		
HRSG 12	12:05-12:35	28.3	32.2	33.7	29.8	30.5	34.0
	12:35-13:05	29.0	33.6	36.3	30.9		
	13:05-13:35	27.9	32.7	35.2	29.8		
	13:35-14:05	29.3	34.5	36.4	31.3		

(Miss Katesarin Vorradetwittaya)

Environmental Scientist

(Miss Sununta Sirawuttinanon)

Technical Management Team

Remark : 1. Reported analysis refers to submitted sample only.

2. This report shall not be reproduced, except in full, without official approval.

3. *WBGT Standard was notified by the Ministerial of Labor B.E.2559 (2016).

NWB = Natural Wet Bulb Temperature

DB = Dry Bulb Temperature

GT = Globe Temperature

WBGT = Wet Bulb Globe Temperature

Work Load : Light work load = 34.0 °C, Moderate work load = 32.0 °C and Heavy work load = 30.0 °C



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239 RIMKLONGPRAPA ROAD, BANGSUE, BANGKOK 10800, THAILAND

TEL : (662) 959-3600 FAX : (662) 959-3535 E-mail : envserv@secot.co.th

HEAT STRESS MEASUREMENT REPORT

CLIENT NAME : Ratchaburi World Cogeneration Co., Ltd. REFERENCE NO. : 225011-Heat-2505-0020
MEASUREMENT BY : SECOT Co., Ltd. INSTRUMENT : Area Heat Stress Monitor
MEASUREMENT DATE : 29/05/2025 MODEL NO. : JT2011-E2A
MEASUREMENT LOCATION : Working area SERIAL NO. : 3522211233, 3522210176
SITE OPERATOR : Miss Salisa Ainree

LOCATION	TIME	MEASURED TEMPERATURE (°C)					STANDARD (°C) *
		NWB	DB	GT	WBGT _{out}	WBGT _{Avg}	
HRSG 21	10:00-10:30	28.8	32.1	37.3	30.8	30.3	34.0
	10:30-11:00	28.4	31.7	35.4	30.1		
	11:00-11:30	28.2	31.5	33.6	29.6		
	11:30-12:00	29.0	33.1	35.9	30.8		
HRSG 22	10:00-10:30	29.2	33.7	35.8	31.0	31.1	34.0
	10:30-11:00	30.0	34.1	36.4	31.7		
	11:00-11:30	29.3	33.6	34.8	30.9		
	11:30-12:00	29.0	33.5	35.3	30.8		

(Miss Katesarin Vorradetwittaya)

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HEAT STRESS MEASUREMENT REPORT

CLIENT NAME : Ratchaburi World Cogeneration Co., Ltd. REFERENCE NO. : 225011-Heat-2505-0020
MEASUREMENT BY : SECOT Co., Ltd. INSTRUMENT : Area Heat Stress Monitor
MEASUREMENT DATE : 29/05/2025 MODEL NO. : JT2011-E2A
MEASUREMENT LOCATION : Working area SERIAL NO. : 3522210174
SITE OPERATOR : Miss Salisa Ainree

LOCATION	TIME	MEASURED TEMPERATURE (°C)					STANDARD (°C) *
		NWB	DB	GT	WBGT _{out}	WBGT _{Avg}	
Generator 11	10:00-10:30	29.5	33.7	36.4	31.3	31.1	34.0
	10:30-11:00	28.9	33.1	35.5	30.7		
	11:00-11:30	29.9	34.6	36.9	31.7		
	11:30-12:00	29.3	33.6	34.6	30.8		
Generator 12	12:05-12:35	28.9	31.6	33.8	30.2	31.6	34.0
	12:35-13:05	29.6	33.3	36.8	31.4		
	13:05-13:35	30.1	33.4	37.7	32.0		
	13:35-14:05	30.7	33.3	40.4	32.9		


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HEAT STRESS MEASUREMENT REPORT

CLIENT NAME : Ratchaburi World Cogeneration Co., Ltd. REFERENCE NO. : 225011-Heat-2505-0020
MEASUREMENT BY : SECOT Co., Ltd. INSTRUMENT : Area Heat Stress Monitor
MEASUREMENT DATE : 29/05/2025 MODEL NO. : JT2011-E2A
MEASUREMENT LOCATION : Working area SERIAL NO. : 3522210180, 3522210177
SITE OPERATOR : Miss Salisa Ainree

LOCATION	TIME	MEASURED TEMPERATURE (°C)					STANDARD (°C) *
		NWB	DB	GT	WBGT _{out}	WBGT _{Avg}	
Generator 21	10:00-10:30	29.1	32.9	36.0	30.8	31.2	34.0
	10:30-11:00	29.0	32.2	34.3	30.4		
	11:00-11:30	29.3	33.3	37.6	31.3		
	11:30-12:00	30.3	33.9	38.9	32.4		
Generator 22	10:00-10:30	28.6	32.7	35.1	30.3	30.8	34.0
	10:30-11:00	29.3	33.4	35.7	31.0		
	11:00-11:30	29.0	33.3	34.6	30.5		
	11:30-12:00	29.8	33.7	35.2	31.3		


(Miss Katesarin Vorradetwittaya)

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Technical Management Team

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Work Load : Light work load = 34.0 °C, Moderate work load = 32.0 °C and Heavy work load = 30.0 °C

ความเข้มของแสงสว่าง



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239 RIMKLONGPRAPA ROAD, BANGSUE, BANGKOK 10800, THAILAND

TEL : +66 (0)2959-3600 FAX : +66(0)2959-3535 E-mail : envserv@secot.co.th


LIGHT INTENSITY MEASUREMENT REPORT

CLIENT NAME	: Ratchaburi World Cogeneration Co., Ltd.	REFERENCE NO.	: 225011-Light-2505-0248
MEASUREMENT BY	: SECOT Co., Ltd.	INSTRUMENT	: Digital Light Meter
MEASUREMENT DATE	: 29/05/2025	MODEL	: 407026
MEASUREMENT LOCATION	: RW Cogen plant	SERIAL NO.	: A051053
SITE OPERATOR	: Miss Salisa Ainree		

LOCATION	TYPE OF WORK	TIME	LIGHT INTENSITY (LUX)		
			RESULT	STANDARD*	
			DAYTIME		
อาคาร Office ชั้น 1					
โต๊ะทำงานคุณปภาวี นาคนงค์	งานเอกสาร/คอมพิวเตอร์	9:30	493	400-500	
โต๊ะทำงานคุณ ไชติรส ชุนนกร	งานเอกสาร/คอมพิวเตอร์	9:31	488	400-500	
โต๊ะทำงานคุณวิชรินี สถาพรวงศ์ศักดิ์	งานเอกสาร/คอมพิวเตอร์	9:31	446	400-500	
โต๊ะทำงานคุณจิระ ผลอุดม	งานเอกสาร/คอมพิวเตอร์	9:33	430	400-500	
โต๊ะทำงานคุณธนกฤต ศิริไธ	งานเอกสาร/คอมพิวเตอร์	9:35	477	400-500	
โต๊ะทำงานคุณดาวัน สกุลแก้ว	งานเอกสาร/คอมพิวเตอร์	9:35	445	400-500	
โต๊ะทำงานคุณดาวัน สกุลแก้ว (2)	งานเอกสาร/คอมพิวเตอร์	9:35	485	400-500	
โต๊ะทำงานคุณณรินทร์ญา อธิวราสวัสดิ์	งานเอกสาร/คอมพิวเตอร์	9:34	469	400-500	


(Miss Katesarin Vorradetwittaya)

Environmental Scientist


(Miss Sununta Sirawuttinanon)

Technical Management Team

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239 RIMKLONGPRAPA ROAD, BANGSUE, BANGKOK 10800, THAILAND


TEL : +66 (0)2959-3600 FAX : +66(0)2959-3535 E-mail : envserv@secot.co.th

LIGHT INTENSITY MEASUREMENT REPORT

CLIENT NAME	: Ratchaburi World Cogeneration Co., Ltd.	REFERENCE NO.	: 225011-Light-2505-0248
MEASUREMENT BY	: SECOT Co., Ltd.	INSTRUMENT	: Digital Light Meter
MEASUREMENT DATE	: 29/05/2025	MODEL	: 407026
MEASUREMENT LOCATION	: RW Cogen plant	SERIAL NO.	: A051053
SITE OPERATOR	: Miss Salisa Ainree		

LOCATION	TYPE OF WORK	TIME	LIGHT INTENSITY (LUX)	
			RESULT	STANDARD*
			DAYTIME	
อาคาร Office ชั้น 1 (ต่อ)				
โต๊ะทำงานคุณพรณิศา เถาดีดดา	งานเอกสาร/คอมพิวเตอร์	9:36	469	400-500
โต๊ะทำงานคุณสกวาเดือน อมรปุระ	งานเอกสาร/คอมพิวเตอร์	9:36	480	400-500
โต๊ะทำงานคุณนพพล วุฒิมาปกรณ์	งานเอกสาร/คอมพิวเตอร์	9:41	497	400-500
โต๊ะทำงานคุณรัชพล ตู้แก้ว	งานเอกสาร/คอมพิวเตอร์	9:43	489	400-500
โต๊ะทำงานคุณเนติ คั่นขาวกุล	งานเอกสาร/คอมพิวเตอร์	9:42	495	400-500
โต๊ะทำงานคุณนคร อรรถสารโสภณ	งานเอกสาร/คอมพิวเตอร์	9:42	487	400-500
โต๊ะทำงานคุณชูศักดิ์ กลางทอง	งานเอกสาร/คอมพิวเตอร์	9:41	487	400-500


(Miss Katesarin Vorradetwittaya)
Environmental Scientist


(Miss Sununta Sirawuttinanon)
Technical Management Team

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239 RIMKLONGPRAPA ROAD, BANGSUE, BANGKOK 10800, THAILAND
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LIGHT INTENSITY MEASUREMENT REPORT

CLIENT NAME	: Ratchaburi World Cogeneration Co., Ltd.	REFERENCE NO.	: 225011-Light-2505-0248
MEASUREMENT BY	: SECOT Co., Ltd.	INSTRUMENT	: Digital Light Meter
MEASUREMENT DATE	: 29/05/2025	MODEL	: 407026
MEASUREMENT LOCATION	: RW Cogen plant	SERIAL NO.	: A051053
SITE OPERATOR	: Miss Salisa Ainree		

LOCATION	TYPE OF WORK	TIME	LIGHT INTENSITY (LUX)		STANDARD*
			DAYTIME		
			AVERAGE	MINIMUM	
อาคาร Office ชั้น 1 (ต่อ)					
ห้องถ่ายเอกสาร	ถ่ายเอกสาร	9:38	358	-	≥300
			-	347	≥150
ห้องน้ำชาย	ห้องน้ำ	9:40	115	-	≥100
			-	101	≥50
ห้องน้ำหญิง	ห้องน้ำ	9:40	184	-	≥100
			-	182	≥50
ห้องพยาบาล RWC	พักฟื้น	9:30	459	-	≥50
			-	428	≥25
ทางเดินชั้น 1	ทางเดิน	9:44	136	-	≥100
			-	130	≥50
ห้องประชุมโพลิน	ประชุม	9:31	573	-	≥300
			-	485	≥150


(Miss Katesarin Vorradetwittaya)
Environmental Scientist


(Miss Sununta Sirawuttinanon)
Technical Management Team

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TEL : +66 (0)2959-3600 FAX : +66(0)2959-3535 E-mail : envserv@secot.co.th

LIGHT INTENSITY MEASUREMENT REPORT

CLIENT NAME	: Ratchaburi World Cogeneration Co., Ltd.	REFERENCE NO.	: 225011-Light-2505-0248
MEASUREMENT BY	: SECOT Co., Ltd.	INSTRUMENT	: Digital Light Meter
MEASUREMENT DATE	: 29/05/2025	MODEL	: 407026
MEASUREMENT LOCATION	: RW Cogen plant	SERIAL NO.	: A051053
SITE OPERATOR	: Miss Salisa Ainree		

LOCATION	TYPE OF WORK	TIME	LIGHT INTENSITY (LUX)		STANDARD*
			DAYTIME		
			AVERAGE	MINIMUM	
อาคาร Office ชั้น 1 (ต่อ)					
ห้องเก็บของชั้น 1	ห้องเก็บของ	9:41	542	-	≥100
			-	512	≥50
บันไดขึ้น-ลงชั้น 1,2	บันได	9:46	138	-	≥100
			-	129	≥50
อาคาร Office ชั้น 2					
ห้องนิรภัย	เก็บของ	10:00	326	-	≥100
			-	312	≥50
ห้องน้ำชาย	ห้องน้ำ	9:59	163	-	≥100
			-	160	≥50
ห้องน้ำหญิง	ห้องน้ำ	9:59	241	-	≥100
			-	239	≥50


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MEASUREMENT DATE	: 29/05/2025	MODEL	: 407026
MEASUREMENT LOCATION	: RW Cogen plant	SERIAL NO.	: A051053
SITE OPERATOR	: Miss Salisa Ainree		

LOCATION	TYPE OF WORK	TIME	LIGHT INTENSITY (LUX)		STANDARD*
			DAYTIME		
			AVERAGE	MINIMUM	
อาคาร Office ชั้น 2 (ต่อ)					
ห้องประชุมทับทิม	ประชุม	9:59	347	-	≥300
			-	329	≥150
ห้องประชุมมรกต	ประชุม	9:58	364	-	≥300
			-	353	≥150
ห้องถ่ายเอกสาร	ถ่ายเอกสาร	9:57	438	-	≥300
			-	424	≥150
ทางเดินชั้น 2	ทางเดิน	9:47	131	-	≥100
			-	110	≥50
ห้องประชุมอัญมณี	ประชุม	9:57	379	-	≥300
			-	349	≥150

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MEASUREMENT BY	: SECOT Co., Ltd.	INSTRUMENT	: Digital Light Meter
MEASUREMENT DATE	: 29/05/2025	MODEL	: 407026
MEASUREMENT LOCATION	: RW Cogen plant	SERIAL NO.	: A051053
SITE OPERATOR	: Miss Salisa Ainree		

LOCATION	TYPE OF WORK	TIME	LIGHT INTENSITY (LUX)	
			RESULT	STANDARD*
			DAYTIME	
อาคาร Office ชั้น 2 (ต่อ)				
โต๊ะทำงานคุณสุภาพร ลอดสันเทียะ	งานเอกสาร/คอมพิวเตอร์	10:05	472	400-500
โต๊ะทำงานคุณณัฐพร ลิขิตวัฒน์เศรษฐ	งานเอกสาร/คอมพิวเตอร์	10:05	489	400-500
โต๊ะทำงานคุณสุจิตรา คันทวีนิชา โกศล	งานเอกสาร/คอมพิวเตอร์	10:06	467	400-500
โต๊ะทำงานคุณขวัญศิริ	งานเอกสาร/คอมพิวเตอร์	10:06	484	400-500
โต๊ะทำงานคุณวิมล ศิริวัน	งานเอกสาร/คอมพิวเตอร์	10:06	498	400-500
โต๊ะทำงานคุณสุพัตรา ทรัพย์สิน	งานเอกสาร/คอมพิวเตอร์	10:03	480	400-500
โต๊ะทำงานคุณอรุณี พิริยะธนาการกุล	งานเอกสาร/คอมพิวเตอร์	9:49	419	400-500
โต๊ะทำงานคุณมนชัย เปรมศักดิ์	งานเอกสาร/คอมพิวเตอร์	9:48	497	400-500

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TEL : +66 (0)2959-3600 FAX : +66(0)2959-3535 E-mail : envserv@secot.co.th

LIGHT INTENSITY MEASUREMENT REPORT

CLIENT NAME : Ratchaburi World Cogeneration Co., Ltd. REFERENCE NO. : 225011-Light-2505-0248

MEASUREMENT BY : SECOT Co., Ltd. INSTRUMENT : Digital Light Meter

MEASUREMENT DATE : 29/05/2025 MODEL : 407026

MEASUREMENT LOCATION : RW Cogen plant SERIAL NO. : A051053

SITE OPERATOR : Miss Salisa Ainree

LOCATION	TYPE OF WORK	TIME	LIGHT INTENSITY (LUX)		STANDARD*
			DAYTIME		
			AVERAGE	MINIMUM	
อาคาร Canteen ชั้น 1					
ห้องน้ำชาย	ห้องน้ำ	10:11	155	-	≥100
			-	124	≥50
ห้องน้ำหญิง	ห้องน้ำ	10:10	174	-	≥100
			-	155	≥50
Canteen	โรงอาหาร	10:08-10:10	364	-	≥300
			-	318	≥150
อาคาร Canteen ชั้น 2					
ห้องประชุมเพทาย	ประชุม	9:52	345	-	≥300
			-	310	≥150
ห้องน้ำชาย	ห้องน้ำ	9:53	307	-	≥100
			-	215	≥50
ห้องน้ำหญิง	ห้องน้ำ	9:54	295	-	≥100
			-	237	≥50

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LIGHT INTENSITY MEASUREMENT REPORT

CLIENT NAME : Ratchaburi World Cogeneration Co., Ltd. REFERENCE NO. : 225011-Light-2505-0248

MEASUREMENT BY : SECOT Co., Ltd. INSTRUMENT : Digital Light Meter

MEASUREMENT DATE : 29/05/2025 MODEL : 407026

MEASUREMENT LOCATION : RW Cogen plant SERIAL NO. : A051053

SITE OPERATOR : Miss Salisa Ainree

LOCATION	TYPE OF WORK	TIME	LIGHT INTENSITY (LUX)	
			RESULT	STANDARD*
			DAYTIME	
อาคาร Workshop ชั้น 1				
โต๊ะทำงานคุณพัชรรัตน์ นพวิพร	งานเอกสาร/คอมพิวเตอร์	10:19	458	400-500
โต๊ะทำงานคุณปวีรัตน์ คุรุชานาค	งานเอกสาร/คอมพิวเตอร์	10:18	443	400-500
โต๊ะทำงานคุณนันทน์สิน เหล่าเพ็ง	งานเอกสาร/คอมพิวเตอร์	10:18	460	400-500

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CLIENT NAME	: Ratchaburi World Cogeneration Co., Ltd.	REFERENCE NO.	: 225011-Light-2505-0248
MEASUREMENT BY	: SECOT Co., Ltd.	INSTRUMENT	: Digital Light Meter
MEASUREMENT DATE	: 29/05/2025	MODEL	: 407026
MEASUREMENT LOCATION	: RW Cogen plant	SERIAL NO.	: A051053
SITE OPERATOR	: Miss Salisa Ainree		

LOCATION	TYPE OF WORK	TIME	LIGHT INTENSITY (LUX)		STANDARD*
			DAYTIME		
			AVERAGE	MINIMUM	
อาคาร Workshop ชั้น 1 (ต่อ)					
Warehouse BO3-B05	เก็บของ	10:22	326	-	≥100
			-	315	≥50
Warehouse B11-B13	เก็บของ	10:22	344	-	≥100
			-	332	≥50
Warehouse B23-B25	เก็บของ	10:23	284	-	≥100
			-	269	≥50
Warehouse B31-B33	เก็บของ	10:23	278	-	≥100
			-	272	≥50
Warehouse A01-A03	เก็บของ	10:21	392	-	≥100
			-	372	≥50
Warehouse A05-A07	เก็บของ	10:21	210	-	≥100
			-	208	≥50
Warehouse A09-A11	เก็บของ	10:21	480	-	≥100
			-	465	≥50
บันไดทางขึ้น-ลง ชั้น 1,2	บันได	10:26	150	-	≥100
			-	113	≥50


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MEASUREMENT LOCATION	: RW Cogen plant	SERIAL NO.	: A051053
SITE OPERATOR	: Miss Salisa Ainree		

LOCATION	TYPE OF WORK	TIME	LIGHT INTENSITY (LUX)		STANDARD
			NIGHTTIME		
			AVERAGE	MINIMUM	
อาคาร Workshop ชั้น 1 (ต่อ)					
ห้องน้ำชาย	ห้องน้ำ	19:07	249	-	≥100
			-	215	≥50
ห้องน้ำหญิง	ห้องน้ำ	19:07	249	-	≥100
			-	232	≥50
Workshop	เตรียมการซ่อม	19:10-19:12	587	-	≥300
			-	479	≥150
บันไดทางฉุกเฉิน	บันไดทางฉุกเฉิน	19:21-19:23	24	-	≥10
เส้นทางหนีไฟ	เส้นทางหนีไฟ	19:34-19:36	11	-	≥10


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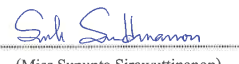
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SITE OPERATOR	: Miss Salisa Ainree		

LOCATION	TYPE OF WORK	TIME	LIGHT INTENSITY (LUX)		STANDARD*
			NIGHTTIME		
			AVERAGE	MINIMUM	
อาคาร Workshop ชั้น 2					
ห้องประชุม	ประชุม	19:14	623	-	≥300
Pantry Room	เตรียมอาหาร	19:16	-	475	≥150
			474	-	≥300
ห้องน้ำชาย	ห้องน้ำ	19:15	-	409	≥150
			290	-	≥100
ห้องน้ำหญิง	ห้องน้ำ	19:15	-	262	≥50
			258	-	≥100
บันไดทางฉุกเฉิน	บันไดทางฉุกเฉิน	19:24-19:26	-	245	≥50
			29	-	≥10
เส้นทางหนีไฟ	เส้นทางหนีไฟ	19:31-19:33	23	-	≥10


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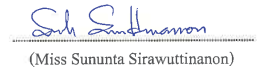
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MEASUREMENT LOCATION	: RW Cogen plant	SERIAL NO.	: A051053
SITE OPERATOR	: Miss Salisa Ainree		

LOCATION	TYPE OF WORK	TIME	LIGHT INTENSITY (LUX)		STANDARD*
			NIGHTTIME		
			AVERAGE	MINIMUM	
<u>อาคาร E&C</u>					
Pantry Room	เตรียมอาหาร	19:48	729	-	≥300
<u>ห้อง รปภ.</u>			-	670	≥150
ห้อง 1	ห้อง รปภ.	20:10	290	-	≥100
ห้อง 2	ห้อง รปภ.	20:09	119	-	≥100


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MEASUREMENT LOCATION	: RW Cogen plant	SERIAL NO.	: A051053
SITE OPERATOR	: Miss Salisa Ainree		

LOCATION	TYPE OF WORK	TIME	LIGHT INTENSITY (LUX)	
			RESULT NIGHTTIME	STANDARD*
อาคาร Workshop ชั้น 2 (ต่อ)				
โต๊ะทำงานคุณทนง นิลอ่อน	งานเอกสาร/คอมพิวเตอร์	19:13	409	400-500
โต๊ะทำงานคุณจิรวัฒน์ เตื้อมุด	งานเอกสาร/คอมพิวเตอร์	19:13	491	400-500
อาคาร E&C (ต่อ)				
EOS2 (คุณวุฒิรัช สารบัว)	งานคอมพิวเตอร์	19:51	422	400-500
EOS7 (คุณชัยชาญ เลิศนภากุล)	งานคอมพิวเตอร์	19:50	451	400-500
โต๊ะทำงานคุณณัฐภูมิ นิลขาว	งานเอกสาร/คอมพิวเตอร์	19:51	470	400-500
โต๊ะทำงานคุณอภิชาติ ไช้มุก	งานเอกสาร/คอมพิวเตอร์	19:47	496	400-500
ห้อง Lab	วิเคราะห์	19:43	442	400-500
GTG#1 MCC11BF10	แผงควบคุม	19:45	247	200-300
Master Alarm NO.1	แผงควบคุม	19:46	269	200-300
อาคาร 22 KV				
แผงควบคุม 10AJ01	แผงควบคุม	19:38	261	200-300


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TEL : +66 (0)2959-3600 FAX : +66(0)2959-3535 E-mail : envserv@secot.co.th

LIGHT INTENSITY MEASUREMENT REPORT

CLIENT NAME	: Ratchaburi World Cogeneration Co., Ltd.	REFERENCE NO.	: 225011-Light-2505-0248
MEASUREMENT BY	: SECOT Co., Ltd.	INSTRUMENT	: Digital Light Meter
MEASUREMENT DATE	: 29/05/2025	MODEL	: 407026
MEASUREMENT LOCATION	: RW Cogen plant	SERIAL NO.	: A051053
SITE OPERATOR	: Miss Salisa Ainree		

LOCATION	TYPE OF WORK	TIME	LIGHT INTENSITY (LUX)	
			RESULT NIGHTTIME	STANDARD*
<u>อาคาร 115 KV</u>				
LPR3 Panel	แผงควบคุม	19:52	232	200-300
20AE00AR001	แผงควบคุม	19:53	251	200-300
<u>Process Area Block 1</u>				
HRSG2 Sampling System	ตรวจงานหยาบด้วยสายตา	20:01	242	200-300
Gas Compressor System Control	แผงควบคุม	20:07	247	200-300
<u>Process Area Block 2</u>				
11kv SEGR-GTG21 K03	แผงควบคุม	19:55	229	200-300
<u>อาคาร WTP</u>				
BOP Common	แผงควบคุม	19:58	292	200-300
Mixed Bed Exchanger-A	แผงควบคุม	19:59	291	200-300


(Miss Katesarin Vorradetwittaya)
Environmental Scientist


(Miss Sununta Siravuttinanon)
Technical Management Team

- Remark :**
1. Reported analysis refers to submitted sample only.
 2. This report shall not be reproduced, except in full, without official approval.
 3. *Notification of the Department of Labour Protection and Welfare B.E.2561 (2018).

คุณภาพอากาศในสถานที่ทำงาน



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TEL. (662) 959-3600 FAX (662) 959-3535 Website : secot.co.th E-mail : envserv@secot.co.th

ANALYSIS/TEST REPORT

Customer	: RND/SECOT Co., Ltd.	Request Service No.	: 0985/68
For	: Ratchaburi World Cogeneration Co.,Ltd.	Sampling Date	: 29/05/2025
Address	: 155/115 Moo 4 Ratchaburi Industrial Estate, Chet Samain, Phocharam, Ratchaburi 70120	Received Date	: 30/05/2025
		Test Date	: 05/06/2025
Tel/Fax	: - / -	Report Date	: 12/06/2025

SAMPLE DESCRIPTION / SAMPLING INFORMATION

Sample Designated As	: Workplace Air	Sampling Method	: Filtration
Sampling By	: SECOT Co., Ltd.	Sample Condition	: Normal

Sampling Location	Sampling Date/Time	Compound	Analytical Method	ND mg/m ³	RESULT mg/m ³	STANDARD mg/m ³
Chemical feed Cooling Tower Block 1	29/05/2025 09:00-13:00	Sulfuric acid	NIOSH 7908/IC	< 0.002	ND	1 ^{1/} , 0.2 ^{2/}
Chemical feed Cooling Tower Block 2	29/05/2025 09:10-13:10	Sulfuric acid	NIOSH 7908/IC	< 0.002	ND	1 ^{1/} , 0.2 ^{2/}
Water Treatment Plant	29/05/2025 09:15-13:15	Sulfuric acid	NIOSH 7908/IC	< 0.002	ND	1 ^{1/} , 0.2 ^{2/}

Analyst By : Bongsa Puthum
(Miss Pornnapa Budthum)

Approved By : Narisa Poowasanpetch
(Miss Narisa Poowasanpetch)
Technical Management Team

Remark : 1. Reported analysis refers to submitted sample only.

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- ^{1/} Notification of the Department of Labour Protection and Welfare, B.E.2560 (2017).
- ^{2/} Standard of the American Conference of Governmental Industrial Hygienists 2025 : ACGIH 2025.
- ND = non-detectable.



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TEL. (662) 959-3600 FAX (662) 959-3535 Website : secot.co.th E-mail : envserv@secot.co.th

ANALYSIS/TEST REPORT

Customer	: RND/SECOT Co., Ltd.	Request Service No.	: 0985/68
For	: Ratchaburi World Cogeneration Co.,Ltd.	Sampling Date	: 29/05/2025
Address	: 155/115 Moo 4 Ratchaburi Industrial Estate, Chet Samain, Phocharam, Ratchaburi 70120	Received Date	: 30/05/2025
		Test Date	: 03/06/2025
Tel/Fax	: - / -	Report Date	: 12/06/2025

SAMPLE DESCRIPTION / SAMPLING INFORMATION

Sample Designated As	: Workplace Air	Sampling Method	: Filtration
Sampling By	: SECOT Co., Ltd.	Sample Condition	: Normal

Sampling Location	Sampling Date/Time	Compound	Analytical Method	ND mg/m ³	RESULT mg/m ³	STANDARD mg/m ³
Water Treatment Plant	29/05/2025 09:15-13:15	Sodium hydroxide	NIOSH 7303/ICP-OES	< 0.004	ND	2 ^{1,2/}
บริเวณอาคารเก็บสารเคมี	29/05/2025 09:20-13:20	Sodium hydroxide	NIOSH 7303/ICP-OES	< 0.004	ND	2 ^{1,2/}

Analyst By : Araya Tipparuk
(Mrs. Araya Tipparuk)

Approved By : Narisa Poowasanpetch
(Miss Narisa Poowasanpetch)
Technical Management Team

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- ^{2/} Standard of the American Conference of Governmental Industrial Hygienists 2025 : ACGIH 2025.
- ND = non-detectable.



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ANALYSIS/TEST REPORT

Customer	: RND/SECOT Co., Ltd.	Request Service No.	: 0985/68
For	: Ratchaburi World Cogeneration Co.,Ltd.	Sampling Date	: 29/05/2025
Address	: 155/115 Moo 4 Ratchaburi Industrial Estate, Chet Samain, Phocharam, Ratchaburi 70120	Received Date	: 30/05/2025
		Test Date	: 07/06/2025
Tel/Fax	: - / -	Report Date	: 12/06/2025

SAMPLE DESCRIPTION / SAMPLING INFORMATION

Sample Designated As	: Workplace Air	Sampling Method	: Filtration
Sampling By	: SECOT Co., Ltd.	Sample Condition	: Normal

Sampling Location	Sampling Date/Time	Compound	Analytical Method	ND	RESULT	STANDARD
				ppm	ppm	ppm
Chemical feed Cooling Tower Block 1	29/05/2025 09:00-10:30	Sodium hypochlorite	OSHA CSI as Chlorine /IC	< 0.030	ND	-
Chemical feed Cooling Tower Block 2	29/05/2025 09:10-10:40	Sodium hypochlorite	OSHA CSI as Chlorine /IC	< 0.030	ND	-

Analyst By : Pornapa Budthum
(Miss Pornapa Budthum)

Approved By : Narisa Poowasanpetch
(Miss Narisa Poowasanpetch)
Technical Management Team

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2. This report shall not be reproduced, except in full, without official approval.
3. ND = non-detectable.
4. - No Standard.

***Legionella* spp.**



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WATER AND WASTEWATER ANALYSIS REPORT

CLIENT NAME	: RW Cogen Co., Ltd.	REQUEST SERVICE No.	: 0977/68
SAMPLING BY	: SECOT Co., Ltd.	SAMPLING METHOD	: Grab
SAMPLING DATE	: 29/05/2025	SAMPLING TIME	: 09:35-09:43
RECEIVED DATE	: 30/05/2025	ANALYTICAL DATE	: 31/05/2025-13/06/2025
REPORT DATE	: 18/06/2025	SITE OPERATOR	: Miss Salisa Ainree
SAMPLE CONDITION	: Normal	FILE CODE	: 225012_Cooling Water_May

PARAMETER	LOCATION	UNIT	RESULT	STANDARD	REFERENCE METHOD
<i>Legionella</i> spp.*	Cooling tower block 1 :				
	- น้ำก่อนเข้าระบบ Cooling Tower	CFU/L	ND	^{1/}	Method Procedures
	- น้ำ Basin ในระบบ Cooling Tower	CFU/L	ND		of The Recovery of
	- น้ำหลังออกระบบ Cooling Tower	CFU/L	ND		Legionella from
					The Environment, CDC

(Miss Pornnapa Budthum)

(Mrs. Araya Tipparuk)

Technical Management Team

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3. ND = Not detected

3. * *Legionella* spp. analysis by Department of Medical Sciences.

4. ^{1/} No standard. The corrective actions were conducted for the following contaminated level in case *Legionella* spp. were found

1) In case *Legionella* spp. were found to be less than 100,000 (10⁵) CFU/L, only maintenance is not enough, so maintenance and monitoring plan of cooling system must be improved.

2) In case *Legionella* spp. were found to be 100,000 (10⁵) CFU/L, but not more than 1,000,000 (10⁶) CFU/L, the condition is to be harmful. Maintenance method and bacteria killing process must be evaluated.

3) In case *Legionella* spp. were more than 1,000,000 (10⁶) CFU/L, the condition is considered to be critical. The system must be immediately shutdown for removing contaminated matter, cleaning and killing agent.

Monitoring and following measures in 1) and 2) must be conducted within 24 hrs after *Legionella* spp. were reported.

If *Legionella* spp. are still found, the corrective actions are to be repeated. The local authority or public health officer can order to shutdown immediately if *Legionella* spp. are found again.

Source : Announcement of Public Health Department, January B.E.2544.



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WATER AND WASTEWATER ANALYSIS REPORT

CLIENT NAME	: RW Cogen Co., Ltd.	REQUEST SERVICE No.	: 0977/68
SAMPLING BY	: SECOT Co., Ltd.	SAMPLING METHOD	: Grab
SAMPLING DATE	: 29/05/2025	SAMPLING TIME	: 09:37-09:49
RECEIVED DATE	: 30/05/2025	ANALYTICAL DATE	: 31/05/2025-13/06/2025
REPORT DATE	: 18/06/2025	SITE OPERATOR	: Miss Salisa Ainree
SAMPLE CONDITION	: Normal	FILE CODE	: 225012_Cooling Water_May

PARAMETER	LOCATION	UNIT	RESULT	STANDARD	REFERENCE METHOD
<i>Legionella</i> spp.*	Cooling tower block 2 :				
	- น้ำก่อนเข้าระบบ Cooling Tower	CFU/L	ND	^{1/}	Method Procedures
	- น้ำ Basin ในระบบ Cooling Tower	CFU/L	ND		of The Recovery of
	- น้ำหลังออกระบบ Cooling Tower	CFU/L	ND		Legionella from
					The Environment, CDC

(Miss Pornnapa Budthum)

(Mrs. Araya Tipparuk)

Technical Management Team

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Source : Announcement of Public Health Department, January B.E.2544.

ภาคผนวก จ

ใบแสดงการตรวจเทียบเครื่องมือ

CERTIFICATE OF ANALYSIS

Grade of Product: EPA Protocol

Part Number: E04NI99E15AC084 Reference Number: 82-401409170-1
Cylinder Number: EB0102326 Cylinder Volume: 144.4 CF
Laboratory: 124 - Riverton (SAP) - NJ Cylinder Pressure: 2015 PSIG
PGVP Number: B52019 Valve Outlet: 660
Gas Code: CO,NO,NOX,SO2,BALN Certification Date: Feb 05, 2019

Expiration Date: Feb 05, 2027

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.

Do Not Use This Cylinder below 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS					
Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
NOX	50.00 PPM	51.01 PPM	G1	+/- 0.9% NIST Traceable	01/28/2019, 02/05/2019
NITRIC OXIDE	50.00 PPM	50.86 PPM	G1	+/- 0.9% NIST Traceable	01/28/2019, 02/05/2019
SULFUR DIOXIDE	50.00 PPM	50.87 PPM	G1	+/- 1.0% NIST Traceable	01/28/2019, 02/05/2019
CARBON MONOXIDE	0.5000 %	0.5050 %	G1	+/- 0.7% NIST Traceable	01/31/2019
NITROGEN	Balance				

CALIBRATION STANDARDS					
Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	13060206	CC401947	4950 PPM CARBON MONOXIDE/NITROGEN	+/- 0.4%	Feb 15, 2019
PRM	12367	APEX1099237	9.82 PPM NITROGEN DIOXIDE/AIR	+/- 2.0%	Jun 02, 2017
NTRM	12010724	KAL004497	50.03 PPM NITRIC OXIDE/NITROGEN	+/- 0.8%	Mar 12, 2024
GMIS	1114201601	CC506710	4.971 PPM NITROGEN DIOXIDE/NITROGEN	+/- 2.0%	Nov 14, 2019
NTRM	14010327	KAL004376	49.08 PPM SULFUR DIOXIDE/NITROGEN	+/- 1.0%	Apr 17, 2024

The SRM, PRM or RGM noted above is only in reference to the GMIS used in the assay and not part of the analysis.

ANALYTICAL EQUIPMENT		
Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Siemens Ultramat 6 J3-599 COHIGH	NDIR	Jan 18, 2019
Nicolet 6700 APW1100391 NO	FTIR	Jan 10, 2019
Nicolet 6700 APW1100391 NO2	FTIR	Jan 10, 2019
Nicolet 6700 APW1100391 SO2	FTIR	Jan 10, 2019

Triad Data Available Upon Request

PERMANENT NOTES: PRODUCED IN ACCORDANCE WITH ISO17025 REQUIREMENTS

NOTES:

Gross Weight: 27806.3 grams

Net Weight: 4733.2 grams

This calibration std. has been certified in accordance with the May 2012 EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012) document EPA-600/R-12/531. All testing processes and measurements conform to the requirements of ISO/IEC 17025 and to Airgas ISO 9001:2008 and relate only to items identified on this certificate. This certificate and its contents are certified to be NIST Traceable with total uncertainty as detailed under Analytical Uncertainty. This document shall not be reproduced in full without written approval of the issuer.



ACCREDITED

TESTING CERT No. 3082.05

[Signature]
Approved for Release



High Volume TSP&PM10 Calibration Data Sheet

Sheet No. : BH-019-1/2025(P)

Date: 13 Jan 25

Temp (°C): 21

Barometric pressure (mm Hg): 763

Reference Standard Calibration

Equipment: Orifice

Model No: TE-5025A

Serial No: 4218

Manufacturer: Tisch

Unit Under Test

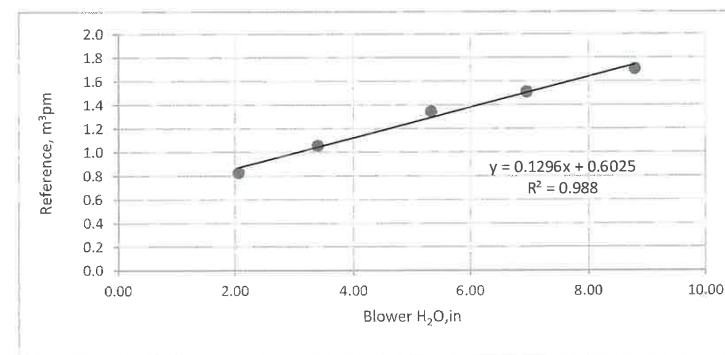
Equipment: High Volume Air Sampler

Model No: TE-5009X

Serial No: BH-019

Calibrated by : Surachat I.

Test No.	Orifice (in)	Qstd (m ³ /min)	Reading (in)	Reading(Corrected) (in)
1	12.48	1.706	8.71	8.79
2	9.77	1.512	6.89	6.95
3	7.72	1.347	5.28	5.33
4	4.70	1.055	3.37	3.40
5	2.87	0.829	2.04	2.06



Approved by : *[Signature]*

Sheet No. : BH-010-1/2025(P)



High Volume TSP&PM10 Calibration Data Sheet

Date: 14 Jan 25

Temp (°C): 25

Barometric pressure (mm Hg): 762

Reference Standard Calibration

Unit Under Test

Equipment: Orifice

Equipment: High Volume Air Sampler

Model No: TE-5025A

Model No: TE-5009X

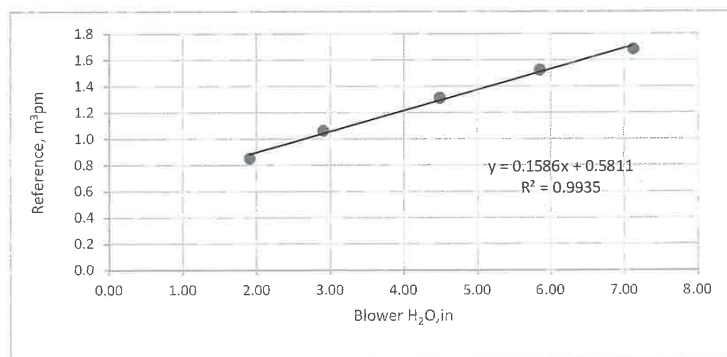
Serial No: 4218

Serial No: BH-010

Manufacturer: Tisch

Calibrated by : Surachat I.

Test No.	Orifice (in)	Qstd (m ³ /min)	Reading (in)	Reading(Corrected) (in)
1	12.31	1.682	7.11	7.12
2	10.10	1.526	5.84	5.85
3	7.44	1.313	4.48	4.49
4	4.84	1.063	2.9	2.90
5	3.07	0.851	1.9	1.90



Approved by :

Sheet No. : BH-017-1/2025(P)



High Volume TSP&PM10 Calibration Data Sheet

Date: 13 Jan 25

Temp (°C): 26

Barometric pressure (mm Hg): 761

Reference Standard Calibration

Unit Under Test

Equipment: Orifice

Equipment: High Volume Air Sampler

Model No: TE-5025A

Model No: TE-5009X

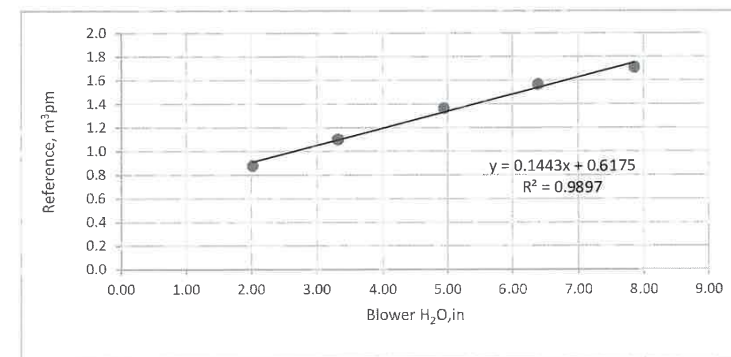
Serial No: 4218

Serial No: BH-017

Manufacturer: Tisch

Calibrated by : Surachat I.

Test No.	Orifice (in)	Qstd (m ³ /min)	Reading (in)	Reading(Corrected) (in)
1	12.78	1.710	7.86	7.85
2	10.71	1.567	6.39	6.38
3	8.11	1.366	4.95	4.94
4	5.25	1.104	3.32	3.32
5	3.29	0.878	2.02	2.02



Approved by :



High Volume TSP&PM10 Calibration Data Sheet

Date: 16 Jan 25

Temp (°C): 30

Barometric pressure (mm Hg): 760

Reference Standard Calibration

Unit Under Test

Equipment: Orifice

Equipment: High Volume Air Sampler

Model No: TE-5025A

Model No: TE-5009X

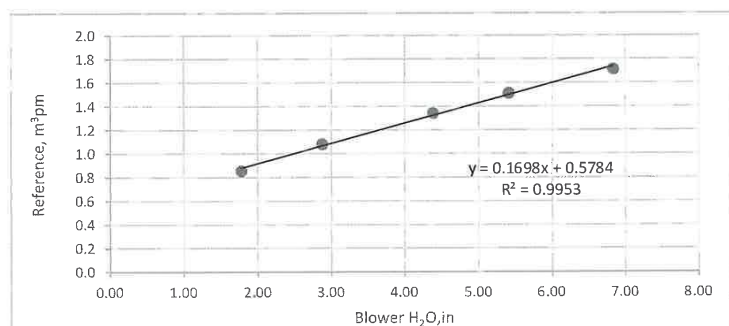
Serial No: 4218

Serial No: BH-007

Manufacturer: Tisch

Calibrated by : Surachat L.

Test No.	Orifice (in)	Qstd (m ³ /min)	Reading (in)	Reading(Corrected) (in)
1	13.03	1.714	6.89	6.83
2	10.10	1.512	5.45	5.40
3	7.94	1.343	4.42	4.38
4	5.12	1.082	2.9	2.88
5	3.15	0.854	1.79	1.78



Approved by :



CONTROL UNIT CALIBRATION (Metric units, mm)

Date: 8 Jan 25

	Initial	Final	Average	
Barometric press, Pb	759	759	759	mmHg

Dry Gas Meter Data

Reference Dry Gas Meter Data

Console No. M50-08

Serial No. 358794

Metering System ID

Model S110

DGM Number 975906

Correction factor (Yr) 1.0077

DGM Model ES-110

Last Calibration Date 25 Oct 24

Calibrated by : Montri P.

Orifice manometer setting, ΔH mm H2O	Ref. DGM Volume V _r Liters	DGM Volume V _m Liters	Temperature (°C)				Time Θ min	DGM Correction factor (Y)	ΔH@ mm
			Ref DGM T _r	Dry Gas Meter					
				Inlet T _i	Outlet T _o	Avg T _m			
12.5	100.1	100.6	25	25	24	24.5	8.83	0.9999	44.1498
25.0	100.1	100.6	25	25	24	24.5	6.17	0.9985	43.0855
50.0	100.2	101.0	25	25	24	24.5	4.22	0.9941	40.1536
76.0	100.1	100.9	25	25	24	24.5	3.48	0.9910	41.7921
100.0	100.0	100.5	25	25	24	24.5	3.48	0.9917	40.8171
150.0	100.0	100.3	25	25	24	24.5	2.48	0.9893	41.9313

Average 0.9941 41.9882

Approved by :



PITOT TUBE CALIBRATION REPORT

Calibration Location: SECOT

Calibration Date : 03-01-2025

Calibration Duct No.: CD-0123

Calibration Standard Pitot tube data

Pitot No. : Std-02

Coefficient (Cp) : 0.99

Type S Pitot No. : PS20-01

Calibrated by : Mr. Montri P.

A Side Calibration

Run No.	ΔP_{std} (mm H ₂ O)	ΔP_s (mm H ₂ O)	Cp(s)	Deviation, δ Cp(s) - Cp(A)
1	15.0	21.0	0.8367	-0.0034
2	15.0	20.5	0.8468	0.0068
3	15.0	21.0	0.8367	-0.0034

C_{P(A),avg} 0.8401

B Side Calibration

Run No.	ΔP_{std} (mm H ₂ O)	ΔP_s (mm H ₂ O)	Cp(s)	Deviation, δ Cp(s) - Cp(B)
1	15.0	21.0	0.8367	0.0065
2	15.0	21.5	0.8269	-0.0033
3	15.0	21.5	0.8269	-0.0033

C_{P(B),avg} 0.8302

|CP(A)-CP(B)| = 0.0099

C_{P(Avg)} = 0.8351

Approved by :

*** δ must be ≤ 0.01 for the test to be acceptable ***
 *** | Cp(A)-Cp(B) | must also be < 0.01 if average of Cp(A) and Cp(B) is to be used ***

THE LINDE GROUP

Linde

Certificate Of Analysis
Special Gases Mixture

Customer Details

Name:
Secot Co., Ltd.Address:
239 Rimklongpropa Rd. Bangsue Khet Bangsue
Bangkok 10800

Customer Tag No.:

Certificate Details

Number:	0484/23	Date of Issue:	22-Feb-2023	Expiry date:	21-Feb-2027
Material Details					
Production Order:	90176403	Material Code:	478100-J-62	Cylinder No.:	12360
Gas content:	6.520 M ³ (nominal)	Filling pressure:	145 bar (g)	Valve:	CGA 590 BRASS
Cylinder Owner:	LINDE	Cylinder Material:	STEEL	Cylinder Size:	47 L

Laboratory Report

Component	Normal Concentration	Analysis Result ¹	Uncertainty ²	Method of Analysis ³
Oxygen	8.00%	7.94%	± 2% relative	(1) SG-O-01
In Nitrogen				

Recommend usage condition

Minimum utilization: 5% of actual content or before expire date whichever comes first.

Storage condition: Keep in well ventilation and secure area.

Comments

Note:

- All results expressed in this report are on mole/mole basis, unless otherwise specified.
- The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a level of confidence of approximately 95%. The measurement of this material is traceable to the SI through the reference gas standard which is traceable to Swiss National Standard of Mass or other recognised national metrology institutes.
- (1) Gas Chromatography, (2) Paramagnetic Oxygen Analyzer, (3) Electrochemical Oxygen Analyzer, (4) Electrochemical Moisture Analyzer, (5) Total Hydrocarbon Analyzer, (6) Other - Specified

Sukanya Parinyasoontorn

Signatory for and on behalf of Linde (Thailand) Co., Ltd.

Page 1 of 1

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PB-002/F004

Iss:K/2, 15 Oct 2021

บริษัท ลินด์ (ประเทศไทย) จำกัด (มหาชน)

เลขทะเบียนพาณิชย์ 010737000785

ชั้น 15 อาคารทาวเวอร์ เอ 2/3 หมู่ 14 ถนนรามวงษา-ตราด กม. 6.5 แขวงบางนา

อ.บางนาเขต อ.สมุทรปราการ 10540 โทรศัพท์ (66) 2338-6100 โทรสาร (66) 2338-6333

โรงงานเวลโกรว์ : 105 หมู่ 5 แขวงบางนา เขตบางนา กรุงเทพมหานคร 10180

โทรศัพท์ (66) 38.570-479-93

โทรสาร (66) 38.570-323

Linde (Thailand) Public Company Limited

PLC Registration No. 010737000785

15th Floor, Bangna Tower A, 2/3 Moo 14, Bangna Trad Km. 6.5 Road, Bangkaew

Bangplee, Samutprakarn 10540, Tel (66) 2338-6100 Fax (66) 2338-6333

Wellgrow Plant : 105 Moo 5, T.Bangsamak, A.Bangpakong, Chachoengsao 24180

Thailand, Tel (66) 38.570-479-93

Fax (66) 38.570-323

Certificate Of Analysis
Special Gases Mixture

Customer Details

Name: Secot Co., Ltd. Address: 239, Rimklongprapa Rd., Bangsue, Bangkok 10800 Customer Tag No.:

Certificate Details

Number: 0528/23 Date of Issue: 8-Mar-2023 Expiry date: 8-Mar-2026
Material Details
Production Order: 90176406 Material Code: 511600-SK-34 Cylinder No.: A007225K
Gas content: 5.20 M³ Filling pressure: 137.0 bar Valve: CGA 660 SS
Cylinder Owner: LINDE Cylinder Material: Spectra seal Cylinder Size: 40 L

Laboratory Report

Analytical Result

Component	Normal Concentration	Analysis Result ¹	Uncertainty ²	Method of Analysis ³	Assay Date
Nitric Oxide	40.0 ppm	39.6 ppm	± 1% relative	(6) I-PB-352	1-Mar & 8-Mar-23
Other NOx impurity		Less than 1.9 ppm			
Carbon Monoxide In Nitrogen	40.0 ppm	41.9 ppm	± 1% relative	(6) I-PB-352	1-Mar-2023

Reference Standard used in Assay

Reference Standard	Cylinder number	Concentration	Expiry date:
Nitric Oxide	133261SG	25.61 ± 0.13 ppm	6-May-2023
Carbon Monoxide In Nitrogen	ND52320	25.03 ± 0.13 ppm	7-Oct-2023

Analytical Instruments used in Assay

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
FTIR Spectrometers Nicolet ISSO	FTIR-NO	28-Feb-2023
FTIR Spectrometers Nicolet ISSO	FTIR-CO	25-Feb-2023

Recommend usage condition

Minimum utilization: 5% of actual content or before expire date whichever comes first.

Storage condition: Keep in well ventilation and secure area.

Comments

When reordering, please quote the material number

Note:

- All results expressed in this report are on mole/mole basis, unless otherwise specified. The Assay of this Standard has been performed in accordance with the EPA Traceability Protocol EPA-600/R-12/531 for the Assay and Certification of Gaseous Calibration Standards using procedure G1
- The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a level of confidence of approximately 95%. The measurement of this material is traceable to the SI through the reference gas standard which is traceable to Swiss National Standard of Mass or other recognised national metrology institutes.
- (1) Gas Chromatography, (2) Paramagnetic Oxygen Analyzer, (3) Electrochemical Oxygen Analyzer, (4) Electrochemical Moisture Analyzer, (5) Total Hydrocarbon Analyzer, (6) Other - Specified

Sukanya Parinyasoontorn

Signatory for and on behalf of Linde (Thailand) Co., Ltd.

Page 1 of 1

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บริษัท ลินด์ (ประเทศไทย) จำกัด (มหาชน)

เลขที่ใบแจ้งหนี้: 0107537000785

วันที่ 15 มกราคม 2567 ถึง 2/3 หมู่ 14 ถนนบางนา-ตราด กม. 6.5 บางนา

อาคาร 5, ซอยสุขุมวิท 105/40 โทรสาร (66) 2338-6100 โทรสาร (66) 2338-6333

โรงงานผลิต: 105 หมู่ 5 ตำบลบางพลี อำเภอบางพลี จังหวัดสมุทรปราการ 24180

Linde (Thailand) Public Company Limited Iss: K/2, 15 Oct 2021

PLC Registration no. 0107537000785

15th Floor, Bangna Tower A, 2/3 Moo 14, Bangna Trad KM. 6.5 Road, Bangkok

Bangplee, Samutprakarn 10540, Tel (66) 2338-6100 Fax (66) 2338-6333

Wellgrow Plant: 105 Moo 5, T.Bangsamak, A.Bangpakong, Chachoengsao 24180

PB-002/F006

Certificate Of Analysis
Special Gases Mixture

Customer Details

Name: Secot Co., Ltd. Address: 239, Rimklongprapa Rd., Bangsue, Bangkok 10800 Customer Tag No.:

Certificate Details

Number: 0275/22 Date of Issue: 4-Feb-2022 Expiry date: 4-Feb-2026
Material Details
Production Order: 90169722 Material Code: 631500-SK-44 Cylinder No.: D636195
Gas content: 5.52 M³ Filling pressure: 145.0 bar Valve: CGA 660 SS
Cylinder Owner: LINDE Cylinder Material: Spectra seal Cylinder Size: 40 L

Laboratory Report

Analytical Result

Component	Normal Concentration	Analysis Result ¹	Uncertainty ²	Method of Analysis ³	Assay Date
Sulphur Dioxide In Nitrogen	20.0 ppm	20.4 ppm	± 1% relative	(6) I-PB-352	28-Jan & 4-Feb-22

Reference Standard used in Assay

Reference Standard	Cylinder number	Concentration	Expiry date:
Sulphur Dioxide In Nitrogen	145754SG	25.03 ± 0.25 ppm	18-Aug-2022

Analytical Instruments used in Assay

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
FTIR Spectrometers Nicolet ISSO	FTIR-SO2	27-Jan-2022

Recommend usage condition

Minimum utilization: 5% of actual content or before expire date whichever comes first.

Storage condition: Keep in well ventilation and secure area.

Comments

When reordering, please quote the material number

Note:

- All results expressed in this report are on mole/mole basis, unless otherwise specified. The Assay of this Standard has been performed in accordance with the EPA Traceability Protocol EPA-600/R-12/531 for the Assay and Certification of Gaseous Calibration Standards using procedure G1
- The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a level of confidence of approximately 95%. The measurement of this material is traceable to the SI through the reference gas standard which is traceable to Swiss National Standard of Mass or other recognised national metrology institutes.
- (1) Gas Chromatography, (2) Paramagnetic Oxygen Analyzer, (3) Electrochemical Oxygen Analyzer, (4) Electrochemical Moisture Analyzer, (5) Total Hydrocarbon Analyzer, (6) Other - Specified

Sukanya Parinyasoontorn

Signatory for and on behalf of Linde (Thailand) Co., Ltd.

Page 1 of 1

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บริษัท ลินด์ (ประเทศไทย) จำกัด (มหาชน)

เลขที่ใบแจ้งหนี้: 0107537000785

วันที่ 15 มกราคม 2567 ถึง 2/3 หมู่ 14 ถนนบางนา-ตราด กม. 6.5 บางนา

อาคาร 5, ซอยสุขุมวิท 105/40 โทรสาร (66) 2338-6100 โทรสาร (66) 2338-6333

โรงงานผลิต: 105 หมู่ 5 ตำบลบางพลี อำเภอบางพลี จังหวัดสมุทรปราการ 24180

โทรสาร (66) 38.570-479-93

โทรสาร (66) 38.570-323

Linde (Thailand) Public Company Limited Iss: K/2, 15 Oct 2021

PLC Registration no. 0107537000785

15th Floor, Bangna Tower A, 2/3 Moo 14, Bangna Trad KM. 6.5 Road, Bangkok

Bangplee, Samutprakarn 10540, Tel (66) 2338-6100 Fax (66) 2338-6333

Wellgrow Plant: 105 Moo 5, T.Bangsamak, A.Bangpakong, Chachoengsao 24180

Thailand, Tel (66) 38.570-479-93

Fax (66) 38.570-323

Making our world more productive



Certificate Of Analysis

Special Gases Mixture

Customer Details

Name: Secot Co., Ltd. Address: 239, Rimklongprapa Rd., Bangsue, Bangkok 10800 Customer Tag No.: -

Certificate Details

Number: 1394/24 Date of Issue: 24-May-2024 Expiry date: 24-May-2027
 Material Details
 Production Order: 90183672 Material Code: 436700-SK-34 Cylinder No.: A008965K
 Gas content: 5.230 M³ Filling pressure: 137 bar Valve: CGA 660 SS
 Cylinder Owner: LINDE Cylinder Material: Spectra seal Cylinder Size: 40 L

Laboratory Report

Analytical Result

Component	Nominal Concentration	Analysis Result ¹	Uncertainty ²	Method of Analysis ³	Assay Date
Nitric Oxide	80.0 ppm	79.6 ppm	± 1% relative	(6) I-PB-352	15823-May-2024
Other NOx impurity		Less Than 3.9 ppm			
Carbon Monoxide in Nitrogen	80.0 ppm	81.7 ppm	± 1% relative	(6) I-PB-352	15823-May-2024

Reference Standard used in Assay

Reference Standard	Cylinder number	Concentration	Expiry date
Carbon Monoxide	D619725	70.6 ± 0.2 ppm	20-Sep-2026
Nitric Oxide in Nitrogen	D619725	70.6 ± 0.2 ppm	20-Sep-2026

Analytical Instruments used in Assay

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
FTIR Spectrometers Nicolet iS50	FTIR-CO	7-May-2024
FTIR Spectrometers Nicolet iS50	FTIR-NO	7-May-2024

Recommend usage condition

Minimum utilization: 5% of actual content or before expiry date whichever comes first.
 Storage condition: Keep in well ventilation and secure area.

Comments

When reordering, please quote the material number

Note:

1. All results expressed in this report are on mole/mole basis, unless otherwise specified. The Assay of this Standard has been performed in accordance with the EPA Traceability Protocol EPA-600/R-12/531 for the Assay and Certification of Gaseous Calibration Standards using procedure G1
 2. The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a level of confidence of approximately 95%. The measurement of this material is traceable to the SI through the reference gas standard which is traceable to Swiss National Standard of Mass or other recognised national metrology institutes.
 3. (1) Gas Chromatography, (2) Paramagnetic Oxygen Analyzer, (3) Electrochemical Oxygen Analyzer, (4) Electrochemical Moisture Analyzer,
 (5) Total Hydrocarbon Analyzer, (6) Other - Specified

Page 1 of 1

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Sukanya Parinyasontorn

Signatory for and on behalf of Linde (Thailand) Co., Ltd.

PB-002/F006

Iss.M/1, 01 December 2023

บริษัท ลินด์ (ประเทศไทย) จำกัด (มหาชน)

เลขที่ใบอนุญาต 0107537000785

ชั้น 15 อาคารทาวเวอร์ เอ 2/3 หมู่ 14 ถนนบางนา-ตราด กม. 6.5 เขตบางนา

กรุงเทพฯ 10540 โทรศัพท์ (66) 2338-6100 โทรสาร (66) 2338-6333

โรงงานเวลลิงโกรว์: 105 หมู่ 5 ตำบลสีดา อำเภอสว่างแดนดิน จังหวัดสกลนคร 44180

โทรศัพท์ (66) 38.570-479-93

โทรสาร (66) 38.570-323

Linde (Thailand) Public Company Limited

P.L.C. Registration No. 0107537000785

15th Floor, Bangna Tower A, 2/3 Moo 14, Bangna Trad KM. 6.5 Road, Bangkaew

Bangplee, Samutprakarn 10540, Tel (66) 2338-6100 Fax (66) 2338-6333

Wellgrow Plant : 105 Moo 5, T.Bangsamak, A.Bangpakong, Chachoengsao 24180

Thailand, Tel (66) 38.570-479-93

Fax (66) 38.570-323

Sheet No. : CR-515-2025-148



SOUND LEVEL METER CALIBRATION

Calibration Location: SECOT

Calibration Date: Jun 4, 25

ACOUSTIC CALIBRATOR

Brand	Model	Serial No.	Frequency (Hz)	Ref.Calibrated (dB)	Eff.Calibrated (dB)
Cirrus	CR:515	97097	1000.00	94.0	93.7

No.	Brand	Model	Serial No.	Reading (dB)	dB Adjust
40	Cirrus	CR162C	G302740	93.7	0.0
50	Cirrus	CR162B	G302333	93.7	0.0

Calibrated by :

Approved by :

Preeda S.

CR-515-2025-148/Cal

SECOT CO., LTD.
 239 Rimklongprapa Rd., Bangsue, Bangkok, 10800, THAILAND
 Tel: (662) 959-3600 Fax: (662) 959-3535
 E-Mail: envserv@secot.co.th



SOUND LEVEL METER CALIBRATION

Calibration Location: SECOT

Calibration Date: 07-02-2025

ACOUSTIC CALIBRATOR

Brand	Model	Serial No.	Frequency (Hz)	Ref.Calibrated (dB)	Eff.Calibrated (dB)
Cirrus	CR:515	97097	1000.00	94.0	93.8

No.	Brand	Model	Serial No.	Reading (dB)	dB Adjust
1	SCARLET TECH	ST-21D	820729	93.8	0.0
2	SCARLET TECH	ST-21D	820726	93.8	0.0
3	SCARLET TECH	ST-21D	820731	93.8	0.0
4	SCARLET TECH	ST-21D	820727	93.8	0.0
5	SCARLET TECH	ST-21D	820722	93.8	0.0
6	SCARLET TECH	ST-21D	820725	93.8	0.0
7	SCARLET TECH	ST-21D	820723	93.8	0.0
8	SCARLET TECH	ST-21D	820728	93.8	0.0

Calibrated by :

Approved by :



SOUND LEVEL METER CALIBRATION

Calibration Location: SECOT

Calibration Date: 29/05/2025

ACOUSTIC CALIBRATOR

Brand	Model	Serial No.	Frequency (Hz)	Ref.Calibrated (dB)	Eff.Calibrated (dB)
Cirrus	CR:515	97097	1000.00	94.0	93.8

No.	Brand	Model	Serial No.	Reading (dB)	dB Adjust
1	SCARLET TECH	ST-21D	820722	93.8	0.0
2	SCARLET TECH	ST-21D	820723	93.8	0.0
3	SCARLET TECH	ST-21D	820724	93.8	0.0
4	SCARLET TECH	ST-21D	820730	93.8	0.0
5	SCARLET TECH	ST-21D	820727	93.8	0.0
6	SCARLET TECH	ST-21D	820731	93.8	0.0
7	SCARLET TECH	ST-21D	820729	93.8	0.0
8	SCARLET TECH	ST-21D	820725	93.8	0.0

Calibrated by :

Approved by :

Calibration Certificate

BEIJING J.T TECHNOLOGY CO., LTD.
www.jttech.com
www.jttech.com

Instrument information



Name	WET BULB GLOBE TEMPERATURE (WBGT)METER
Series No	3522210179
Type	JT2011-E2A
Customer	SECOT CO., LTD.
Address	239 Rim Klong Prapa Road, Bang Sue, Bang Sue, Bangkok 10800

Integrity check of instrument

Appearance	✓
Parts integrity	✓
Screen display or touch	✓
Instrument button	✓
Power supply	✓
battery	✓
Data storage and export	✓
Deviation degree of comparison test with standard instrument	✓

Calibration Results

UUC Sensor	Standard Temperature (°C)	UUC Reading (°C)	Correction (°C)	Uncertainty (±°C)
WET	25.0	24.8	0.2	0.2
	30.0	30.1	-0.1	0.2
	35.0	34.8	0.2	0.2
	40.0	40.1	-0.1	0.2
	45.0	45.1	-0.1	0.2
DRY	25.0	25.1	-0.1	0.2
	30.0	29.9	0.1	0.2
	35.0	35.1	-0.1	0.2
	40.0	40.2	-0.2	0.2
	45.0	44.8	0.2	0.2
GLOBE	25.0	24.8	0.2	0.2
	30.0	29.8	0.2	0.2
	35.0	34.8	0.2	0.2
	40.0	40.1	-0.1	0.2
	45.0	45.2	-0.2	0.2

Environmental conditions: temperature: 26 °C ±2°C, relative humidity: 30% RH±10RH%

Reference Standard : Standard Mercury Thermometers, Manufacturer: BGRI, Model: STA, SN : 2-56,
Calibrated Date : 20 February 2023, Calibration Certificate No. : RA21H-AB1000009

This Certificate is traceable to NCMT North China, Certificate No.: RA20J-AK000073

Calibration Engineer : _____

Date : January 15, 2025



Calibration Certificate

BEIJING J.T TECHNOLOGY CO., LTD.
www.jttech.com
www.jttech.com

Instrument information



Name	WET BULB GLOBE TEMPERATURE (WBGT)METER
Series No	3522211233
Type	JT2011-E2A
Customer	SECOT CO., LTD.
Address	239 Rim Klong Prapa Road, Bang Sue, Bang Sue, Bangkok 10800

Integrity check of instrument

Appearance	✓
Parts integrity	✓
Screen display or touch	✓
Instrument button	✓
Power supply	✓
battery	✓
Data storage and export	✓
Deviation degree of comparison test with standard instrument	✓

Calibration Results

UUC Sensor	Standard Temperature (°C)	UUC Reading (°C)	Correction (°C)	Uncertainty (±°C)
WET	25.0	24.9	0.1	0.2
	30.0	30.1	-0.1	0.2
	35.0	35.2	-0.2	0.2
	40.0	39.8	0.2	0.2
	45.0	45.1	-0.1	0.2
DRY	25.0	24.8	0.2	0.2
	30.0	29.9	0.1	0.2
	35.0	35.1	-0.1	0.2
	40.0	40.1	-0.1	0.2
	45.0	44.9	0.1	0.2
GLOBE	25.0	25.2	-0.2	0.2
	30.0	29.9	0.1	0.2
	35.0	34.8	0.2	0.2
	40.0	40.2	-0.2	0.2
	45.0	44.9	0.1	0.2

Environmental conditions: temperature: 26 °C ±2°C, relative humidity: 30% RH±10RH%

Reference Standard : Standard Mercury Thermometers, Manufacturer: BGRI, Model: STA, SN : 2-56,
Calibrated Date : 20 February 2024, Calibration Certificate No. : RA21H-AB1000009

This Certificate is traceable to NCMT North China, Certificate No.: RA20J-AK000073

Calibration Engineer : _____

Date : September 6, 2024



Instrument information



Name	WET BULB GLOBE TEMPERATURE (WBGT)METER
Series No	3522210176
Type	JT2011-E2A
Customer	SECOT CO., LTD.
Address	239 Rim Klong Prapa Road, Bang Sue, Bang Sue, Bangkok 10800

Integrity check of instrument

Appearance	✓
Parts integrity	✓
Screen display or touch	✓
Instrument button	✓
Power supply	✓
battery	✓
Data storage and export	✓
Deviation degree of comparison test with standard instrument	✓

Calibration Results

UUC Sensor	Standard Temperature (°C)	UUC Reading (°C)	Correction (°C)	Uncertainty (±°C)
WET	25.0	24.9	0.1	0.2
	30.0	29.8	0.2	0.2
	35.0	35.1	-0.1	0.2
	40.0	40.1	-0.1	0.2
	45.0	45.2	-0.2	0.2
DRY	25.0	25.1	-0.1	0.2
	30.0	30.2	-0.2	0.2
	35.0	35.2	-0.2	0.2
	40.0	39.8	0.2	0.2
	45.0	44.8	0.2	0.2
GLOBE	25.0	24.9	0.1	0.2
	30.0	29.8	0.2	0.2
	35.0	35.1	-0.1	0.2
	40.0	39.9	0.1	0.2
	45.0	44.8	0.2	0.2

Environmental conditions: temperature: 26 °C ± 2°C, relative humidity: 30% RH ± 10RH%

Reference Standard : Standard Mercury Thermometers, Manufacturer: BGRI, Model: STA, SN : 2-56,
Calibrated Date : 20 February 2023, Calibration Certificate No. : RA21H-AB1000009

This Certificate is traceable to NCMT North China, Certificate No.: RA20J-AK000073

Calibration Engineer : Date : January 15, 2025 

Instrument information



Name	WET BULB GLOBE TEMPERATURE (WBGT)METER
Series No	3522210174
Type	JT2011-E2A
Customer	SECOT CO., LTD.
Address	239 Rim Klong Prapa Road, Bang Sue, Bang Sue, Bangkok 10800

Integrity check of instrument

Appearance	✓
Parts integrity	✓
Screen display or touch	✓
Instrument button	✓
Power supply	✓
battery	✓
Data storage and export	✓
Deviation degree of comparison test with standard instrument	✓

Calibration Results

UUC Sensor	Standard Temperature (°C)	UUC Reading (°C)	Correction (°C)	Uncertainty (±°C)
WET	25.0	25.1	-0.1	0.2
	30.0	29.8	0.2	0.2
	35.0	35.1	-0.1	0.2
	40.0	40.1	-0.1	0.2
	45.0	44.8	0.2	0.2
DRY	25.0	24.9	0.1	0.2
	30.0	29.8	0.2	0.2
	35.0	34.9	0.1	0.2
	40.0	39.8	0.2	0.2
	45.0	45.1	-0.1	0.2
GLOBE	25.0	24.9	0.1	0.2
	30.0	29.8	0.2	0.2
	35.0	34.9	0.1	0.2
	40.0	39.8	0.2	0.2
	45.0	44.9	0.1	0.2

Environmental conditions: temperature: 26 °C ± 2°C, relative humidity: 30% RH ± 10RH%

Reference Standard : Standard Mercury Thermometers, Manufacturer: BGRI, Model: STA, SN : 2-56,
Calibrated Date : 20 February 2023, Calibration Certificate No. : RA21H-AB1000009

This Certificate is traceable to NCMT North China, Certificate No.: RA20J-AK000073

Calibration Engineer : Date : January 15, 2025 

Instrument information



Name	WET BULB GLOBE TEMPERATURE (WBGT)METER
Series No	3522210180
Type	JT2011-E2A
Customer	SECOT CO., LTD.
Address	239 Rim Klong Prapa Road, Bang Sue, Bang Sue, Bangkok 10800

Integrity check of instrument

Appearance	✓
Parts integrity	✓
Screen display or touch	✓
Instrument button	✓
Power supply	✓
battery	✓
Data storage and export	✓
Deviation degree of comparison test with standard instrument	✓

Calibration Results

UUC Sensor	Standard Temperature (°C)	UUC Reading (°C)	Correction (°C)	Uncertainty (±°C)
WET	25.0	25.1	-0.1	0.2
	30.0	29.8	0.2	0.2
	35.0	34.9	0.1	0.2
	40.0	39.8	0.2	0.2
	45.0	45.1	-0.1	0.2
DRY	25.0	25.1	-0.1	0.2
	30.0	30.2	-0.2	0.2
	35.0	35.2	-0.2	0.2
	40.0	39.8	0.2	0.2
	45.0	44.9	0.1	0.2
GLOBE	25.0	24.9	0.1	0.2
	30.0	29.9	0.1	0.2
	35.0	34.8	0.2	0.2
	40.0	40.2	-0.2	0.2
	45.0	45.2	-0.2	0.2

Environmental conditions: temperature: 26 °C ± 2°C, relative humidity: 30% RH ± 10RH%

Reference Standard : Standard Mercury Thermometers, Manufacturer: BGRI, Model: STA, SN : 2-56,
Calibrated Date : 20 February 2023, Calibration Certificate No. : RA21H-AB1000009

This Certificate is traceable to NCMT North China, Certificate No.: RA20J-AK000073

Calibration Engineer : Date : January 15, 2025 

Instrument information



Name	WET BULB GLOBE TEMPERATURE (WBGT)METER
Series No	3522210177
Type	JT2011-E2A
Customer	SECOT CO., LTD.
Address	239 Rim Klong Prapa Road, Bang Sue, Bang Sue, Bangkok 10800

Integrity check of instrument

Appearance	✓
Parts integrity	✓
Screen display or touch	✓
Instrument button	✓
Power supply	✓
battery	✓
Data storage and export	✓
Deviation degree of comparison test with standard instrument	✓

Calibration Results

UUC Sensor	Standard Temperature (°C)	UUC Reading (°C)	Correction (°C)	Uncertainty (±°C)
WET	25.0	25.1	-0.1	0.2
	30.0	30.2	-0.2	0.2
	35.0	34.9	0.1	0.2
	40.0	39.8	0.2	0.2
	45.0	44.9	0.1	0.2
DRY	25.0	25.1	-0.1	0.2
	30.0	30.2	-0.2	0.2
	35.0	34.9	0.1	0.2
	40.0	39.8	0.2	0.2
	45.0	44.8	0.2	0.2
GLOBE	25.0	25.1	-0.1	0.2
	30.0	30.2	-0.2	0.2
	35.0	34.9	0.1	0.2
	40.0	40.2	-0.2	0.2
	45.0	45.1	-0.1	0.2

Environmental conditions: temperature: 26 °C ± 2°C, relative humidity: 30% RH ± 10RH%

Reference Standard : Standard Mercury Thermometers, Manufacturer: BGRI, Model: STA, SN : 2-56,
Calibrated Date : 20 February 2023, Calibration Certificate No. : RA21H-AB1000009

This Certificate is traceable to NCMT North China, Certificate No.: RA20J-AK000073

Calibration Engineer : Date : January 15, 2025 

**INTERNATIONAL TESTING SERVICE CO., LTD**1213/388 Ladprao 94 Ladprao Rd. Wangtonglang Bangkok 10310
Tel 0-2559-2095 Fax 0-2559-2096E-mail : sale@itest-lab.com web site : www.itest-lab.com

CALIBRATION CERTIFICATE

Issued date: 20 January 2025

Client Name : **SECOT CO., LTD.**

Address : 239 Rimklongprapa Rd.,Bangsue, Bangkok 10800.

Request No: **C-2501 - 011**Laboratory No.: **CAL- 011**

Date of Request: 14 January 2025.

Date of Calibration: 17 January 2025.

1. Unit Under Calibration (UUC) :

Nomenclature : Digital Light Meter

Serial No.: A 051053

Maker : EXTECH

Model : 407026

2. Place of Calibration: Photometry Standard Laboratory, INTERNATIONAL TESTING SERVICE CO., LTD.**3. Range of Calibration:** 1 Range**4. Condition of Laboratory:** Ambient temperature: $(25 \pm 2) ^\circ\text{C}$ and relative humidity $(60 \pm 20) \%$.**5. Reference Standard:** Standard Tungsten Halogen Lamp, Serial No.: 504011, which was calibrated on 22 April 2024, can be traceable to International System of Unit (SI) through National Institute of Metrology (Thailand), Certificate No.: TP-1014-24.**6. Support Equipment:**

1. Photometric bench, 6.3 meter long.
2. DC. power supply, Serial No.: EJ 19A 009, Model: GPR-25H 300, Maker: GW INSTEK.
3. Digital Multimeter, Model: 34401A, S/N: MY44011212 and MY44011215.
4. Foot Candle / Lux Meter, Model: 407026, S/N: Q 558437, Maker: EXTECH.

7. Calibration Procedure:

The measurement was done in accordance with WI-CP-01. The reported uncertainty is based on a standard uncertainty multiplied by a coverage factor $k = 2$, providing a level of confidence of approximately 95 %.

Page 1 of 2

The Results shown in this certification report refer only to the equipment(s) calibrated unless otherwise stated
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**INTERNATIONAL TESTING SERVICE CO., LTD**1213/388 Ladprao 94 Ladprao Rd. Wangtonglang Bangkok 10310
Tel 0-2559-2095 Fax 0-2559-2096E-mail : sale@itest-lab.com web site : www.itest-lab.comRequest No: **C-2501 - 011**

Serial No.: A 051053

Laboratory No.: **CAL - 011****Results :**

UUC Range	Standard (lx)	UUC Reading (lx)		Correction (lx)	Uncertainty of Measurement (\pm lx)
		Before adjust	After adjust		
2000	0	0	0	0	0.60
	100	93	102	-2	2.1 % of Reading
	503	468	507	-4	
	1009	934	1009	0	
	1517	1407	1519	-2	
	1925	1784	1925	0	

- Note : 1. The results relate only to the items calibrated.
2. Zero adjust before used.

Calibration result approved by
(Mr. Yuttana Tholueng)**Approved on behalf of
International Testing Service Co., Ltd**
(Mr. Pichit Vivat-Anant)
Managing Director

Page 2 of 2

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THAILAND INSTITUTE OF SCIENTIFIC AND TECHNOLOGICAL RESEARCH (TISTR)

Mechanical Engineering Standards Laboratory Soi 1, Bangpoo Industrial Estate, Muang, Samutprakan 10280, Thailand.

Request No.23-68/0279

MTC.No.23-68/0279-01

Number of page(s) 2

CALIBRATION CERTIFICATE

Nomenclature : DRYCAL

Manufacturer : Mesa Labs

Serial No.: 160100

Model : Defender 520-L

Scale range : 5 ml/min to 500 ml/min

Subdivision : (0.001, 0.01) ml/min

Submitted by : SECOT CO.,LTD.

239, Rimklongprapa Road, Bangsue,

Bangkok 10800, Thailand.

Received date : 13 February 2025 Condition of measured item : Normal

Calibration date : 24 February 2025

Standard :

Standard	Certificate No.	Date due	Traceability
RTD Thermometer	PSL-T 0811/67	3-Jul-26	TISTR
Molbox/Pressure Transducer/UpStream	MP-0076-23	2-Apr-25	NIMT
Primary Flow Calibrator S/N 117982	MW-0034-23	11-Jun-25	NIMT

Calibrated by : Terasak Panna

(Mr.Terasak Panna)

Approved by :

(Ms.Kirana Luanghirun)

Director

Mechanical Engineering Standards Laboratory

Ref. 2013268021300656001

Issued Date 28 February 2025

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Head Office

35 Mu 3 Tambon Khlong Ha, Amphoe Khlong Luang,
Changwat Pathumthani 12120, Thailand
Tel. (66) 0 2577 9036
Fax. (66) 0 2577 9009

Office/Laboratory

668 Mu 2 Tambon Bangpoomai, Amphoe Muang Samutprakan,
Changwat Samutprakan 10280, Thailand
Tel. (66) 0 2323 1672-80 ext. 115, 116
(66) 08 3219 9440
E-mail : mtc@tistr.or.th Website : www.tistr.or.th

Office

196 Phahonyothin Road, Ladyao, Chatuchak,
Bangkok 10900, Thailand
Tel. (66) 0 2579 1121-30 ext. 5219, 5225, 5217
(66) 08 1889 6827



THAILAND INSTITUTE OF SCIENTIFIC AND TECHNOLOGICAL RESEARCH (TISTR)

Mechanical Engineering Standards Laboratory Soi 1, Bangpoo Industrial Estate, Muang, Samutprakan 10280, Thailand.

Request No.23-68/0279

2/2

MTC.No.23-68/0279-01

Calibration point : (20, 50, 100, 200, 400) ml/min

Ambient condition : Temperature (23 ± 3) °C , Relative humidity (55 ± 15) %

Atmospheric pressure (1010 ± 13) hPa

Calibration method : The flowmeter (UUC) was calibrated by comparison method with
standard flowmeter according to CP-370.01.

The reported value is the value that converted to value at reference condition
within pressure and temperature of the actual gas entering the UUC

Measurement data :

UUC Value (ml/min)	Standard Value (ml/min)	Temperature (°C)	Pressure (hPa)	Deviation (%)	Uncertainty (%)
20.473*	20.340	24.275	1011.42	+0.65	0.94
49.952	50.732	24.057	1011.52	-1.54	0.95
99.449	99.622	24.102	1011.62	-0.17	0.93
200.34	199.94	24.133	1011.77	+0.20	0.93
401.89	397.98	24.140	1012.07	+0.98	0.93

The reported expanded uncertainties are based on standard uncertainties multiplied by
a coverage factor $k=2$, which provides a level of confidence of approximately 95%.

* : The calibration point is not the scope of accreditation.

The end of calibration certificate.

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Head Office

35 Mu 3 Tambon Khlong Ha, Amphoe Khlong Luang,
Changwat Pathumthani 12120, Thailand
Tel. (66) 0 2577 9036
Fax. (66) 0 2577 9009

Office/Laboratory

668 Mu 2 Tambon Bangpoomai, Amphoe Muang Samutprakan,
Changwat Samutprakan 10280, Thailand
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E-mail : mtc@tistr.or.th Website : www.tistr.or.th

Office

196 Phahonyothin Road, Ladyao, Chatuchak,
Bangkok 10900, Thailand
Tel. (66) 0 2579 1121-30 ext. 5219, 5225, 5217
(66) 08 1889 6827



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Request No.23-68/0279

MTC.No.23-68/0279-02

Number of page(s) 2

CALIBRATION CERTIFICATE

Nomenclature : DRYCAL

Manufacturer : Mesa Labs

Serial No.: 114069

Model : Defender 520-H

Scale range : 300 ml/min to 30,000 ml/min

Subdivision : (0.0001, 0.001) L/min

Submitted by : SECOT CO.,LTD.

239, Rimklongprapa Road, Bangsue,

Bangkok 10800, Thailand.

Received date : 13 February 2025 **Condition of measured item :** Normal

Calibration date : 25 February 2025

Standard :

Standard	Certificate No.	Date due	Traceability
RTD Thermometer	PSL-T 0811/67	3-Jul-26	TISTR
Molbox/PressureTransducer/UpStream	MP-0076-23	2-Apr-25	NIMT
Primary Flow Calibrator S/N 119216	MW-0035-23	31-May-25	NIMT

Calibrated by : Terasak Panna

(Mr.Terasak Panna)

Approved by : Kirana Luanghirun

(Ms.Kirana Luanghirun)

Director

Mechanical Engineering Standards Laboratory

Ref. 2013268021300656002

Issued Date 28 February 2025

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Head Office

35 Mu 3 Tambon Khlong Ha, Amphoe Khlong Luang,
Changwat Pathumthani 12120, Thailand
Tel. (66) 0 2577 9036
Fax. (66) 0 2577 9009

Office/Laboratory

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THAILAND INSTITUTE OF SCIENTIFIC AND TECHNOLOGICAL RESEARCH (TISTR)

Mechanical Engineering Standards Laboratory Soi 1, Bangpoo Industrial Estate, Muang, Samutprakan 10280, Thailand.

Request No.23-68/0279

2/2

MTC.No.23-68/0279-02

Calibration point : (1.5, 5.0, 10, 15, 25) l/min

Ambient condition : Temperature (23 ± 3) °C , Relative humidity (55 ± 15) %

Atmospheric pressure (1010±13) hPa

Calibration method : The flowmeter (UUC) was calibrated by comparison method with
standard flowmeter according to CP-370.01.

The reported value is the value that converted to value at reference condition
within pressure and temperature of the actual gas entering the UUC

Measurement data :

UUC Value (L/min)	Standard Value (L/min)	Temperature (°C)	Pressure (hPa)	Deviation (%)	Uncertainty (%)
1.5010	1.4862	24.354	1011.40	+0.99	0.91
5.0202	4.9882	24.364	1013.95	+0.64	0.89
9.9989	9.9228	24.319	1020.22	+0.77	0.89
15.033	14.819	24.342	1030.37	+1.44	0.89
25.136	24.152	24.331	1061.30	+4.08	0.89

The reported expanded uncertainties are based on standard uncertainties multiplied by
a coverage factor $k=2$, which provides a level of confidence of approximately 95%.

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