

ภาคผนวก ง

ใบรับรองผลการตรวจวิเคราะห์คุณภาพสิ่งแวดล้อม

ภาคผนวก ง.1

ใบรับรองผลการตรวจวิเคราะห์
คุณภาพอากาศจากปล่องระบายอากาศ



บริษัท ซีคอต จำกัด
SECOT CO., LTD.

239 ถนนวิมคลองประปา 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	: PTT Global Chemical Public Co., Ltd.	REFERENCE NO.	: 226007-CEMS-2604-0112
	Branch 2, Power Plant		
SAMPLING BY	: SECOT Co., Ltd.	REGISTRATION NO.	: 7-239
SAMPLING DATE	: 29/04/2026	SAMPLING TIME	: 10.15-00.00 a.m.
RECEIVED DATE	: 02/05/2026	ANALYTICAL DATE	: 02-05/05/2026
REPORT DATE	: 11/05/2026	OPERATOR	: Mr. Pisanu Seenampeng (7-239-0-0029)
STACK LOCATION	: H-3701	FUEL TYPE	: Natural Gas / Fuel Gas
SOURCE DESCRIPTION	: Combustion	SAMPLE CONDITION	: Normal

STACK DESCRIPTION

Height	: 30.0	m	Flow Rate*	: 5,136	Ncu.m/min
Diameter	: 4.20	m	Excess Oxygen	: 14.9	%
Temperature	: 176.5	°C	Moisture Content	: 9.1	%
Gas Velocity	: 10.3	m/s			

PARAMETER	UNITS	RESULTS*		STANDARDS ^{1/}	REFERENCE METHODS
		14.9%O ₂	7%O ₂	7%O ₂	
Particulate Matter	mg/Ncu.m.	2.05	4.74	60	US. EPA Method 5

(Miss Pornnapha Budthum)

Analyst

REG.NO. 7-239-0-0018

(Miss Narisa Poowasanpetch)

Technical Management Team

REG.NO. 7-239-0-0010

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 mmHg and temperature of 25 °C, dry basis.

4. ^{1/} Notification of the Ministry of Industry, B.E.2567 and the Ministry of Natural Resources and Environment, B.E.2566.



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RECEIVED DATE	: 11/05/2026	ANALYTICAL DATE	: 12-19/05/2026
REPORT DATE	: 19/05/2026	OPERATOR	: Mr. Pisanu Seenampeng (7-239-0-0029)
STACK LOCATION	: H-3701	FUEL TYPE	: Natural Gas / Fuel Gas
SOURCE DESCRIPTION	: Combustion	SAMPLE CONDITION	: Normal

STACK DESCRIPTION

Height	: 30.0	m	Flow Rate*	: 5,136	Ncu.m/min
Diameter	: 4.20	m	Excess Oxygen	: 14.9	%
Temperature	: 176.5	°C	Moisture Content	: 9.1	%
Gas Velocity	: 10.3	m/s			

PARAMETER	RESULT*				STANDARD ^{1,2/} / EIA ^{3/}		EMISSION RATE		REFERENCE METHOD
	ppm		mg/Ncu.m.		ppm	mg/Ncu.m.	g/s		
	14.9%O ₂	7%O ₂	14.9%O ₂	7%O ₂			RESULT	EIA ^{3/}	
Sulfur Dioxide (SO ₂)	0.63	1.47	1.66	3.85	20/20/60	52/52/157	0.142	-	US.EPA Method 6C
Oxide of Nitrogen (NOx)	35.91	83.28	67.51	156.57	120/120/108	226/226/204	5.779	6.72	US.EPA Method 7E

(Miss Katesarin Vorradetwittaya)

Environmental Scientist

REG.NO. 7-239-0-0006

(Miss Preeda Somjai)

Technical Management Team

REG.NO. 7-239-0-0006

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5. ^{2/} Notification of the Ministry of Natural Resources and Environment, B.E.2566 (2023).

6. ^{3/} The assigned value is specified in EIA report, B.E.2561 (2018).

The Monitoring Result of Emission Concentration
H-3701
PTT Global Chemical Public Co., Ltd.
(Branch 2 : Power Plant I-1)
April 29, 2026

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	15.25	15.05	36.28	36.28	86.20
2	15.05	14.85	35.93	35.93	82.55
3	15.02	14.82	35.52	35.52	81.21
Average	15.11	14.91	35.91	35.91	83.28

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	15.25	15.05	0.53	0.52	1.24
2	15.05	14.85	0.65	0.64	1.47
3	15.02	14.82	0.76	0.74	1.69
Average	15.11	14.91	0.65	0.63	1.47

PTT Global Chemical Public Co., Ltd. (Branch 2 : Power Plant I-1)
EMISSION TEST RESULT

Date: April 29, 2026
 Start time: 10:15 AM
 O₂ instrument Model: AMI 70
 NO_x instrument Model: API 200 AH
 SO₂ instrument Model: TELEDYNE 200 EM
 Fuel Type : Natural Gas/Fuel Gas

Run # : 1
 Location : H-3701
 Finish time : 10:35 AM
 Serial No.: 0701023-47
 Serial No.: 314
 Serial No.: 186
 Test Operator : Pisanu S.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
10:15 AM	15.23	37.39	0.54
10:16 AM	15.24	37.01	0.59
10:17 AM	15.40	36.48	0.62
10:18 AM	15.41	36.35	0.64
10:19 AM	15.39	36.10	0.64
10:20 AM	15.35	35.66	0.65
10:21 AM	15.31	36.04	0.64
10:22 AM	15.29	36.35	0.66
10:23 AM	15.29	36.34	0.66
10:24 AM	15.29	36.30	0.25
10:25 AM	15.31	36.34	0.48
10:26 AM	15.31	36.25	0.47
10:27 AM	15.31	35.93	0.48
10:28 AM	15.34	36.12	0.47
10:29 AM	15.34	36.30	0.47
10:30 AM	15.34	36.11	0.49
10:31 AM	15.13	36.06	0.48
10:32 AM	14.82	36.21	0.49
10:33 AM	15.01	36.15	0.49
10:34 AM	15.13	36.23	0.50
10:35 AM	15.10	36.21	0.50
Average	15.25	36.28	0.53

Signature



(Miss Katesarin Vorradetwittaya)

Environmental Scientist

PTT Global Chemical Public Co., Ltd. (Branch 2 : Power Plant I-1)
EMISSION TEST RESULT

Date: April 29, 2026
 Start time: 10:36 AM
 O₂ instrument Model: AMI 70
 NO_x instrument Model: API 200 AH
 SO₂ instrument Model: TELEDYNE 200 EM
 Fuel Type : Natural Gas/Fuel Gas

Run # : 2
 Location : H-3701
 Finish time : 10:56 AM
 Serial No.: 0701023-47
 Serial No.: 314
 Serial No.: 186
 Test Operator : Pisanu S.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
10:36 AM	15.10	35.96	0.53
10:37 AM	15.12	35.90	0.55
10:38 AM	15.11	35.86	0.56
10:39 AM	15.02	35.85	0.57
10:40 AM	15.03	36.11	0.59
10:41 AM	15.05	36.03	0.59
10:42 AM	15.00	36.09	0.62
10:43 AM	15.10	36.03	0.64
10:44 AM	15.05	36.00	0.63
10:45 AM	15.01	36.03	0.64
10:46 AM	15.05	35.98	0.66
10:47 AM	15.04	35.81	0.68
10:48 AM	15.01	35.89	0.69
10:49 AM	15.08	35.90	0.71
10:50 AM	15.04	35.72	0.74
10:51 AM	15.02	35.78	0.75
10:52 AM	15.05	35.96	0.78
10:53 AM	15.03	35.73	0.75
10:54 AM	15.06	35.76	0.86
10:55 AM	15.04	36.01	0.58
10:56 AM	15.05	36.04	0.62
Average	15.05	35.93	0.65

Signature



(Miss Katesarin Vorradetwittaya)

Environmental Scientist

PTT Global Chemical Public Co., Ltd. (Branch 2 : Power Plant I-1)
EMISSION TEST RESULT

Date: April 29, 2026
 Start time: 10:57 AM
 O₂ instrument Model: AMI 70
 NO_x instrument Model: API 200 AH
 SO₂ instrument Model: TELEDYNE 200 EM
 Fuel Type : Natural Gas/Fuel Gas

Run # : 3
 Location : H-3701
 Finish time : 11:17 AM
 Serial No.: 0701023-47
 Serial No.: 314
 Serial No.: 186
 Test Operator : Pisanu S.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
10:57 AM	15.07	36.22	0.62
10:58 AM	15.04	36.19	0.63
10:59 AM	15.05	35.99	0.67
11:00 AM	15.07	35.98	0.65
11:01 AM	15.07	35.98	0.67
11:02 AM	15.01	35.77	0.69
11:03 AM	15.00	35.88	0.70
11:04 AM	15.06	35.98	0.72
11:05 AM	14.98	35.97	0.73
11:06 AM	14.99	35.99	0.75
11:07 AM	15.06	35.90	0.78
11:08 AM	15.00	35.63	0.78
11:09 AM	15.00	35.24	0.78
11:10 AM	14.99	35.51	0.80
11:11 AM	15.01	34.95	0.82
11:12 AM	15.05	34.91	0.84
11:13 AM	15.03	34.84	0.85
11:14 AM	15.00	34.91	0.86
11:15 AM	14.99	34.82	0.88
11:16 AM	15.02	34.53	0.91
11:17 AM	14.99	34.66	0.91
Average	15.02	35.52	0.76

Signature



(Miss Katesarin Vorradetwittaya)

Environmental Scientist



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RECEIVED DATE : 02/05/2026 ANALYTICAL DATE : 02-05/05/2026
REPORT DATE : 11/05/2026 OPERATOR : Mr. Pisanu Seenampeng (7-239-8-0029)
STACK LOCATION : H-3703 FUEL TYPE : Natural Gas / Fuel Gas
SOURCE DESCRIPTION : Combustion SAMPLE CONDITION : Normal

STACK DESCRIPTION
Height : 30.0 m Flow Rate* : 4,150 Ncu.m/min
Diameter : 4.20 m Excess Oxygen : 15.5 %
Temperature : 143.7 °C Moisture Content : 11.4 %
Gas Velocity : 7.9 m/s

PARAMETER	UNITS	RESULTS*			STANDARDS ^{1/}	REFERENCE
		15.5%O ₂	7%O ₂	7%O ₂		METHODS
Particulate Matter	mg/Ncu.m.	2.07	5.33	60		US. EPA Method 5

Bongsa Puthum

(Miss Pornnapa Budthum)

Analyst

REG.NO. 7-239-8-0018

Narisa Poowasanpetch

(Miss Narisa Poowasanpetch)

Technical Management Team

REG.NO. 7-239-8-0010

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REPORT DATE : 19/05/2026 OPERATOR : Mr. Pisanu Seenampeng (7-239-8-0029)
STACK LOCATION : H-3703 FUEL TYPE : Natural Gas / Fuel Gas
SOURCE DESCRIPTION : Combustion SAMPLE CONDITION : Normal

STACK DESCRIPTION
Height : 30.0 m Flow Rate* : 4,150 Ncu.m/min
Diameter : 4.20 m Excess Oxygen : 15.5 %
Temperature : 143.7 °C Moisture Content : 11.4 %
Gas Velocity : 7.9 m/s

PARAMETER	RESULT ^a				STANDARD ^{1,2/} / EIA ^{3/}		EMISSION RATE		REFERENCE METHOD
	ppm		mg/Ncu.m.		ppm	mg/Ncu.m.	g/s		
	15.5%O ₂	7%O ₂	15.5%O ₂	7%O ₂	7%O ₂	7%O ₂	RESULT	EIA ^{3/}	
Sulfur Dioxide (SO ₂)	0.14	0.35	0.36	0.92	20/20/60	52/52/157	0.025	-	US.EPA Method 6C
Oxide of Nitrogen (NOx)	34.37	88.69	64.62	166.74	120/120/122	226/226/230	4.469	14.46	US.EPA Method 7E

Katesarin Vorradetwittaya

(Miss Katesarin Vorradetwittaya)

Environmental Scientist

REG.NO. 7-239-8-0006

Preeda S

(Miss Preeda Somjai)

Technical Management Team

REG.NO. 7-239-8-0006

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5. ^{2/} Notification of the Ministry of Natural Resources and Environment, B.E.2566 (2023).

6. ^{3/} The assigned value is specified in EIA report, B.E.2561 (2018).

**The Monitoring Result of Emission Concentration
H-3703**

**PTT Global Chemical Public Co., Ltd.
(Branch 2 : Power Plant I-1)
April 29, 2026**

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	15.31	15.41	34.30	34.30	86.84
2	15.48	15.58	34.66	34.66	90.56
3	15.45	15.55	34.15	34.15	88.73
Average	15.41	15.51	34.37	34.37	88.69

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	15.31	15.41	0.14	0.10	0.25
2	15.48	15.58	0.14	0.11	0.29
3	15.45	15.55	0.22	0.20	0.52
Average	15.41	15.51	0.17	0.14	0.35

**PTT Global Chemical Public Co., Ltd. (Branch 2 : Power Plant I-1)
EMISSION TEST RESULT**

Date: April 29, 2026
 Start time: 10:15 AM
 O₂ instrument Model: AMI 70
 NO_x instrument Model: TELEDYNE 200 EM
 SO₂ instrument Model: API 100 AH
 Fuel Type: Natural Gas/Fuel Gas

Run #: 1
 Location: H-3703
 Finish time: 10:35 AM
 Serial No.: 161212-13
 Serial No.: 435
 Serial No.: 058
 Test Operator: Pisanu S.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
10:15 AM	15.32	33.24	0.14
10:16 AM	15.74	34.18	0.15
10:17 AM	15.50	34.26	0.14
10:18 AM	15.65	34.46	0.14
10:19 AM	15.23	34.72	0.14
10:20 AM	15.37	34.36	0.14
10:21 AM	15.67	34.11	0.14
10:22 AM	15.38	34.18	0.15
10:23 AM	15.43	34.16	0.14
10:24 AM	15.21	34.31	0.19
10:25 AM	15.27	34.83	0.19
10:26 AM	15.22	34.84	0.18
10:27 AM	15.51	34.24	0.20
10:28 AM	15.44	34.21	0.19
10:29 AM	15.54	34.47	0.22
10:30 AM	15.30	34.33	0.18
10:31 AM	15.52	34.44	0.04
10:32 AM	14.82	34.38	0.04
10:33 AM	14.78	33.90	0.06
10:34 AM	14.53	34.09	0.08
10:35 AM	15.11	34.59	0.06
Average	15.31	34.30	0.14

Signature



(Miss Katesarin Vorradetwittaya)

Environmental Scientist

PTT Global Chemical Public Co., Ltd. (Branch 2 : Power Plant I-1)
EMISSION TEST RESULT

Date: April 29, 2026 Run # : 2
 Start time: 10:36 AM Location : H-3703
 O₂ instrument Model: AMI 70 Finish time : 10:56 AM
 NO_x instrument Model: TELEDYNE 200 EM Serial No.: 161212-13
 SO₂ instrument Model: API 100 AH Serial No.: 435
 Fuel Type : Natural Gas/Fuel Gas Serial No.: 058
 Test Operator : Pisanu S.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
10:36 AM	15.24	34.78	0.06
10:37 AM	15.53	34.98	0.10
10:38 AM	15.06	35.18	0.09
10:39 AM	15.34	35.01	0.10
10:40 AM	15.35	34.93	0.10
10:41 AM	15.45	34.70	0.10
10:42 AM	15.47	34.36	0.11
10:43 AM	15.32	34.29	0.13
10:44 AM	15.45	34.38	0.13
10:45 AM	15.55	34.41	0.14
10:46 AM	15.59	34.59	0.12
10:47 AM	15.59	34.86	0.14
10:48 AM	15.56	34.74	0.17
10:49 AM	15.55	34.67	0.13
10:50 AM	15.75	34.65	0.14
10:51 AM	15.87	34.31	0.15
10:52 AM	15.48	34.16	0.19
10:53 AM	15.48	34.52	0.19
10:54 AM	15.50	34.70	0.19
10:55 AM	15.48	34.55	0.18
10:56 AM	15.37	35.01	0.19
Average	15.48	34.66	0.14

Signature



(Miss Katesarin Vorradetwittaya)

Environmental Scientist

PTT Global Chemical Public Co., Ltd. (Branch 2 : Power Plant I-1)
EMISSION TEST RESULT

Date: April 29, 2026 Run # : 3
 Start time: 10:57 AM Location : H-3703
 O₂ instrument Model: AMI 70 Finish time : 11:17 AM
 NO_x instrument Model: TELEDYNE 200 EM Serial No.: 161212-13
 SO₂ instrument Model: API 100 AH Serial No.: 435
 Fuel Type : Natural Gas/Fuel Gas Serial No.: 058
 Test Operator : Pisanu S.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
10:57 AM	15.34	35.09	0.19
10:58 AM	15.34	34.55	0.23
10:59 AM	15.30	34.50	0.20
11:00 AM	15.31	34.51	0.19
11:01 AM	15.25	34.23	0.19
11:02 AM	15.10	34.26	0.21
11:03 AM	15.08	34.25	0.23
11:04 AM	14.85	33.78	0.25
11:05 AM	15.68	33.88	0.19
11:06 AM	15.55	34.17	0.20
11:07 AM	15.55	34.01	0.24
11:08 AM	15.47	34.02	0.23
11:09 AM	15.54	34.18	0.19
11:10 AM	15.76	33.88	0.25
11:11 AM	15.56	34.05	0.25
11:12 AM	15.75	34.31	0.23
11:13 AM	15.67	34.00	0.23
11:14 AM	15.61	33.82	0.25
11:15 AM	15.81	33.92	0.25
11:16 AM	15.43	33.87	0.25
11:17 AM	15.41	33.94	0.25
Average	15.45	34.15	0.22

Signature



(Miss Katesarin Vorradetwittaya)

Environmental Scientist



บริษัท ซีคอต จำกัด
SECOT CO., LTD.

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SAMPLING DATE : 29/04/2026 SAMPLING TIME : 00.40-02.40 p.m.
RECEIVED DATE : 02/05/2026 ANALYTICAL DATE : 02-05/05/2026
REPORT DATE : 11/05/2026 OPERATOR : Mr. Pisanu Seenampeng (7-239-8-0029)
STACK LOCATION : H-3704 FUEL TYPE : Natural Gas
SOURCE DESCRIPTION : Combustion SAMPLE CONDITION : Normal

STACK DESCRIPTION
Height : 30.0 m Flow Rate* : 5,661 Ncu.m/min
Diameter : 3.60 m Excess Oxygen : 14.6 %
Temperature : 116.8 °C Moisture Content : 12.2 %
Gas Velocity : 13.9 m/s

PARAMETER	UNITS	RESULTS*			REFERENCE METHODS
		14.6%O ₂	7%O ₂	7%O ₂	
Particulate Matter	mg/Ncu.m.	2.89	6.37	60	US. EPA Method 5

Pornnapa Budthum

(Miss Pornnapa Budthum)

Analyst

REG.NO. 7-239-8-0018

Narisa Poowasanpetch

(Miss Narisa Poowasanpetch)

Technical Management Team

REG.NO. 7-239-8-0010

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

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

4. ^{1/} Notification of the Ministry of Industry, B.E.2567 and the Ministry of Natural Resources and Environment, B.E.2566.



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STACK EMISSION ANALYSIS REPORT

CLIENT NAME : PTT Global Chemical Public Co., Ltd. REFERENCE NO. : 226007-CEMS-2604-0112
Branch 2, Power Plant
SAMPLING BY : SECOT Co., Ltd. REGISTRATION NO. : 7-239
SAMPLING DATE : 29/04/2026 SAMPLING TIME : 00.40-02.40 p.m.
RECEIVED DATE : 11/05/2026 ANALYTICAL DATE : 12-19/05/2026
REPORT DATE : 19/05/2026 OPERATOR : Mr. Pisanu Seenampeng (7-239-8-0029)
STACK LOCATION : H-3704 FUEL TYPE : Natural Gas
SOURCE DESCRIPTION : Combustion SAMPLE CONDITION : Normal

STACK DESCRIPTION
Height : 30.0 m Flow Rate* : 5,661 Ncu.m/min
Diameter : 3.60 m Excess Oxygen : 14.6 %
Temperature : 116.8 °C Moisture Content : 12.2 %
Gas Velocity : 13.9 m/s

PARAMETER	RESULT*				STANDARD ^{1,2/} EIA ^{3/}		EMISSION RATE		REFERENCE METHOD
	ppm		mg/Ncu.m.		ppm	mg/Ncu.m.	g/s		
	14.6%O ₂	7%O ₂	14.6%O ₂	7%O ₂	7%O ₂	7%O ₂	RESULT	EIA ^{3/}	
Sulfur Dioxide (SO ₂)	0.47	1.04	1.24	2.73	20/20/20	52/52/52	0.117	-	US.EPA Method 6C
Oxide of Nitrogen (NOx)	4.73	10.42	8.89	19.59	120/120/14	226/226/26	0.839	1.26	US.EPA Method 7E

Katesarin Vorradetwittaya

(Miss Katesarin Vorradetwittaya)

Environmental Scientist

REG.NO. 7-239-8-0006

Preeda S.

(Miss Preeda Somjai)

Technical Management Team

REG.NO. 7-239-8-0006

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4. ^{1/} Notification of the Ministry of Industry, B.E.2567 (2024).

5. ^{2/} Notification of the Ministry of Natural Resources and Environment, B.E.2566 (2023).

6. ^{3/} The assigned value is specified in EIA report, B.E.2561 (2018).

The Monitoring Result of Emission Concentration
H-3704
PTT Global Chemical Public Co., Ltd.
(Branch 2 : Power Plant I-1)
April 29, 2026

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	14.94	14.76	4.72	4.70	10.64
2	14.61	14.47	4.70	4.69	10.14
3	14.65	14.54	4.81	4.80	10.49
Average	14.73	14.59	4.74	4.73	10.42

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	14.94	14.76	0.25	0.23	0.52
2	14.61	14.47	0.78	0.76	1.64
3	14.65	14.54	0.46	0.43	0.94
Average	14.73	14.59	0.50	0.47	1.04

PTT Global Chemical Public Co., Ltd. (Branch 2 : Power Plant I-1)
EMISSION TEST RESULT

Date: April 29, 2026
 Start time: 12:40 PM
 O₂ instrument Model: AMI 70
 NO_x instrument Model: API 200 AH
 SO₂ instrument Model: TELEDYNE 200 EM
 Fuel Type : Natural Gas

Run # : 1
 Location : H-3704
 Finish time : 1:00 PM
 Serial No.: 0701023-47
 Serial No.: 314
 Serial No.: 186
 Test Operator : Pisanu S.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
12:40 PM	14.69	4.62	0.58
12:41 PM	14.67	4.67	0.52
12:42 PM	14.71	4.65	0.46
12:43 PM	14.69	4.62	0.39
12:44 PM	14.70	4.63	0.34
12:45 PM	14.68	4.71	0.28
12:46 PM	15.88	4.76	0.22
12:47 PM	17.68	4.32	0.18
12:48 PM	14.64	5.82	0.14
12:49 PM	16.11	5.69	0.09
12:50 PM	14.69	4.65	0.04
12:51 PM	14.67	4.31	0.01
12:52 PM	14.67	4.62	0.04
12:53 PM	14.67	4.64	0.08
12:54 PM	14.67	4.64	0.14
12:55 PM	14.67	4.66	0.18
12:56 PM	14.67	4.62	0.23
12:57 PM	14.67	4.61	0.26
12:58 PM	14.67	4.63	0.30
12:59 PM	14.64	4.64	0.34
1:00 PM	14.64	4.67	0.37
Average	14.94	4.72	0.25

Signature



(Miss Katesarin Vorradetwittaya)

Environmental Scientist

PTT Global Chemical Public Co., Ltd. (Branch 2 : Power Plant I-1)
EMISSION TEST RESULT

Date: April 29, 2026
 Start time: 1:01 PM
 O₂ instrument Model: AMI 70
 NO_x instrument Model: API 200 AH
 SO₂ instrument Model: TELEDYNE 200 EM
 Fuel Type : Natural Gas

Run # : 2
 Location : H-3704
 Finish time : 1:21 PM
 Serial No.: 0701023-47
 Serial No.: 314
 Serial No.: 186
 Test Operator : Pisanu S.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
1:01 PM	14.62	4.67	0.41
1:02 PM	14.64	4.63	0.45
1:03 PM	14.61	4.65	0.50
1:04 PM	14.64	4.64	0.54
1:05 PM	14.62	4.58	0.55
1:06 PM	14.63	4.63	0.61
1:07 PM	14.61	4.64	0.64
1:08 PM	14.61	4.71	0.69
1:09 PM	14.63	4.66	0.73
1:10 PM	14.63	4.66	0.78
1:11 PM	14.61	4.70	0.80
1:12 PM	14.61	4.71	0.84
1:13 PM	14.61	4.68	0.88
1:14 PM	14.61	4.70	0.90
1:15 PM	14.61	4.73	0.92
1:16 PM	14.59	4.79	0.96
1:17 PM	14.60	4.78	0.98
1:18 PM	14.58	4.76	1.02
1:19 PM	14.58	4.82	1.04
1:20 PM	14.59	4.77	1.08
1:21 PM	14.60	4.72	1.10
Average	14.61	4.70	0.78

Signature



(Miss Katesarin Vorradetwittaya)

Environmental Scientist

PTT Global Chemical Public Co., Ltd. (Branch 2 : Power Plant I-1)
EMISSION TEST RESULT

Date: April 29, 2026
 Start time: 1:22 PM
 O₂ instrument Model: AMI 70
 NO_x instrument Model: API 200 AH
 SO₂ instrument Model: TELEDYNE 200 EM
 Fuel Type : Natural Gas

Run # : 3
 Location : H-3704
 Finish time : 1:42 PM
 Serial No.: 0701023-47
 Serial No.: 314
 Serial No.: 186
 Test Operator : Pisanu S.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
1:22 PM	14.61	4.76	1.13
1:23 PM	14.63	4.77	1.18
1:24 PM	14.63	4.75	1.19
1:25 PM	14.63	4.77	1.23
1:26 PM	14.66	4.82	1.26
1:27 PM	14.66	4.81	1.28
1:28 PM	14.66	4.80	0.49
1:29 PM	14.66	4.79	0.03
1:30 PM	14.66	4.86	0.01
1:31 PM	14.65	4.86	0.03
1:32 PM	14.65	4.84	0.04
1:33 PM	14.64	4.80	0.08
1:34 PM	14.64	4.81	0.11
1:35 PM	14.65	4.82	0.15
1:36 PM	14.66	4.81	0.14
1:37 PM	14.65	4.84	0.18
1:38 PM	14.66	4.90	0.20
1:39 PM	14.66	4.85	0.21
1:40 PM	14.66	4.81	0.24
1:41 PM	14.66	4.81	0.27
1:42 PM	14.65	4.78	0.29
Average	14.65	4.81	0.46

Signature



(Miss Katesarin Vorradetwittaya)

Environmental Scientist



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STACK EMISSION ANALYSIS REPORT

CLIENT NAME : PTT Global Chemical Public Co., Ltd. REFERENCE NO. : 226007-CEMS-2604-0112
Branch 2, Power Plant
SAMPLING BY : SECOT Co., Ltd. REGISTRATION NO. : 7-239
SAMPLING DATE : 29/04/2026 SAMPLING TIME : 00.30-01.43 p.m.
RECEIVED DATE : 02/05/2026 ANALYTICAL DATE : 02-05/05/2026
REPORT DATE : 11/05/2026 OPERATOR : Mr. Pisanu Seenampeng (7-239-0-0029)
STACK LOCATION : H-3705 FUEL TYPE : Natural Gas
SOURCE DESCRIPTION : Combustion SAMPLE CONDITION : Normal

STACK DESCRIPTION

Height : 30.0 m Flow Rate* : 5,403 Ncu.m/min
Diameter : 3.60 m Excess Oxygen : 14.6 %
Temperature : 117.5 °C Moisture Content : 10.7 %
Gas Velocity : 13.0 m/s

PARAMETER	UNITS	RESULTS*		STANDARDS ^{1/}	REFERENCE METHODS
		14.6%O ₂	7%O ₂	7%O ₂	
Particulate Matter	mg/Ncu.m.	1.86	4.09	60	US. EPA Method 5

Pornapa Budthum

(Miss Pornapa Budthum)

Analyst

REG.NO. 7-239-0-0018

Narisa Poowasanpetch

(Miss Narisa Poowasanpetch)

Technical Management Team

REG.NO. 7-239-0-0010

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STACK EMISSION ANALYSIS REPORT

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Branch 2, Power Plant
SAMPLING BY : SECOT Co., Ltd. REGISTRATION NO. : 7-239
SAMPLING DATE : 29/04/2026 SAMPLING TIME : 00.30-01.43 p.m.
RECEIVED DATE : 11/05/2026 ANALYTICAL DATE : 12-19/05/2026
REPORT DATE : 19/05/2026 OPERATOR : Mr. Pisanu Seenampeng (7-239-0-0029)
STACK LOCATION : H-3705 FUEL TYPE : Natural Gas
SOURCE DESCRIPTION : Combustion SAMPLE CONDITION : Normal

STACK DESCRIPTION

Height : 30.0 m Flow Rate* : 5,403 Ncu.m/min
Diameter : 3.60 m Excess Oxygen : 14.6 %
Temperature : 117.5 °C Moisture Content : 10.7 %
Gas Velocity : 13.0 m/s

PARAMETER	RESULT*				STANDARD ^{1,2/} / EIA ^{3/}		EMISSION RATE		REFERENCE METHOD
	ppm		mg/Ncu.m.		ppm	mg/Ncu.m.	g/s		
	14.6%O ₂	7%O ₂	14.6%O ₂	7%O ₂			RESULT	EIA ^{3/}	
Sulfur Dioxide (SO ₂)	0.33	0.72	0.86	1.88	20/20/20	52/52/52	0.077	-	US.EPA Method 6C
Oxide of Nitrogen (NOx)	3.76	8.27	7.07	15.55	120/120/14	226/226/26	0.636	1.26	US.EPA Method 7E

Miss Katesarin Vorradetwittaya

(Miss Katesarin Vorradetwittaya)

Environmental Scientist

REG.NO. 7-239-0-0006

Preeda S.

(Miss Preeda Somjai)

Technical Management Team

REG.NO. 7-239-0-0006

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6. ^{3/} The assigned value is specified in EIA report, B.E.2561 (2018).

The Monitoring Result of Emission Concentration
H-3705
PTT Global Chemical Public Co., Ltd.
(Branch 2 : Power Plant I-1)
April 29, 2026

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	14.31	14.37	3.82	3.79	8.07
2	14.62	14.62	3.78	3.75	8.30
3	14.81	14.75	3.77	3.74	8.45
Average	14.58	14.58	3.79	3.76	8.27

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	14.31	14.37	0.17	0.15	0.32
2	14.62	14.62	0.37	0.34	0.75
3	14.81	14.75	0.53	0.49	1.11
Average	14.58	14.58	0.36	0.33	0.72

PTT Global Chemical Public Co., Ltd. (Branch 2 : Power Plant I-1)
EMISSION TEST RESULT

Date: April 29, 2026
 Start time: 12:40 PM
 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 : H-3705
 Finish time : 1:00 PM
 Serial No.: 161212-13
 Serial No.: 435
 Serial No.: 058
 Test Operator : Pisanu S.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
12:40 PM	14.23	3.64	0.02
12:41 PM	14.23	3.62	0.03
12:42 PM	14.25	3.68	0.03
12:43 PM	14.26	3.72	0.06
12:44 PM	14.26	3.75	0.10
12:45 PM	14.29	3.76	0.13
12:46 PM	14.32	3.84	0.16
12:47 PM	14.33	3.89	0.19
12:48 PM	14.28	3.88	0.18
12:49 PM	14.26	3.91	0.19
12:50 PM	14.26	3.91	0.19
12:51 PM	14.28	3.95	0.18
12:52 PM	14.30	3.95	0.16
12:53 PM	14.33	3.95	0.18
12:54 PM	14.33	3.94	0.19
12:55 PM	14.33	3.86	0.20
12:56 PM	14.35	3.83	0.25
12:57 PM	14.36	3.83	0.23
12:58 PM	14.37	3.81	0.25
12:59 PM	14.41	3.79	0.26
1:00 PM	14.41	3.79	0.29
Average	14.31	3.82	0.17

Signature



(Miss Katesarin Vorradetwittaya)

Environmental Scientist

PTT Global Chemical Public Co., Ltd. (Branch 2 : Power Plant I-1)
EMISSION TEST RESULT

Run # : 2
 Date: April 29, 2026
 Start time: 1:01 PM
 O₂ instrument Model: AMI 70
 NO_x instrument Model: TELEDYNE 200 EM
 SO₂ instrument Model: API 100 AH
 Fuel Type : Natural Gas
 Location : H-3705
 Finish time : 1:21 PM
 Serial No.: 161212-13
 Serial No.: 435
 Serial No.: 058
 Test Operator : Pisanu S.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
1:01 PM	14.43	3.78	0.26
1:02 PM	14.46	3.83	0.30
1:03 PM	14.46	3.78	0.31
1:04 PM	14.50	3.78	0.31
1:05 PM	14.55	3.78	0.31
1:06 PM	14.57	3.79	0.34
1:07 PM	14.58	3.74	0.37
1:08 PM	14.59	3.81	0.37
1:09 PM	14.62	3.88	0.35
1:10 PM	14.64	3.86	0.39
1:11 PM	14.64	3.88	0.37
1:12 PM	14.64	3.85	0.37
1:13 PM	14.64	3.82	0.39
1:14 PM	14.66	3.77	0.39
1:15 PM	14.67	3.78	0.42
1:16 PM	14.69	3.74	0.43
1:17 PM	14.71	3.77	0.43
1:18 PM	14.71	3.76	0.43
1:19 PM	14.72	3.68	0.43
1:20 PM	14.74	3.70	0.44
1:21 PM	14.74	3.68	0.45
Average	14.62	3.78	0.37

Signature



(Miss Katesarin Vorradetwittaya)

Environmental Scientist

PTT Global Chemical Public Co., Ltd. (Branch 2 : Power Plant I-1)
EMISSION TEST RESULT

Run # : 3
 Date: April 29, 2026
 Start time: 1:22 PM
 O₂ instrument Model: AMI 70
 NO_x instrument Model: TELEDYNE 200 EM
 SO₂ instrument Model: API 100 AH
 Fuel Type : Natural Gas
 Location : H-3705
 Finish time : 1:42 PM
 Serial No.: 161212-13
 Serial No.: 435
 Serial No.: 058
 Test Operator : Pisanu S.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
1:22 PM	14.74	3.71	0.46
1:23 PM	14.75	3.73	0.48
1:24 PM	14.77	3.77	0.49
1:25 PM	14.79	3.75	0.49
1:26 PM	14.79	3.74	0.50
1:27 PM	14.79	3.73	0.50
1:28 PM	14.79	3.73	0.50
1:29 PM	14.81	3.75	0.54
1:30 PM	14.81	3.75	0.50
1:31 PM	14.81	3.80	0.50
1:32 PM	14.81	3.78	0.51
1:33 PM	14.81	3.77	0.53
1:34 PM	14.81	3.79	0.52
1:35 PM	14.83	3.80	0.56
1:36 PM	14.84	3.79	0.56
1:37 PM	14.84	3.82	0.56
1:38 PM	14.84	3.79	0.56
1:39 PM	14.86	3.78	0.56
1:40 PM	14.86	3.83	0.56
1:41 PM	14.86	3.84	0.61
1:42 PM	14.89	3.81	0.59
Average	14.81	3.77	0.53

Signature



(Miss Katesarin Vorradetwittaya)

Environmental Scientist



บริษัท ซีคอต จำกัด
SECOT CO., LTD.

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STACK EMISSION ANALYSIS REPORT

CLIENT NAME : PTT Global Chemical Public Co., Ltd. REFERENCE NO. : 226007-CEMS-2604-0112
Branch 2, Power Plant
SAMPLING BY : SECOT Co., Ltd. REGISTRATION NO. : 7-239
SAMPLING DATE : 30/04/2026 SAMPLING TIME : 01.15-02.22 p.m.
RECEIVED DATE : 02/05/2026 ANALYTICAL DATE : 02-05/05/2026
REPORT DATE : 11/05/2026 OPERATOR : Mr. Kittipong Thakoengsuk (7-239-8-0024)
STACK LOCATION : H-3706 FUEL TYPE : Fuel Gas
SOURCE DESCRIPTION : Combustion SAMPLE CONDITION : Normal

STACK DESCRIPTION

Height : 35.0 m Flow Rate* : 604 Ncu.m/min
Diameter : 1.80 m Excess Oxygen : 7.0 %
Temperature : 155.6 °C Moisture Content : 13.9 %
Gas Velocity : 6.6 m/s

PARAMETER	UNITS	RESULTS*		STANDARDS ^{1/}	REFERENCE METHODS
		7.0%O ₂	7%O ₂	7%O ₂	
Particulate Matter	mg/Ncu.m.	2.70	2.70	60	US. EPA Method 5

Pornnapa Budthum

(Miss Pornnapa Budthum)

Analyst

REG.NO. 7-239-8-0018

Narisa Poowasanpetch

(Miss Narisa Poowasanpetch)

Technical Management Team

REG.NO. 7-239-8-0010

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STACK EMISSION ANALYSIS REPORT

CLIENT NAME : PTT Global Chemical Public Co., Ltd. REFERENCE NO. : 226007-CEMS-2604-0112
Branch 2, Power Plant
SAMPLING BY : SECOT Co., Ltd. REGISTRATION NO. : 7-239
SAMPLING DATE : 30/04/2026 SAMPLING TIME : 01.15-02.22 p.m.
RECEIVED DATE : 11/05/2026 ANALYTICAL DATE : 12-19/05/2026
REPORT DATE : 19/05/2026 OPERATOR : Mr. Kittipong Thakoengsuk (7-239-8-0024)
STACK LOCATION : H-3706 FUEL TYPE : Fuel Gas
SOURCE DESCRIPTION : Combustion SAMPLE CONDITION : Normal

STACK DESCRIPTION

Height : 35.0 m Flow Rate* : 604 Ncu.m/min
Diameter : 1.80 m Excess Oxygen : 7.0 %
Temperature : 155.6 °C Moisture Content : 13.9 %
Gas Velocity : 6.6 m/s

PARAMETER	RESULT*				STANDARD ^{1,2/} / EIA ^{3/}		EMISSION RATE		REFERENCE METHOD
	ppm		mg/Ncu.m.		ppm	mg/Ncu.m.	g/s		
	7.0%O ₂	7%O ₂	7.0%O ₂	7%O ₂	7%O ₂	7%O ₂	RESULT	EIA ^{3/}	
Sulfur Dioxide (SO ₂)	0.67	0.67	1.76	1.76	20/20/20	52/52/52	0.018	-	US.EPA Method 6C
Oxide of Nitrogen (NOx)	32.70	32.74	61.48	61.56	120/120/37	226/226/69	0.619	1.50	US.EPA Method 7E

Katesarin Vorradetwittaya

(Miss Katesarin Vorradetwittaya)

Environmental Scientist

REG.NO. 7-239-8-0006

Preeda S.

(Miss Preeda Somjai)

Technical Management Team

REG.NO. 7-239-8-0006

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 mmHg and temperature of 25 °C, dry basis.

4. ^{1/} Notification of the Ministry of Industry, B.E.2567 (2024).

5. ^{2/} Notification of the Ministry of Natural Resources and Environment, B.E.2566 (2023).

6. ^{3/} The assigned value is specified in EIA report, B.E.2561 (2018).

The Monitoring Result of Emission Concentration
H-3706
PTT Global Chemical Public Co., Ltd.
(Branch 2 : Power Plant I-1)
April 30, 2026

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	7.13	7.06	32.76	32.75	32.89
2	7.05	6.98	32.48	32.47	32.42
3	7.08	7.01	32.90	32.89	32.91
Average	7.08	7.02	32.71	32.70	32.74

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	7.13	7.06	0.71	0.66	0.66
2	7.05	6.98	0.71	0.67	0.67
3	7.08	7.01	0.72	0.69	0.69
Average	7.08	7.02	0.71	0.67	0.67

PTT Global Chemical Public Co., Ltd. (Branch 2 : Power Plant I-1)
EMISSION TEST RESULT

Date: April 30, 2026
 Start time: 1:20 PM
 O₂ instrument Model: AMI 70
 NO_x instrument Model: TELEDYNE 200 EM
 SO₂ instrument Model: API 100 AH
 Fuel Type : Fuel Gas

Run # : 1
 Location : H-3706
 Finish time : 1:40 PM
 Serial No.: 170615-6
 Serial No.: 433
 Serial No.: 118
 Test Operator : Kittipong T.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
1:20 PM	7.22	32.88	0.57
1:21 PM	7.17	32.72	0.57
1:22 PM	7.19	32.60	0.62
1:23 PM	7.19	32.77	0.66
1:24 PM	7.14	32.85	0.65
1:25 PM	7.11	32.87	0.69
1:26 PM	7.08	33.01	0.74
1:27 PM	7.09	33.07	0.75
1:28 PM	7.14	33.08	0.76
1:29 PM	7.13	32.96	0.74
1:30 PM	7.17	32.75	0.79
1:31 PM	7.18	32.69	0.81
1:32 PM	7.12	32.72	0.82
1:33 PM	7.08	32.66	0.79
1:34 PM	7.07	32.55	0.69
1:35 PM	7.10	32.56	0.74
1:36 PM	7.10	32.67	0.73
1:37 PM	7.10	32.72	0.72
1:38 PM	7.10	32.72	0.71
1:39 PM	7.09	32.59	0.72
1:40 PM	7.11	32.47	0.69
Average	7.13	32.76	0.71

Signature



(Miss Katesarin Vorradetwittaya)

Environmental Scientist

PTT Global Chemical Public Co., Ltd. (Branch 2 : Power Plant I-1)
EMISSION TEST RESULT

Date: April 30, 2026
 Start time: 1:41 PM
 O₂ instrument Model: AMI 70
 NO_x instrument Model: TELEDYNE 200 EM
 SO₂ instrument Model: API 100 AH
 Fuel Type : Fuel Gas

Run # : 2
 Location : H-3706
 Finish time : 2:01 PM
 Serial No.: 170615-6
 Serial No.: 433
 Serial No.: 118
 Test Operator : Kittipong T.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
1:41 PM	7.04	32.32	0.69
1:42 PM	7.03	32.15	0.70
1:43 PM	7.03	32.26	0.69
1:44 PM	7.03	32.44	0.73
1:45 PM	7.05	32.44	0.70
1:46 PM	7.04	32.37	0.67
1:47 PM	7.04	32.32	0.69
1:48 PM	7.05	32.49	0.75
1:49 PM	7.05	32.68	0.68
1:50 PM	7.04	32.59	0.71
1:51 PM	7.05	32.53	0.73
1:52 PM	7.06	32.56	0.71
1:53 PM	7.02	32.49	0.70
1:54 PM	7.01	32.36	0.70
1:55 PM	6.98	32.27	0.73
1:56 PM	7.05	32.29	0.74
1:57 PM	7.07	32.54	0.74
1:58 PM	7.11	32.93	0.70
1:59 PM	7.09	32.91	0.72
2:00 PM	7.06	32.64	0.71
2:01 PM	7.05	32.46	0.69
Average	7.05	32.48	0.71

Signature



(Miss Katesarin Vorradetwittaya)

Environmental Scientist

PTT Global Chemical Public Co., Ltd. (Branch 2 : Power Plant I-1)
EMISSION TEST RESULT

Date: April 30, 2026
 Start time: 2:02 PM
 O₂ instrument Model: AMI 70
 NO_x instrument Model: TELEDYNE 200 EM
 SO₂ instrument Model: API 100 AH
 Fuel Type : Fuel Gas

Run # : 3
 Location : H-3706
 Finish time : 2:22 PM
 Serial No.: 170615-6
 Serial No.: 433
 Serial No.: 118
 Test Operator : Kittipong T.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
2:02 PM	7.09	32.52	0.70
2:03 PM	7.05	32.66	0.73
2:04 PM	7.08	32.79	0.70
2:05 PM	7.11	32.95	0.65
2:06 PM	7.10	33.14	0.72
2:07 PM	7.05	33.15	0.71
2:08 PM	7.10	33.07	0.73
2:09 PM	7.05	32.94	0.70
2:10 PM	7.06	32.84	0.70
2:11 PM	7.09	32.95	0.71
2:12 PM	7.09	33.03	0.68
2:13 PM	7.08	32.89	0.73
2:14 PM	7.12	32.85	0.71
2:15 PM	7.12	32.96	0.72
2:16 PM	7.09	32.90	0.72
2:17 PM	7.10	32.87	0.74
2:18 PM	7.09	33.05	0.71
2:19 PM	7.06	33.06	0.76
2:20 PM	7.04	32.92	0.74
2:21 PM	7.01	32.78	0.75
2:22 PM	7.01	32.64	0.79
Average	7.08	32.90	0.72

Signature



(Miss Katesarin Vorradetwittaya)

Environmental Scientist



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STACK EMISSION ANALYSIS REPORT

CLIENT NAME : PTT Global Chemical Public Co., Ltd. REFERENCE NO. : 226007-CEMS-2604-0112
Branch 2, Power Plant
SAMPLING BY : SECOT Co., Ltd. REGISTRATION NO. : 7-239
SAMPLING DATE : 30/04/2026 SAMPLING TIME : 10.00-11.22 a.m.
RECEIVED DATE : 02/05/2026 ANALYTICAL DATE : 02-05/05/2026
REPORT DATE : 11/05/2026 OPERATOR : Mr. Kittipong Thakoengsuk (7-239-0-0024)
STACK LOCATION : H-3707 FUEL TYPE : Fuel Gas
SOURCE DESCRIPTION : Combustion SAMPLE CONDITION : Normal

STACK DESCRIPTION

Height : 35.0 m Flow Rate* : 722 Neu.m/min
Diameter : 1.80 m Excess Oxygen : 7.1 %
Temperature : 159.0 °C Moisture Content : 12.1 %
Gas Velocity : 7.8 m/s

PARAMETER	UNITS	RESULTS*		STANDARDS ^{1/}	REFERENCE METHODS
		7.1%O ₂	7%O ₂	7%O ₂	
Particulate Matter	mg/Neu.m.	2.50	2.53	60	US. EPA Method 5

Pornnapa Budthum

(Miss Pornnapa Budthum)

Analyst

REG.NO. 7-239-0-0018

Narisa Poowasanpetch

(Miss Narisa Poowasanpetch)

Technical Management Team

REG.NO. 7-239-0-0010

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

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

4. ^{1/} Notification of the Ministry of Industry, B.E.2567 and the Ministry of Natural Resources and Environment, B.E.2566.



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

STACK EMISSION ANALYSIS REPORT

CLIENT NAME : PTT Global Chemical Public Co., Ltd. REFERENCE NO. : 226007-CEMS-2604-0112
Branch 2, Power Plant
SAMPLING BY : SECOT Co., Ltd. REGISTRATION NO. : 7-239
SAMPLING DATE : 30/04/2026 SAMPLING TIME : 10.00-11.22 a.m.
RECEIVED DATE : 11/05/2026 ANALYTICAL DATE : 12-19/05/2026
REPORT DATE : 19/05/2026 OPERATOR : Mr. Kittipong Thakoengsuk (7-239-0-0024)
STACK LOCATION : H-3707 FUEL TYPE : Fuel Gas
SOURCE DESCRIPTION : Combustion SAMPLE CONDITION : Normal

STACK DESCRIPTION

Height : 35.0 m Flow Rate* : 722 Neu.m/min
Diameter : 1.80 m Excess Oxygen : 7.1 %
Temperature : 159.0 °C Moisture Content : 12.1 %
Gas Velocity : 7.8 m/s

PARAMETER	RESULT*				STANDARD ^{1,2/} / EIA ^{3/}		EMISSION RATE		REFERENCE METHOD
	ppm		mg/Ncu.m.		ppm	mg/Ncu.m.	g/s		
	7.1%O ₂	7%O ₂	7.1%O ₂	7%O ₂	7%O ₂	7%O ₂	RESULT	EIA ^{3/}	
Sulfur Dioxide (SO ₂)	0.39	0.39	1.02	1.02	20/20/20	52/52/52	0.012	-	US.EPA Method 6C
Oxide of Nitrogen (NOx)	33.06	33.38	62.15	62.75	120/120/37	226/226/69	0.748	1.50	US.EPA Method 7E

Katesarin Vorradetwittaya

(Miss Katesarin Vorradetwittaya)

Environmental Scientist

REG.NO. 7-239-0-0006

Preeda S.

(Miss Preeda Somjai)

Technical Management Team

REG.NO. 7-239-0-0006

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

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5. ^{2/} Notification of the Ministry of Natural Resources and Environment, B.E.2566 (2023).

6. ^{3/} The assigned value is specified in EIA report, B.E.2561 (2018).

**The Monitoring Result of Emission Concentration
H-3707**

**PTT Global Chemical Public Co., Ltd.
(Branch 2 : Power Plant I-1)
April 30, 2026**

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	7.16	7.12	32.82	32.81	33.10
2	7.20	7.14	33.46	33.45	33.79
3	7.21	7.14	32.93	32.92	33.25
Average	7.19	7.13	33.07	33.06	33.38

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	7.16	7.12	0.46	0.40	0.40
2	7.20	7.14	0.42	0.36	0.36
3	7.21	7.14	0.46	0.40	0.40
Average	7.19	7.13	0.45	0.39	0.39

**PTT Global Chemical Public Co., Ltd. (Branch 2 : Power Plant I-1)
EMISSION TEST RESULT**

Date: April 30, 2026
 Start time: 10:20 AM
 O₂ instrument Model: AMI 70
 NO_x instrument Model: TELEDYNE 200 EM
 SO₂ instrument Model: API 100 AH
 Fuel Type : Fuel Gas

Run # : 1
 Location : H-3707
 Finish time : 10:40 AM
 Serial No.: 170615-6
 Serial No.: 433
 Serial No.: 118
 Test Operator : Kittipong T.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
10:20 AM	7.26	32.37	0.37
10:21 AM	7.27	32.44	0.40
10:22 AM	7.19	32.58	0.44
10:23 AM	7.19	32.52	0.41
10:24 AM	7.17	32.44	0.45
10:25 AM	7.17	32.47	0.49
10:26 AM	7.16	32.62	0.52
10:27 AM	7.17	32.82	0.51
10:28 AM	7.14	32.80	0.55
10:29 AM	7.18	32.73	0.56
10:30 AM	7.13	32.94	0.49
10:31 AM	7.15	33.32	0.49
10:32 AM	7.12	33.19	0.43
10:33 AM	7.13	32.90	0.45
10:34 AM	7.14	33.05	0.49
10:35 AM	7.13	33.19	0.48
10:36 AM	7.13	33.05	0.47
10:37 AM	7.13	32.91	0.45
10:38 AM	7.13	32.96	0.44
10:39 AM	7.13	32.98	0.41
10:40 AM	7.12	32.91	0.44
Average	7.16	32.82	0.46

Signature



(Miss Katesarin Vorradetwittaya)

Environmental Scientist

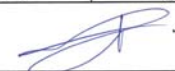
PTT Global Chemical Public Co., Ltd. (Branch 2 : Power Plant I-1)
EMISSION TEST RESULT

Date: April 30, 2026
 Start time: 10:41 AM
 O₂ instrument Model: AMI 70
 NO_x instrument Model: TELEDYNE 200 EM
 SO₂ instrument Model: API 100 AH
 Fuel Type : Fuel Gas

Run # : 2
 Location : H-3707
 Finish time : 11:01 AM
 Serial No.: 170615-6
 Serial No.: 433
 Serial No.: 118
 Test Operator : Kittipong T.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
10:41 AM	7.14	32.78	0.42
10:42 AM	7.18	32.99	0.43
10:43 AM	7.15	32.97	0.39
10:44 AM	7.16	32.57	0.42
10:45 AM	7.20	32.70	0.45
10:46 AM	7.22	33.48	0.41
10:47 AM	7.19	33.95	0.41
10:48 AM	7.19	33.49	0.38
10:49 AM	7.15	33.04	0.36
10:50 AM	7.19	32.88	0.36
10:51 AM	7.20	32.86	0.38
10:52 AM	7.24	33.30	0.44
10:53 AM	7.25	33.90	0.36
10:54 AM	7.22	34.10	0.40
10:55 AM	7.22	34.04	0.42
10:56 AM	7.21	34.07	0.44
10:57 AM	7.22	34.45	0.44
10:58 AM	7.22	34.58	0.47
10:59 AM	7.22	34.20	0.42
11:00 AM	7.19	33.38	0.47
11:01 AM	7.21	32.90	0.48
Average	7.20	33.46	0.42

Signature



(Miss Katesarin Vorradetwittaya)

Environmental Scientist

PTT Global Chemical Public Co., Ltd. (Branch 2 : Power Plant I-1)
EMISSION TEST RESULT

Date: April 30, 2026
 Start time: 11:02 AM
 O₂ instrument Model: AMI 70
 NO_x instrument Model: TELEDYNE 200 EM
 SO₂ instrument Model: API 100 AH
 Fuel Type : Fuel Gas

Run # : 3
 Location : H-3707
 Finish time : 11:22 AM
 Serial No.: 170615-6
 Serial No.: 433
 Serial No.: 118
 Test Operator : Kittipong T.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
11:02 AM	7.22	32.93	0.48
11:03 AM	7.21	32.91	0.41
11:04 AM	7.22	32.88	0.45
11:05 AM	7.21	32.87	0.41
11:06 AM	7.21	32.98	0.39
11:07 AM	7.24	33.39	0.45
11:08 AM	7.18	33.39	0.43
11:09 AM	7.20	32.97	0.50
11:10 AM	7.17	32.85	0.53
11:11 AM	7.22	32.78	0.48
11:12 AM	7.22	32.79	0.40
11:13 AM	7.21	32.89	0.48
11:14 AM	7.19	32.83	0.44
11:15 AM	7.22	32.85	0.46
11:16 AM	7.22	32.87	0.41
11:17 AM	7.22	32.87	0.40
11:18 AM	7.20	32.75	0.47
11:19 AM	7.21	32.65	0.49
11:20 AM	7.21	32.91	0.53
11:21 AM	7.24	33.11	0.53
11:22 AM	7.23	33.15	0.50
Average	7.21	32.93	0.46

Signature



(Miss Katesarin Vorradetwittaya)

Environmental Scientist



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STACK EMISSION ANALYSIS REPORT

CLIENT NAME : PTT Global Chemical Public Co., Ltd. REFERENCE NO. : 226007-CEMS-2604-0112
Branch 2, Power Plant
SAMPLING BY : SECOT Co., Ltd. REGISTRATION NO. : 7-239
SAMPLING DATE : 30/04/2026 SAMPLING TIME : 00.20-02.42 p.m.
RECEIVED DATE : 02/05/2026 ANALYTICAL DATE : 02-05/05/2026
REPORT DATE : 11/05/2026 OPERATOR : Mr. Song Hengchwankul (7-239-0-0016)
STACK LOCATION : H-3708 FUEL TYPE : Natural Gas / Fuel Gas
SOURCE DESCRIPTION : Combustion SAMPLE CONDITION : Normal

STACK DESCRIPTION

Height : 35.0 m Flow Rate* : 5,614 Ncu.m/min
Diameter : 3.26 m Excess Oxygen : 14.5 %
Temperature : 158.4 °C Moisture Content : 12.2 %
Gas Velocity : 18.6 m/s

PARAMETER	UNITS	RESULTS*			REFERENCE METHODS
		14.5%O ₂	7%O ₂	7%O ₂	
Particulate Matter	mg/Ncu.m.	2.14	4.61	60	US. EPA Method 5

(Miss Pornnapa Budthum)

Analyst

REG.NO. 7-239-0-0018

(Miss Narisa Poowasanpetch)

Technical Management Team

REG.NO. 7-239-0-0010

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 mmHg and temperature of 25 °C, dry basis.

4. ^{1/} Notification of the Ministry of Industry, B.E.2567 and the Ministry of Natural Resources and Environment, B.E.2566.



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

STACK EMISSION ANALYSIS REPORT

CLIENT NAME : PTT Global Chemical Public Co., Ltd. REFERENCE NO. : 226007-CEMS-2604-0112
Branch 2, Power Plant
SAMPLING BY : SECOT Co., Ltd. REGISTRATION NO. : 7-239
SAMPLING DATE : 30/04/2026 SAMPLING TIME : 00.20-02.42 p.m.
RECEIVED DATE : 11/05/2026 ANALYTICAL DATE : 12-19/05/2026
REPORT DATE : 19/05/2026 OPERATOR : Mr. Song Hengchwankul (7-239-0-0016)
STACK LOCATION : H-3708 FUEL TYPE : Natural Gas / Fuel Gas
SOURCE DESCRIPTION : Combustion SAMPLE CONDITION : Normal

STACK DESCRIPTION

Height : 35.0 m Flow Rate* : 5,614 Ncu.m/min
Diameter : 3.26 m Excess Oxygen : 14.5 %
Temperature : 158.4 °C Moisture Content : 12.2 %
Gas Velocity : 18.6 m/s

PARAMETER	RESULT*				STANDARD ^{1/2/} / EIA ^{3/}		EMISSION RATE		REFERENCE METHOD
	ppm		mg/Ncu.m.		ppm	mg/Ncu.m.	g/s		
	14.5%O ₂	7%O ₂	14.5%O ₂	7%O ₂	7%O ₂	7%O ₂	RESULT	EIA ^{3/}	
Sulfur Dioxide (SO ₂)	0.11	0.24	0.29	0.62	20/20/20	52/52/52	0.027	-	US.EPA Method 6C
Oxide of Nitrogen (NOx)	6.00	12.97	11.29	24.39	120/120/18	226/226/33	1.056	2.44	US.EPA Method 7E

(Miss Katesarin Vorradetwittaya)

Environmental Scientist

REG.NO. 7-239-0-0006

(Miss Preeda Somjai)

Technical Management Team

REG.NO. 7-239-0-0006

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4. ^{1/} Notification of the Ministry of Industry, B.E.2567 (2024).

5. ^{2/} Notification of the Ministry of Natural Resources and Environment, B.E.2566 (2023).

6. ^{3/} The assigned value is specified in EIA report, B.E.2561 (2018).

**The Monitoring Result of Emission Concentration
H-3708**

**PTT Global Chemical Public Co., Ltd.
(Branch 2 : Power Plant I-1)
April 30, 2026**

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	14.34	14.44	5.67	5.64	12.14
2	14.49	14.58	6.25	6.21	13.66
3	14.31	14.38	6.21	6.16	13.13
Average	14.38	14.47	6.04	6.00	12.97

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	14.34	14.44	0.12	0.11	0.24
2	14.49	14.58	0.12	0.11	0.24
3	14.31	14.38	0.12	0.11	0.23
Average	14.38	14.47	0.12	0.11	0.24

**PTT Global Chemical Public Co., Ltd. (Branch 2 : Power Plant I-1)
EMISSION TEST RESULT**

Date: April 30, 2026 Run # : 1
 Start time: 1:00 PM Location : H-3708
 O₂ instrument Model: AMI 70 Finish time : 1:20 PM
 NO_x instrument Model: TELEDYNE 200 EM Serial No.: 161212-13
 SO₂ instrument Model: API 100 AH Serial No.: 435
 Fuel Type : Natural Gas/Fuel Gas Serial No.: 058
 Test Operator : Song H.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
1:00 PM	14.37	5.21	0.13
1:01 PM	14.39	5.36	0.13
1:02 PM	14.38	5.32	0.13
1:03 PM	14.29	5.33	0.12
1:04 PM	14.32	5.36	0.12
1:05 PM	14.37	5.39	0.12
1:06 PM	14.32	5.45	0.12
1:07 PM	14.28	5.56	0.12
1:08 PM	14.29	5.19	0.12
1:09 PM	14.32	5.32	0.12
1:10 PM	14.28	5.44	0.12
1:11 PM	14.25	5.97	0.12
1:12 PM	14.25	5.88	0.12
1:13 PM	14.27	6.05	0.12
1:14 PM	14.39	5.97	0.12
1:15 PM	14.37	5.82	0.12
1:16 PM	14.39	5.88	0.12
1:17 PM	14.38	6.15	0.12
1:18 PM	14.39	5.90	0.12
1:19 PM	14.40	6.36	0.12
1:20 PM	14.45	6.25	0.12
Average	14.34	5.67	0.12

Signature



(Miss Katesarin Vorradetwittaya)

Environmental Scientist

PTT Global Chemical Public Co., Ltd. (Branch 2 : Power Plant I-1)
EMISSION TEST RESULT

Date: April 30, 2026 Run # : 2
 Start time: 1:21 PM Location : H-3708
 O₂ instrument Model: AMI 70 Finish time : 1:41 PM
 NO_x instrument Model: TELEDYNE 200 EM Serial No.: 161212-13
 SO₂ instrument Model: API 100 AH Serial No.: 435
 Fuel Type : Natural Gas/Fuel Gas Serial No.: 058
 Test Operator : Song H.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
1:21 PM	14.51	6.21	0.12
1:22 PM	14.58	6.32	0.12
1:23 PM	14.59	6.42	0.12
1:24 PM	14.58	4.76	0.12
1:25 PM	14.64	6.16	0.12
1:26 PM	14.55	6.29	0.12
1:27 PM	14.52	6.48	0.12
1:28 PM	14.43	6.48	0.12
1:29 PM	14.39	6.48	0.12
1:30 PM	14.41	6.53	0.12
1:31 PM	14.51	6.55	0.12
1:32 PM	14.45	6.20	0.12
1:33 PM	14.36	6.20	0.12
1:34 PM	14.44	6.43	0.12
1:35 PM	14.52	6.40	0.12
1:36 PM	14.50	6.32	0.12
1:37 PM	14.48	6.15	0.12
1:38 PM	14.47	6.05	0.12
1:39 PM	14.49	6.17	0.12
1:40 PM	14.43	6.38	0.12
1:41 PM	14.41	6.25	0.12
Average	14.49	6.25	0.12

Signature

(Miss Katesarin Vorradetwittaya)

Environmental Scientist

PTT Global Chemical Public Co., Ltd. (Branch 2 : Power Plant I-1)
EMISSION TEST RESULT

Date: April 30, 2026 Run # : 3
 Start time: 1:42 PM Location : H-3708
 O₂ instrument Model: AMI 70 Finish time : 2:02 PM
 NO_x instrument Model: TELEDYNE 200 EM Serial No.: 161212-13
 SO₂ instrument Model: API 100 AH Serial No.: 435
 Fuel Type : Natural Gas/Fuel Gas Serial No.: 058
 Test Operator : Song H.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
1:42 PM	14.45	6.08	0.12
1:43 PM	14.42	6.02	0.12
1:44 PM	14.37	5.95	0.12
1:45 PM	14.37	6.09	0.12
1:46 PM	14.32	5.99	0.12
1:47 PM	14.26	6.06	0.12
1:48 PM	14.21	6.16	0.12
1:49 PM	14.26	6.28	0.12
1:50 PM	14.36	6.48	0.12
1:51 PM	14.34	6.39	0.12
1:52 PM	14.27	6.25	0.12
1:53 PM	14.25	6.22	0.12
1:54 PM	14.27	6.15	0.12
1:55 PM	14.27	6.08	0.12
1:56 PM	14.25	6.18	0.12
1:57 PM	14.27	6.34	0.12
1:58 PM	14.30	6.35	0.12
1:59 PM	14.30	6.31	0.12
2:00 PM	14.34	6.28	0.12
2:01 PM	14.27	6.22	0.12
2:02 PM	14.36	6.48	0.12
Average	14.31	6.21	0.12

Signature

(Miss Katesarin Vorradetwittaya)

Environmental Scientist



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STACK EMISSION ANALYSIS REPORT

CLIENT NAME	: PTT Global Chemical Public Co., Ltd.	REFERENCE NO.	: 226007-CEMS-2604-0112		
	Branch 2, Power Plant				
SAMPLING BY	: SECOT Co., Ltd.	REGISTRATION NO.	: 7-239		
SAMPLING DATE	: 30/04/2026	SAMPLING TIME	: 01.00-02.35 p.m.		
RECEIVED DATE	: 02/05/2026	ANALYTICAL DATE	: 02-05/05/2026		
REPORT DATE	: 11/05/2026	OPERATOR	: Mr. Song Hengchwankul (7-239-8-0016)		
STACK LOCATION	: H-3709	FUEL TYPE	: Natural Gas / Fuel Gas		
SOURCE DESCRIPTION	: Combustion	SAMPLE CONDITION	: Normal		
STACK DESCRIPTION					
Height	: 35.0	m	Flow Rate*	: 7,190	Ncu.m/min
Diameter	: 3.26	m	Excess Oxygen	: 14.4	%
Temperature	: 163.3	°C	Moisture Content	: 10.9	%
Gas Velocity	: 23.7	m/s			

PARAMETER	UNITS	RESULTS*		STANDARDS ^{1/}	REFERENCE
		14.4%O ₂	7%O ₂	7%O ₂	METHODS
Particulate Matter	mg/Ncu.m.	2.01	4.29	60	US. EPA Method 5

Bongpa Puthum

(Miss Pornnapa Budthum)

Analyst

REG.NO. 7-239-8-0018

Narisa Poowasanpetch

(Miss Narisa Poowasanpetch)

Technical Management Team

REG.NO. 7-239-8-0010

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

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

4. ^{1/} Notification of the Ministry of Industry, B.E.2567 and the Ministry of Natural Resources and Environment, B.E.2566.



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

STACK EMISSION ANALYSIS REPORT

CLIENT NAME	: PTT Global Chemical Public Co., Ltd.	REFERENCE NO.	: 226007-CEMS-2604-0112		
	Branch 2, Power Plant				
SAMPLING BY	: SECOT Co., Ltd.	REGISTRATION NO.	: 7-239		
SAMPLING DATE	: 30/04/2026	SAMPLING TIME	: 01.00-02.35 p.m.		
RECEIVED DATE	: 11/05/2026	ANALYTICAL DATE	: 12-19/05/2026		
REPORT DATE	: 19/05/2026	OPERATOR	: Mr. Song Hengchwankul (7-239-8-0016)		
STACK LOCATION	: H-3709	FUEL TYPE	: Natural Gas / Fuel Gas		
SOURCE DESCRIPTION	: Combustion	SAMPLE CONDITION	: Normal		
STACK DESCRIPTION					
Height	: 35.0	m	Flow Rate*	: 7,190	Ncu.m/min
Diameter	: 3.26	m	Excess Oxygen	: 14.4	%
Temperature	: 163.3	°C	Moisture Content	: 10.9	%
Gas Velocity	: 23.7	m/s			

PARAMETER	RESULT*				STANDARD ^{1,2/} / EIA ^{3/}		EMISSION RATE		REFERENCE METHOD
	ppm		mg/Ncu.m.		ppm	mg/Ncu.m.	g/s		
	14.4%O ₂	7%O ₂	14.4%O ₂	7%O ₂	7%O ₂	7%O ₂	RESULT	EIA ^{3/}	
Sulfur Dioxide (SO ₂)	0.10	0.22	0.27	0.58	20/20/20	52/52/52	0.032	-	US.EPA Method 6C
Oxide of Nitrogen (NOx)	4.56	9.76	8.58	18.36	120/120/18	226/226/33	1.028	2.44	US.EPA Method 7E

Katesarin Vorradetwittaya

(Miss Katesarin Vorradetwittaya)

Environmental Scientist

REG.NO. 7-239-8-0006

Preeda S.

(Miss Preeda Somjai)

Technical Management Team

REG.NO. 7-239-8-0006

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

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

4. ^{1/} Notification of the Ministry of Industry, B.E.2567 (2024).

5. ^{2/} Notification of the Ministry of Natural Resources and Environment, B.E.2566 (2023).

6. ^{3/} The assigned value is specified in EIA report, B.E.2561 (2018).

**The Monitoring Result of Emission Concentration
H-3709**

**PTT Global Chemical Public Co., Ltd.
(Branch 2 : Power Plant I-1)
April 30, 2026**

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	14.46	14.43	4.76	4.72	10.14
2	14.41	14.40	4.40	4.35	9.30
3	14.36	14.38	4.68	4.62	9.85
Average	14.41	14.40	4.62	4.56	9.76

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	14.46	14.43	0.16	0.12	0.26
2	14.41	14.40	0.16	0.11	0.24
3	14.36	14.38	0.14	0.08	0.17
Average	14.41	14.40	0.15	0.10	0.22

**PTT Global Chemical Public Co., Ltd. (Branch 2 : Power Plant I-1)
EMISSION TEST RESULT**

Date: April 30, 2026
 Start time: 1:00 PM
 O₂ instrument Model: AMI 70
 NO_x instrument Model: TELEDYNE 200 EH
 SO₂ instrument Model: TELEDYNE 100 EH
 Fuel Type : Natural Gas/Fuel Gas

Run # : 1
 Location : H-3709
 Finish time : 1:20 PM
 Serial No.: 071023-47
 Serial No.: 515
 Serial No.: 186
 Test Operator : Song H.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
1:00 PM	14.43	5.03	0.17
1:01 PM	14.47	4.82	0.17
1:02 PM	14.43	4.66	0.17
1:03 PM	14.46	4.77	0.17
1:04 PM	14.43	4.94	0.17
1:05 PM	14.47	4.92	0.17
1:06 PM	14.49	4.97	0.17
1:07 PM	14.51	5.06	0.17
1:08 PM	14.52	5.01	0.16
1:09 PM	14.59	5.22	0.16
1:10 PM	14.51	4.61	0.16
1:11 PM	14.45	4.40	0.16
1:12 PM	14.43	4.65	0.16
1:13 PM	14.46	4.76	0.16
1:14 PM	14.45	4.76	0.16
1:15 PM	14.45	4.76	0.16
1:16 PM	14.45	4.68	0.16
1:17 PM	14.42	4.68	0.16
1:18 PM	14.47	4.70	0.16
1:19 PM	14.44	4.35	0.16
1:20 PM	14.42	4.28	0.16
Average	14.46	4.76	0.16

Signature



(Miss Katesarin Vorradetwittaya)

Environmental Scientist

PTT Global Chemical Public Co., Ltd. (Branch 2 : Power Plant I-1)
EMISSION TEST RESULT

Date: April 30, 2026 Run # : 2
 Start time: 1:21 PM Location : H-3709
 Finish time : 1:41 PM
 O₂ instrument Model: AMI 70 Serial No.: 071023-47
 NO_x instrument Model: TELEDYNE 200 EH Serial No.: 515
 SO₂ instrument Model: TELEDYNE 100 EH Serial No.: 186
 Fuel Type : Natural Gas/Fuel Gas Test Operator : Song H.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
1:21 PM	14.44	4.48	0.16
1:22 PM	14.42	4.29	0.16
1:23 PM	14.43	4.37	0.16
1:24 PM	14.44	4.48	0.16
1:25 PM	14.44	4.43	0.16
1:26 PM	14.45	4.42	0.16
1:27 PM	14.44	4.29	0.16
1:28 PM	14.43	4.35	0.16
1:29 PM	14.43	4.46	0.16
1:30 PM	14.45	4.49	0.16
1:31 PM	14.42	4.36	0.16
1:32 PM	14.42	4.59	0.15
1:33 PM	14.42	4.57	0.15
1:34 PM	14.38	4.28	0.15
1:35 PM	14.41	4.38	0.15
1:36 PM	14.39	4.37	0.15
1:37 PM	14.38	4.46	0.15
1:38 PM	14.38	4.42	0.15
1:39 PM	14.38	4.34	0.16
1:40 PM	14.35	4.28	0.16
1:41 PM	14.37	4.31	0.16
Average	14.41	4.40	0.16

Signature



(Miss Katesarin Vorradetwittaya)

Environmental Scientist

PTT Global Chemical Public Co., Ltd. (Branch 2 : Power Plant I-1)
EMISSION TEST RESULT

Date: April 30, 2026 Run # : 3
 Start time: 1:42 PM Location : H-3709
 Finish time : 2:02 PM
 O₂ instrument Model: AMI 70 Serial No.: 071023-47
 NO_x instrument Model: TELEDYNE 200 EH Serial No.: 515
 SO₂ instrument Model: TELEDYNE 100 EH Serial No.: 186
 Fuel Type : Natural Gas/Fuel Gas Test Operator : Song H.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
1:42 PM	14.35	4.25	0.16
1:43 PM	14.36	4.37	0.16
1:44 PM	14.36	4.45	0.14
1:45 PM	14.37	4.31	0.14
1:46 PM	14.35	4.31	0.14
1:47 PM	14.40	4.36	0.14
1:48 PM	14.36	4.26	0.14
1:49 PM	14.39	4.37	0.14
1:50 PM	14.38	4.34	0.14
1:51 PM	14.35	4.96	0.14
1:52 PM	14.39	5.08	0.16
1:53 PM	14.35	4.92	0.16
1:54 PM	14.35	4.86	0.16
1:55 PM	14.35	4.89	0.16
1:56 PM	14.35	4.84	0.16
1:57 PM	14.34	4.93	0.13
1:58 PM	14.34	4.98	0.13
1:59 PM	14.36	4.96	0.13
2:00 PM	14.33	4.90	0.13
2:01 PM	14.35	5.02	0.13
2:02 PM	14.35	4.95	0.13
Average	14.36	4.68	0.14

Signature



(Miss Katesarin Vorradetwittaya)

Environmental Scientist



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

STACK EMISSION ANALYSIS REPORT

CLIENT NAME	: PTT Global Chemical Public Co., Ltd.	REFERENCE NO.	: 226007-CEMS-2604-0112
	Branch 2, Power Plant		
SAMPLING BY	: SECOT Co., Ltd.	REGISTRATION NO.	: 7-239
SAMPLING DATE	: 30/04/2026	SAMPLING TIME	: 09.35-11.12 a.m.
RECEIVED DATE	: 02/05/2026	ANALYTICAL DATE	: 02-05/05/2026
REPORT DATE	: 11/05/2026	OPERATOR	: Mr. Song Hengchwankul (7-239-8-0016)
STACK LOCATION	: H-3710	FUEL TYPE	: Natural Gas / Fuel Gas
SOURCE DESCRIPTION	: Combustion	SAMPLE CONDITION	: Normal
STACK DESCRIPTION			
Height	: 35.0 m	Flow Rate*	: 6,546 Ncu.m/min
Diameter	: 3.26 m	Excess Oxygen	: 14.5 %
Temperature	: 178.8 °C	Moisture Content	: 10.3 %
Gas Velocity	: 22.2 m/s		

PARAMETER	UNITS	RESULTS*		STANDARDS ^{1/}	REFERENCE METHODS
		14.5%O ₂	7%O ₂	7%O ₂	
Particulate Matter	mg/Ncu.m.	2.21	4.76	60	US. EPA Method 5

Bong Puthum

(Miss Pornnapa Budthum)

Analyst

REG.NO. 7-239-8-0018

Narisa Poowasanpetch

(Miss Narisa Poowasanpetch)

Technical Management Team

REG.NO. 7-239-8-0010

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

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

4. ^{1/} Notification of the Ministry of Industry, B.E.2567 and the Ministry of Natural Resources and Environment, B.E.2566.



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

STACK EMISSION ANALYSIS REPORT

CLIENT NAME	: PTT Global Chemical Public Co., Ltd.	REFERENCE NO.	: 226007-CEMS-2604-0112
	Branch 2, Power Plant		
SAMPLING BY	: SECOT Co., Ltd.	REGISTRATION NO.	: 7-239
SAMPLING DATE	: 30/04/2026	SAMPLING TIME	: 09.35-11.12 a.m.
RECEIVED DATE	: 11/05/2026	ANALYTICAL DATE	: 12-19/05/2026
REPORT DATE	: 19/05/2026	OPERATOR	: Mr. Song Hengchwankul (7-239-8-0016)
STACK LOCATION	: H-3710	FUEL TYPE	: Natural Gas / Fuel Gas
SOURCE DESCRIPTION	: Combustion	SAMPLE CONDITION	: Normal
STACK DESCRIPTION			
Height	: 35.0 m	Flow Rate*	: 6,546 Ncu.m/min
Diameter	: 3.26 m	Excess Oxygen	: 14.5 %
Temperature	: 178.8 °C	Moisture Content	: 10.3 %
Gas Velocity	: 22.2 m/s		

PARAMETER	RESULT*				STANDARD ^{1/2/} / EIA ^{3/}		EMISSION RATE		REFERENCE METHOD
	ppm		mg/Ncu.m.		ppm	mg/Ncu.m.	g/s		
	14.5%O ₂	7%O ₂	14.5%O ₂	7%O ₂	7%O ₂	7%O ₂	RESULT	EIA ^{3/}	
Sulfur Dioxide (SO ₂)	0.11	0.24	0.29	0.62	20/20/20	52/52/52	0.031	-	US.EPA Method 6C
Oxide of Nitrogen (NOx)	6.00	12.97	11.29	24.39	120/120/18	226/226/33	1.231	2.44	US.EPA Method 7E

Katesarin Vorradetwittaya

(Miss Katesarin Vorradetwittaya)

Environmental Scientist

REG.NO. 7-239-8-0006

Preeeda S.

(Miss Preeeda Somjai)

Technical Management Team

REG.NO. 7-239-8-0006

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4. ^{1/} Notification of the Ministry of Industry, B.E.2567 (2024).

5. ^{2/} Notification of the Ministry of Natural Resources and Environment, B.E.2566 (2023).

6. ^{3/} The assigned value is specified in EIA report, B.E.2561 (2018).

**The Monitoring Result of Emission Concentration
H-3710**

**PTT Global Chemical Public Co., Ltd.
(Branch 2 : Power Plant I-1)
April 30, 2026**

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	14.34	14.44	5.67	5.64	12.14
2	14.49	14.58	6.25	6.21	13.66
3	14.31	14.38	6.21	6.16	13.13
Average	14.38	14.47	6.04	6.00	12.97

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	14.34	14.44	0.12	0.11	0.24
2	14.49	14.58	0.12	0.11	0.24
3	14.31	14.38	0.12	0.11	0.23
Average	14.38	14.47	0.12	0.11	0.24

**PTT Global Chemical Public Co., Ltd. (Branch 2 : Power Plant I-1)
EMISSION TEST RESULT**

Date: April 30, 2026 Run #: 1
 Start time: 1:00 PM Location: H-3710
 O₂ instrument Model: AMI 70 Finish time: 1:20 PM
 NO_x instrument Model: TELEDYNE 200 EM Serial No.: 161212-13
 SO₂ instrument Model: API 100 AH Serial No.: 435
 Fuel Type: Natural Gas/Fuel Gas Serial No.: 058
 Test Operator: Song H.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
1:00 PM	14.37	5.21	0.13
1:01 PM	14.39	5.36	0.13
1:02 PM	14.38	5.32	0.13
1:03 PM	14.29	5.33	0.12
1:04 PM	14.32	5.36	0.12
1:05 PM	14.37	5.39	0.12
1:06 PM	14.32	5.45	0.12
1:07 PM	14.28	5.56	0.12
1:08 PM	14.29	5.19	0.12
1:09 PM	14.32	5.32	0.12
1:10 PM	14.28	5.44	0.12
1:11 PM	14.25	5.97	0.12
1:12 PM	14.25	5.88	0.12
1:13 PM	14.27	6.05	0.12
1:14 PM	14.39	5.97	0.12
1:15 PM	14.37	5.82	0.12
1:16 PM	14.39	5.88	0.12
1:17 PM	14.38	6.15	0.12
1:18 PM	14.39	5.90	0.12
1:19 PM	14.40	6.36	0.12
1:20 PM	14.45	6.25	0.12
Average	14.34	5.67	0.12

Signature



(Miss Katesarin Vorradetwittaya)

Environmental Scientist

PTT Global Chemical Public Co., Ltd. (Branch 2 : Power Plant I-1)
EMISSION TEST RESULT

Date: April 30, 2026 Run # : 2
 Start time: 1:21 PM Location : H-3710
 O₂ instrument Model: AMI 70 Finish time : 1:41 PM
 NO_x instrument Model: TELEDYNE 200 EM Serial No.: 161212-13
 SO₂ instrument Model: API 100 AH Serial No.: 435
 Fuel Type : Natural Gas/Fuel Gas Serial No.: 058
 Test Operator : Song H.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
1:21 PM	14.51	6.21	0.12
1:22 PM	14.58	6.32	0.12
1:23 PM	14.59	6.42	0.12
1:24 PM	14.58	4.76	0.12
1:25 PM	14.64	6.16	0.12
1:26 PM	14.55	6.29	0.12
1:27 PM	14.52	6.48	0.12
1:28 PM	14.43	6.48	0.12
1:29 PM	14.39	6.48	0.12
1:30 PM	14.41	6.53	0.12
1:31 PM	14.51	6.55	0.12
1:32 PM	14.45	6.20	0.12
1:33 PM	14.36	6.20	0.12
1:34 PM	14.44	6.43	0.12
1:35 PM	14.52	6.40	0.12
1:36 PM	14.50	6.32	0.12
1:37 PM	14.48	6.15	0.12
1:38 PM	14.47	6.05	0.12
1:39 PM	14.49	6.17	0.12
1:40 PM	14.43	6.38	0.12
1:41 PM	14.41	6.25	0.12
Average	14.49	6.25	0.12

Signature



(Miss Katesarin Vorradetwittaya)

Environmental Scientist

PTT Global Chemical Public Co., Ltd. (Branch 2 : Power Plant I-1)
EMISSION TEST RESULT

Date: April 30, 2026 Run # : 3
 Start time: 1:42 PM Location : H-3710
 O₂ instrument Model: AMI 70 Finish time : 2:02 PM
 NO_x instrument Model: TELEDYNE 200 EM Serial No.: 161212-13
 SO₂ instrument Model: API 100 AH Serial No.: 435
 Fuel Type : Natural Gas/Fuel Gas Serial No.: 058
 Test Operator : Song H.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
1:42 PM	14.45	6.08	0.12
1:43 PM	14.42	6.02	0.12
1:44 PM	14.37	5.95	0.12
1:45 PM	14.37	6.09	0.12
1:46 PM	14.32	5.99	0.12
1:47 PM	14.26	6.06	0.12
1:48 PM	14.21	6.16	0.12
1:49 PM	14.26	6.28	0.12
1:50 PM	14.36	6.48	0.12
1:51 PM	14.34	6.39	0.12
1:52 PM	14.27	6.25	0.12
1:53 PM	14.25	6.22	0.12
1:54 PM	14.27	6.15	0.12
1:55 PM	14.27	6.08	0.12
1:56 PM	14.25	6.18	0.12
1:57 PM	14.27	6.34	0.12
1:58 PM	14.30	6.35	0.12
1:59 PM	14.30	6.31	0.12
2:00 PM	14.34	6.28	0.12
2:01 PM	14.27	6.22	0.12
2:02 PM	14.36	6.48	0.12
Average	14.31	6.21	0.12

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 : PTT Global Chemical Public Co., Ltd. REFERENCE NO. : 226007-CEMS-2604-0112
Branch 2, Power Plant
SAMPLING BY : SECOT Co., Ltd. REGISTRATION NO. : 7-239
SAMPLING DATE : 30/04/2026 SAMPLING TIME : 10.10-11.50 a.m.
RECEIVED DATE : 02/05/2026 ANALYTICAL DATE : 02-05/05/2026
REPORT DATE : 11/05/2026 OPERATOR : Mr. Song Hengchwankul (7-239-0-0016)
STACK LOCATION : H-3711 FUEL TYPE : Natural Gas
SOURCE DESCRIPTION : Combustion SAMPLE CONDITION : Normal

STACK DESCRIPTION

Height	: 35.0	m	Flow Rate*	: 6,414	Ncu.m/min
Diameter	: 3.26	m	Excess Oxygen	: 13.0	%
Temperature	: 140.0	°C	Moisture Content	: 10.9	%
Gas Velocity	: 20.0	m/s			

PARAMETER	UNITS	RESULTS*		STANDARDS ^{1/}	REFERENCE METHODS
		13.0%O ₂	7%O ₂	7%O ₂	
Particulate Matter	mg/Ncu.m.	2.25	3.97	60	US. EPA Method 5

Bong puthum

(Miss Pornnapa Budthum)

Analyst

REG.NO. 7-239-0-0018

Maia Poowasanpetch

(Miss Narisa Poowasanpetch)

Technical Management Team

REG.NO. 7-239-0-0010

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 mmHg and temperature of 25 °C, dry basis.

4. ^{1/} Notification of the Ministry of Industry, B.E.2567 and the Ministry of Natural Resources and Environment, B.E.2566.



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 : PTT Global Chemical Public Co., Ltd. REFERENCE NO. : 226007-CEMS-2604-0112
Branch 2, Power Plant
SAMPLING BY : SECOT Co., Ltd. REGISTRATION NO. : 7-239
SAMPLING DATE : 30/04/2026 SAMPLING TIME : 10.10-11.50 a.m.
RECEIVED DATE : 11/05/2026 ANALYTICAL DATE : 12-19/05/2026
REPORT DATE : 19/05/2026 OPERATOR : Mr. Song Hengchwankul (7-239-0-0016)
STACK LOCATION : H-3711 FUEL TYPE : Natural Gas
SOURCE DESCRIPTION : Combustion SAMPLE CONDITION : Normal

STACK DESCRIPTION

Height	: 35.0	m	Flow Rate*	: 6,414	Ncu.m/min
Diameter	: 3.26	m	Excess Oxygen	: 13.0	%
Temperature	: 140.0	°C	Moisture Content	: 10.9	%
Gas Velocity	: 20.0	m/s			

PARAMETER	RESULT*				STANDARD ^{1,2/} / EIA ^{3/}		EMISSION RATE		REFERENCE METHOD
	ppm		mg/Ncu.m.		ppm	mg/Ncu.m.	g/s		
	13.0%O ₂	7%O ₂	13.0%O ₂	7%O ₂	7%O ₂	7%O ₂	RESULT	EIA ^{3/}	
Sulfur Dioxide (SO ₂)	0.13	0.23	0.34	0.60	20/20/20	52/52/52	0.036	-	US.EPA Method 6C
Oxide of Nitrogen (NOx)	5.14	9.09	9.66	17.08	120/120/14	226/226/26	1.033	2.44	US.EPA Method 7E

(Miss Katesarin Vorradevitwattaya)

(Miss Katesarin Vorradevitwattaya)

Environmental Scientist

REG.NO. 7-239-0-0006

Preeda S.

(Miss Preeda Somjai)

Technical Management Team

REG.NO. 7-239-0-0006

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 mmHg and temperature of 25 °C, dry basis.

4. ^{1/} Notification of the Ministry of Industry, B.E.2567 (2024).

5. ^{2/} Notification of the Ministry of Natural Resources and Environment, B.E.2566 (2023).

6. ^{3/} The assigned value is specified in EIA report, B.E.2561 (2018).

The Monitoring Result of Emission Concentration
H-3711
PTT Global Chemical Public Co., Ltd.
(Branch 2 : Power Plant I-1)
April 30, 2026

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	13.10	13.04	5.16	5.11	9.04
2	13.10	13.05	5.23	5.19	9.19
3	13.07	13.02	5.16	5.12	9.03
Average	13.09	13.04	5.18	5.14	9.09

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	13.10	13.04	0.14	0.12	0.21
2	13.10	13.05	0.14	0.13	0.23
3	13.07	13.02	0.14	0.14	0.25
Average	13.09	13.04	0.14	0.13	0.23

PTT Global Chemical Public Co., Ltd. (Branch 2 : Power Plant I-1)
EMISSION TEST RESULT

Date: April 30, 2026
 Start time: 10:10 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 : H-3711
 Finish time : 10:30 AM
 Serial No.: 141212-14
 Serial No.: 433
 Serial No.: 118
 Test Operator : Song H.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
10:10 AM	13.08	4.56	0.14
10:11 AM	13.10	4.51	0.14
10:12 AM	13.09	4.79	0.14
10:13 AM	13.11	4.95	0.14
10:14 AM	13.10	5.13	0.14
10:15 AM	13.10	5.30	0.14
10:16 AM	13.11	5.28	0.14
10:17 AM	13.13	5.28	0.14
10:18 AM	13.12	5.28	0.14
10:19 AM	13.10	5.27	0.14
10:20 AM	13.09	5.28	0.14
10:21 AM	13.10	5.27	0.14
10:22 AM	13.07	5.28	0.14
10:23 AM	13.08	5.25	0.14
10:24 AM	13.09	4.98	0.14
10:25 AM	13.07	5.01	0.14
10:26 AM	13.10	5.23	0.14
10:27 AM	13.10	5.45	0.14
10:28 AM	13.09	5.53	0.14
10:29 AM	13.09	5.52	0.14
10:30 AM	13.10	5.31	0.14
Average	13.10	5.16	0.14

Signature



(Miss Katesarin Vorradetwittaya)

Environmental Scientist

PTT Global Chemical Public Co., Ltd. (Branch 2 : Power Plant I-1)
EMISSION TEST RESULT

Date: April 30, 2026 Run # : 2
 Start time: 10:31 AM Location : H-3711
 O₂ instrument Model: AMI 70 Finish time : 10:51 AM
 NO_x instrument Model: TELEDYNE 200 EM Serial No.: 141212-14
 SO₂ instrument Model: API 100 AH Serial No.: 433
 Fuel Type : Natural Gas Serial No.: 118
 Test Operator : Song H.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
10:31 AM	13.10	5.26	0.14
10:32 AM	13.13	5.24	0.14
10:33 AM	13.10	5.26	0.14
10:34 AM	13.12	5.26	0.14
10:35 AM	13.10	5.53	0.14
10:36 AM	13.12	5.44	0.14
10:37 AM	13.11	5.27	0.14
10:38 AM	13.10	5.24	0.14
10:39 AM	13.10	5.27	0.14
10:40 AM	13.09	5.26	0.14
10:41 AM	13.11	5.21	0.14
10:42 AM	13.12	4.97	0.14
10:43 AM	13.10	4.88	0.14
10:44 AM	13.07	4.99	0.14
10:45 AM	13.09	4.96	0.14
10:46 AM	13.09	5.00	0.14
10:47 AM	13.09	5.22	0.14
10:48 AM	13.11	5.26	0.14
10:49 AM	13.09	5.23	0.14
10:50 AM	13.09	5.46	0.13
10:51 AM	13.11	5.53	0.13
Average	13.10	5.23	0.14

Signature



(Miss Katesarin Vorradetwittaya)

Environmental Scientist

PTT Global Chemical Public Co., Ltd. (Branch 2 : Power Plant I-1)
EMISSION TEST RESULT

Date: April 30, 2026 Run # : 3
 Start time: 10:52 AM Location : H-3711
 O₂ instrument Model: AMI 70 Finish time : 11:12 AM
 NO_x instrument Model: TELEDYNE 200 EM Serial No.: 141212-14
 SO₂ instrument Model: API 100 AH Serial No.: 433
 Fuel Type : Natural Gas Serial No.: 118
 Test Operator : Song H.

Time, min	O ₂ (%)	NO _x (ppm)	SO ₂ (ppm)
10:52 AM	13.12	5.43	0.13
10:53 AM	13.09	5.25	0.13
10:54 AM	12.99	5.43	0.13
10:55 AM	13.04	5.76	0.13
10:56 AM	13.11	5.23	0.14
10:57 AM	13.09	4.82	0.14
10:58 AM	13.10	4.77	0.14
10:59 AM	13.09	5.00	0.14
11:00 AM	13.01	5.13	0.14
11:01 AM	12.94	5.77	0.13
11:02 AM	12.96	6.25	0.13
11:03 AM	13.02	5.96	0.14
11:04 AM	13.09	4.96	0.15
11:05 AM	13.10	4.26	0.15
11:06 AM	13.11	4.22	0.15
11:07 AM	13.09	4.50	0.15
11:08 AM	13.12	4.78	0.15
11:09 AM	13.14	5.04	0.15
11:10 AM	13.13	5.11	0.15
11:11 AM	13.10	5.36	0.15
11:12 AM	13.03	5.35	0.14
Average	13.07	5.16	0.14

Signature



(Miss Katesarin Vorradetwittaya)

Environmental Scientist

ภาคผนวก ง.2

ใบรับรองผลการตรวจวิเคราะห์คุณภาพอากาศในบรรยากาศ

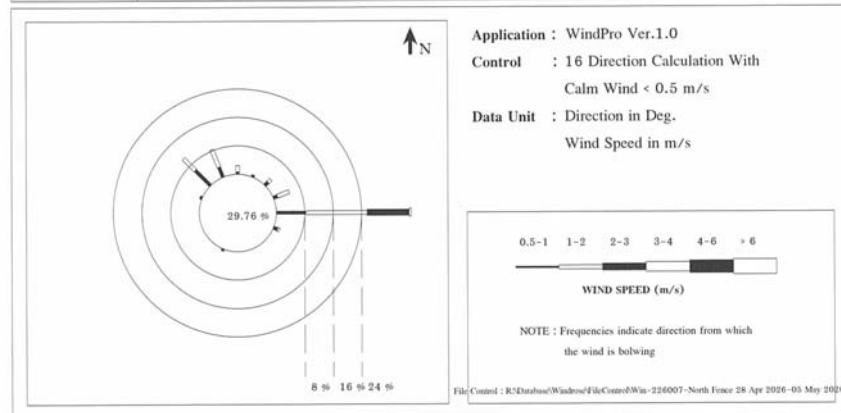


Meteorological Monitoring Results : Wind Rose

MTR-PTTGC, Branch 2 (Power Plant)

Location : North Fence Monitor period : 28 Apr 2026-05 May 2026
 Wind Speed Model : Scarlet WS-21 Serial No : AD:37
 Wind Direction Model : Scarlet WS-21 Serial No : AD:37

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	0.0060	0.0179	0.0000	0.0000	0.0000	0.0000	0.0238
NNE	0.0060	0.0000	0.0000	0.0000	0.0000	0.0000	0.0060
NE	0.0119	0.0119	0.0000	0.0000	0.0000	0.0000	0.0238
ENE	0.0119	0.0357	0.0000	0.0000	0.0000	0.0000	0.0476
E	0.0833	0.1726	0.1190	0.0060	0.0000	0.0000	0.3810
ESE	0.0119	0.0060	0.0000	0.0000	0.0000	0.0000	0.0179
SE	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
SSE	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
S	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
SSW	0.0060	0.0000	0.0000	0.0000	0.0000	0.0000	0.0060
SW	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
WSW	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
W	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
WNW	0.0060	0.0000	0.0000	0.0000	0.0000	0.0000	0.0060
NW	0.0595	0.0476	0.0000	0.0000	0.0000	0.0000	0.1071
NNW	0.0298	0.0536	0.0000	0.0000	0.0000	0.0000	0.0833
CALM	0.2976						



(Miss Katesarin Vorradetwittaya)
 Environmental Scientist

(Miss Preeda Somjai)
 Technical Management Team



Meteorological Monitoring Results : Wind Rose

MTR-PTTGC, Branch 2 (Power Plant)

Location : North Fence Monitor period : 28 Apr 2026-05 May 2026
 Wind Speed Model : Scarlet WS-21 Serial No : AD:37
 Wind Direction Model : Scarlet WS-21 Serial No : AD:37

Time	28-29 Apr 2026		29-30 Apr 2026		30 Apr-01 May 2026		01-02 May 2026	
	WS(m/s)	WD	WS(m/s)	WD	WS(m/s)	WD	WS(m/s)	WD
10:00 - 11:00	0.8	ESE	1.3	ENE	1.4	E	1.8	E
11:00 - 12:00	0.8	NNE	1.1	NE	1.3	ENE	1.5	E
12:00 - 13:00	0.7	ESE	0.8	NE	0.9	E	1.4	E
13:00 - 14:00	1.3	E	0.6	NNW	0.6	SSW	0.7	E
14:00 - 15:00	1.4	ESE	1.7	NW	0.2	SW	0.3	ENE
15:00 - 16:00	0.3	SW	1.6	NW	0.3	WSW	0.1	NW
16:00 - 17:00	0.3	WSW	1.3	NNW	0.0	E	0.1	ENE
17:00 - 18:00	0.2	SSW	1.6	NNW	0.0	NW	0.8	E
18:00 - 19:00	0.2	E	1.5	NNW	0.3	W	0.4	E
19:00 - 20:00	0.0	W	1.1	NW	0.4	WNW	0.1	E
20:00 - 21:00	0.0	NNW	1.3	NNW	0.6	NW	0.1	E
21:00 - 22:00	0.0	NW	1.4	NW	1.0	NW	0.0	NE
22:00 - 23:00	0.1	WNW	1.2	NW	1.1	NW	0.0	NW
23:00 - 24:00	0.4	WNW	0.9	NW	1.0	NNW	0.1	N
00:00 - 01:00	0.7	NW	0.9	N	0.9	NW	0.1	NNW
01:00 - 02:00	0.6	NW	0.6	E	1.2	NNW	0.1	NNE
02:00 - 03:00	0.6	WNW	0.9	E	1.2	NNW	0.2	E
03:00 - 04:00	1.0	NW	0.2	ENE	0.7	NNW	1.0	E
04:00 - 05:00	1.2	NNW	0.9	ENE	1.2	N	1.6	E
05:00 - 06:00	1.2	N	2.3	E	1.4	NE	2.5	E
06:00 - 07:00	1.3	N	2.6	E	2.1	E	2.6	E
07:00 - 08:00	1.4	NNW	1.8	E	2.4	E	1.8	E
08:00 - 09:00	1.5	E	1.8	E	1.9	E	1.8	E
09:00 - 10:00	1.5	E	1.8	E	2.2	E	2.0	E



(Miss Katesarin Vorradetwittaya)
 Environmental Scientist

(Miss Preeda Somjai)
 Technical Management Team



Meteorological Monitoring Results : Wind Rose MTR-PTTGC, Branch 2 (Power Plant)

Location : North Fence Monitor period : 28 Apr 2026-05 May 2026
Wind Speed Model : Scarlet WS-21 Serial No : AD:37
Wind Direction Model : Scarlet WS-21 Serial No : AD:37

Time	02-03 May 2026		03-04 May 2026		04-05 May 2026		
	WS(m/s)	WD	WS(m/s)	WD	WS(m/s)	WD	
10:00 - 11:00	2.0	E	2.1	E	1.4	ENE	
11:00 - 12:00	1.9	E	1.8	E	1.7	E	
12:00 - 13:00	1.7	E	1.3	ENE	1.3	ENE	
13:00 - 14:00	1.4	E	0.8	ENE	1.4	E	
14:00 - 15:00	0.8	E	0.4	ENE	0.9	E	
15:00 - 16:00	1.6	E	0.1	E	0.5	E	
16:00 - 17:00	1.1	E	0.0	ENE	0.8	E	
17:00 - 18:00	0.3	E	0.0	E	0.8	E	
18:00 - 19:00	0.0	ENE	0.0	N	0.5	E	
19:00 - 20:00	0.0	NE	0.4	NW	0.8	E	
20:00 - 21:00	0.0	NNW	0.3	NW	0.0	NE	
21:00 - 22:00	0.3	NW	0.2	WNW	0.0	E	
22:00 - 23:00	0.6	NW	0.7	NW	0.0	SE	
23:00 - 24:00	0.5	NNW	0.6	NW	0.0	W	
00:00 - 01:00	0.6	NNW	0.5	NNW	0.4	E	
01:00 - 02:00	0.5	NW	0.3	NNW	0.4	E	
02:00 - 03:00	0.7	NW	0.4	ENE	1.2	E	
03:00 - 04:00	0.3	NNW	0.9	E	0.7	E	
04:00 - 05:00	0.7	NE	1.7	E	1.3	E	
05:00 - 06:00	2.1	E	2.1	E	2.3	E	
06:00 - 07:00	2.4	E	1.8	E	2.5	E	
07:00 - 08:00	2.4	E	2.5	E	2.6	E	
08:00 - 09:00	3.0	E	1.9	E	2.2	E	
09:00 - 10:00	2.6	E	1.8	E	1.8	ENE	

Wind Rose



File Control : R:\Database\Windrose\FileControl\Win-226007-North Fence 28 Apr 2026-05 May 2026

(Miss Katesarin Vorradetwittaya)
Environmental Scientist

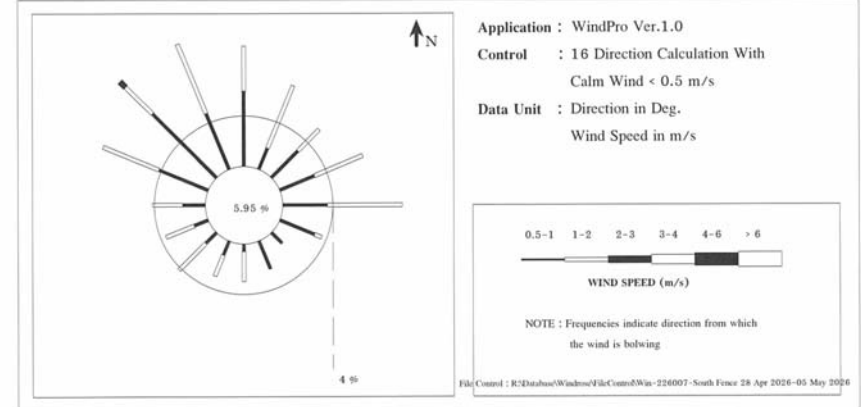
(Miss Preeda Somjai)
Technical Management Team



Meteorological Monitoring Results : Wind Rose MTR-PTTGC, Branch 2 (Power Plant)

Location : South Fence Monitor period : 28 Apr 2026-05 May 2026
Wind Speed Model : Scarlet WS-21 Serial No : AD:28
Wind Direction Model : Scarlet WS-21 Serial No : AD:28

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	0.0595	0.0357	0.0000	0.0000	0.0000	0.0000	0.0952
NNE	0.0179	0.0536	0.0000	0.0000	0.0000	0.0000	0.0714
NE	0.0298	0.0238	0.0000	0.0000	0.0000	0.0000	0.0536
ENE	0.0298	0.0417	0.0000	0.0000	0.0000	0.0000	0.0714
E	0.0357	0.0595	0.0000	0.0000	0.0000	0.0000	0.0952
ESE	0.0298	0.0060	0.0000	0.0000	0.0000	0.0000	0.0357
SE	0.0119	0.0000	0.0000	0.0000	0.0000	0.0000	0.0119
SSE	0.0238	0.0000	0.0000	0.0000	0.0000	0.0000	0.0238
S	0.0060	0.0238	0.0000	0.0000	0.0000	0.0000	0.0298
SSW	0.0119	0.0179	0.0000	0.0000	0.0000	0.0000	0.0298
SW	0.0119	0.0298	0.0000	0.0000	0.0000	0.0000	0.0417
WSW	0.0119	0.0238	0.0000	0.0000	0.0000	0.0000	0.0357
W	0.0179	0.0238	0.0000	0.0000	0.0000	0.0000	0.0417
WNW	0.0417	0.0476	0.0000	0.0000	0.0000	0.0000	0.0893
NW	0.0714	0.0298	0.0060	0.0000	0.0000	0.0000	0.1071
NNW	0.0476	0.0595	0.0000	0.0000	0.0000	0.0000	0.1071
CALM	0.0595						



(Miss Katesarin Vorradetwittaya)
Environmental Scientist

(Miss Preeda Somjai)
Technical Management Team



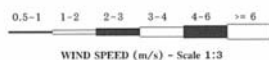
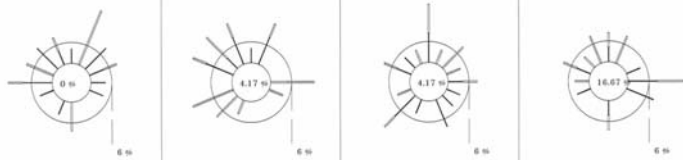
Meteorological Monitoring Results : Wind Rose

MTR-PTTGC, Branch 2 (Power Plant)

Location : South Fence Monitor period : 28 Apr 2026-05 May 2026
 Wind Speed Model : Scarlet WS-21 Serial No : AD:28
 Wind Direction Model : Scarlet WS-21 Serial No : AD:28

Time	28-29 Apr 2026		29-30 Apr 2026		30 Apr-01 May 2026		01-02 May 2026	
	WS(m/s)	WD	WS(m/s)	WD	WS(m/s)	WD	WS(m/s)	WD
10:00 - 11:00	1.0	W	1.2	SW	1.0	WNW	1.8	WNW
11:00 - 12:00	1.1	NNE	0.9	NNW	1.1	NNE	1.5	NNW
12:00 - 13:00	1.0	NNW	0.9	NNE	1.0	N	1.4	NNE
13:00 - 14:00	1.3	S	0.8	WNW	0.9	SW	1.1	NNE
14:00 - 15:00	1.4	S	1.4	NNW	0.7	SSW	0.9	N
15:00 - 16:00	0.8	SSW	1.4	NNE	0.7	SSE	0.8	ENE
16:00 - 17:00	0.8	W	1.2	ESE	0.5	SE	0.7	E
17:00 - 18:00	0.8	WSW	1.3	WNW	0.3	NNW	1.1	E
18:00 - 19:00	0.8	E	1.3	NW	0.6	NW	0.7	ESE
19:00 - 20:00	0.7	NW	1.1	WSW	0.6	N	0.5	WSW
20:00 - 21:00	0.6	NNW	1.3	WSW	0.7	WNW	0.5	ESE
21:00 - 22:00	0.6	ENE	1.3	E	0.9	ESE	0.4	E
22:00 - 23:00	0.6	N	1.2	SW	0.7	N	0.3	SW
23:00 - 24:00	0.8	NE	0.9	NNE	1.0	ENE	0.5	WNW
00:00 - 01:00	0.9	NW	0.9	NNW	0.7	SW	0.5	E
01:00 - 02:00	0.8	W	0.6	WNW	0.9	SSE	0.4	NNW
02:00 - 03:00	0.8	ESE	0.7	NW	1.5	NE	0.3	N
03:00 - 04:00	0.9	NE	0.4	NNW	0.9	E	0.8	S
04:00 - 05:00	1.1	NNE	0.8	N	1.1	NE	1.2	W
05:00 - 06:00	1.1	ENE	1.6	WSW	1.1	N	1.5	NNW
06:00 - 07:00	1.2	NNE	1.8	E	1.5	SW	1.8	NW
07:00 - 08:00	1.2	WNW	1.4	NW	1.6	E	1.4	N
08:00 - 09:00	1.3	NNE	1.4	SSW	1.5	WSW	1.5	S
09:00 - 10:00	1.2	WNW	1.5	E	1.7	NNW	1.6	E

Wind Rose



File Control :K:\Database\Windrose\FireControl\Win-226007-South Fence 28 Apr 2026-05 May 2026

(Miss Katesarin Vorradetwittaya)
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(Miss Preeda Somjai)
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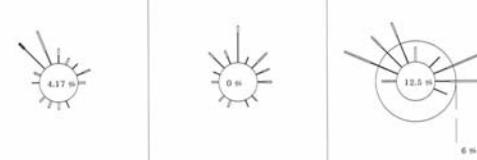
Meteorological Monitoring Results : Wind Rose

MTR-PTTGC, Branch 2 (Power Plant)

Location : South Fence Monitor period : 28 Apr 2026-05 May 2026
 Wind Speed Model : Scarlet WS-21 Serial No : AD:28
 Wind Direction Model : Scarlet WS-21 Serial No : AD:28

Time	02-03 May 2026		03-04 May 2026		04-05 May 2026	
	WS(m/s)	WD	WS(m/s)	WD	WS(m/s)	WD
10:00 - 11:00	1.7	WNW	1.7	SW	1.5	NNW
11:00 - 12:00	1.5	NNW	1.5	NNW	1.1	N
12:00 - 13:00	1.5	ENE	1.3	NE	1.1	W
13:00 - 14:00	1.4	NNW	1.0	N	1.3	WNW
14:00 - 15:00	1.0	N	0.7	NNW	0.9	NNW
15:00 - 16:00	1.4	E	0.6	WNW	0.8	NW
16:00 - 17:00	1.1	SW	0.6	E	0.9	WNW
17:00 - 18:00	0.8	NW	0.6	SE	0.8	NE
18:00 - 19:00	0.6	NNW	0.6	NNE	0.6	E
19:00 - 20:00	0.5	NW	0.7	N	0.7	NW
20:00 - 21:00	0.5	NW	0.5	N	0.3	ENE
21:00 - 22:00	0.6	SSE	0.5	NW	0.3	NNW
22:00 - 23:00	0.8	W	0.8	NW	0.4	E
23:00 - 24:00	0.8	NNW	0.6	NE	0.7	ESE
00:00 - 01:00	0.8	NW	0.7	ENE	0.8	ENE
01:00 - 02:00	0.6	ENE	0.6	SSE	0.7	NNW
02:00 - 03:00	0.7	NE	0.6	N	1.1	E
03:00 - 04:00	0.4	ENE	0.7	N	0.8	WNW
04:00 - 05:00	0.5	N	1.0	E	1.1	NW
05:00 - 06:00	1.4	NNE	1.3	ENE	1.5	ENE
06:00 - 07:00	1.7	S	1.1	NW	1.6	E
07:00 - 08:00	1.5	SSW	1.6	SSW	1.5	ENE
08:00 - 09:00	2.0	NW	1.3	NE	1.4	WNW
09:00 - 10:00	1.9	NNW	1.5	W	1.4	ENE

Wind Rose



File Control :K:\Database\Windrose\FireControl\Win-226007-South Fence 28 Apr 2026-05 May 2026

(Miss Katesarin Vorradetwittaya)
Environmental Scientist

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Technical Management Team

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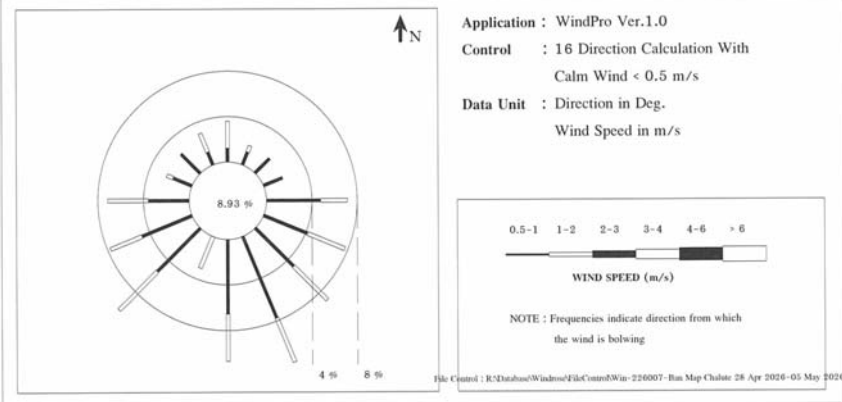
Tel:66(0)2959-3600 Fax:66(0)2959-3535



Meteorological Monitoring Results : Wind Rose MTR-PTTGC, Branch 2 (Power Plant)

Location : Ban Map Chalut Monitor period : 28 Apr 2026-05 May 2026
Wind Speed Model : Novalynx WS-25 Serial No : A5088
Wind Direction Model : Novalynx WS-25 Serial No : A5088

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	0.0119	0.0238	0.0000	0.0000	0.0000	0.0000	0.0357
NNE	0.0119	0.0060	0.0000	0.0000	0.0000	0.0000	0.0179
NE	0.0179	0.0000	0.0000	0.0000	0.0000	0.0000	0.0179
ENE	0.0179	0.0000	0.0000	0.0000	0.0000	0.0000	0.0179
E	0.0476	0.0238	0.0000	0.0000	0.0000	0.0000	0.0714
ESE	0.0417	0.0357	0.0000	0.0000	0.0000	0.0000	0.0774
SE	0.0476	0.0417	0.0000	0.0000	0.0000	0.0000	0.0893
SSE	0.0774	0.0417	0.0000	0.0000	0.0000	0.0000	0.1190
S	0.0655	0.0417	0.0000	0.0000	0.0000	0.0000	0.1071
SSW	0.0000	0.0298	0.0000	0.0000	0.0000	0.0000	0.0298
SW	0.0536	0.0476	0.0000	0.0000	0.0000	0.0000	0.1012
WSW	0.0476	0.0298	0.0000	0.0000	0.0000	0.0000	0.0774
W	0.0357	0.0357	0.0000	0.0000	0.0000	0.0000	0.0714
WNW	0.0179	0.0060	0.0000	0.0000	0.0000	0.0000	0.0238
NW	0.0238	0.0000	0.0000	0.0000	0.0000	0.0000	0.0238
NNW	0.0119	0.0179	0.0000	0.0000	0.0000	0.0000	0.0298
CALM	0.0893						



(Miss Katesarin Vorradetwittaya)
Environmental Scientist

Preeda S.
(Miss Preeda Somjai)
Technical Management Team



Meteorological Monitoring Results : Wind Rose MTR-PTTGC, Branch 2 (Power Plant)

Location : Ban Map Chalut Monitor period : 28 Apr 2026-05 May 2026
Wind Speed Model : Novalynx WS-25 Serial No : A5088
Wind Direction Model : Novalynx WS-25 Serial No : A5088

Time	28-29 Apr 2026		29-30 Apr 2026		30 Apr-01 May 2026		01-02 May 2026	
	WS(m/s)	WD	WS(m/s)	WD	WS(m/s)	WD	WS(m/s)	WD
12:00 - 13:00	1.2	SSW	1.0	ESE	0.4	SSE	1.5	WSW
13:00 - 14:00	0.9	E	1.0	E	0.6	E	1.4	SE
14:00 - 15:00	1.4	E	1.2	S	0.8	WSW	1.5	WSW
15:00 - 16:00	1.4	SSE	1.2	SW	1.2	SW	1.5	E
16:00 - 17:00	1.4	W	1.3	W	1.1	S	1.5	ESE
17:00 - 18:00	1.3	W	1.1	S	0.9	WSW	1.2	SSE
18:00 - 19:00	1.2	WSW	0.7	SW	0.6	SSE	0.8	NE
19:00 - 20:00	1.1	ESE	0.8	S	0.6	SW	0.6	SW
20:00 - 21:00	1.0	SSW	0.8	SE	0.6	NW	0.7	ESE
21:00 - 22:00	0.9	SE	0.9	S	0.6	ESE	0.6	WSW
22:00 - 23:00	0.8	SE	1.0	SW	0.5	SSE	0.5	ESE
23:00 - 24:00	0.8	NNW	0.8	SW	0.1	WNW	0.5	N
00:00 - 01:00	0.8	ENE	0.6	W	0.6	S	0.8	SSE
01:00 - 02:00	0.5	ESE	0.6	S	0.4	S	0.6	WSW
02:00 - 03:00	0.6	SSE	0.5	E	0.6	NW	0.5	WSW
03:00 - 04:00	0.6	ENE	0.5	S	1.5	NNW	0.3	NW
04:00 - 05:00	0.5	SSE	0.5	SW	1.0	NNW	0.2	SW
05:00 - 06:00	0.6	SSE	0.5	WNW	0.8	WNW	0.6	NW
06:00 - 07:00	0.6	E	0.6	S	0.8	SSE	0.7	SSE
07:00 - 08:00	1.1	SE	1.0	SW	0.7	WSW	0.7	ESE
08:00 - 09:00	1.0	SW	1.1	N	0.8	NE	1.0	W
09:00 - 10:00	1.1	SE	1.0	W	1.1	SW	1.1	SE
10:00 - 11:00	0.7	SSE	1.3	WNW	1.2	S	1.1	SSE
11:00 - 12:00	1.0	SSE	0.6	N	1.4	SSW	1.2	SSE

Wind Rose



(Miss Katesarin Vorradetwittaya)
Environmental Scientist

Preeda S.
(Miss Preeda Somjai)
Technical Management Team



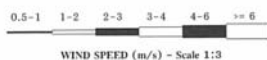
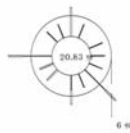
Meteorological Monitoring Results : Wind Rose

MTR-PTTGC, Branch 2 (Power Plant)

Location : Ban Map Chalute Monitor period : 28 Apr 2026-05 May 2026
 Wind Speed Model : Novalynx WS-25 Serial No : A5088
 Wind Direction Model : Novalynx WS-25 Serial No : A5088

Time	02-03 May 2026		03-04 May 2026		04-05 May 2026		
	WS(m/s)	WD	WS(m/s)	WD	WS(m/s)	WD	
12:00 - 13:00	1.3	S	1.0	NNW	0.5	E	
13:00 - 14:00	1.2	SW	1.1	SE	1.1	SE	
14:00 - 15:00	1.4	SSE	1.1	SE	1.1	SW	
15:00 - 16:00	1.2	SSW	1.1	ESE	0.9	SSE	
16:00 - 17:00	1.2	ESE	1.1	S	1.1	S	
17:00 - 18:00	1.1	N	1.0	SSW	1.0	WSW	
18:00 - 19:00	1.0	SSE	0.8	NNE	0.7	SE	
19:00 - 20:00	0.8	SW	0.8	S	0.5	S	
20:00 - 21:00	0.7	SW	0.7	W	0.3	SSE	
21:00 - 22:00	0.6	SSE	0.5	S	0.2	E	
22:00 - 23:00	0.6	S	0.5	WSW	0.4	ENE	
23:00 - 24:00	0.7	NE	0.5	W	0.7	W	
00:00 - 01:00	0.8	E	0.4	WNW	1.2	N	
01:00 - 02:00	0.6	SSE	0.8	E	1.0	W	
02:00 - 03:00	0.5	SE	0.6	SW	1.0	N	
03:00 - 04:00	0.5	SE	0.6	SW	0.8	ENE	
04:00 - 05:00	0.4	ENE	0.4	NNW	0.8	NNE	
05:00 - 06:00	0.2	SE	0.4	ENE	0.6	W	
06:00 - 07:00	0.6	WNW	0.5	SE	0.6	NW	
07:00 - 08:00	0.7	SSE	0.5	S	0.7	NNW	
08:00 - 09:00	0.7	WSW	0.7	W	0.3	SW	
09:00 - 10:00	0.8	ESE	0.6	E	0.2	WSW	
10:00 - 11:00	1.1	NNE	1.1	WSW	0.6	ESE	
11:00 - 12:00	1.3	E	1.4	ESE	0.5	SE	

Wind Rose



File Control : K:\Database\Windrose\FileControl\Win-226007-Ban Map Chalute 28 Apr 2026-05 May 2026


 (Miss Katesarin Vorradetwittaya)
 Environmental Scientist


 (Miss Preeda Somjai)
 Technical Management Team

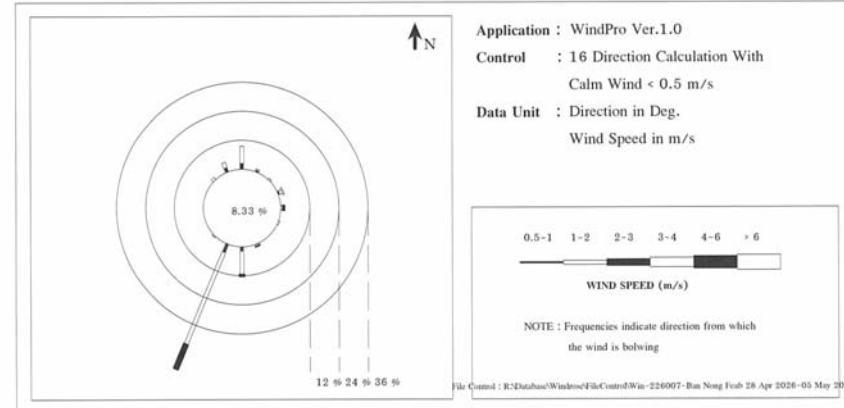


Meteorological Monitoring Results : Wind Rose

MTR-PTTGC, Branch 2 (Power Plant)

Location : Ban Nong Feab Monitor period : 28 Apr 2026-05 May 2026
 Wind Speed Model : Scarlet WS-21 Serial No : AD:63
 Wind Direction Model : Scarlet WS-21 Serial No : AD:63

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	0.0238	0.0714	0.0000	0.0000	0.0000	0.0000	0.0952
NNE	0.0060	0.0060	0.0000	0.0000	0.0000	0.0000	0.0119
NE	0.0000	0.0060	0.0000	0.0000	0.0000	0.0000	0.0060
ENE	0.0060	0.0119	0.0000	0.0060	0.0000	0.0000	0.0238
E	0.0000	0.0060	0.0119	0.0000	0.0000	0.0000	0.0179
ESE	0.0000	0.0060	0.0000	0.0000	0.0000	0.0000	0.0060
SE	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
SSE	0.0000	0.0060	0.0060	0.0000	0.0000	0.0000	0.0119
S	0.0179	0.0952	0.0119	0.0000	0.0000	0.0000	0.1250
SSW	0.0357	0.4107	0.1131	0.0000	0.0000	0.0000	0.5595
SW	0.0000	0.0060	0.0000	0.0000	0.0000	0.0000	0.0060
WSW	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
W	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
WNW	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NW	0.0000	0.0119	0.0000	0.0000	0.0000	0.0000	0.0119
NNW	0.0179	0.0238	0.0000	0.0000	0.0000	0.0000	0.0417
CALM	0.0833						




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 Environmental Scientist


 (Miss Preeda Somjai)
 Technical Management Team

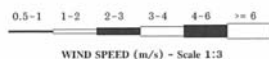
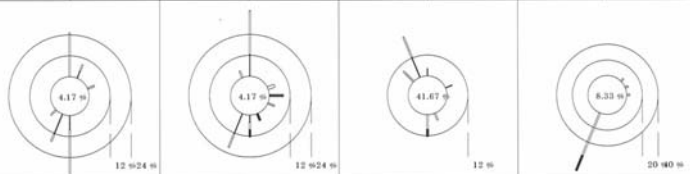


Meteorological Monitoring Results : Wind Rose MTR-PTTGC, Branch 2 (Power Plant)

Location : Ban Nong Feab Monitor period : 28 Apr 2026-05 May 2026
Wind Speed Model : Scarlet WS-21 Serial No : AD:63
Wind Direction Model : Scarlet WS-21 Serial No : AD:63

Time	28-29 Apr 2026		29-30 Apr 2026		30 Apr-01 May 2026		01-02 May 2026	
	WS(m/s)	WD	WS(m/s)	WD	WS(m/s)	WD	WS(m/s)	WD
12:00 - 13:00	1.5	N	2.5	E	1.8	SSE	1.1	ENE
13:00 - 14:00	1.9	S	3.2	ENE	1.9	S	1.4	NE
14:00 - 15:00	1.8	S	2.9	E	1.9	S	1.3	E
15:00 - 16:00	1.7	S	2.3	SSE	2.0	S	0.0	SE
16:00 - 17:00	1.5	S	2.0	S	1.1	NW	0.0	ESE
17:00 - 18:00	1.4	S	1.9	S	1.4	NNW	1.8	SSW
18:00 - 19:00	1.3	S	1.5	SSW	1.5	NW	1.9	SSW
19:00 - 20:00	1.2	S	1.0	SSW	1.4	NNW	2.1	SSW
20:00 - 21:00	1.0	SW	0.7	SSW	0.3	ENE	2.1	SSW
21:00 - 22:00	0.6	SSW	0.8	SSW	0.1	ESE	2.1	SSW
22:00 - 23:00	0.6	SSW	0.7	S	0.0	ESE	2.3	SSW
23:00 - 24:00	0.6	SSW	0.7	SSW	0.1	E	2.1	SSW
00:00 - 01:00	1.1	SSW	0.4	S	0.2	NE	1.9	SSW
01:00 - 02:00	0.9	S	0.6	N	0.4	NNE	1.7	SSW
02:00 - 03:00	0.7	S	0.6	N	0.1	ENE	1.8	SSW
03:00 - 04:00	0.5	NNE	1.2	N	0.1	E	1.6	SSW
04:00 - 05:00	0.4	ENE	1.4	NNW	0.0	NE	1.6	SSW
05:00 - 06:00	1.0	N	1.1	N	0.8	NNW	1.7	SSW
06:00 - 07:00	1.0	NNE	0.9	N	0.1	NE	1.7	SSW
07:00 - 08:00	1.2	N	1.1	N	0.9	NNW	1.8	SSW
08:00 - 09:00	1.5	N	1.5	N	0.7	NNW	1.8	SSW
09:00 - 10:00	1.8	N	1.7	N	1.4	NNW	1.8	SSW
10:00 - 11:00	1.5	N	1.3	N	0.9	N	1.8	SSW
11:00 - 12:00	1.4	ENE	1.6	ESE	0.8	ENE	1.7	SSW

Wind Rose



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

File Control K:\Database\Winnow\Win-226007-Ban Nong Feab 28 Apr 2026-05 May 2026

(Miss Katesarin Vorradetwittaya)
Environmental Scientist

(Miss Preeda Somjai)
Technical Management Team

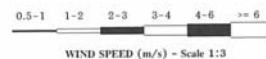
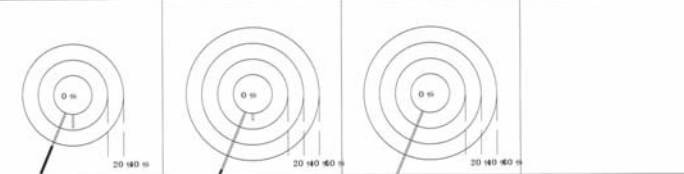


Meteorological Monitoring Results : Wind Rose MTR-PTTGC, Branch 2 (Power Plant)

Location : Ban Nong Feab Monitor period : 28 Apr 2026-05 May 2026
Wind Speed Model : Scarlet WS-21 Serial No : AD:63
Wind Direction Model : Scarlet WS-21 Serial No : AD:63

Time	02-03 May 2026		03-04 May 2026		04-05 May 2026	
	WS(m/s)	WD	WS(m/s)	WD	WS(m/s)	WD
12:00 - 13:00	1.7	SSW	1.7	SSW	1.7	SSW
13:00 - 14:00	1.6	SSW	1.7	SSW	1.7	SSW
14:00 - 15:00	1.6	S	1.8	SSW	1.9	SSW
15:00 - 16:00	1.6	S	1.9	SSW	2.1	SSW
16:00 - 17:00	1.9	SSW	1.9	S	1.9	SSW
17:00 - 18:00	1.9	SSW	1.9	S	1.7	SSW
18:00 - 19:00	2.1	SSW	2.0	SSW	1.7	SSW
19:00 - 20:00	2.3	SSW	1.9	SSW	1.8	SSW
20:00 - 21:00	2.3	SSW	2.2	SSW	1.9	SSW
21:00 - 22:00	2.2	SSW	2.0	SSW	1.8	SSW
22:00 - 23:00	2.2	SSW	1.9	SSW	1.7	SSW
23:00 - 24:00	2.1	SSW	1.9	SSW	1.8	SSW
00:00 - 01:00	2.0	SSW	1.9	SSW	1.7	SSW
01:00 - 02:00	2.0	SSW	1.6	SSW	1.7	SSW
02:00 - 03:00	2.1	SSW	1.8	SSW	1.5	SSW
03:00 - 04:00	1.9	SSW	1.9	SSW	1.7	SSW
04:00 - 05:00	1.8	SSW	1.7	SSW	1.6	SSW
05:00 - 06:00	1.9	SSW	1.8	SSW	1.6	SSW
06:00 - 07:00	1.9	S	1.7	SSW	1.6	SSW
07:00 - 08:00	1.7	S	1.8	SSW	1.8	SSW
08:00 - 09:00	1.8	SSW	1.7	SSW	2.1	SSW
09:00 - 10:00	1.9	SSW	1.7	SSW	1.9	SSW
10:00 - 11:00	1.6	SSW	1.6	SSW	1.8	SSW
11:00 - 12:00	1.6	SSW	1.6	SSW	1.8	SSW

Wind Rose



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

File Control K:\Database\Winnow\Win-226007-Ban Nong Feab 28 Apr 2026-05 May 2026

(Miss Katesarin Vorradetwittaya)
Environmental Scientist

(Miss Preeda Somjai)
Technical Management Team



บริษัท ซีคอต จำกัด
SECOT CO., LTD.

239 ถนนวิภาวดีรังสิต 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

AMBIENT AIR QUALITY ANALYSIS REPORT

CLIENT NAME : PTT Global Chemical Public Co., Ltd. REFERENCE NO. : 226007-Ambient-2604-0113
Branch 2, Power Plant SAMPLING DATE : 28/04/2026-05/05/2026
SAMPLING BY : SECOT Co., Ltd. ANALYTICAL DATE : 11-12/05/2026
RECEIVED DATE : 08/05/2026 SAMPLE CONDITION : Normal
REPORT DATE : 18/05/2026 SITE OPERATOR : Mr. Siwanon Kulawong
LOCATION DESCRIPTIO : 1. Ban Map Chalute
2. Ban Nong Feab

PARAMETER	SAMPLING DATE	UNITS	RESULTS		STANDARD*	REFERENCE METHODS
			1	2		
TSP (24 hr)	28-29/04/2026	mg/m ³	0.022	0.020	0.200	High Volume Air
	29-30/04/2026	mg/m ³	0.033	0.023		Sampler/Gravimetric
	30/04/2026-01/05/2026	mg/m ³	0.031	0.023		Method
	01-02/05/2026	mg/m ³	0.020	0.022		
	02-03/05/2026	mg/m ³	0.015	0.020		
	03-04/05/2026	mg/m ³	0.014	0.015		
	04-05/05/2026	mg/m ³	0.025	0.023		

Pornnapa Budthum

(Miss Pornnapa Budthum)

Analyst

Miss 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 National Environment Board, B.E.2569 (2026).

226007-Ambient-2604-0113

F-LAB-Amb



บริษัท ซีคอต จำกัด
SECOT CO., LTD.

239 ถนนวิภาวดีรังสิต 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

AMBIENT AIR QUALITY ANALYSIS REPORT

CLIENT NAME : PTT Global Chemical Public Co., Ltd. REFERENCE NO. : 226007-Ambient-2604-0113
Branch 2, Power Plant SAMPLING DATE : 28/04/2026-05/05/2026
SAMPLING BY : SECOT Co., Ltd. ANALYTICAL DATE : 11-12/05/2026
RECEIVED DATE : 08/05/2026 SAMPLE CONDITION : Normal
REPORT DATE : 18/05/2026 SITE OPERATOR : Mr. Siwanon Kulawong
LOCATION DESCRIPTIO : 1. Ban Map Chalute
2. Ban Nong Feab

PARAMETER	SAMPLING DATE	UNITS	RESULTS		STANDARD*	REFERENCE METHODS
			1	2		
PM-10 (24 hr)	28-29/04/2026	mg/m ³	0.012	0.010	0.100	High Volume Air Sampler
	29-30/04/2026	mg/m ³	0.012	0.009		(Hi-Vol PM-10 Size
	30/04/2026-01/05/2026	mg/m ³	0.012	0.008		Selective Inlet)/
	01-02/05/2026	mg/m ³	0.010	0.010		Gravimetric Method
	02-03/05/2026	mg/m ³	0.008	0.008		
	03-04/05/2026	mg/m ³	0.008	0.007		
	04-05/05/2026	mg/m ³	0.012	0.010		

Pornnapa Budthum

(Miss Pornnapa Budthum)

Analyst

Miss 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 National Environment Board, B.E.2569 (2026).

226007-Ambient-2604-0113

F-LAB-Amb



Ambient Air Monitoring Results : Sulfur dioxide MTR-PTTGC, Branch 2 (Power Plant)

Location : Ban Map Chalute Monitor Period : 28 Apr 2026-05 May 2026
Analyzer Model : Thermo 43C Station No : SCT-17
Serial No : 0607415773 Site Operator : Mr. Siwanon Kulawong

Calibrator Model : Teledyne 700E Serial No : 1367
Calibration Gas Cylinder I.D. : EB0102326
Certified Date : 10 Jan 2026 Cal Concentration (ppb) : 0,100,200,400
Expire Date : 09 Jan 2027

Time	SO2 Concentration (ppm)						
	28-29 Apr 2026	29-30 Apr 2026	30-01 May 2026	01-02 May 2026	02-03 May 2026	03-04 May 2026	04-05 May 2026
12:00 - 13:00	0.0052	0.0048	0.0035	0.0047	0.0052	0.0046	0.0047
13:00 - 14:00	0.0059	0.0038	0.0056	0.0040	0.0057	0.0038	0.0034
14:00 - 15:00	0.0046	0.0041	0.0063	0.0055	0.0041	0.0048	0.0051
15:00 - 16:00	0.0042	0.0066	0.0035	0.0043	0.0057	0.0055	0.0026
16:00 - 17:00	0.0050	0.0046	0.0065	0.0038	0.0048	0.0036	0.0039
17:00 - 18:00	0.0048	0.0049	0.0035	0.0049	0.0042	0.0086	0.0055
18:00 - 19:00	0.0063	0.0077	0.0070	0.0032	0.0041	0.0041	0.0067
19:00 - 20:00	0.0040	0.0050	0.0057	0.0078	0.0048	0.0034	0.0071
20:00 - 21:00	0.0062	0.0055	0.0070	0.0082	0.0088	0.0083	0.0063
21:00 - 22:00	0.0073	0.0055	0.0092	0.0075	0.0054	0.0055	0.0058
22:00 - 23:00	0.0064	0.0048	0.0089	0.0074	0.0054	0.0083	0.0067
23:00 - 00:00	0.0099	0.0048	0.0086	0.0074	0.0030	0.0034	0.0067
00:00 - 01:00	0.0065	0.0066	0.0071	0.0076	0.0050	0.0047	0.0075
01:00 - 02:00	0.0053	0.0038	0.0069	0.0067	0.0040	0.0041	0.0087
02:00 - 03:00	0.0066	0.0036	0.0084	0.0057	0.0052	0.0035	0.0063
03:00 - 04:00	0.0038	0.0056	0.0066	0.0047	0.0048	0.0034	0.0080
04:00 - 05:00	0.0067	0.0070	0.0071	0.0083	0.0084	0.0072	0.0072
05:00 - 06:00	0.0043	0.0092	0.0071	0.0065	0.0069	0.0033	0.0063
06:00 - 07:00	0.0057	0.0083	0.0087	0.0051	0.0062	0.0039	0.0065
07:00 - 08:00	0.0048	0.0042	0.0090	0.0062	0.0076	0.0072	0.0064
08:00 - 09:00	0.0048	0.0058	0.0074	0.0089	0.0057	0.0045	0.0023
09:00 - 10:00	0.0068	0.0041	0.0055	0.0069	0.0052	0.0048	0.0081
10:00 - 11:00	0.0040	0.0049	0.0038	0.0049	0.0056	0.0051	0.0049
11:00 - 12:00	0.0048	0.0041	0.0048	0.0041	0.0058	0.0055	0.0066
Average-24Hr*	0.0056	0.0054	0.0066	0.0060	0.0055	0.0050	0.0061
Max-1Hr	0.0099	0.0092	0.0092	0.0089	0.0088	0.0086	0.0087
Min-1Hr	0.0038	0.0036	0.0035	0.0032	0.0030	0.0033	0.0023
Standard-1Hr	0.10 ppm						
Standard-24Hr	0.05 ppm						

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


(Miss Katesarin Vorradetwittaya)
Environmental Scientist


(Miss Preeda Somjai)
Technical Management Team



Ambient Air Monitoring Results : Sulfur dioxide MTR-PTTGC, Branch 2 (Power Plant)

Location : Ban Nong Feab Monitor Period : 28 Apr 2026-05 May 2026
Analyzer Model : Teledyne T100 Station No : SCT-16
Serial No : 120 Site Operator : Mr. Siwanon Kulawong

Calibrator Model : Teledyne 700E Serial No : 1367
Calibration Gas Cylinder I.D. : EB0102326
Certified Date : 10 Jan 2026 Cal Concentration (ppb) : 0,100,200,400
Expire Date : 09 Jan 2027

Time	SO2 Concentration (ppm)						
	28-29 Apr 2026	29-30 Apr 2026	30-01 May 2026	01-02 May 2026	02-03 May 2026	03-04 May 2026	04-05 May 2026
12:00 - 13:00	0.0053	0.0046	0.0037	0.0030	0.0036	0.0033	0.0045
13:00 - 14:00	0.0034	0.0055	0.0026	0.0044	0.0040	0.0044	0.0023
14:00 - 15:00	0.0038	0.0041	0.0042	0.0036	0.0031	0.0024	0.0018
15:00 - 16:00	0.0032	0.0054	0.0025	0.0031	0.0044	0.0036	0.0064
16:00 - 17:00	0.0030	0.0049	0.0038	0.0047	0.0029	0.0044	0.0016
17:00 - 18:00	0.0059	0.0033	0.0039	0.0051	0.0034	0.0041	0.0036
18:00 - 19:00	0.0053	0.0033	0.0030	0.0056	0.0078	0.0068	0.0065
19:00 - 20:00	0.0034	0.0032	0.0072	0.0045	0.0060	0.0029	0.0070
20:00 - 21:00	0.0039	0.0039	0.0058	0.0082	0.0031	0.0067	0.0056
21:00 - 22:00	0.0047	0.0054	0.0083	0.0082	0.0054	0.0048	0.0053
22:00 - 23:00	0.0044	0.0050	0.0075	0.0063	0.0072	0.0042	0.0046
23:00 - 00:00	0.0029	0.0037	0.0064	0.0049	0.0023	0.0023	0.0051
00:00 - 01:00	0.0054	0.0030	0.0054	0.0076	0.0023	0.0035	0.0062
01:00 - 02:00	0.0049	0.0033	0.0056	0.0081	0.0028	0.0037	0.0045
02:00 - 03:00	0.0038	0.0046	0.0084	0.0067	0.0043	0.0044	0.0071
03:00 - 04:00	0.0040	0.0056	0.0102	0.0033	0.0029	0.0033	0.0062
04:00 - 05:00	0.0035	0.0031	0.0060	0.0066	0.0047	0.0075	0.0048
05:00 - 06:00	0.0059	0.0080	0.0063	0.0073	0.0039	0.0076	0.0073
06:00 - 07:00	0.0062	0.0050	0.0101	0.0042	0.0071	0.0044	0.0060
07:00 - 08:00	0.0076	0.0040	0.0070	0.0073	0.0036	0.0062	0.0066
08:00 - 09:00	0.0041	0.0027	0.0064	0.0078	0.0040	0.0047	0.0025
09:00 - 10:00	0.0039	0.0025	0.0064	0.0031	0.0019	0.0026	0.0017
10:00 - 11:00	0.0042	0.0050	0.0025	0.0028	0.0043	0.0035	0.0036
11:00 - 12:00	0.0046	0.0027	0.0032	0.0043	0.0022	0.0040	0.0047
Average-24Hr*	0.0045	0.0042	0.0057	0.0054	0.0041	0.0044	0.0048
Max-1Hr	0.0076	0.0080	0.0102	0.0082	0.0078	0.0076	0.0073
Min-1Hr	0.0029	0.0025	0.0025	0.0028	0.0019	0.0023	0.0016
Standard-1Hr	0.10 ppm						
Standard-24Hr	0.05 ppm						

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


(Miss Katesarin Vorradetwittaya)
Environmental Scientist


(Miss Preeda Somjai)
Technical Management Team



Ambient Air Monitoring Results : Nitrogen dioxide MTR-PTTGC, Branch 2 (Power Plant)

Location : North Fence Monitor Period : 28 Apr 2026-05 May 2026
Analyzer Model : API 200A Station No : Mobile 18
Serial No : 2385 Site Operator : Mr. Siwanon Kulawong

Calibrator Model : Teledyne 700E Serial No : 1367
Calibration Gas Cylinder I.D. : EB0102326
Certified Date : 08 Jan 2026 Cal Concentration (ppb) : 0,100,200,400
Expire Date : 07 Jan 2027

Time	NO2 Concentration (ppm)						
	28-29 Apr 2026	29-30 Apr 2026	30-01 May 2026	01-02 May 2026	02-03 May 2026	03-04 May 2026	04-05 May 2026
10:00 - 11:00	0.0071	0.0051	0.0065	0.0039	0.0019	0.0048	0.0017
11:00 - 12:00	0.0064	0.0040	0.0045	0.0045	0.0033	0.0020	0.0011
12:00 - 13:00	0.0058	0.0070	0.0033	0.0024	0.0053	0.0010	0.0015
13:00 - 14:00	0.0072	0.0054	0.0032	0.0044	0.0048	0.0043	0.0022
14:00 - 15:00	0.0041	0.0055	0.0063	0.0041	0.0038	0.0024	0.0032
15:00 - 16:00	0.0069	0.0063	0.0038	0.0055	0.0053	0.0025	0.0062
16:00 - 17:00	0.0074	0.0034	0.0052	0.0065	0.0066	0.0087	0.0060
17:00 - 18:00	0.0106	0.0089	0.0074	0.0084	0.0083	0.0073	0.0112
18:00 - 19:00	0.0107	0.0096	0.0132	0.0081	0.0080	0.0080	0.0120
19:00 - 20:00	0.0106	0.0097	0.0114	0.0062	0.0118	0.0056	0.0121
20:00 - 21:00	0.0104	0.0094	0.0138	0.0100	0.0111	0.0122	0.0108
21:00 - 22:00	0.0088	0.0091	0.0129	0.0119	0.0119	0.0124	0.0134
22:00 - 23:00	0.0081	0.0083	0.0123	0.0114	0.0129	0.0128	0.0158
23:00 - 00:00	0.0132	0.0099	0.0107	0.0105	0.0111	0.0123	0.0128
00:00 - 01:00	0.0092	0.0108	0.0182	0.0115	0.0095	0.0116	0.0146
01:00 - 02:00	0.0135	0.0080	0.0149	0.0107	0.0120	0.0109	0.0127
02:00 - 03:00	0.0098	0.0084	0.0109	0.0137	0.0120	0.0078	0.0127
03:00 - 04:00	0.0132	0.0147	0.0143	0.0137	0.0121	0.0110	0.0144
04:00 - 05:00	0.0147	0.0132	0.0161	0.0114	0.0122	0.0126	0.0106
05:00 - 06:00	0.0124	0.0130	0.0142	0.0118	0.0129	0.0102	0.0110
06:00 - 07:00	0.0090	0.0149	0.0133	0.0126	0.0075	0.0121	0.0119
07:00 - 08:00	0.0086	0.0125	0.0128	0.0080	0.0071	0.0066	0.0117
08:00 - 09:00	0.0088	0.0091	0.0077	0.0070	0.0071	0.0076	0.0076
09:00 - 10:00	0.0061	0.0042	0.0046	0.0044	0.0023	0.0077	0.0036
Average-24Hr*	0.0093	0.0088	0.0101	0.0084	0.0084	0.0081	0.0092
Max-1Hr	0.0147	0.0149	0.0182	0.0137	0.0129	0.0128	0.0158
Min-1Hr	0.0041	0.0034	0.0032	0.0024	0.0019	0.0010	0.0011
Standard-1Hr	0.12 ppm						
Standard-24Hr	-						

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

(Miss Katesarin Vorradetwittaya)
Environmental Scientist

Preeda S.
(Miss Preeda Somjai)
Technical Management Team



Ambient Air Monitoring Results : Nitrogen dioxide MTR-PTTGC, Branch 2 (Power Plant)

Location : South Fence Monitor Period : 28 Apr 2026-05 May 2026
Analyzer Model : API 200A Station No : SS2-01
Serial No : 1523 Site Operator : Mr. Siwanon Kulawong

Calibrator Model : Teledyne 700E Serial No : 1367
Calibration Gas Cylinder I.D. : EB0102326
Certified Date : 08 Jan 2026 Cal Concentration (ppb) : 0,100,200,400
Expire Date : 07 Jan 2027

Time	NO2 Concentration (ppm)						
	28-29 Apr 2026	29-30 Apr 2026	30-01 May 2026	01-02 May 2026	02-03 May 2026	03-04 May 2026	04-05 May 2026
10:00 - 11:00	0.0039	0.0032	0.0023	0.0054	0.0053	0.0020	0.0042
11:00 - 12:00	0.0033	0.0028	0.0057	0.0047	0.0032	0.0035	0.0045
12:00 - 13:00	0.0036	0.0046	0.0021	0.0034	0.0035	0.0023	0.0009
13:00 - 14:00	0.0051	0.0064	0.0034	0.0025	0.0040	0.0048	0.0037
14:00 - 15:00	0.0047	0.0041	0.0044	0.0017	0.0038	0.0026	0.0022
15:00 - 16:00	0.0048	0.0059	0.0030	0.0039	0.0050	0.0048	0.0041
16:00 - 17:00	0.0055	0.0096	0.0045	0.0028	0.0017	0.0075	0.0048
17:00 - 18:00	0.0045	0.0093	0.0098	0.0084	0.0085	0.0080	0.0044
18:00 - 19:00	0.0087	0.0080	0.0107	0.0105	0.0105	0.0063	0.0100
19:00 - 20:00	0.0096	0.0085	0.0104	0.0099	0.0106	0.0094	0.0095
20:00 - 21:00	0.0102	0.0086	0.0100	0.0123	0.0099	0.0086	0.0096
21:00 - 22:00	0.0102	0.0064	0.0100	0.0084	0.0115	0.0073	0.0117
22:00 - 23:00	0.0084	0.0091	0.0129	0.0068	0.0103	0.0074	0.0100
23:00 - 00:00	0.0097	0.0094	0.0138	0.0122	0.0116	0.0061	0.0152
00:00 - 01:00	0.0127	0.0119	0.0178	0.0125	0.0102	0.0065	0.0162
01:00 - 02:00	0.0130	0.0088	0.0103	0.0109	0.0084	0.0095	0.0129
02:00 - 03:00	0.0101	0.0119	0.0143	0.0108	0.0064	0.0124	0.0090
03:00 - 04:00	0.0144	0.0077	0.0134	0.0063	0.0112	0.0125	0.0140
04:00 - 05:00	0.0106	0.0119	0.0103	0.0110	0.0098	0.0097	0.0143
05:00 - 06:00	0.0142	0.0142	0.0138	0.0125	0.0117	0.0111	0.0112
06:00 - 07:00	0.0130	0.0091	0.0122	0.0079	0.0092	0.0110	0.0088
07:00 - 08:00	0.0096	0.0099	0.0114	0.0129	0.0099	0.0071	0.0082
08:00 - 09:00	0.0085	0.0051	0.0059	0.0094	0.0060	0.0063	0.0061
09:00 - 10:00	0.0061	0.0039	0.0043	0.0054	0.0028	0.0013	0.0048
Average-24Hr*	0.0085	0.0079	0.0090	0.0080	0.0077	0.0070	0.0083
Max-1Hr	0.0144	0.0142	0.0178	0.0129	0.0117	0.0125	0.0162
Min-1Hr	0.0033	0.0028	0.0021	0.0017	0.0017	0.0013	0.0009
Standard-1Hr	0.12 ppm						
Standard-24Hr	-						

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

(Miss Katesarin Vorradetwittaya)
Environmental Scientist

Preeda S.
(Miss Preeda Somjai)
Technical Management Team



Ambient Air Monitoring Results : Nitrogen dioxide MTR-PTTGC, Branch 2 (Power Plant)

Location : Ban Map Chalute Monitor Period : 28 Apr 2026-05 May 2026
Analyzer Model : API 200A Station No : SCT-17
Serial No : 074 Site Operator : Mr. Siwanon Kulawong

Calibrator Model : Teledyne 700E Serial No : 1367
Calibration Gas Cylinder I.D. : EB0102326
Certified Date : 08 Jan 2026 Cal Concentration (ppb) : 0,100,200,400
Expire Date : 07 Jan 2027

Time	NO2 Concentration (ppm)						
	28-29 Apr 2026	29-30 Apr 2026	30-01 May 2026	01-02 May 2026	02-03 May 2026	03-04 May 2026	04-05 May 2026
12:00 - 13:00	0.0040	0.0048	0.0068	0.0057	0.0041	0.0041	0.0021
13:00 - 14:00	0.0069	0.0075	0.0070	0.0053	0.0024	0.0039	0.0033
14:00 - 15:00	0.0061	0.0043	0.0030	0.0041	0.0043	0.0031	0.0037
15:00 - 16:00	0.0051	0.0040	0.0037	0.0049	0.0055	0.0042	0.0082
16:00 - 17:00	0.0057	0.0048	0.0052	0.0050	0.0046	0.0072	0.0088
17:00 - 18:00	0.0041	0.0094	0.0097	0.0079	0.0065	0.0076	0.0065
18:00 - 19:00	0.0091	0.0086	0.0108	0.0114	0.0079	0.0073	0.0093
19:00 - 20:00	0.0083	0.0109	0.0132	0.0127	0.0118	0.0129	0.0099
20:00 - 21:00	0.0152	0.0079	0.0109	0.0134	0.0130	0.0127	0.0127
21:00 - 22:00	0.0085	0.0087	0.0145	0.0143	0.0135	0.0063	0.0153
22:00 - 23:00	0.0129	0.0080	0.0119	0.0114	0.0137	0.0101	0.0106
23:00 - 00:00	0.0079	0.0083	0.0170	0.0112	0.0109	0.0095	0.0154
00:00 - 01:00	0.0112	0.0111	0.0157	0.0144	0.0099	0.0123	0.0168
01:00 - 02:00	0.0078	0.0088	0.0175	0.0140	0.0112	0.0096	0.0140
02:00 - 03:00	0.0140	0.0139	0.0134	0.0126	0.0100	0.0063	0.0133
03:00 - 04:00	0.0132	0.0132	0.0147	0.0077	0.0070	0.0123	0.0137
04:00 - 05:00	0.0083	0.0135	0.0183	0.0103	0.0133	0.0110	0.0134
05:00 - 06:00	0.0142	0.0119	0.0128	0.0122	0.0108	0.0111	0.0119
06:00 - 07:00	0.0106	0.0122	0.0139	0.0104	0.0129	0.0109	0.0097
07:00 - 08:00	0.0094	0.0147	0.0130	0.0138	0.0131	0.0114	0.0051
08:00 - 09:00	0.0104	0.0079	0.0070	0.0064	0.0064	0.0068	0.0085
09:00 - 10:00	0.0060	0.0069	0.0032	0.0064	0.0022	0.0041	0.0081
10:00 - 11:00	0.0037	0.0044	0.0062	0.0053	0.0028	0.0026	0.0052
11:00 - 12:00	0.0047	0.0056	0.0047	0.0046	0.0019	0.0050	0.0025
Average-24Hr*	0.0086	0.0088	0.0106	0.0094	0.0083	0.0080	0.0095
Max-1Hr	0.0152	0.0147	0.0183	0.0144	0.0137	0.0129	0.0168
Min-1Hr	0.0037	0.0040	0.0030	0.0041	0.0019	0.0026	0.0021
Standard-1Hr	0.12 ppm						
Standard-24Hr	-						

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

(Miss Katesarin Vorradetwittaya)
Environmental Scientist

Preeda S.
(Miss Preeda Somjai)
Technical Management Team



Ambient Air Monitoring Results : Nitrogen dioxide MTR-PTTGC, Branch 2 (Power Plant)

Location : Ban Nong Feab Monitor Period : 28 Apr 2026-05 May 2026
Analyzer Model : API 200AU Station No : SCT-16
Serial No : 144 Site Operator : Mr. Siwanon Kulawong

Calibrator Model : Teledyne 700E Serial No : 1367
Calibration Gas Cylinder I.D. : EB0102326
Certified Date : 08 Jan 2026 Cal Concentration (ppb) : 0,100,200,400
Expire Date : 07 Jan 2027

Time	NO2 Concentration (ppm)						
	28-29 Apr 2026	29-30 Apr 2026	30-01 May 2026	01-02 May 2026	02-03 May 2026	03-04 May 2026	04-05 May 2026
12:00 - 13:00	0.0023	0.0047	0.0034	0.0051	0.0036	0.0007	0.0010
13:00 - 14:00	0.0043	0.0055	0.0053	0.0036	0.0035	0.0025	0.0024
14:00 - 15:00	0.0038	0.0022	0.0054	0.0039	0.0028	0.0038	0.0023
15:00 - 16:00	0.0037	0.0035	0.0036	0.0033	0.0022	0.0039	0.0017
16:00 - 17:00	0.0027	0.0093	0.0077	0.0054	0.0045	0.0045	0.0058
17:00 - 18:00	0.0070	0.0091	0.0074	0.0058	0.0060	0.0057	0.0042
18:00 - 19:00	0.0072	0.0127	0.0071	0.0055	0.0091	0.0059	0.0119
19:00 - 20:00	0.0094	0.0093	0.0108	0.0100	0.0051	0.0066	0.0119
20:00 - 21:00	0.0090	0.0095	0.0103	0.0114	0.0093	0.0080	0.0100
21:00 - 22:00	0.0099	0.0062	0.0110	0.0113	0.0127	0.0075	0.0143
22:00 - 23:00	0.0080	0.0091	0.0116	0.0123	0.0119	0.0058	0.0123
23:00 - 00:00	0.0077	0.0110	0.0125	0.0091	0.0089	0.0072	0.0140
00:00 - 01:00	0.0096	0.0080	0.0114	0.0129	0.0093	0.0103	0.0122
01:00 - 02:00	0.0120	0.0098	0.0133	0.0108	0.0064	0.0092	0.0148
02:00 - 03:00	0.0099	0.0103	0.0168	0.0096	0.0049	0.0089	0.0121
03:00 - 04:00	0.0080	0.0058	0.0157	0.0102	0.0053	0.0117	0.0127
04:00 - 05:00	0.0068	0.0114	0.0152	0.0103	0.0090	0.0083	0.0131
05:00 - 06:00	0.0079	0.0122	0.0162	0.0111	0.0112	0.0088	0.0091
06:00 - 07:00	0.0085	0.0124	0.0094	0.0121	0.0114	0.0109	0.0098
07:00 - 08:00	0.0071	0.0127	0.0128	0.0067	0.0065	0.0065	0.0090
08:00 - 09:00	0.0093	0.0076	0.0082	0.0074	0.0056	0.0044	0.0055
09:00 - 10:00	0.0054	0.0045	0.0033	0.0064	0.0007	0.0058	0.0059
10:00 - 11:00	0.0046	0.0047	0.0018	0.0036	0.0018	0.0038	0.0075
11:00 - 12:00	0.0032	0.0024	0.0036	0.0022	0.0011	0.0012	0.0064
Average-24Hr*	0.0070	0.0081	0.0093	0.0079	0.0064	0.0063	0.0087
Max-1Hr	0.0120	0.0127	0.0168	0.0129	0.0127	0.0117	0.0148
Min-1Hr	0.0023	0.0022	0.0018	0.0022	0.0007	0.0007	0.0010
Standard-1Hr	0.12 ppm						
Standard-24Hr	-						

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

(Miss Katesarin Vorradetwittaya)
Environmental Scientist

Preeda S.
(Miss Preeda Somjai)
Technical Management Team

ภาคผนวก ง.3

ใบรับรองผลการตรวจวัดระดับเสียงทั่วไป



Noise Monitoring Result : Community Noise MTR-PTTGC, Branch 2 (Power Plant)

Location : The North of Fence				Monitor Period : 09-16 Mar 2026			
SLM Model : SCARLET ST-21D				Serial No : 820730			
Site Operator : Mr. Sittichai Sawangwongchai							
Calibrator Model : Cirrus CR:515				Serial No : 97097			
Calibration Ref dB(A) : 94.0				Certified Date : 14 Oct 2025			
SLM Reading / Adjust dB(A) : 93.8/0.0				Expire Date : 13 Oct 2026			
Cal Sheet No. : CR-515-2026-055							
Time	Equivalent Sound Pressure Level (dB(A))						
	09-10 Mar 2026	10-11 Mar 2026	11-12 Mar 2026	12-13 Mar 2026	13-14 Mar 2026	14-15 Mar 2026	15-16 Mar 2026
09:00 - 10:00	68.3	66.1	65.9	65.1	65.2	64.3	63.4
10:00 - 11:00	65.1	64.7	67.7	63.3	64.2	64.3	63.9
11:00 - 12:00	65.8	63.3	65.1	62.7	66.0	63.1	63.4
12:00 - 13:00	65.1	63.9	66.1	62.9	62.9	64.5	63.4
13:00 - 14:00	68.6	64.8	64.4	63.6	62.8	66.1	63.2
14:00 - 15:00	65.3	63.7	65.7	67.0	63.5	63.2	66.2
15:00 - 16:00	67.1	64.3	62.8	65.2	63.4	65.1	64.9
16:00 - 17:00	66.3	64.1	62.9	64.9	65.4	64.2	65.4
17:00 - 18:00	66.8	63.9	66.1	64.8	64.7	64.4	65.6
18:00 - 19:00	65.6	65.9	63.0	62.8	65.6	66.1	64.9
19:00 - 20:00	63.4	65.5	62.9	64.9	63.1	64.3	65.9
20:00 - 21:00	64.2	65.4	66.7	64.6	63.2	66.6	65.0
21:00 - 22:00	66.3	63.3	62.8	63.1	62.9	63.3	65.3
22:00 - 23:00	63.4	65.6	62.9	64.5	63.6	67.6	66.7
23:00 - 00:00	63.6	65.8	62.7	63.1	63.3	63.6	66.2
00:00 - 01:00	63.6	64.6	62.7	64.2	64.5	64.7	64.8
01:00 - 02:00	63.3	63.8	65.8	64.1	63.9	65.9	66.8
02:00 - 03:00	65.9	64.1	62.8	65.8	63.1	65.4	66.1
03:00 - 04:00	64.6	63.6	63.5	64.5	63.1	64.7	64.4
04:00 - 05:00	66.4	66.8	63.7	63.0	63.0	63.4	65.8
05:00 - 06:00	66.2	64.2	62.9	64.3	64.6	63.4	65.7
06:00 - 07:00	64.2	64.8	63.3	62.9	63.1	66.2	64.9
07:00 - 08:00	63.4	65.3	65.6	63.4	64.1	63.3	65.0
08:00 - 09:00	65.7	64.8	66.6	63.6	64.5	64.2	66.2
Leq(24)*	65.6	64.8	64.7	64.2	64.0	64.8	65.3
Ldn	71.4	71.3	70.2	70.6	70.1	71.5	72.1
Lmax **	83.5	81.2	78.6	80.2	79.3	80.2	80.5
Standard-24Hr	70 dB(A)						
Standard-Max	115 dB(A)						

Remark : * Average time between 09:00-09:00

** Maximum Sound-Pressure Level between 09:00-09:00


(Miss Katesarin Vorradetwittaya)
Environmental Scientist


(Miss Preeda Somjai)
Technical Management Team



Noise Monitoring Result : Background Noise MTR-PTTGC, Branch 2 (Power Plant)

Location : The North of Fence				Monitor Period : 09-16 Mar 2026			
SLM Model : SCARLET ST-21D				Serial No : 820730			
Site Operator : Mr. Sittichai Sawangwongchai							
Calibrator Model : Cirrus CR:515				Serial No : 97097			
Calibration Ref dB(A) : 94.0				Certified Date : 14 Oct 2025			
SLM Reading / Adjust dB(A) : 93.8/0.0				Expire Date : 13 Oct 2026			
Cal Sheet No. : CR-515-2026-055							
Time	L90 (dB(A))						
	09-10 Mar 2026	10-11 Mar 2026	11-12 Mar 2026	12-13 Mar 2026	13-14 Mar 2026	14-15 Mar 2026	15-16 Mar 2026
09:00 ~ 10:00	65.3	62.5	62.0	62.1	62.4	59.8	60.3
10:00 ~ 11:00	62.1	60.8	62.4	60.4	60.7	61.0	60.9
11:00 ~ 12:00	63.4	60.1	61.6	59.9	61.9	60.2	60.2
12:00 ~ 13:00	64.4	60.9	62.9	59.8	60.1	60.4	60.2
13:00 ~ 14:00	65.1	61.7	61.2	60.2	59.8	61.2	60.1
14:00 ~ 15:00	62.2	60.9	63.0	60.8	60.1	59.9	63.1
15:00 ~ 16:00	63.9	60.7	59.6	62.1	60.6	62.3	61.6
16:00 ~ 17:00	63.4	60.9	59.7	61.5	60.8	60.3	62.1
17:00 ~ 18:00	63.8	60.7	62.7	60.5	60.8	61.9	61.4
18:00 ~ 19:00	63.6	62.1	60.0	60.0	62.4	63.4	61.4
19:00 ~ 20:00	61.0	62.5	59.9	61.5	59.8	61.4	63.1
20:00 ~ 21:00	62.6	61.2	63.0	60.9	60.0	61.8	61.5
21:00 ~ 22:00	62.9	60.1	59.8	60.0	59.8	60.1	62.7
22:00 ~ 23:00	61.0	62.3	59.7	60.7	60.1	63.4	63.1
23:00 ~ 00:00	60.5	62.7	59.7	60.1	60.4	60.2	63.3
00:00 ~ 01:00	60.6	61.6	59.7	61.2	61.7	60.9	62.0
01:00 ~ 02:00	60.3	60.7	62.3	61.0	61.2	62.9	63.3
02:00 ~ 03:00	62.3	61.0	59.9	63.5	59.9	61.8	62.0
03:00 ~ 04:00	61.1	60.7	60.1	61.9	60.0	60.9	61.2
04:00 ~ 05:00	63.2	63.5	60.3	59.8	59.7	60.2	63.3
05:00 ~ 06:00	63.1	61.0	59.8	61.0	60.6	60.3	61.8
06:00 ~ 07:00	60.9	61.9	60.3	59.7	60.1	63.2	62.1
07:00 ~ 08:00	60.4	62.5	63.1	60.3	61.3	60.2	61.2
08:00 ~ 09:00	61.5	61.8	62.8	60.3	61.5	60.6	62.5
L90(avg)*	62.7	61.5	61.3	60.9	60.7	61.3	62.0

Remark : * Average time between 09:00-09:00


(Miss Katesarin Vorradetwittaya)
Environmental Scientist


(Miss Preeda Somjai)
Technical Management Team



Noise Monitoring Result : Community Noise MTR-PTTGC, Branch 2 (Power Plant)

Location : The South of Fence				Monitor Period : 09-16 Mar 2026			
SLM Model : SCARLET ST-21D				Serial No : 820728			
Site Operator : Mr. Sittichai Sawangwongchai							
Calibrator Model : Cirrus CR:515				Serial No : 97097			
Calibration Ref dB(A) : 94.0				Certified Date : 14 Oct 2025			
SLM Reading / Adjust dB(A) : 93.8/0.0				Expire Date : 13 Oct 2026			
Cal Sheet No. : CR-515-2026-055							
Time	Equivalent Sound Pressure Level (dB(A))						
	09-10 Mar 2026	10-11 Mar 2026	11-12 Mar 2026	12-13 Mar 2026	13-14 Mar 2026	14-15 Mar 2026	15-16 Mar 2026
09:00 ~ 10:00	60.3	61.0	62.4	60.9	58.9	58.9	58.6
10:00 ~ 11:00	61.8	60.3	60.5	60.5	60.5	59.1	57.7
11:00 ~ 12:00	58.6	60.5	60.6	60.9	60.1	59.1	58.6
12:00 ~ 13:00	63.4	59.8	60.2	60.4	59.9	58.6	58.7
13:00 ~ 14:00	57.7	60.4	60.2	60.2	58.7	60.5	58.5
14:00 ~ 15:00	58.4	60.0	60.3	63.6	58.5	59.5	58.6
15:00 ~ 16:00	58.0	60.1	60.0	60.7	58.5	59.5	58.8
16:00 ~ 17:00	58.4	60.3	60.3	59.0	58.3	59.1	58.6
17:00 ~ 18:00	59.9	60.0	61.6	57.7	58.4	59.3	58.3
18:00 ~ 19:00	59.4	60.4	59.7	58.3	58.4	59.8	58.3
19:00 ~ 20:00	58.0	60.4	59.8	58.8	58.0	58.9	57.8
20:00 ~ 21:00	58.4	59.2	59.7	58.1	60.7	58.9	58.2
21:00 ~ 22:00	59.4	59.2	58.6	57.7	60.1	60.2	61.1
22:00 ~ 23:00	59.1	59.0	59.3	57.9	59.0	59.8	60.3
23:00 ~ 00:00	56.6	56.1	58.7	58.4	61.8	59.4	63.5
00:00 ~ 01:00	55.5	55.7	58.9	58.0	60.6	59.1	59.6
01:00 ~ 02:00	56.3	56.3	59.2	58.1	58.8	58.9	58.8
02:00 ~ 03:00	56.7	56.3	58.1	59.8	59.1	59.1	58.7
03:00 ~ 04:00	56.7	56.1	58.3	58.2	62.3	58.9	58.3
04:00 ~ 05:00	56.5	55.9	57.9	59.3	59.1	60.3	58.2
05:00 ~ 06:00	60.6	60.3	59.1	58.8	61.3	60.6	58.9
06:00 ~ 07:00	60.4	60.2	60.3	58.2	61.3	61.3	58.8
07:00 ~ 08:00	59.9	59.9	62.5	60.1	59.8	60.3	58.6
08:00 ~ 09:00	60.6	59.8	64.4	59.9	60.9	57.7	59.8
Leq(24)*	59.2	59.4	60.3	59.5	59.9	59.5	59.2
Ldn	64.7	64.6	65.7	65.2	66.8	66.1	66.1
Lmax **	87.7	81.9	87.9	87.3	83.9	83.7	87.0
Standard-24Hr	70 dB(A)						
Standard-Max	115 dB(A)						

Remark : * Average time between 09:00-09:00

** Maximum Sound Pressure Level between 09:00-09:00

(Miss Katesarin Vorradetwittaya)
Environmental Scientist

Preeda S.
(Miss Preeda Somjai)
Technical Management Team



Noise Monitoring Result : Background Noise MTR-PTTGC, Branch 2 (Power Plant)

Location : The South of Fence				Monitor Period : 09-16 Mar 2026			
SLM Model : SCARLET ST-21D				Serial No : 820728			
Site Operator : Mr. Sittichai Sawangwongchai							
Calibrator Model : Cirrus CR:515				Serial No : 97097			
Calibration Ref dB(A) : 94.0				Certified Date : 14 Oct 2025			
SLM Reading / Adjust dB(A) : 93.8/0.0				Expire Date : 13 Oct 2026			
Cal Sheet No. : CR-515-2026-055							
Time	L90 (dB(A))						
	09-10 Mar 2026	10-11 Mar 2026	11-12 Mar 2026	12-13 Mar 2026	13-14 Mar 2026	14-15 Mar 2026	15-16 Mar 2026
09:00 ~ 10:00	59.1	58.8	59.8	59.1	57.4	57.8	57.1
10:00 ~ 11:00	60.5	58.9	59.1	58.0	58.7	57.7	56.6
11:00 ~ 12:00	57.0	58.9	58.9	59.2	58.7	57.6	56.7
12:00 ~ 13:00	59.6	58.6	58.7	58.0	58.1	57.3	57.2
13:00 ~ 14:00	56.4	58.6	58.7	57.2	57.5	57.8	57.2
14:00 ~ 15:00	56.9	58.7	59.0	62.2	57.2	58.3	57.4
15:00 ~ 16:00	56.6	58.8	58.8	60.2	57.5	58.1	57.3
16:00 ~ 17:00	56.6	58.8	58.8	57.5	57.2	57.8	57.0
17:00 ~ 18:00	58.4	58.6	59.7	56.3	57.0	57.7	56.9
18:00 ~ 19:00	58.0	58.5	58.4	56.3	57.1	58.1	56.9
19:00 ~ 20:00	56.7	58.7	58.4	55.6	56.5	57.6	56.5
20:00 ~ 21:00	57.3	57.4	58.4	56.3	57.7	57.6	57.0
21:00 ~ 22:00	58.0	57.8	57.4	56.5	57.8	58.5	59.4
22:00 ~ 23:00	57.6	57.8	57.8	57.0	57.2	58.3	57.7
23:00 ~ 00:00	55.3	54.8	57.5	56.9	58.1	58.1	58.0
00:00 ~ 01:00	54.3	54.4	57.5	56.9	57.8	57.8	57.6
01:00 ~ 02:00	54.9	55.0	57.8	57.0	56.8	57.9	57.1
02:00 ~ 03:00	55.1	55.0	56.3	58.9	57.1	57.8	57.8
03:00 ~ 04:00	55.2	54.9	57.1	57.0	58.4	57.4	57.6
04:00 ~ 05:00	55.0	54.8	56.9	57.8	57.6	57.7	57.0
05:00 ~ 06:00	59.1	58.9	57.7	57.4	58.4	58.4	57.4
06:00 ~ 07:00	59.2	58.9	58.2	57.1	59.3	59.2	57.5
07:00 ~ 08:00	58.5	58.6	56.5	58.7	58.9	58.9	57.0
08:00 ~ 09:00	58.8	58.5	62.2	58.1	58.9	56.6	58.7
L90(avg)*	57.6	57.9	58.5	58.0	57.9	57.9	57.4

Remark : * Average time between 09:00-09:00

(Miss Katesarin Vorradetwittaya)
Environmental Scientist

Preeda S.
(Miss Preeda Somjai)
Technical Management Team

ภาคผนวก ง.4

ใบรับรองผลการตรวจวิเคราะห์คุณภาพน้ำ



บริษัท ซีคอต จำกัด
SECOT CO., LTD.

239 ถนนริมคลองประปา แขวงบางซื่อ เขตบางซื่อ กรุงเทพมหานคร 10800
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 : PTT Global Chemical Public Company Limited , REQUEST SERVICE No. : 0044/69
Branch 2 (Power Plant)

SAMPLING BY : SECOT Co., Ltd. **REGISTRATION No.** : 7-239

SAMPLING DATE : 08/01/2026 **SAMPLING METHOD** : Grab

RECEIVED DATE : 09/01/2026 **SAMPLING TIME** : 09:10

ANALYTICAL DATE : 09-17/01/2026 **SITE OPERATOR** : Mr. Jeerawat Khotamhan

REPORT DATE : 17/01/2026 **FILE CODE** : 7-239-8-0025

SAMPLE CONDITION : เหลืองใสมีตะกอน **FILE CODE** : 226007_WW_January

LOCATION DESCRIPTION : 1 = ก่อนปล่อยลงสู่คลองระบายน้ำทิ้งของนิคมฯ (Final Check Basin)

PARAMETER	UNIT	ANALYSIS METHODS	ND (non-detectable)	STATION	STANDARD ^{1/}
				I	
Temperature	°C	2550 B	< 0.5	28.4	≤ 40
pH	-	4500-H ² B	< 0.10	8.03	5.5-9.0
Total Dissolved Solids	mg/l	2540 C	< 25	3,454	38,280 ^{2/}
Total Suspended Solids	mg/l	2540 D	< 2.5	4.5	≤ 50
Fat Oil & Grease	mg/l	5520 B	< 2.0	ND	≤ 5
Phenols	mg/l	5530 B,C	< 0.001	ND	≤ 1
BOD ₅	mg/l	5210 B	< 1.0	< 1.0	≤ 20
COD	mg/l	5220 C	< 15.00	43.68	≤ 120
Free Cl ₂	mg/l	4500-Cl G	< 0.01	ND	≤ 1
TKN	mg/l	4500-Norg B	< 0.20	4.9	≤ 100
Copper (Cu)	mg/l	3120 B	< 0.001	< 0.02	≤ 2
Zinc (Zn)	mg/l	3120 B	< 0.003	0.53	≤ 5

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 24th ED. 2023 (AWWA, APHA, WEF)

Pornnapa Budthum

(Miss Pornnapa Budthum)

Analyst

REG. NO. 7-239-8-0018

Khemchuda Inorn

(Miss Khemchuda Inorn)

Technical Management Team

REG. NO. 7-239-8-0005

- Remark :**
1. Reported analysis refers to submitted sample only.
 2. This report shall not be reproduced, except in full, without official approval.
 3. ^{1/} Notification of the Ministry of Natural Resources and Environment B.E.2565 (2022).
 4. ^{2/} In case of discharging effluent into water resources containing TDS of more than 3,000 mg/l, TDS in the effluent to be discharged must exceed TDS in the water resources by not more than 5,000 mg/l (Measurement Results of Coastal Water on January 08, 2026 found to be 33,280 mg/l therefore the Standard of TDS found to be 38,280 mg/l).
 5. - Not available.



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WATER AND WASTEWATER ANALYSIS REPORT

CLIENT NAME : PTT Global Chemical Public Company Limited , REQUEST SERVICE No. : 0044/69
Branch 2 (Power Plant)

SAMPLING BY : SECOT Co., Ltd. **REGISTRATION No.** : -

SAMPLING DATE : 08/01/2026 **SAMPLING METHOD** : Grab

RECEIVED DATE : 09/01/2026 **SAMPLING TIME** : 09:10

ANALYTICAL DATE : 09-17/01/2026 **SITE OPERATOR** : Mr. Jeerawat Khotamhan

REPORT DATE : 17/01/2026 **FILE CODE** : -

SAMPLE CONDITION : เหลืองใสมีตะกอน **FILE CODE** : 226007_WW_January

LOCATION DESCRIPTION : 1 = ก่อนปล่อยลงสู่คลองระบายน้ำทิ้งของนิคมฯ (Final Check Basin)

PARAMETER	UNIT	ANALYSIS METHODS	ND (non-detectable)	STATION	STANDARD ^{1/}
				I	
Nitrate	mg/l	4500-NO ₃ ⁻ -E	< 0.02	0.12	≤ 10
Iron (Fe)	mg/l	3500-Fe B	< 0.05	0.18	≤ 1

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 24th ED. 2023 (AWWA, APHA, WEF)

Pornnapa Budthum

(Miss Pornnapa Budthum)

Analyst

Khemchuda Inorn

(Miss Khemchuda Inorn)

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. ^{1/} Notification of the Ministry of Natural Resources and Environment B.E.2565 (2022).
 4. - Not available.



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WATER AND WASTEWATER ANALYSIS REPORT

CLIENT NAME : PTT Global Chemical Public Company Limited , REQUEST SERVICE No. : 0036/69
Branch 2 (Power Plant)
SAMPLING BY : SECOT Co., Ltd. REGISTRATION No. : -
SAMPLING DATE : 08/01/2026 SAMPLING METHOD : Grab
RECEIVED DATE : 09/01/2026 SAMPLING TIME : 13:42
ANALYTICAL DATE : 09-17/01/2026 SITE OPERATOR : Mr.Chanapon Oakkharaplon
REPORT DATE : 17/01/2026 FILE CODE : -
SAMPLE CONDITION : เติืองโม่ตะกอน FILE CODE : 226007_SW_January
LOCATION DESCRIPTION : 1 = คลองระบายน้ำทิ้งของนิคมฯ ก่อนจุดปล่อยน้ำของโรงโม่หิน

PARAMETER	UNIT	ANALYSIS METHODS	ND (non-detectable)	STATION 1	STANDARD ¹⁾
Temperature	°C	2550 B	< 0.5	30.3	2)
pH	-	4500-H ⁺ B	< 0.10	8.91	2)
Total Dissolved Solids	mg/l	2540 C	< 25	9,375	2)
Total Suspended Solids	mg/l	2540 D	< 2.5	58	2)
Fat Oil & Grease	mg/l	5520 B	< 2.0	ND	2)
Phenols	mg/l	5530 B,C	< 0.001	ND	2)
BOD ₅	mg/l	5210 B	< 1.0	1.2	2)
COD	mg/l	5220 C	< 15.00	24.75	2)

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 24th ED. 2021 (AWWA,APHA, WEF)

Bongsa Puthum

(Miss Pornnapa Budthum)
Analyst

Khemchuda Insorn

(Miss Khemchuda Insorn)
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. ¹⁾ Notification of the National Environment Board No.8 B.E.2537 (1994).
Subject Determining water quality standards in Surface Water Sources for Surface Water Class 5.
4. ²⁾ No standard.
5. - Not available.



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WATER AND WASTEWATER ANALYSIS REPORT

CLIENT NAME : PTT Global Chemical Public Company Limited , REQUEST SERVICE No. : 0036/69
Branch 2 (Power Plant)
SAMPLING BY : SECOT Co., Ltd. REGISTRATION No. : -
SAMPLING DATE : 08/01/2026 SAMPLING METHOD : Grab
RECEIVED DATE : 09/01/2026 SAMPLING TIME : 13:54
ANALYTICAL DATE : 09-17/01/2026 SITE OPERATOR : Mr.Chanapon Oakkharaplon
REPORT DATE : 17/01/2026 FILE CODE : -
SAMPLE CONDITION : เติืองโม่ตะกอน FILE CODE : 226007_SW_January
LOCATION DESCRIPTION : 2 = คลองระบายน้ำทิ้งของนิคมฯ หลังจุดปล่อยน้ำของโรงโม่หิน

PARAMETER	UNIT	ANALYSIS METHODS	ND (non-detectable)	STATION 2	STANDARD ¹⁾
Temperature	°C	2550 B	< 0.5	29.9	2)
pH	-	4500-H ⁺ B	< 0.10	7.81	2)
Total Dissolved Solids	mg/l	2540 C	< 25	2,160	2)
Total Suspended Solids	mg/l	2540 D	< 2.5	9.2	2)
Fat Oil & Grease	mg/l	5520 B	< 2.0	ND	2)
Phenols	mg/l	5530 B,C	< 0.001	ND	2)
BOD ₅	mg/l	5210 B	< 1.0	2.9	2)
COD	mg/l	5220 C	< 15.00	29.12	2)

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 24th ED. 2021 (AWWA,APHA, WEF)

Bongsa Puthum

(Miss Pornnapa Budthum)
Analyst

Khemchuda Insorn

(Miss Khemchuda Insorn)
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. ¹⁾ Notification of the National Environment Board No.8 B.E.2537 (1994).
Subject Determining water quality standards in Surface Water Sources for Surface Water Class 5.
4. ²⁾ No standard.
5. - Not available.



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WATER AND WASTEWATER ANALYSIS REPORT

CLIENT NAME	: PTT Global Chemical Public Company Limited , Branch 2 (Power Plant)	REQUEST SERVICE No.	: 0250/69
SAMPLING BY	: SECOT Co., Ltd.	REGISTRATION No.	: 7-239
SAMPLING DATE	: 12/02/2026	SAMPLING METHOD	: Grab
RECEIVED DATE	: 13/02/2026	SAMPLING TIME	: 09:24
ANALYTICAL DATE	: 13-20/02/2026	SITE OPERATOR	: Miss Wiraya Patchimboon
REPORT DATE	: 20/02/2026	FILE CODE	: 7-239-9-0038
SAMPLE CONDITION	: เกลือใส	FILE CODE	: 226007_WW_February
LOCATION DESCRIPTION	: 1 = ก่อนปล่อยลงสู่คลองระบายน้ำทิ้งของนิคมฯ (Final Check Basin)		

PARAMETER	UNIT	ANALYSIS METHODS	ND (non-detectable)	STATION I	STANDARD ^{1/}
Temperature	°C	2550 B	< 0.5	32.4	≤ 40
pH	-	4500-H ⁺ B	< 0.10	7.37	5.5-9.0
Total Dissolved Solids	mg/l	2540 C	< 25	5.600	32,200 ^{2/}
Total Suspended Solids	mg/l	2540 D	< 2.5	< 2.5	≤ 50
Fat Oil & Grease	mg/l	5520 B	< 2.0	ND	≤ 5
Phenols	mg/l	5530 B,C	< 0.001	ND	≤ 1
BOD ₅	mg/l	5210 B	< 1.0	3.6	≤ 20
COD	mg/l	5220 C	< 15.00	73.11	≤ 120
Free Cl ₂	mg/l	4500-Cl G	< 0.01	0.01	≤ 1
TKN	mg/l	4500-Norg B	< 0.20	13.4	≤ 100
Copper (Cu)	mg/l	3120 B	< 0.001	ND	≤ 2
Zinc (Zn)	mg/l	3120 B	< 0.003	0.78	≤ 5

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 24th ED. 2023 (AWWA, APHA, WEF)

Pornnapa Budthum

(Miss Pornnapa Budthum)

Analyst

REG. NO. 7-239-9-0018

Khemchuda Insorn

(Miss Khemchuda Insorn)

Technical Management Team

REG. NO. 7-239-9-0005

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

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

3. ^{1/} Notification of the Ministry of Natural Resources and Environment B.E.2565 (2022).

4. ^{2/} In case of discharging effluent into water resources containing TDS of more than 3,000 mg/l, TDS in the effluent to be discharged must exceed TDS in the water resources by not more than 5,000 mg/l (Measurement Results of Coastal Water on February 05, 2026 found to be 27,200 mg/l therefore the Standard of TDS found to be 32,200 mg/l).

5. - Not available.



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WATER AND WASTEWATER ANALYSIS REPORT

CLIENT NAME	: PTT Global Chemical Public Company Limited , Branch 2 (Power Plant)	REQUEST SERVICE No.	: 0250/69
SAMPLING BY	: SECOT Co., Ltd.	REGISTRATION No.	: -
SAMPLING DATE	: 12/02/2026	SAMPLING METHOD	: Grab
RECEIVED DATE	: 13/02/2026	SAMPLING TIME	: 09:24
ANALYTICAL DATE	: 13-20/02/2026	SITE OPERATOR	: Miss Wiraya Patchimboon
REPORT DATE	: 20/02/2026	FILE CODE	: -
SAMPLE CONDITION	: เกลือใส	FILE CODE	: 226007_WW_February
LOCATION DESCRIPTION	: 1 = ก่อนปล่อยลงสู่คลองระบายน้ำทิ้งของนิคมฯ (Final Check Basin)		

PARAMETER	UNIT	ANALYSIS METHODS	ND (non-detectable)	STATION I	STANDARD ^{1/}
Nitrate	mg/l	4500-NO ₃ ⁻ -E	< 0.02	ND	≤ 10
Iron (Fe)	mg/l	3500-Fe B	< 0.05	0.35	≤ 1

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 24th ED. 2023 (AWWA, APHA, WEF)

Pornnapa Budthum

(Miss Pornnapa Budthum)

Analyst

Khemchuda Insorn

(Miss Khemchuda Insorn)

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. ^{1/} Notification of the Ministry of Natural Resources and Environment B.E.2565 (2022).

4. - Not available.



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WATER AND WASTEWATER ANALYSIS REPORT

CLIENT NAME : PTT Global Chemical Public Company Limited , REQUEST SERVICE No. : 0249/69
Branch 2 (Power Plant)
SAMPLING BY : SECOT Co., Ltd. REGISTRATION No. : -
SAMPLING DATE : 12/02/2026 SAMPLING METHOD : Grab
RECEIVED DATE : 13/02/2026 SAMPLING TIME : 10:31
ANALYTICAL DATE : 13-20/02/2026 SITE OPERATOR : Miss Wiraya Patchimboon
REPORT DATE : 20/02/2026 : -
SAMPLE CONDITION : เติมน้ำดื่มก่อน FILE CODE : 226007_SW_February
LOCATION DESCRIPTION : 1 = คลองระบายน้ำทิ้งของนิคมฯ ก่อนจุดปล่อยน้ำของโรงโม่หิน

PARAMETER	UNIT	ANALYSIS METHODS	ND (non-detectable)	STATION 1	STANDARD ^{1/}
Temperature	°C	2550 B	< 0.5	32.5	2/
pH	-	4500-H ⁺ B	< 0.10	8.43	2/
Total Dissolved Solids	mg/l	2540 C	< 25	7,712	2/
Total Suspended Solids	mg/l	2540 D	< 2.5	52	2/
Fat Oil & Grease	mg/l	5520 B	< 2.0	ND	2/
Phenols	mg/l	5530 B,C	< 0.001	ND	2/
BOD ₅	mg/l	5210 B	< 1.0	1.0	2/
COD	mg/l	5220 C	< 15.00	36.17	2/

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 24th ED. 2023 (AWWA-APHA-WEF)

Pornnapa Budthum
(Miss Pornnapa Budthum)
Analyst

Khemchuda Insorn
(Miss Khemchuda Insorn)
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. ^{1/} Notification of the National Environment Board No.8 B.E.2537 (1994).

Subject Determining water quality standards in Surface Water Sources for Surface Water Class 5.

4. ^{2/} No standard.

5. - Not available.



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WATER AND WASTEWATER ANALYSIS REPORT

CLIENT NAME : PTT Global Chemical Public Company Limited , REQUEST SERVICE No. : 0249/69
Branch 2 (Power Plant)
SAMPLING BY : SECOT Co., Ltd. REGISTRATION No. : -
SAMPLING DATE : 12/02/2026 SAMPLING METHOD : Grab
RECEIVED DATE : 13/02/2026 SAMPLING TIME : 10:44
ANALYTICAL DATE : 13-20/02/2026 SITE OPERATOR : Miss Wiraya Patchimboon
REPORT DATE : 20/02/2026 : -
SAMPLE CONDITION : เติมน้ำดื่มก่อน FILE CODE : 226007_SW_February
LOCATION DESCRIPTION : 2 = คลองระบายน้ำทิ้งของนิคมฯ หลังจุดปล่อยน้ำของโรงโม่หิน

PARAMETER	UNIT	ANALYSIS METHODS	ND (non-detectable)	STATION 2	STANDARD ^{1/}
Temperature	°C	2550 B	< 0.5	30.9	2/
pH	-	4500-H ⁺ B	< 0.10	7.72	2/
Total Dissolved Solids	mg/l	2540 C	< 25	2,604	2/
Total Suspended Solids	mg/l	2540 D	< 2.5	11	2/
Fat Oil & Grease	mg/l	5520 B	< 2.0	ND	2/
Phenols	mg/l	5530 B,C	< 0.001	ND	2/
BOD ₅	mg/l	5210 B	< 1.0	1.2	2/
COD	mg/l	5220 C	< 15.00	46.94	2/

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 24th ED. 2023 (AWWA-APHA-WEF)

Pornnapa Budthum
(Miss Pornnapa Budthum)
Analyst

Khemchuda Insorn
(Miss Khemchuda Insorn)
Technical Management Team

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

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3. ^{1/} Notification of the National Environment Board No.8 B.E.2537 (1994).

Subject Determining water quality standards in Surface Water Sources for Surface Water Class 5.

4. ^{2/} No standard.

5. - Not available.



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WATER AND WASTEWATER ANALYSIS REPORT

CLIENT NAME : PTT Global Chemical Public Company Limited , REQUEST SERVICE No. : 0446/69
Branch 2 (Power Plant)
SAMPLING BY : SECOT Co., Ltd. REGISTRATION No. : 7-239
SAMPLING DATE : 12/03/2026 SAMPLING METHOD : Grab
RECEIVED DATE : 13/03/2026 SAMPLING TIME : 09:35
ANALYTICAL DATE : 13-21/03/2026 : Miss Thipsuda Wannakran
REPORT DATE : 21/03/2026 SITE OPERATOR : 7-239-9-0027
SAMPLE CONDITION : เหลือจุ่ม FILE CODE : 226007_WW_March
LOCATION DESCRIPTION : 1 = ก่อนปล่อยลงสู่คลองระบายน้ำทิ้งของนิคมฯ (Final Check Basin)

PARAMETER	UNIT	ANALYSIS METHODS	ND (non-detectable)	STATION	STANDARD ^U
				I	
Temperature	°C	2550 B	< 0.5	24.4	≤ 40
pH	-	4500-H ⁺ B	< 0.10	7.92	5.5-9.0
Total Dissolved Solids	mg/l	2540 C	< 25	3.266	35,560 ^{2/}
Total Suspended Solids	mg/l	2540 D	< 2.5	8.4	≤ 50
Fat Oil & Grease	mg/l	5520 B	< 2.0	ND	≤ 5
Phenols	mg/l	5530 B,C	< 0.001	ND	≤ 1
BOD ₅	mg/l	5210 B	< 1.0	2.0	≤ 20
COD	mg/l	5220 C	< 15.00	59.47	≤ 120
Free Cl ₂	mg/l	4500-Cl G	< 0.01	0.02	≤ 1
TKN	mg/l	4500-Norg B	< 0.20	7.8	≤ 100
Copper (Cu)	mg/l	3120 B	< 0.001	ND	≤ 2
Zinc (Zn)	mg/l	3120 B	< 0.003	0.71	≤ 5

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 24th ED, 2022 (AWWA, APHA, WEF)

Pornnapa Budthum

(Miss Pornnapa Budthum)

Analyst

REG. NO. 7-239-9-0018

Khemchuda Insorn

(Miss Khemchuda Insorn)

Technical Management Team

REG. NO. 7-239-9-0005

- Remark :**
1. Reported analysis refers to submitted sample only.
 2. This report shall not be reproduced, except in full, without official approval.
 3. ^{1/} Notification of the Ministry of Natural Resources and Environment B.E.2565 (2022).
 4. ^{2/} In case of discharging effluent into water resources containing TDS of more than 3,000 mg/l, TDS in the effluent to be discharged must exceed TDS in the water resources by not more than 5,000 mg/l (Measurement Results of Coastal Water on March 05, 2026 found to be 30,560 mg/l therefore the Standard of TDS found to be 35,560 mg/l).
 5. - Not available.



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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 : PTT Global Chemical Public Company Limited , REQUEST SERVICE No. : 0446/69
Branch 2 (Power Plant)
SAMPLING BY : SECOT Co., Ltd. REGISTRATION No. : -
SAMPLING DATE : 12/03/2026 SAMPLING METHOD : Grab
RECEIVED DATE : 13/03/2026 SAMPLING TIME : 09:35
ANALYTICAL DATE : 13-21/03/2026 : Miss Thipsuda Wannakran
REPORT DATE : 21/03/2026 SITE OPERATOR : -
SAMPLE CONDITION : เหลือจุ่ม FILE CODE : 226007_WW_March
LOCATION DESCRIPTION : 1 = ก่อนปล่อยลงสู่คลองระบายน้ำทิ้งของนิคมฯ (Final Check Basin)

PARAMETER	UNIT	ANALYSIS METHODS	ND (non-detectable)	STATION	STANDARD ^U
				I	
Nitrate	mg/l	4500-NO ₃ ⁻ E	< 0.02	0.23	≤ 10
Iron (Fe)	mg/l	3500-Fe B	< 0.05	0.09	≤ 1

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 24th ED, 2022 (AWWA, APHA, WEF)

Pornnapa Budthum

(Miss Pornnapa Budthum)

Analyst

Khemchuda Insorn

(Miss Khemchuda Insorn)

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. ^{1/} Notification of the Ministry of Natural Resources and Environment B.E.2565 (2022).
 4. - Not available.



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WATER AND WASTEWATER ANALYSIS REPORT

CLIENT NAME : PTT Global Chemical Public Company Limited , REQUEST SERVICE No. : 0445/69
Branch 2 (Power Plant)
SAMPLING BY : SECOT Co., Ltd. REGISTRATION No. : -
SAMPLING DATE : 12/03/2026 SAMPLING METHOD : Grab
RECEIVED DATE : 13/03/2026 SAMPLING TIME : 15:55
ANALYTICAL DATE : 13-20/03/2026 SITE OPERATOR : Mr. Baworn Deechaiya
REPORT DATE : 20/03/2026
SAMPLE CONDITION : เกือบแห้ง FILE CODE : 226007_SW_March
LOCATION DESCRIPTION : 1 = คลองระบายน้ำทิ้งของนิคมฯ ก่อนจุดปล่อยน้ำของโรงโม่หิน

PARAMETER	UNIT	ANALYSIS METHODS	ND (non-detectable)	STATION 1	STANDARD ¹⁾
Temperature	°C	2550 B	< 0.5	29.7	2)
pH	-	4500-H ⁺ B	< 0.10	7.38	2)
Total Dissolved Solids	mg/l	2540 C	< 25	1,624	2)
Total Suspended Solids	mg/l	2540 D	< 2.5	84	2)
Fat Oil & Grease	mg/l	5520 B	< 2.0	ND	2)
Phenols	mg/l	5530 B,C	< 0.001	ND	2)
BOD ₅	mg/l	5210 B	< 1.0	3.6	2)
COD	mg/l	5220 C	< 15.00	55.66	2)

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 24th ED. 2021 (AWWA.APHA.WEF)

Bong Puthum
(Miss Pornnapa Budthum)
Analyst

Khemchuda Insorn
(Miss Khemchuda Insorn)
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. ¹⁾ Notification of the National Environment Board No.8 B.E.2537 (1994).

Subject Determining water quality standards in Surface Water Sources for Surface Water Class 5.

4. ²⁾ No standard.

5. - Not available.



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WATER AND WASTEWATER ANALYSIS REPORT

CLIENT NAME : PTT Global Chemical Public Company Limited , REQUEST SERVICE No. : 0445/69
Branch 2 (Power Plant)
SAMPLING BY : SECOT Co., Ltd. REGISTRATION No. : -
SAMPLING DATE : 12/03/2026 SAMPLING METHOD : Grab
RECEIVED DATE : 13/03/2026 SAMPLING TIME : 16:02
ANALYTICAL DATE : 13-20/03/2026 SITE OPERATOR : Mr. Baworn Deechaiya
REPORT DATE : 20/03/2026
SAMPLE CONDITION : เกือบแห้ง FILE CODE : 226007_SW_March
LOCATION DESCRIPTION : 2 = คลองระบายน้ำทิ้งของนิคมฯ หลังจุดปล่อยน้ำของโรงโม่หิน

PARAMETER	UNIT	ANALYSIS METHODS	ND (non-detectable)	STATION 2	STANDARD ¹⁾
Temperature	°C	2550 B	< 0.5	30.8	2)
pH	-	4500-H ⁺ B	< 0.10	6.63	2)
Total Dissolved Solids	mg/l	2540 C	< 25	1,804	2)
Total Suspended Solids	mg/l	2540 D	< 2.5	19	2)
Fat Oil & Grease	mg/l	5520 B	< 2.0	ND	2)
Phenols	mg/l	5530 B,C	< 0.001	ND	2)
BOD ₅	mg/l	5210 B	< 1.0	3.7	2)
COD	mg/l	5220 C	< 15.00	51.84	2)

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 24th ED. 2021 (AWWA.APHA.WEF)

Bong Puthum
(Miss Pornnapa Budthum)
Analyst

Khemchuda Insorn
(Miss Khemchuda Insorn)
Technical Management Team

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

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3. ¹⁾ Notification of the National Environment Board No.8 B.E.2537 (1994).

Subject Determining water quality standards in Surface Water Sources for Surface Water Class 5.

4. ²⁾ No standard.

5. - Not available.



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WATER AND WASTEWATER ANALYSIS REPORT

CLIENT NAME	: PTT Global Chemical Public Company Limited , Branch 2 (Power Plant)	REQUEST SERVICE No.	: 0614/69
SAMPLING BY	: SECOT Co., Ltd.	REGISTRATION No.	: 7-239
SAMPLING DATE	: 09/04/2026	SAMPLING METHOD	: Grab
RECEIVED DATE	: 10/04/2026	SAMPLING TIME	: 10:10
ANALYTICAL DATE	: 10-22/04/2026	SITE OPERATOR	: Miss Thipsuda Wannakran
REPORT DATE	: 22/04/2026	FILE CODE	: 7-239-8-0027
SAMPLE CONDITION	: เหลืองจุ่น	FILE CODE	: 226007_WW_April
LOCATION DESCRIPTION	: 1 = ก่อนปล่อยลงสู่คลองระบายน้ำทิ้งของนิคมฯ (Final Check Basin)		

PARAMETER	UNIT	ANALYSIS METHODS	ND (non-detectable)	STATION	STANDARD ^{1/}
				I	
Temperature	°C	2550 B	< 0.5	34.3	≤ 40
pH	-	4500-H ⁺ B	< 0.10	7.58	5.5-9.0
Total Dissolved Solids	mg/l	2540 C	< 25	2,132	31,960 ^{2/}
Total Suspended Solids	mg/l	2540 D	< 2.5	11	≤ 50
Fat Oil & Grease	mg/l	5520 B	< 2.0	ND	≤ 5
Phenols	mg/l	5530 B,C	< 0.001	ND	≤ 1
BOD ₅	mg/l	5210 B	< 1.0	2.3	≤ 20
COD	mg/l	5220 C	< 15.00	32.68	≤ 120
Free Cl ₂	mg/l	4500-Cl G	< 0.01	0.01	≤ 1
TKN	mg/l	4500-Norg B	< 0.20	4.0	≤ 100
Copper (Cu)	mg/l	3120 B	< 0.001	ND	≤ 2
Zinc (Zn)	mg/l	3120 B	< 0.003	0.97	≤ 5

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 24th ED, 2022 (AWWA, APHA, WEF)

Pornnapa Budthum

(Miss Pornnapa Budthum)

Analyst

REG. NO. 7-239-8-0018

Khemchuda Insorn

(Miss Khemchuda Insorn)

Technical Management Team

REG. NO. 7-239-8-0005

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

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

3. ^{1/} Notification of the Ministry of Natural Resources and Environment B.E.2565 (2022).

4. ^{2/} In case of discharging effluent into water resources containing TDS of more than 3,000 mg/l, TDS in the effluent to be discharged must exceed TDS in the water resources by not more than 5,000 mg/l (Measurement Results of Coastal Water on April 02, 2026 found to be 26,960 mg/l therefore the Standard of TDS found to be 31,960 mg/l).

5. - Not available.



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WATER AND WASTEWATER ANALYSIS REPORT

CLIENT NAME	: PTT Global Chemical Public Company Limited , Branch 2 (Power Plant)	REQUEST SERVICE No.	: 0614/69
SAMPLING BY	: SECOT Co., Ltd.	REGISTRATION No.	: -
SAMPLING DATE	: 09/04/2026	SAMPLING METHOD	: Grab
RECEIVED DATE	: 10/04/2026	SAMPLING TIME	: 10:10
ANALYTICAL DATE	: 10-22/04/2026	SITE OPERATOR	: Miss Thipsuda Wannakran
REPORT DATE	: 22/04/2026	FILE CODE	: -
SAMPLE CONDITION	: เหลืองจุ่น	FILE CODE	: 226007_WW_April
LOCATION DESCRIPTION	: 1 = ก่อนปล่อยลงสู่คลองระบายน้ำทิ้งของนิคมฯ (Final Check Basin)		

PARAMETER	UNIT	ANALYSIS METHODS	ND (non-detectable)	STATION	STANDARD ^{1/}
				I	
Nitrate	mg/l	4500-NO ₃ ⁻ -E	< 0.02	0.25	≤ 10
Iron (Fe)	mg/l	3500-Fe B	< 0.05	0.47	≤ 1

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 24th ED, 2022 (AWWA, APHA, WEF)

Pornnapa Budthum

(Miss Pornnapa Budthum)

Analyst

Khemchuda Insorn

(Miss Khemchuda Insorn)

Technical Management Team

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3. ^{1/} Notification of the Ministry of Natural Resources and Environment B.E.2565 (2022).

4. - Not available.



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WATER AND WASTEWATER ANALYSIS REPORT

CLIENT NAME : PTT Global Chemical Public Company Limited , REQUEST SERVICE No. : 0615/69
Branch 2 (Power Plant)
SAMPLING BY : SECOT Co., Ltd. REGISTRATION No. : -
SAMPLING DATE : 09/04/2026 SAMPLING METHOD : Grab
RECEIVED DATE : 10/04/2026 SAMPLING TIME : 11:00
ANALYTICAL DATE : 10-20/04/2026 SITE OPERATOR : Miss Thipsuda Wannakran
REPORT DATE : 20/04/2026
SAMPLE CONDITION : เหลืองใสสะอาด FILE CODE : 226007_SW_April
LOCATION DESCRIPTION : 1 = คลองระบายน้ำทิ้งของนิคมฯ ก่อนจุดปล่อยน้ำของโรงโม่หิน

PARAMETER	UNIT	ANALYSIS METHODS	ND (non-detectable)	STATION	STANDARD ^{1/}
				1	
Temperature	°C	2550 B	< 0.5	36.0	2/
pH	-	4500-H ⁺ B	< 0.10	8.95	2/
Total Dissolved Solids	mg/l	2540 C	< 25	7,772	2/
Total Suspended Solids	mg/l	2540 D	< 2.5	38	2/
Fat Oil & Grease	mg/l	5520 B	< 2.0	ND	2/
Phenols	mg/l	5530 B,C	< 0.001	ND	2/
BOD ₅	mg/l	5210 B	< 1.0	2.2	2/
COD	mg/l	5220 C	< 15.00	< 15.00	2/

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 24th ED. 2023 (AWWA, APHA, WEF)

Pornnapa Budthum
(Miss Pornnapa Budthum)
Analyst

Khemchuda Insorn
(Miss Khemchuda Insorn)
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. ^{1/} Notification of the National Environment Board No.8 B.E.2537 (1994).
Subject Determining water quality standards in Surface Water Sources for Surface Water Class 5.
4. ^{2/} No standard.
5. - Not available.



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WATER AND WASTEWATER ANALYSIS REPORT

CLIENT NAME : PTT Global Chemical Public Company Limited , REQUEST SERVICE No. : 0615/69
Branch 2 (Power Plant)
SAMPLING BY : SECOT Co., Ltd. REGISTRATION No. : -
SAMPLING DATE : 09/04/2026 SAMPLING METHOD : Grab
RECEIVED DATE : 10/04/2026 SAMPLING TIME : 11:10
ANALYTICAL DATE : 10-20/04/2026 SITE OPERATOR : Miss Thipsuda Wannakran
REPORT DATE : 20/04/2026
SAMPLE CONDITION : เหลืองใสสะอาด FILE CODE : 226007_SW_April
LOCATION DESCRIPTION : 2 = คลองระบายน้ำทิ้งของนิคมฯ หลังจุดปล่อยน้ำของโรงโม่หิน

PARAMETER	UNIT	ANALYSIS METHODS	ND (non-detectable)	STATION	STANDARD ^{1/}
				2	
Temperature	°C	2550 B	< 0.5	33.9	2/
pH	-	4500-H ⁺ B	< 0.10	8.27	2/
Total Dissolved Solids	mg/l	2540 C	< 25	1,872	2/
Total Suspended Solids	mg/l	2540 D	< 2.5	15	2/
Fat Oil & Grease	mg/l	5520 B	< 2.0	ND	2/
Phenols	mg/l	5530 B,C	< 0.001	ND	2/
BOD ₅	mg/l	5210 B	< 1.0	3.3	2/
COD	mg/l	5220 C	< 15.00	17.48	2/

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 24th ED. 2023 (AWWA, APHA, WEF)

Pornnapa Budthum
(Miss Pornnapa Budthum)
Analyst

Khemchuda Insorn
(Miss Khemchuda Insorn)
Technical Management Team

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Subject Determining water quality standards in Surface Water Sources for Surface Water Class 5.
4. ^{2/} No standard.
5. - Not available.



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WATER AND WASTEWATER ANALYSIS REPORT

CLIENT NAME	: PTT Global Chemical Public Company Limited , Branch 2 (Power Plant)	REQUEST SERVICE No.	: 0830/69
SAMPLING BY	: SECOT Co., Ltd.	REGISTRATION No.	: 7-239
SAMPLING DATE	: 14/05/2026	SAMPLING METHOD	: Grab
RECEIVED DATE	: 15/05/2026	SAMPLING TIME	: 09:00
ANALYTICAL DATE	: 15-22/05/2026	SITE OPERATOR	: Mr. Baworn Deechaiya
REPORT DATE	: 22/05/2026		: 7-239-9-0005
SAMPLE CONDITION	: เติลิ่งใส	FILE CODE	: 226007_WW_May

LOCATION DESCRIPTION : 1 = ก่อนปล่อยลงสู่คลองระบายน้ำทิ้งของนิคมฯ (Final Check Basin)

PARAMETER	UNIT	ANALYSIS METHODS	ND (non-detectable)	STATION	STANDARD ^{1/}
				I	
Temperature	°C	2550 B	< 0.5	33.1	≤ 40
pH	-	4500-H ⁺ B	< 0.10	7.18	5.5-9.0
Total Dissolved Solids	mg/l	2540 C	< 25	2.656	35,140 ^{2/}
Total Suspended Solids	mg/l	2540 D	< 2.5	5.2	≤ 50
Fat Oil & Grease	mg/l	5520 B	< 2.0	ND	≤ 5
Phenols	mg/l	5530 B,C	< 0.001	ND	≤ 1
BOD ₅	mg/l	5210 B	< 1.0	2.1	≤ 20
COD	mg/l	5220 C	< 15.00	78.62	≤ 120
Free Cl ₂	mg/l	4500-Cl G	< 0.01	0.17	≤ 1
TKN	mg/l	4500-Norg B	< 0.20	6.2	≤ 100
Copper (Cu)	mg/l	3120 B	< 0.001	ND	≤ 2
Zinc (Zn)	mg/l	3120 B	< 0.003	0.72	≤ 5

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 24th ED, 2022 (AWWA, APHA, WEF)

Bongpa puthum.

(Miss Pornnapa Budthum)

Analyst

REG. NO. 7-239-9-0018

Khemchuda Insorn

(Miss Khemchuda Insorn)

Technical Management Team

REG. NO. 7-239-9-0005

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

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

3. ^{1/} Notification of the Ministry of Natural Resources and Environment B.E.2565 (2022).

4. ^{2/} In case of discharging effluent into water resources containing TDS of more than 3,000 mg/l, TDS in the effluent to be discharged must exceed TDS in the water resources by not more than 5,000 mg/l (Measurement Results of Coastal Water on May 07, 2026 found to be 30,140 mg/l therefore the Standard of TDS found to be 35,140 mg/l).

5. - Not available.



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WATER AND WASTEWATER ANALYSIS REPORT

CLIENT NAME	: PTT Global Chemical Public Company Limited , Branch 2 (Power Plant)	REQUEST SERVICE No.	: 0830/69
SAMPLING BY	: SECOT Co., Ltd.	REGISTRATION No.	: -
SAMPLING DATE	: 14/05/2026	SAMPLING METHOD	: Grab
RECEIVED DATE	: 15/05/2026	SAMPLING TIME	: 09:00
ANALYTICAL DATE	: 15-22/05/2026	SITE OPERATOR	: Mr. Baworn Deechaiya
REPORT DATE	: 22/05/2026		: -
SAMPLE CONDITION	: เติลิ่งใส	FILE CODE	: 226007_WW_May

LOCATION DESCRIPTION : 1 = ก่อนปล่อยลงสู่คลองระบายน้ำทิ้งของนิคมฯ (Final Check Basin)

PARAMETER	UNIT	ANALYSIS METHODS	ND (non-detectable)	STATION	STANDARD ^{1/}
				I	
Nitrate	mg/l	4500-NO ₃ ⁻ -E	< 0.02	ND	≤ 10
Iron (Fe)	mg/l	3500-Fe B	< 0.05	0.15	≤ 1

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 24th ED, 2022 (AWWA, APHA, WEF)

Bongpa puthum.

(Miss Pornnapa Budthum)

Analyst

Khemchuda Insorn

(Miss Khemchuda Insorn)

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. ^{1/} Notification of the Ministry of Natural Resources and Environment B.E.2565 (2022).

4. - Not available.



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SECOT CO., LTD.

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WATER AND WASTEWATER ANALYSIS REPORT

CLIENT NAME : PTT Global Chemical Public Company Limited , **REQUEST SERVICE No.** : 0831/69
Branch 2 (Power Plant)

SAMPLING BY : SECOT Co., Ltd. **REGISTRATION No.** : -

SAMPLING DATE : 14/05/2026 **SAMPLING METHOD** : Grab

RECEIVED DATE : 15/05/2026 **SAMPLING TIME** : 10:00

ANALYTICAL DATE : 15-22/05/2026 **SITE OPERATOR** : Mr. Baworn Deechaiya

REPORT DATE : 22/05/2026 **FILE CODE** : 226007_SW_May

SAMPLE CONDITION : เกลือเข้มข้น

LOCATION DESCRIPTION : 1 = คลองระบายน้ำทิ้งของนิคมฯ ก่อนจุดปล่อยน้ำของโรงโม่หิน

PARAMETER	UNIT	ANALYSIS METHODS	ND (non-detectable)	STATION I	STANDARD ^{1/}
Temperature	°C	2550 B	< 0.5	29.0	2/
pH	-	4500-H ⁺ B	< 0.10	6.75	2/
Total Dissolved Solids	mg/l	2540 C	< 2.5	714	2/
Total Suspended Solids	mg/l	2540 D	< 2.5	153	2/
Fat Oil & Grease	mg/l	5520 B	< 2.0	ND	2/
Phenols	mg/l	5530 B,C	< 0.001	ND	2/
BOD ₅	mg/l	5210 B	< 1.0	2.2	2/
COD	mg/l	5220 C	< 15.00	38.30	2/

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 24th ED. 2021 (AWWA, APHA, WEF)

Bong Ponnapa Budthum
(Miss Ponnapa Budthum)
Analyst

Khemchuda Insorn
(Miss Khemchuda Insorn)
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. ^{1/} Notification of the National Environment Board No.8 B.E.2537 (1994).

Subject Determining water quality standards in Surface Water Sources for Surface Water Class 5.

4. ^{2/} No standard.

5. - Not available.



บริษัท ซีคอต จำกัด
SECOT CO., LTD.

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WATER AND WASTEWATER ANALYSIS REPORT

CLIENT NAME : PTT Global Chemical Public Company Limited , **REQUEST SERVICE No.** : 0831/69
Branch 2 (Power Plant)

SAMPLING BY : SECOT Co., Ltd. **REGISTRATION No.** : -

SAMPLING DATE : 14/05/2026 **SAMPLING METHOD** : Grab

RECEIVED DATE : 15/05/2026 **SAMPLING TIME** : 10:15

ANALYTICAL DATE : 15-22/05/2026 **SITE OPERATOR** : Mr. Baworn Deechaiya

REPORT DATE : 22/05/2026 **FILE CODE** : 226007_SW_May

SAMPLE CONDITION : เกลือเข้มข้น

LOCATION DESCRIPTION : 2 = คลองระบายน้ำทิ้งของนิคมฯ หลังจุดปล่อยน้ำของโรงโม่หิน

PARAMETER	UNIT	ANALYSIS METHODS	ND (non-detectable)	STATION 2	STANDARD ^{1/}
Temperature	°C	2550 B	< 0.5	30.3	2/
pH	-	4500-H ⁺ B	< 0.10	7.56	2/
Total Dissolved Solids	mg/l	2540 C	< 2.5	1,026	2/
Total Suspended Solids	mg/l	2540 D	< 2.5	92	2/
Fat Oil & Grease	mg/l	5520 B	< 2.0	ND	2/
Phenols	mg/l	5530 B,C	< 0.001	ND	2/
BOD ₅	mg/l	5210 B	< 1.0	2.2	2/
COD	mg/l	5220 C	< 15.00	42.34	2/

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 24th ED. 2021 (AWWA, APHA, WEF)

Bong Ponnapa Budthum
(Miss Ponnapa Budthum)
Analyst

Khemchuda Insorn
(Miss Khemchuda Insorn)
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. ^{1/} Notification of the National Environment Board No.8 B.E.2537 (1994).

Subject Determining water quality standards in Surface Water Sources for Surface Water Class 5.

4. ^{2/} No standard.

5. - Not available.



บริษัท ซีคอต จำกัด
SECOT CO., LTD.

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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 : PTT Global Chemical Public Company Limited ,
Branch 2 (Power Plant)
REQUEST SERVICE No. : 1013/69
SAMPLING BY : SECOT Co., Ltd.
REGISTRATION No. : 7-239
SAMPLING DATE : 11/06/2026
SAMPLING METHOD : Grab
RECEIVED DATE : 12/06/2026
SAMPLING TIME : 09:10
ANALYTICAL DATE : 12-20/06/2026
SITE OPERATOR : Miss Thipsuda Wannakran
REPORT DATE : 20/06/2026
FILE CODE : 7-239-9-0027
SAMPLE CONDITION : เกลือหินตะกอน
LOCATION DESCRIPTION : 1 = ก่อนปล่อยลงสู่คลองระบายน้ำทิ้งของนิคมฯ (Final Check Basin)

PARAMETER	UNIT	ANALYSIS METHODS	ND (non-detectable)	STATION	STANDARD ^{1/}
				I	
Temperature	°C	2550 B	< 0.5	34.4	≤ 40
pH	-	4500-H ⁺ B	< 0.10	6.76	5.5-9.0
Total Dissolved Solids	mg/l	2540 C	< 25	2,988	29,040 ^{2/}
Total Suspended Solids	mg/l	2540 D	< 2.5	20	≤ 50
Fat Oil & Grease	mg/l	5520 B	< 2.0	ND	≤ 5
Phenols	mg/l	5530 B,C	< 0.001	ND	≤ 1
BOD ₅	mg/l	5210 B	< 1.0	1.6	≤ 20
COD	mg/l	5220 C	< 15.00	75.32	≤ 120
Free Cl ₂	mg/l	4500-Cl G	< 0.01	0.02	≤ 1
TKN	mg/l	4500-Norg B	< 0.20	6.5	≤ 100
Copper (Cu)	mg/l	3120 B	< 0.001	ND	≤ 2
Zinc (Zn)	mg/l	3120 B	< 0.003	0.35	≤ 5

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 24th ED. 2023 (AWWA, APHA, WEF)

Pornapa Budthum

(Miss Pornapa Budthum)

Analyst

REG. NO. 7-239-9-0018

Khemchuda Insorn

(Miss Khemchuda Insorn)

Technical Management Team

REG. NO. 7-239-9-0005

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

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

3. ^{1/} Notification of the Ministry of Natural Resources and Environment B.E.2565 (2022).

4. ^{2/} In case of discharging effluent into water resources containing TDS of more than 3,000 mg/l, TDS in the effluent to be discharged must exceed TDS in the water resources by not more than 5,000 mg/l (Measurement Results of Coastal Water on June 25, 2026 found to be 24,040 mg/l therefore the Standard of TDS found to be 29,040 mg/l).

5. - Not available.



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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 : PTT Global Chemical Public Company Limited ,
Branch 2 (Power Plant)
REQUEST SERVICE No. : 1013/69
SAMPLING BY : SECOT Co., Ltd.
REGISTRATION No. : -
SAMPLING DATE : 11/06/2026
SAMPLING METHOD : Grab
RECEIVED DATE : 12/06/2026
SAMPLING TIME : 09:10
ANALYTICAL DATE : 12-20/06/2026
SITE OPERATOR : Miss Thipsuda Wannakran
REPORT DATE : 20/06/2026
FILE CODE : 7-239-9-0027
SAMPLE CONDITION : เกลือหินตะกอน
LOCATION DESCRIPTION : 1 = ก่อนปล่อยลงสู่คลองระบายน้ำทิ้งของนิคมฯ (Final Check Basin)

PARAMETER	UNIT	ANALYSIS METHODS	ND (non-detectable)	STATION	STANDARD ^{1/}
				I	
Nitrate	mg/l	4500-NO ₃ ⁻ -E	< 0.02	ND	≤ 10
Iron (Fe)	mg/l	3500-Fe B	< 0.05	0.41	≤ 1

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 24th ED. 2023 (AWWA, APHA, WEF)

Pornapa Budthum

(Miss Pornapa Budthum)

Analyst

Khemchuda Insorn

(Miss Khemchuda Insorn)

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. ^{1/} Notification of the Ministry of Natural Resources and Environment B.E.2565 (2022).

4. - Not available.



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WATER AND WASTEWATER ANALYSIS REPORT

CLIENT NAME : PTT Global Chemical Public Company Limited , **REQUEST SERVICE No.** : 1014/69
Branch 2 (Power Plant)

SAMPLING BY : SECOT Co., Ltd. **REGISTRATION No.** : -

SAMPLING DATE : 11/06/2026 **SAMPLING METHOD** : Grab

RECEIVED DATE : 12/06/2026 **SAMPLING TIME** : 10:30

ANALYTICAL DATE : 12-20/06/2026 **SITE OPERATOR** : Miss Thipsuda Wannakran

REPORT DATE : 20/06/2026 **FILE CODE** : 226007_SW_June

SAMPLE CONDITION : เติบโตในน้ำสะอาด

LOCATION DESCRIPTION : 1 = คลองระบายน้ำทิ้งของนิคมฯ ก่อนปล่อยน้ำของโรงโม่หิน

PARAMETER	UNIT	ANALYSIS METHODS	ND (non-detectable)	STATION	STANDARD ^{1/}
				I	
Temperature	°C	2550 B	< 0.5	32.3	^{2/}
pH	-	4500-H ⁺ B	< 0.10	8.95	^{2/}
Total Dissolved Solids	mg/l	2540 C	< 25	4,936	^{2/}
Total Suspended Solids	mg/l	2540 D	< 2.5	133	^{2/}
Fat Oil & Grease	mg/l	5520 B	< 2.0	ND	^{2/}
Phenols	mg/l	5530 B,C	< 0.001	ND	^{2/}
BOD ₅	mg/l	5210 B	< 1.0	< 1.0	^{2/}
COD	mg/l	5220 C	< 15.00	42.02	^{2/}

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 24th ED. 2023 (AWWA,APHA, WEF)

Pornnapa Budthum

(Miss Pornnapa Budthum)
Analyst

Khemchuda Insorn

(Miss Khemchuda Insorn)
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. ^{1/} Notification of the National Environment Board No.8 B.E.2537 (1994).

Subject Determining water quality standards in Surface Water Sources for Surface Water Class 5.

4. ^{2/} No standard.

5. - Not available.



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WATER AND WASTEWATER ANALYSIS REPORT

CLIENT NAME : PTT Global Chemical Public Company Limited , **REQUEST SERVICE No.** : 1014/69
Branch 2 (Power Plant)

SAMPLING BY : SECOT Co., Ltd. **REGISTRATION No.** : -

SAMPLING DATE : 11/06/2026 **SAMPLING METHOD** : Grab

RECEIVED DATE : 12/06/2026 **SAMPLING TIME** : 10:40

ANALYTICAL DATE : 12-20/06/2026 **SITE OPERATOR** : Miss Thipsuda Wannakran

REPORT DATE : 20/06/2026 **FILE CODE** : 226007_SW_June

SAMPLE CONDITION : เติบโตในน้ำสะอาด

LOCATION DESCRIPTION : 2 = คลองระบายน้ำทิ้งของนิคมฯ หลังปล่อยน้ำของโรงโม่หิน

PARAMETER	UNIT	ANALYSIS METHODS	ND (non-detectable)	STATION	STANDARD ^{1/}
				2	
Temperature	°C	2550 B	< 0.5	32.6	^{2/}
pH	-	4500-H ⁺ B	< 0.10	8.75	^{2/}
Total Dissolved Solids	mg/l	2540 C	< 25	1,908	^{2/}
Total Suspended Solids	mg/l	2540 D	< 2.5	16	^{2/}
Fat Oil & Grease	mg/l	5520 B	< 2.0	ND	^{2/}
Phenols	mg/l	5530 B,C	< 0.001	ND	^{2/}
BOD ₅	mg/l	5210 B	< 1.0	2.0	^{2/}
COD	mg/l	5220 C	< 15.00	46.78	^{2/}

REFERENCE : STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER 24th ED. 2023 (AWWA,APHA, WEF)

Pornnapa Budthum

(Miss Pornnapa Budthum)
Analyst

Khemchuda Insorn

(Miss Khemchuda Insorn)
Technical Management Team

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

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3. ^{1/} Notification of the National Environment Board No.8 B.E.2537 (1994).

Subject Determining water quality standards in Surface Water Sources for Surface Water Class 5.

4. ^{2/} No standard.

5. - Not available.

ภาคผนวก ง.5

ใบรับรองผลการตรวจวัดระดับเสียงในพื้นที่ทำงาน



Noise Monitoring Result : Working Noise MTR-PTTGC, Branch 2 (Power Plant)

Location : Air Intake		Monitor Period : Feb 12, 2026	
SLM Model : SCARLET ST-21D		Serial No : 821080	
Site Operator : Miss Wiraya Patchimboon			
Calibrator Model : Cirrus CR:515		Serial No : 97097	
Calibration Ref dB(A) : 94.0		Certified Date : Oct 14 2025	
SLM Reading / Adjust dB(A) : 93.8/0.0		Expire Date : Oct 13 2026	
Cal Sheet No. : CR-515-2026-027			
Time	Equivalent Sound Pressure Level (dB(A))		
	Feb 12, 2026		
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		83.1	
08:00 - 09:00		84.2	
09:00 - 10:00		83.0	
10:00 - 11:00		83.0	
11:00 - 12:00		83.0	
12:00 - 13:00		83.1	
13:00 - 14:00		83.1	
14:00 - 15:00		83.0	
15:00 - 16:00		83.0	
16:00 - 17:00		83.1	
17:00 - 18:00		83.5	
18:00 - 19:00		83.5	
19:00 - 20:00			
20:00 - 21:00			
21:00 - 22:00			
22:00 - 23:00			
23:00 - 24:00			
Leq(12)*		83.2	
Lmax **		101.3	
Standard-12Hr		87 dB(A)	
Standard-Max		140 dB(A)	

Remark : * Average time between 07:00-19:00
** Maximum Sound Pressure Level between 07:00-19:00

(Miss Katesarin Vorradetwittaya)
Environmental Scientist

(Miss Sununta Sirawuttinanon)
Technical Management Team



Noise Monitoring Result : Working Noise MTR-PTTGC, Branch 2 (Power Plant)

Location : Turbine		Monitor Period : Feb 12, 2026	
SLM Model : SCARLET ST-21D		Serial No : 821078	
Site Operator : Miss Wiraya Patchimboon			
Calibrator Model : Cirrus CR:515		Serial No : 97097	
Calibration Ref dB(A) : 94.0		Certified Date : Oct 14 2025	
SLM Reading / Adjust dB(A) : 93.8/0.0		Expire Date : Oct 13 2026	
Cal Sheet No. : CR-515-2026-027			
Time	Equivalent Sound Pressure Level (dB(A))		
	Feb 12, 2026		
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	77.0		
08:00 - 09:00	77.0		
09:00 - 10:00	76.6		
10:00 - 11:00	76.4		
11:00 - 12:00	76.5		
12:00 - 13:00	76.6		
13:00 - 14:00	76.6		
14:00 - 15:00	76.5		
15:00 - 16:00	76.6		
16:00 - 17:00	76.8		
17:00 - 18:00	76.5		
18:00 - 19:00	76.2		
19:00 - 20:00			
20:00 - 21:00			
21:00 - 22:00			
22:00 - 23:00			
23:00 - 24:00			
Leq(12)*	76.6		
Lmax **	91.4		
Standard-12Hr	87 dB(A)		
Standard-Max	140 dB(A)		

Remark : * Average time between 07:00-19:00
** Maximum Sound Pressure Level between 07:00-19:00

(Miss Katesarin Vorradetwittaya)
Environmental Scientist

(Miss Sununta Sirawuttinanon)
Technical Management Team



Noise Monitoring Result : Working Noise MTR-PTTGC, Branch 2 (Power Plant)

Location : Air Intake		Monitor Period : May 21, 2026	
SLM Model : SCARLET ST-21D		Serial No : 821079	
Site Operator : Miss Wiraya Patchimboon			
Calibrator Model : Cirrus CR:515		Serial No : 97097	
Calibration Ref dB(A) : 94.0		Certified Date : Oct 14 2025	
SLM Reading / Adjust dB(A) : 93.8/0.0		Expire Date : Oct 13 2026	
Cal Sheet No. : CR-515-2026-127			
Time	Equivalent Sound Pressure Level (dB(A))		
	May 21, 2026		
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	84.0		
08:00 - 09:00	83.8		
09:00 - 10:00	83.6		
10:00 - 11:00	83.6		
11:00 - 12:00	83.9		
12:00 - 13:00	84.3		
13:00 - 14:00	83.8		
14:00 - 15:00	83.8		
15:00 - 16:00	83.7		
16:00 - 17:00	83.8		
17:00 - 18:00	83.3		
18:00 - 19:00	84.6		
19:00 - 20:00			
20:00 - 21:00			
21:00 - 22:00			
22:00 - 23:00			
23:00 - 24:00			
Leq(12)*	83.9		
Lmax **	89.2		
Standard-12Hr	87 dB(A)		
Standard-Max	140 dB(A)		

Remark : * Average time between 07:00-19:00

** Maximum Sound Pressure Level between 07:00-19:00


(Miss Katesarin Vorradetwittaya)
Environmental Scientist


(Miss Sununta Sirawuttinanon)
Technical Management Team



Noise Monitoring Result : Working Noise MTR-PTTGC, Branch 2 (Power Plant)

Location : Turbine		Monitor Period : May 21, 2026	
SLM Model : SCARLET ST-21D		Serial No : 820729	
Site Operator : Miss Wiraya Patchimboon			
Calibrator Model : Cirrus CR:515		Serial No : 97097	
Calibration Ref dB(A) : 94.0		Certified Date : Oct 14 2025	
SLM Reading / Adjust dB(A) : 93.8/0.0		Expire Date : Oct 13 2026	
Cal Sheet No. : CR-515-2026-127			
Time	Equivalent Sound Pressure Level (dB(A))		
	May 21, 2026		
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			
09:00 - 10:00			
10:00 - 11:00			
11:00 - 12:00			
12:00 - 13:00			
13:00 - 14:00			
14:00 - 15:00			
15:00 - 16:00			
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 - 24:00			
Leq(12)*	78.1		
Lmax **	94.3		
Standard-12Hr	87 dB(A)		
Standard-Max	140 dB(A)		

Remark : * Average time between 07:00-19:00

** Maximum Sound Pressure Level between 07:00-19:00


(Miss Katesarin Vorradetwittaya)
Environmental Scientist


(Miss Sununta Sirawuttinanon)
Technical Management Team

ภาคผนวก จ

ใบแสดงการตรวจเทียบเครื่องมือ

Sheet No. : CAL-M5006/01/26



CONTROL UNIT CALIBRATION

(Metric units, mm)

Date 5 Jan 26

Barometric press, Pb

Initial	Final	Average
758	758	758

mmHg

Dry Gas Meter Data

Console No. M50-06

Serial No. 358794

Metering System ID

Model S110

DGM Number 28779

Correction factor (Yr) 1.0058

DGM Model MST-C2-1

Last Calibration Date 10 Oct 25

Calibrated by : Montri P.

Orifice manometer setting, ΔH mm H2O	Ref. DGM Volume V _r Liters	DGM Volume V _m Liters	Temperature (°C)				Time ⊙ 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	100.0	101.0	25	25	24	24.5	9.03	0.9930	46.5409
25.0	100.0	101.0	25	25	24	24.5	6.35	0.9918	45.9956
50.0	100.0	101.0	25	25	24	24.5	4.57	0.9894	47.5770
76.0	100.0	100.0	25	25	24	24.5	3.68	0.9968	47.0462
100.0	100.0	99.0	25	25	24	24.5	3.68	1.0045	47.2108
150.0	100.0	99.0	25	25	24	24.5	2.62	0.9997	46.8616

Average 0.9958 46.8720

Approved by :

Sheet No. : CAL-PI-PS20-02/2026



PITOT TUBE CALIBRATION REPORT

Calibration Location: SECOT

Calibration Date : 07-01-2026

Calibration Duct No.: CD-0123

Calibration Standard Pitot tube data

Pitot No. : Std-02

Coefficient (Cp) : 0.99

Type S Pitot No. : PS20-02

Calibrated by : Mr. Montri P.

A Side Calibration

Run No.	ΔPstd (mm H ₂ O)	ΔPs (mm H ₂ O)	Cp(s)	Deviation, δ Cp(s) - Cp(A)
1	15.0	20.5	0.8468	0.0034
2	15.0	20.5	0.8468	0.0034
3	15.0	21.0	0.8367	-0.0068

C_{P(A)}, avg 0.8435

B Side Calibration

Run No.	ΔPstd (mm H ₂ O)	ΔPs (mm H ₂ O)	Cp(s)	Deviation, δ Cp(s) - Cp(B)
1	15.0	21.0	0.8367	-0.0034
2	15.0	21.0	0.8367	-0.0034
3	15.0	20.5	0.8468	0.0068

C_{P(B)}, avg 0.8401

| CP(A) - CP(B) | = 0.0034

C_{P(Avg)} = 0.8418

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 ***

Sheet No. : CAL-M5007/01/26



CONTROL UNIT CALIBRATION

(Metric units, mm)

Date 5 Jan 26

Barometric press, Pb

Initial	Final	Average
758	758	758

 mmHg

Dry Gas Meter Data

Console No. M50-07

Metering System ID

DGM Number 204601

DGM Model MST-C2-1

Calibrated by Montri P.

Reference Dry Gas Meter Data

Serial No. 358794

Model S110

Correction factor (Yr) 1.0058

Last Calibration Date 10 Oct 25

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	100.3	100.1	25	25	24	24.5	8.98	1.0043	45.8020
25.0	100.1	99.7	25	25	24	24.5	6.30	1.0056	45.1607
50.0	100.1	101.6	25	25	24	24.5	4.75	0.9847	51.4064
76.0	100.1	101.6	25	25	24	24.5	3.77	0.9821	49.0758
100.0	100.2	101.5	25	25	24	24.5	3.77	0.9812	49.0158
150.0	100.1	102.0	25	25	24	24.5	2.68	0.9709	49.1858

Average 0.9881 48.2744

Approved by :

Sheet No. : CAL-PI-PS20-01/2026



PITOT TUBE CALIBRATION REPORT

Calibration Location: SECOT

Calibration Date : 07-01-2026

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.	ΔPstd (mm H ₂ O)	ΔPs (mm H ₂ O)	Cp(s)	Deviation, δ Cp(s) - Cp(A)
1	15.0	21.0	0.8367	-0.0068
2	15.0	20.5	0.8468	0.0034
3	15.0	20.5	0.8468	0.0034

C_{P(A),avg} 0.8435

B Side Calibration

Run No.	ΔPstd (mm H ₂ O)	ΔPs (mm H ₂ O)	Cp(s)	Deviation, δ Cp(s) - Cp(B)
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(B),avg} 0.8401

| CP(A)-CP(B) | = 0.0034

C_{P(Avg)} = 0.8418

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 not used ***

Sheet No. : CAL-PI-PS10-01/2026



PITOT TUBE CALIBRATION REPORT

Calibration Location: SECOT

Calibration Date : 07-01-2026

Calibration Duct No.: CD-0123

Calibration Standard Pitot tube data

Pitot No. : Std-02

Coefficient (Cp) : 0.99

Type S Pitot No. : PS10-01

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	-0.0068
2	15.0	20.5	0.8468	0.0034
3	15.0	20.5	0.8468	0.0034

$C_{P(B),avg}$ 0.8435

$|C_{P(A)} - C_{P(B)}| = 0.0034$

$C_{P(Avg)} = 0.8418$

Approved by : 

*** δ must be ≤ 0.01 for the test to be acceptable ***
*** $|C_{P(A)} - C_{P(B)}|$ must also be < 0.01 if average of $C_{P(A)}$ and $C_{P(B)}$ is not be used ***

Sheet No. : BH-003-1/2026(P)



High Volume TSP&PM10 Calibration Data Sheet

Date: 9 Jan 26

Temp (°C): 30

Barometric pressure (mm Hg): 759

Reference Standard Calibration

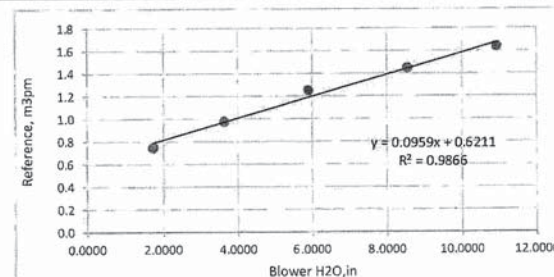
Equipment: Orifice
Model No: TE-5025A
Serial No: 4218
Manufacturer: Tisch

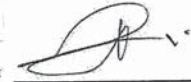
Unit Under Test

Equipment: High Volume Air Sampler
Model No: MNT-BLS
Serial No: BH-003

Calibrated by : Surachat L.

Test No.	Orifice (in)	Qstd (m ³ /min)	Reading (in)	Reading(Corrected) (in)
1	11.9500	1.6351	11.03	10.9314
2	9.3000	1.4459	8.62	8.5430
3	6.8900	1.2486	5.95	5.8968
4	4.1500	0.9755	3.65	3.6174
5	2.3800	0.7458	1.75	1.7344



Approved by : 

Sheet No. : BH-025-1/2026(P)



High Volume TSP&PM10 Calibration Data Sheet

Date: 9 Jan 26

Temp (°C): 30

Barometric pressure (mm Hg): 759

Reference Standard Calibration

Unit Under Test

Equipment: Orifice

Equipment: High Volume Air Sampler

Model No: TE-5025A

Model No: MNT-BLS

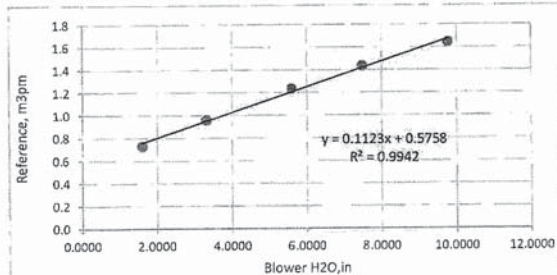
Serial No: 4218

Serial No: BH-025

Manufacturer: Tisch

Calibrated by: Surachat I.

Test No.	Orifice (in)	Qstd (m3/min)	Reading (in)	Reading(Corrected) (in)
1	12.0600	1.6425	9.85	9.7620
2	9.1300	1.4329	7.55	7.4825
3	6.7200	1.2335	5.64	5.5896
4	4.0100	0.9594	3.34	3.3101
5	2.2600	0.7275	1.63	1.6154



Approved by:

Sheet No. : BH-011-1/2026(P)



High Volume TSP&PM10 Calibration Data Sheet

Date: 9 Jan 26

Temp (°C): 30

Barometric pressure (mm Hg): 759

Reference Standard Calibration

Unit Under Test

Equipment: Orifice

Equipment: High Volume Air Sampler

Model No: TE-5025A

Model No: MNT-BLS

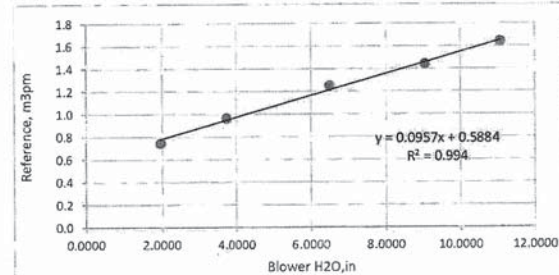
Serial No: 4218

Serial No: BH-011

Manufacturer: Tisch

Calibrated by: Surachat I.

Test No.	Orifice (in)	Qstd (m3/min)	Reading (in)	Reading(Corrected) (in)
1	11.9800	1.6372	11.17	11.0702
2	9.2100	1.4390	9.12	9.0385
3	6.8900	1.2486	6.55	6.4915
4	4.0400	0.9629	3.76	3.7264
5	2.3800	0.7458	1.98	1.9623



Approved by:

Sheet No. : BH-023-1/2026(P)



High Volume TSP&PM10 Calibration Data Sheet

Date: 9 Jan 26

Temp (°C): 30

Barometric pressure (mm Hg): 759

Reference Standard Calibration

Unit Under Test

Equipment: Orifice

Equipment: High Volume Air Sampler

Model No: TE-5025A

Model No: MNT-BLS

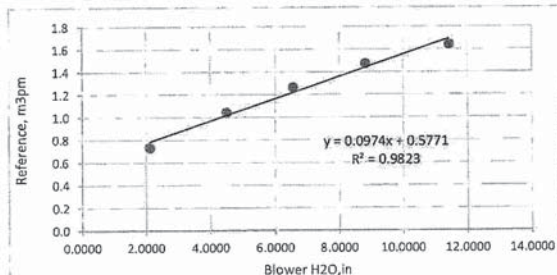
Serial No: 4218

Serial No: BH-023

Manufacturer: Tisch

Calibrated by: Surachat L.

Test No.	Orifice (in)	Qstd (m3/min)	Reading (in)	Reading(Corrected) (in)
1	12.0100	1.6392	11.54	11.4369
2	9.6300	1.4708	8.91	8.8304
3	7.0300	1.2609	6.61	6.5509
4	4.7300	1.0395	4.55	4.5093
5	2.2900	0.7322	2.13	2.1110



Approved by :

SHEET No.: 0607415773_0126

SO₂ Analyzer Performance Test

Date : 10 Jan 26

Temp: (°C) 25

Barometric Pressure: Pb (mmHg) 760

Analyzer Type :	SO ₂
Brand :	Thermo
Model :	43C
S/N :	0607415773

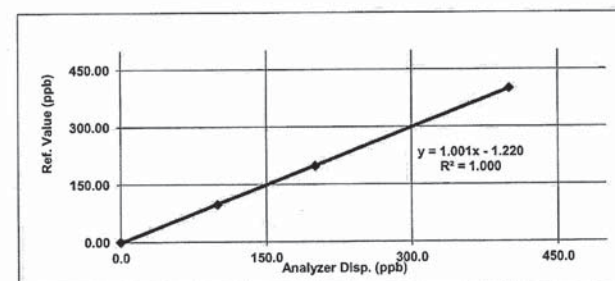
Dilutor :	Teledyne T700 1367
Zero Air :	M701 S/N 1044
STD GAS :	EB0102326
Calibrated by :	Mr. Wittaya K.

Single Point Calibration

Supply Gas	Ref Value	Analyzer Disp.	Zero-Span Error %	Slope - Offset
Zero	0.00	0.20	-	-
Span	450.00	449.00	-	1.001

MultiPoint Calibration

Ref Value	Analyzer Disp.	Output Difference		
		Diff	Percent Diff	Percent Diff abs.
0.0	0.20	0.20	-	-
100.0	97.80	-2.20	-2.20	2.20
200.0	197.70	-2.30	-1.15	1.15
400.0	400.00	0.00	0.00	0.00
Average Diff (%)				1.12



Approved by :

SHEET No.: 120_0126



SO₂ Analyzer Performance Test

Date : 10 Jan 26

Temp: (°C) 25

Barometric Pressure: Pb (mmHg) 760

Analyzer Type :	SO ₂
Brand :	Teledyne
Model :	T100
S/N :	120

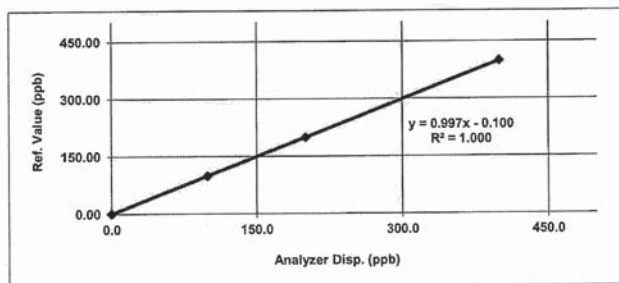
Dilutor :	Teledyne T700 1367
Zero Air :	M701 S/N 1044
STD GAS :	EB0102326
Calibrated by :	Mr. Wittaya K.

Single Point Calibration

Supply Gas	Ref Value	Analyzer Disp.	Zero-Span Error %	Slope - Offset
Zero	0.00	0.50	-	-
Span	450.00	447.70	-	0.997

MultiPoint Calibration

Ref Value	Analyzer Disp.	Output Difference		
		Diff	Percent Diff	Percent Diff abs.
0.0	0.50	0.50	-	-
100.0	99.00	-1.00	-1.00	1.00
200.0	199.10	-0.90	-0.45	0.45
400.0	399.10	-0.90	-0.22	0.22
			Average Diff (%)	0.56



Approved by:

SHEET No.: 2385_0126



NO_x-NO Analyzer Performance Test

Date : 8 Jan 26

Temp: (°C) 25

Barometric Pressure: Pb (mmHg) 760

Analyzer Type :	Nox
Brand :	API
Model :	200A
S/N :	2385

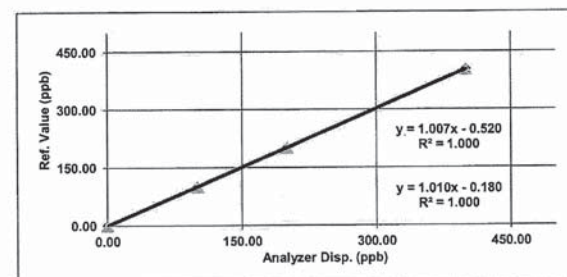
Dilutor :	Teledyne T700 1367
Zero Air :	M701 S/N 1044
STD GAS :	EB0102326
Calibrated by :	Mr. Wittaya K.

NO_x-NO Single Point Calibration

Supply Gas	Ref Value	NO _x Analyzer Disp.	NO Analyzer Disp.	Slope - Offset
Zero	0.0	0.40	0.20	1.007
Span	450.0	454.0	452.00	1.007

NO_x-NO MultiPoint Calibration

Ref Value	NO _x Analyzer Disp.	NO Analyzer Disp.	Output Difference	
			NO _x Percent Diff abs.	NO Percent Diff abs.
0.00	0.40	0.20	-	-
100.00	100.10	99.50	0.1	0.5
200.00	201.60	200.50	0.8	0.3
400.00	403.90	402.70	1.0	0.7
			Average Diff (%)	0.5



Approved by:

SHEET No.: 1523_0126



NOX-NO Analyzer Performance Test

Date : 8 Jan 26

Temp: (°C) 25

Barometric Pressure: Pb (mmHg) 760

Analyzer Type :	Nox
Brand :	API
Model :	200A
S/N :	1523

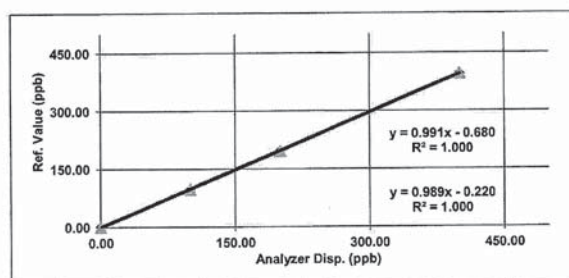
Dilutor :	Teledyne T700 1367
Zero Air :	M701 S/N 1044
STD GAS :	EB0102326
Calibrated by :	Mr. Wittaya K.

NOX-NO Single Point Calibration

Supply Gas	Ref Value	NOX Analyzer Disp.	NO Analyzer Disp.	Slope - Offset
Zero	0.0	1.0	0.6	0.991
Span	447.0	446.6	451.00	0.991

NOX-NO MultiPoint Calibration

Ref Value	NOX Analyzer Disp.	NO Analyzer Disp.	Output Difference	
			NOx Percent Diff abs.	NO Percent Diff abs.
0.00	1.00	0.6	-	-
100.00	97.40	97.5	2.6	2.5
200.00	197.20	196.2	1.4	1.9
400.00	396.10	396.4	1.0	0.9
Average Diff (%)			1.7	1.8



Approved by :

SECOT CO., LTD.
239 Rimklongprapa Rd. Bangsue, Bangkok, 10600, THAILAND
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E-Mail: envserv@secot.co.th

SHEET No.: 074_0126



NOX-NO Analyzer Performance Test

Date : 8 Jan 26

Temp: (°C) 25

Barometric Pressure: Pb (mmHg) 760

Analyzer Type :	Nox
Brand :	API
Model :	200A
S/N :	074

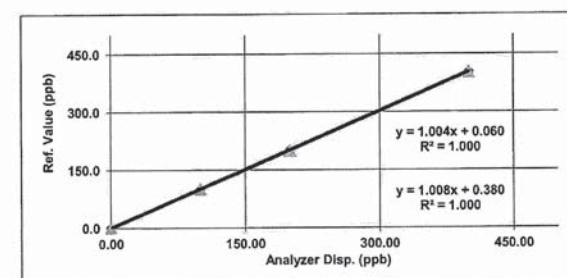
Dilutor :	Teledyne T700 1367
Zero Air :	M701 S/N 1044
STD GAS :	EB0102326
Calibrated by :	Mr. Wittaya K.

NOX-NO Single Point Calibration

Supply Gas	Ref Value	NOX Analyzer Disp.	NO Analyzer Disp.	Slope - Offset
Zero	0.0	1.1	1.0	1.004
Span	450.0	453.0	450.00	1.004

NOX-NO MultiPoint Calibration

Ref Value	NOX Analyzer Disp.	NO Analyzer Disp.	Output Difference	
			NOx Percent Diff abs.	NO Percent Diff abs.
0.00	1.1	1.0	-	-
100.00	100.10	100.0	0.1	0.0
200.00	202.00	199.6	1.0	0.2
400.00	403.60	402.3	0.9	0.6
Average Diff (%)			0.7	0.3



Approved by :

SECOT CO., LTD.
239 Rimklongprapa Rd. Bangsue, Bangkok, 10600, THAILAND
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E-Mail: envserv@secot.co.th



NOX-NO Analyzer Performance Test

Date : 8 Jan 26

Temp: (°C) 25

Barometric Pressure: Pb (mmHg) 760

Analyzer Type :	Nox
Brand :	API
Model :	200AU
S/N :	144

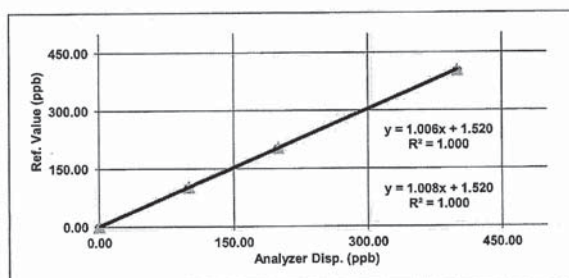
Dilutor :	Teledyne T700 1367
Zero Air :	M701 S/N 1044
STD GAS :	EB0102326
Calibrated by :	Mr. Wittaya K.

NOX-NO Single Point Calibration

Supply Gas	Ref Value	NOX Analyzer Disp.	NO Analyzer Disp.	Slope - Offset
Zero	0.0	0.8	0.9	1.006
Span	450.0	456.5	454.60	1.006

NOX-NO MultiPoint Calibration

Ref Value	NOX Analyzer Disp.	NO Analyzer Disp.	Output Difference	
			NOx Percent Diff abs.	NO Percent Diff abs.
0.00	0.80	0.90	-	-
100.00	102.50	102.40	2.5	2.4
200.00	204.40	203.70	2.2	1.8
400.00	404.20	403.60	1.1	0.9
Average Diff (%)			1.9	1.7



Approved by:

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239 Rinkongprapa Rd, Bangsue, Bangkok, 10600, THAILAND
Tel: (662) 8593600 Fax: (662) 9593335
E-Mail: envserv@secot.co.th



Airgas Specialty Gases
Airgas USA, LLC
600 Union Landing Road
Cinnaminson, NJ 08077-0000
Airgas.com

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	13080206	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 CO/HIGH	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 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 is 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.

TESTING CERT No. 3082.05

Approved for Release

Sheet No. : CR-515-2026-055



SOUND LEVEL METER CALIBRATION

Calibration Location: SECOT

Calibration Date: Mar 9, 26

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
7	SCARLET	ST-21D	820728	93.8	0.0
9	SCARLET	ST-21D	820730	93.8	0.0

Calibrated by :

Approved by :

CR-515-2026-055/Cal/24/03/2026

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

Sheet No. : CR-515-2026-027



SOUND LEVEL METER CALIBRATION

Calibration Location: SECOT

Calibration Date: Feb 12, 26

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
11	SCARLET	ST-21D	821078	93.8	0.0
13	SCARLET	ST-21D	821080	93.8	0.0

Calibrated by :

Approved by :

CR-515-2026-027/Cal/25/02/2026

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: May 21, 26

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
8	SCARLET	ST-21D	820729	93.8	0.0
12	SCARLET	ST-21D	821079	93.8	0.0

Calibrated by :

Approved by :



ELECTRICAL AND ELECTRONICS INSTITUTE FOUNDATION FOR INDUSTRIAL DEVELOPMENT

975 Moo 4, Bangpoo Industrial Estate, Soi 8, Sukhumvit Road km 37,
Phraek Sa, Mueang Samut Prakan, Samut Prakan 10280
Tel: +66 2709 4860 Fax: +66 2324 0917



Certificate No.: CP20250278EA
Operation No.: CP2025100271

Certificate of Calibration

Equipment: Sound Calibrator
Manufacturer: Cirrus Research Plc
Model/Type: CR:515
Serial No.: 97097
ID No.: -
Customer: SECOT Co.,Ltd.
Address: 239 Rimklongprapa Rd., Bangsue,
Bangkok 10800 Thailand
Received Date: 9 October 2025
Calibrated Date: 14 October 2025
Issued Date: 16 October 2025
Calibrated by: Ms. Juntaporn Kunhakom

Approved by:

(Mr. Sittichai Swaksuriyawong)
Group Manager

This report was prepared electronically using applicable electronic signature. Printing or copy of file are considered as a copy of the document.

The reported uncertainty of measurement was based on standard uncertainty multiplied by a coverage factor (k) providing a level of confidence of approximately 95%. This certificate may not be reproduced other than in full except with the prior written approval of the Electrical and Electronics Institute, Foundation for Industrial Development.



ELECTRICAL AND ELECTRONICS INSTITUTE
FOUNDATION FOR INDUSTRIAL DEVELOPMENT

Certificate No.: CP20250278EA

Calibration Report

Equipment: Sound Calibrator
Manufacturer: Cirrus Research Plc
Model/Type: CR:515
Serial No.: 97097
ID No.: -
Ambient Temperature: (23 ± 2) °C
Relative Humidity: (50 ± 15) %
Pressure: (101.3 ± 1.5) kPa
Method of Calibration :-
IEC 60942:2017

Condition of this result of calibration

1. Reference standards instrument :-

Instrument	Model	Serial No.	Cert. No.	Due Date
1) Standard microphone	4180	2661000	AA-1011-25	24 June 2026
2) Waveform Generator	33511B	MY52302264	CK20250036EA	29 June 2026
3) Audio Analyzing DMM	2015-P	000136E	CK20250002EA CB20250007EA	25 December 2025 6 January 2026
4) Pressure humidity and Temperature Transmitter	PTU301	F0640003	CL1-P250034 CD20250096EA	10 April 2026 29 March 2026

2. This result of calibration was found accurate as shown on date and place of calibration only.

3. This certification is traceable to the international system of unit maintained at :-

Reference standards instrument for Acoustic function

- National Institute of Metrology (Thailand); ILAC Policy, Item 2 (1) No.ILAC-P10:07/2020.

Reference standards instrument for Electrical function

- Electrical and Electronics Institute; NSC Accredited Calibration No.0119

- IRPC Metrology Center, IRPC Public Co., Ltd.; NSC Accredited Calibration No.0204.

Result of Calibration:-

1. Function : Sound pressure level

Normal	Specified Sound	Measured value	Deviated value ^[1]	Acceptance limit ^[3]
Frequency (Hz)	Pressure level (dB)	(dB)	(dB)	(dB)
1000	94	94.07	0.07	±0.25

2. Function : Frequency

Normal Sound	Specified Frequency	Measured value	Deviated value ^[2]	Acceptance limit ^[3]
Pressure level (dB)	(Hz)	(Hz)	(%)	(%)
94	1000	1000.31	0.03	±0.70



ELECTRICAL AND ELECTRONICS INSTITUTE
FOUNDATION FOR INDUSTRIAL DEVELOPMENT

Certificate No.: CP20250278EA

Calibration Report

3. Function : Total distortion + noise

Normal	Normal	Measured value ^[4]	Acceptance limit ^[5]
Sound Pressure level (dB)	Frequency (Hz)	(%)	(%)
94	1000	0.47	2.50

Uncertainty of measurement

Function	Uncertainty	Maximum-permitted uncertainty of measurement
Sound pressure level	0.10 dB	0.15 dB
Frequency	0.10 %	0.20 %
Total distortion + noise	0.40 %	0.50 %

Note: [1] The deviated value is the absolute value of the difference between the measured value and the corresponding specified sound pressure level.

[2] The deviated value is the absolute value of the difference in percent between the measured value and the corresponding specified frequency.

[3] The acceptance limit is for the deviated value.

[4] The measured value is the total distortion + noise, measured over the frequency range from 20 Hz to 20 kHz.

[5] The acceptance limit is for the Measured value.

Remarks: 1. Acceptance limit was IEC 60942:2017 Class 1.

2. Maximum-permitted uncertainty of measurement was IEC 60942:2017 Class 1.

3. The coverage factor $k = 2.00$

-- End of Report --



TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES
534/4 PATTANAKARN ROAD SOI 18, SUANLUANG, SUANLUANG BANGKOK 10250
TEL.0-2717-3000-29 FAX.0-2719-9484



Certificate of Calibration

Cert.No.: 25CH1009
Page.: 1 of 3

Equipment : pH Meter
Manufacturer : Mettler Toledo
Model : Seven2Go
Serial No. : B924795409
ID No. : ID.12
Condition As-Received: Used Item
Received Date : 26 August 2025
Calibration Date : 27 August 2025
Reference : 2508-0784DN-3
Submitted by : Secot Co.,Ltd.
239 Rimklongprapa Road,
Bangsue, Bangkok 10800
Ambient Temperature : (25 ± 2.5) °C
Relative Humidity : (50 ± 15) %
Calibration Procedure : In - house method :
- CP-CH5 by direct measurement with DC voltage
standard and direct measurement with
certified reference material (CRM)
- CP-CH8 by comparison with temperature standard

Calibrated by : Walalak Sirithean

Approved by :

Saithip
Approved Signatory

() Chakrit Waewwanjua
() Ponpan Palpim
(✓) Saithip Meangmai

Issue Date : 28 August 2025

The Uncertainties are for a confidence probability of approximately 95%

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Approval of the head of Corporate Services 3 : Equipment Calibration and Testing Services.



Cert.No.: 25CH1009
Page.: 2 of 3

Condition of this calibration result

1. Reference Standard Instrument

Instrument	Serial No.	ID No.	Cert. No.	Due Date
1) Document Process Calibrator	58440003	130RC120	24E3731	25 Nov 2025
2) Ref. Standard Thermometer	4982054	110RC044	25I708	03 July 2026

- This measurement result is traceable to SI through Technology Promotion Association (Thailand - Japan)

2. Certified Reference Materials : The measurement results are traceable to SI through CPA chem Ltd.,
ANSI-ASQ National Accreditation Board, Accredited No. AR-1835

Buffer Solution	Manufacturer	Lot No.	Exp. date
pH 4.007	CPA chem	1114384	12 June 2027
pH 6.987	CPA chem	1034204	27 Sep 2025
pH 10.010	CPA chem	1114385	08 June 2026

3. This certificate is valid only to the item calibrated on date and place of calibration.

Calibration Results

Function : mV Measurement

Performing standard curve by Document Process Calibrator at pH (4,7,10)

Unit Under Calibration	Nominal Value	Standard Voltage Input	Actual Reading		Uncertainty of Measurement (±mV)	Coverage factor k
			pH	mV		
pH Meter	4.00	177.48	177	4.00	0.58	2.00
S/N.: B924795409	7.00	0.00	0	7.00	0.58	2.00
	10.00	-177.48	-177	10.00	0.58	2.00



Cert.No.: 25CH1009
Page.: 3 of 3

Calibration Results

Function : pH Measurement

Performing three buffers standard curve by using buffer nominal pH (4,7,10)

Unit Under Calibration	Standard pH Buffer Solution	Actual pH Reading	Actual mV Reading (mV)	Uncertainty of pH Measurement ($\pm$)	Coverage factor k
pH Electrode S/N.: 4320459	4.007	4.02	182	0.0071	2.00
	6.987	7.00	6	0.0095	2.00
	10.010	10.01	-167	0.0092	2.00

Function : Temperature Measurement

(*) Without adjustment

This equipment was connected with Temperature Probe;

- Model : InLab Expert Go

- Serial No. : 4320459

Dimension of probe

- Length : 120 mm.

- Diameter : 12 mm.

- Immersion Depth : 100 mm.

Calibration Point (°C)	Standard Temperature (°C)	UUC* Reading (°C)	Error (°C)	Uncertainty of measurement ($\pm$ °C)	Coverage factor k
25.0	24.999	25.1	0.101	0.13	2.00
30.0	30.001	30.2	0.199	0.13	2.00
35.0	35.001	35.2	0.199	0.13	2.00

Remark - UUC* = Unit Under Calibration

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k , providing a level of confidence of approximately 95 %.

-o0o-



อุตสาหกรรมพัฒนาผลิตภัณฑ์อาหาร
ศูนย์บริการห้องปฏิบัติการอุตสาหกรรมอาหาร
Foundation for Industrial Development National Food Institute
Food Industrial Laboratory Service Center



Calibration Certificate

Certificate No.: 2503897-002-01
Client name: SECOT CO., LTD.
Address: 239 Rimklongprapa Road,
Bangsue, Bangsue, Bangkok 10800

Page 1 of 3

Equipment: Water Bath

Manufacturer: MEMMERT

Model: WB 29

Serial No.: I698.0051

ID No.: N/A

Order No.: 2503897

Operation No.: 2503897-002

Date of Receipt: 14 July 2025

Date of Calibration: 14 July 2025

Calibrated by Mr.Yothin Charoensuk
Scientist

Approved by (Mr.Pheraphat Tuanjit)
Manager, Division of Calibration Laboratory
Responsible for the Technical Management Team

Date of Issue: 17 July 2025

The uncertainties are for a confidence probability of approximately 95 %.

This Certificate is issued in accordance with the conditions of accreditation granted by the Thai Laboratory Accreditation scheme which has assessed the measurement capability of the laboratory and its traceability to recognized national standards and to the units of measurement realized at the corresponding national standards laboratory. This certificate may not be reproduced other than in full except with the prior written approval of the National Food Institute.

F-CS-009 Revision: 01 Date: 20-04-65

2008 baekasruasuns 36 nuasruasuns 10700
2008 501 36, Arun Amarin Road, Bang Yi Khan Subdistrict, Bang Phai District, Bangkok 10700, Thailand
Tel: +66(0) 2422 8688 Fax: +66(0) 2422 8545



Calibration Report

Certificate No.: 2503897-002-01
Equipment: Water Bath
Model: WB 29 Serial No.: I698.0051
Resolution: 0.1 °C ID No.: N/A
Manufacturer: MEMMERT
Date of Calibration: 14 July 2025

Page 2 of 3

Location: Laboratory, SECOT CO., LTD.
Environment Condition: Ambient Temperature (31 ± 1) °C
Relative Humidity (61 ± 1) %
Line Voltage (228 ± 3) Volt

Condition of this results of Calibration:

- This instrument was calibrated by insert 5 standard thermometer into its liquid bath and calibration according to W-TE-011 based on ASTM E715-80 (Re-approved-2016): Standard Specification for Gravity-Convection and Forced-Circulation Water Baths.
- The temperature scale used is ITS - 90.
- All data show below were final values and the initial data may be obtained upon request.

2. Reference Standard Instrument :

Instrument	Model	Serial No./ID No.	Certificate No.	Due Date	Through
Digital Thermometer with sensor	34972A	MY57003188	2503175-002	2-Jun-26	NATIONAL FOOD INSTITUTE
	RTD	RTD#301-305 / CH#301-305			

- This certificate is traceable to International System of Units (SI Units).
- This certificate was certified only for the instrument we calibrated.
- This result of calibration was found accurate as shown on date and place of calibration only.
- Condition of Calibrated item : Good

UUC Description:

Time of Record 1 Hour 9 Minute At 95.0 °C

7. Result of Calibration : ☒ Without adjustment
☐ After adjustment

Handwritten signature



Calibration Report

Certificate No.: 2503897-002-01
Equipment: Water Bath
Model: WB 29 Serial No.: I698.0051
Resolution: 0.1 °C ID No.: N/A
Manufacturer: MEMMERT
Date of Calibration: 14 July 2025

Page 3 of 3

Calibration point: 95.0 °C

Calibration result:

Calibration Condition	Temperature (°C)	Relative Humidity (%)	Line Voltage (Volt)
Min	29.6	62	225.0
Max	32.3	60	230.0

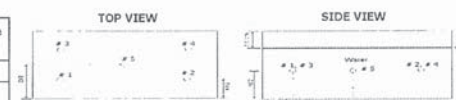


Table1 : Reporting of Temperature

Sensor Installation Location

Calibration Point (°C)	Measured Temperature (°C) @ Sensor No. (Sensor No.5 is REF)					Uncertainty ± (°C)
	# 1	# 2	# 3	# 4	# 5	
95.0	95.15	95.11	95.14	94.96	94.99	0.36

Table 2 : Reporting of Characterization Result

UUC* Setting (°C)	UUC* Reading (°C)			Stability ± (°C)	Uniformity (°C)	Overall Variation (°C)
	MIN	MAX	Average			
95.0	94.9	95.2	95.0	0.21	0.16	0.58

Note The quoted uncertainty include " Stability " and " Loading effect (20% of Temp Uniformity)"

UUC* = Unit Under Calibration

Stability = One-half of the greatest maximum difference of measured temperatures at any one sensors, for at least half an hour after reaching steady state.

Uniformity = The maximum difference of measured temperatures at any sensors and the measured temperature at the reference location which are observed at the same time.

Overall Variation = The difference of the maximum and minimum measured temperatures throughout observation time.

The report uncertainty of measurement was based on standard uncertainty multiplied by coverage factor k= 2, providing a level of confidence of approximately 95 %.

----- End -----

Handwritten signature





THAI CALIBRATION SERVICES CO., LTD.

19/8 Moo 9 Soi Raikhing 30, Phutthamonthon 5 Rd., Raikhing,
Samphran, Nakhonpathom 73210 Tel. 0-3439-7682-5, 08-6341-8613
www.thaical.com E-mail : sales@thaicalibration.com, lab@thaicalibration.com



CALIBRATION CERTIFICATE

Certificate No.S2604485S

page 1 of 2

Customer : SECOT CO., LTD.
239 Rimklongprapa Rd.,
Bangsue, Bangkok 10800

Equipment : Non-automatic weighing instrument (Electronic instrument)

Manufacturer : Mettler Toledo **Order No. :** 69S1571-1

Model : AG245 **Ambient temperature :** (27.4 ± 5.0) °C

Accuracy class : - **Relative humidity :** (46.0 ± 10.0) %

Capacity : 41 g / 210 g **Received date :** 20-Apr-2026

Resolution : 0.00001 g / 0.0001 g **Date of calibration :** 20-Apr-2026

Serial No. : 1117293916 **Date of issue :** 23-Apr-2026

ID No. : - **Condition of the balance :** Good working conditions

Place of calibration : BAL

Calibration method

This instrument was calibrated according to the EURAMET Calibration Guide No. 18.

Condition of reference standard weight

Instrument	Nominal value	Serial No.	Certificate No.	Due-date	Density (kg/m ³)
1 Standard weight set	1 mg to 2 kg	15885+15849	M2510001S	7-Oct-2026	7950

Traceability of the reference standard weight

The measurement results are traceable to the International System of Units (SI) through Mass Calibration Laboratory
Thai Calibration Services Co., Ltd., NSC-ONSC accredited no. Calibration 0189.

Calibrated By : Chartchai Rattanaapichartwong
Technician

Approved Signatory :
Somwang Wongduang

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except with the prior written approval of the head of TCS calibration laboratory.



THAI CALIBRATION SERVICES CO., LTD.

19/8 Moo 9 Soi Raikhing 30, Phutthamonthon 5 Rd., Raikhing,
Samphran, Nakhonpathom 73210 Tel. 0-3439-7682-5, 08-6341-8613
www.thaical.com E-mail : sales@thaicalibration.com, lab@thaicalibration.com



CALIBRATION CERTIFICATE

Certificate No.S2604485S

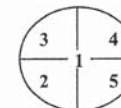
page 2 of 2

The repeatability of indication

Nominal Value (g)	Standard Deviation of reading (g)	Maximum difference between successive reading (g)	n
40	0.000005	0.00001	5
200	0.00004	0.0001	5

The effect of eccentric application of a load on the indication (test load : 100 g)

Position	Balance Reading (g)
Point 1	99.9999
Point 2	99.9997
Point 3	99.9999
Point 4	99.9998
Point 5	99.9998
Eccentric Value	0.0002



The error of indication

Nominal Value (g)	Value of Reference Standard Weight (g)	Balance Reading (g)	Correction (g)	Uncertainty (±) (g)	k
Unload	0.00000	0.00000	0.00000	0.000016	2.52
0.5	0.49999	0.50001	-0.00002	0.000023	2.04
1	1.00000	1.00000	0.00000	0.000026	2.00
10	9.99997	10.00000	-0.00003	0.000046	2.00
20	19.99996	20.00001	-0.00005	0.000062	2.00
40	40.00000	39.99999	+0.00001	0.00013	2.00
60	60.00000	60.00000	0.00000	0.00018	2.05
80	79.99999	79.99999	0.00000	0.00022	2.00
100	99.99999	99.99999	0.00000	0.00020	2.03
120	119.99999	119.99999	0.00000	0.00025	2.00
140	139.99999	139.99999	0.00000	0.00030	2.00
160	159.99999	159.99999	0.00000	0.00031	2.00
180	179.99999	180.00000	-0.00001	0.00037	2.00
200	200.00000	200.00000	0.00000	0.00033	2.00

Remark : Adjustment, External weight nominal value 200 g, Standard weight of Lab

Uncertainty of measurement

The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor (k), which for a normal distribution corresponds to a coverage probability of approximately 95% (confidence level).

This report will certify of the calibrated equipment only.

--End--



Foundation for Industrial Development
National Food Institute

2008 Sol Arun Amarin 36, Arun Amarin Road, Bang Yi Khan, Bang Phlat, Bangkok 10700, Thailand.
Tel +66(0) 2422 8688 Fax +66(0) 2422 8545 Website: www.nfi.or.th Email: cal@nfi.or.th



Calibration Certificate

Certificate No.: 2603199-001-01

Page : 1 of 3

Equipment: CHAMBER (Hot Air Oven)
Manufacturer: memmert
Model: UF 55
Serial No.: B213.0295
ID No.: N/A
Order No.: 2603199
Operation No.: 2603199-001
Date of Receipt: 22 May 2026
Date of Calibration: 22 May 2026

Customer Name: SECOT CO., LTD.
Address: 239 Rimklongprapa Road,
Bangsue, Bangsue, Bangkok 10800

Metrological traceability:

1. Calibration Method:

- This instrument was calibrated by inserting 9 standard thermometers into its chamber, in accordance with W-TE-014.
based on TLAS G-20-1/02-08 (E): Guidelines for Calibration and Checks of Temperature Controlled Enclosures.
- The temperature scale used in this laboratory is the International Temperature Scale of 1990 (ITS-90).
- All data shown below are final values, and the initial data may be obtained upon request.

2. Reference Standard Instrument:

Instrument	Model/Type	Serial No./ID No.	Certificate No.	Due Date	Through
Digital Thermometer with sensor	34972A RTD	MY57003188 CH#301-309/ RTD#301-309	2503175-002-01	2 June 2026	NATIONAL FOOD INSTITUTE

3. This certificate is traceable to the International System of Units (SI).

4. This certificate is valid only for the instrument that was calibrated.

5. The result of this calibration was found to be accurate only on the date and at the place of calibration shown.

Calibrated by Mr.Yothin Charoensuk
Scientist

Approved by

(Mr.Pheraphat Tuanjit)

Manager, Division of Calibration Laboratory
Responsible for the Technical Management Team

Date of Issue: 26 May 2026

This Certificate is issued in accordance with the conditions of accreditation granted by the Thai Laboratory Accreditation scheme which has assessed the measurement capability of the laboratory and its traceability to recognized national standards and to the units of measurement realized at the corresponding national standards laboratory. This certificate may not be reproduced other than in full except with the prior written approval of the National Food Institute.



Foundation for Industrial Development
National Food Institute

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Tel +66(0) 2422 8688 Fax +66(0) 2422 8545 Website: www.nfi.or.th Email: cal@nfi.or.th



Calibration Certificate

Certificate No.: 2603199-001-01

Page : 2 of 3

Calibration Condition:

Equipment: CHAMBER (Hot Air Oven)
UUC* Resolution: 0.1 °C
Condition of the item: Normal & Good
Without adjustment / As Found
- Time of record 1 hour 9 minute / point

Place of Calibration: Laboratory
SECOT CO., LTD.
Environment Conditions: Ambient Temperature (32.1 ± 1) °C
Relative Humidity (60.8 ± 3) %
Line Voltage (228 ± 3) V.

Calibration Results:

Table1 : Reporting of Temperature

Calibration Point (°C)	Measured Temperature (°C) @ Sensor No. (Sensor No.9 is REF)									Measurement Uncertainty (±°C)
	Std.#1	Std.#2	Std.#3	Std.#4	Std.#5	Std.#6	Std.#7	Std.#8	Std.#9	
80.0	80.09	79.90	80.19	80.25	80.15	79.93	79.97	79.85	80.06	0.46
104.0	104.07	103.77	104.09	104.09	104.06	103.81	103.75	103.76	104.02	0.53
110.0	110.12	109.72	110.00	110.01	110.01	109.78	109.66	109.81	109.96	0.73

Table 2 : Reporting of Characterization Results

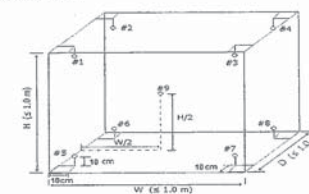
UUC* Setting (°C)	UUC* Reading (°C)			Stability ± (°C)	Uniformity (°C)	Overall Variation (°C)
	Max	Min	Average			
80.0	80.0	80.0	80.0	0.082	0.21	0.52
104.0	104.0	104.0	104.0	0.12	0.27	0.55
110.0	110.0	110.0	110.0	0.17	0.30	0.65

Note

- UUC* : Unit Under Calibration
- The quoted uncertainty includes contributions from 'Stability' and 'Loading Effect' (20% of Temperature Uniformity).
- Stability = One-half of the greatest maximum difference of measured temperatures at any one sensors, for at least half an hour after reaching steady state.
- Uniformity = The maximum difference of measured temperatures at any sensors and the measured temperature at the reference location which are observed at the same time.
- Overall Variation = The difference of The maximum and minimum measured temperatures throughout observation time.

For more information, details of the sensor installation should be reported.

Fresh air Damper	Open	Position
X	Close	100% Fan speed
-	Not Available	
Dimension of inside chamber and sensor installation location (cm)		
W x H x D	40 x 40 x 33	
a x b x c	10 x 10 x 10	



Calibration Certificate

Certificate No.: 2603199-001-01

Page : 3 of 3

Calibration Condition:

Equipment: CHAMBER (Hot Air Oven) Place of Calibration: Laboratory
UUC* Resolution: 0.1 °C SECOT CO., LTD.
Condition of the item: Normal & Good Environment Conditions: Ambient Temperature (32.5 ± 1) °C
Without adjustment / As Found Relative Humidity (60.8 ± 3) %
- Time of record 1 hour 9 minute / point Line Voltage (228 ± 3) V.

Calibration Results:

Table1 : Reporting of Temperature

Calibration Point (°C)	Std.#1	Std.#2	Std.#3	Std.#4	Std.#5	Std.#6	Std.#7	Std.#8	Std.#9	Measurement Uncertainty (°C)
180.0	180.18	179.82	179.99	180.00	180.24	179.89	180.04	180.55	180.07	0.90

Table 2 : Reporting of Characterization Results

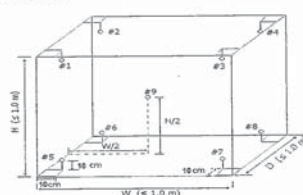
UUC* Setting (°C)		UUC* Reading (°C)		Stability ± (°C)	Uniformity (°C)	Overall Variation (°C)
	Max	Min	Average			
	180.0	180.0	180.0	0.13	0.48	0.91

Note

- UUC* : Unit Under Calibration
- The quoted uncertainty includes contributions from 'Stability' and 'Loading Effect (20% of Temperature Uniformity).
- Stability = One-half of the greatest maximum difference of measured temperatures at any one sensors, for at least half an hour after reaching steady state.
- Uniformity = The maximum difference of measured temperatures at any sensors and the measured temperature at the reference location which are observed at the same time.
- Overall Variation = The difference of The maximum and minimum measured temperatures throughout observation time.

For more information, details of the sensor installation should be reported.

Fresh air Damper	- Open	- Position
	X Close	100% Fan speed
	- Not Available	
Dimension of inside chamber and sensor installation location (cm)		
W x H x D	40 x 40 x 33	
a x b x c	10 x 10 x 10	



The report uncertainty of measurement was based on standard uncertainty multiplied by coverage factor k= 2, providing a level of confidence of approximately 95 %.

----- End of Report -----

Calibration Certificate

Certificate No.: 2503897-001-01
Client name: SECOT CO., LTD.
Address: 239 Rimklongprapa Road,
Bangsue, Bangsue, Bangkok 10800

Page 1 of 3

Equipment: CHAMBER (Incubator)

Manufacturer: MEMMERT

Model: ICP 400

Serial No.: K406.0004

ID No.: N/A

Order No.: 2503897

Operation No.: 2503897-001

Date of Receipt: 14 July 2025

Date of Calibration: 14 July 2025

Calibrated by Mr.Yothin Charoensuk
Scientist

Approved by (Mr.Pheraphat Tuanjit)
Manager, Division of Calibration Laboratory
Responsible for the Technical Management Team

Date of Issue: 17 July 2025

The uncertainties are for a confidence probability of approximately 95 %.

This Certificate is issued in accordance with the conditions of accreditation granted by the Thai Laboratory Accreditation scheme which has assessed the measurement capability of the laboratory and its traceability to recognized national standards and to the units of measurement realized at the corresponding national standards laboratory. This certificate may not be reproduced other than in full except with the prior written approval of the National Food Institute.

F-CS-009 Revision: 01 Date: 20-04-65



Calibration Report

Certificate No.: 2503897-001-01
Equipment: CHAMBER (Incubator)
Model: ICP-400 Serial No.: K406.0004
Resolution: 0.1 °C ID No.: N/A
Manufacturer: MEMMERT
Date of Calibration: 14 July 2025 Page 2 of 3

Location: Laboratory, SECOT CO., LTD.
Environment Condition:
Ambient Temperature (30.8 ± 1) °C
Relative Humidity (60.9 ± 1) %
Line Voltage (222.5 ± 3) Volt

Condition of this results of Calibration:

- This instrument was calibrated by insert 9 standard thermometer into its chamber and calibration according to W-TE-014 Based on TLAS G-20-1/02-08 (E): Guidelines for Calibration and Checks of Temperature Controlled Enclosures.
- The temperature scale used was based on ITS - 90.
- All data show below were final values and the initial data may be obtained upon request.
- Reference Standard Instrument :

Instrument	Model	Serial No./ID No.	Certificate No.	Due Date	Through
Digital Thermometer with sensor	34972A	MYS7003188	2503175-002	2 June 2026	NATIONAL FOOD INSTITUTE
	RTD	CH#201-209/ RTD#201-209			

- This certificate is traceable to International System of Units (SI Units).
- This certificate was certified only for the instrument we calibrated.
- This result of calibration was found accurate as shown on date and place of calibration only.
- Condition of Calibrated item : Good

UUC Description :

Time of Record 1 Hour 9 Minute At 20.0 °C
Fresh air Damper
- Open Position -
X Close Fan 10%
- Not Available

7. Result of Calibration : ☒ Without adjustment ☐ After adjustment



Calibration Report

Certificate No.: 2503897-001-01
Equipment: CHAMBER (Incubator)
Model: ICP-400 Serial No.: K406.0004
Resolution: 0.1 °C ID No.: N/A
Manufacturer: MEMMERT
Date of Calibration: 14 July 2025 Page 3 of 3

Calibration point: 20.0 °C

Calibration result:

Calibration Condition	Temperature (°C)	Relative Humidity (%)	Line Voltage (Volt)
MIN	29.6	60.3	220.0
MAX	32.3	61.5	225.0

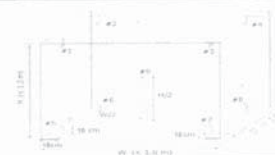


Table1 : Reporting of Temperature

Calibration point (°C)	Measured Temperature (°C) @ Sensor No. (Sensor No.9 is REF)									Uncertainty ± (°C)
	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	
20.0	20.00	20.16	20.08	20.11	20.28	20.12	20.03	20.05	20.14	0.28

Table 2 : Reporting of Characterization Result

UUC* Setting (°C)	UUC* Reading (°C)			Stability ± (°C)	Uniformity (°C)	Overall Variation (°C)
	MIN	MAX	Average			
20.0	20.0	20.0	20.0	0.14	0.15	0.53

Note The quoted uncertainty include " Stability " and " Loading effect (20% of Temp Uniformity) "

UUC* = Unit Under Calibration

Stability = One-half of the greatest maximum difference of measured temperatures at any one sensors, for at least half an hour after reaching steady state.

Uniformity = The maximum difference of measured temperatures at any sensors and the measured temperature at the reference location which are observed at the same time.

Overall Variation = The difference of the maximum and minimum measured temperatures throughout observation time.

The report uncertainty of measurement was based on standard uncertainty multiplied by coverage factor k= 2, providing a level of confidence of approximately 95 %.

----- End -----





Request Service No.090/69

Page 1 of 3

Calibration Certificate

Nomenclature : Brand : Sartorius Type : Top-Loading Electronic Balance

Model : BSA224S-CW Serial No. : 32191636

Submitted by : Laboratory of SECOT CO., LTD.

Location of Calibration : BAL Room , 6th Floor, Secot Co., Ltd.

Calibration range : 0 – 200 g Scale division : 0.0001 g (220 g)

Calibration date : May 21, 2026

Reference Standard M2602136S, M2502078S, M2602137S, M2502079S

Traceable to : Thai Calibration Services CO., LTD.

Ambient Condition : Temperature 24.40-24.90 °C

Humidity 47.2-48.5 % RH

Calibrated By : *Khemchuda Insorn* Approved By : *Min Narisa Poowasanpetch*

(Miss Khemchuda Insorn)

(Miss Narisa Poowasanpetch)

Testing Officer

Chief of Technical Management

Date : 22/05/2026

Date : 22/05/2026

Issued Date : May 22, 2026

Measurement Report

Request Service No.090/69

Page 2 of 3

Description : Brand : Sartorius

Type : Top-Loading Electronic Balance

Model : BSA224S-CW

Serial No. : 32191636

Calibration range : 0 – 200 g

Scale division : 0.0001 g (220 g)

Calibration date : May 21, 2026

Ambient Condition : Temperature 24.40-24.90 °C Relative humidity 47.2-48.5 % RH

Measurement data :

1. Repeatability of Reading :

Load (g)	Standard Deviation of Reading (g)	Maximum Difference between Successive Reading (g)
50	0.00005	0.0002
100	0.00005	0.0002
150	0.00005	0.0001
200	0.00004	0.0001

2. Off-Center Loading :

A Mass of 50.0000 g was placed and moved to various position on the pan.

Unit : g

Center	Front	Left	Back	Right	Center	Maximum Difference
49.99992	49.99992	49.99992	49.99990	49.99990	49.99992	0.00002

Issued Date : May 22, 2026

3. Departure from Nominal Value :

Reading (g)	Correction (g)	Uncertainty (+/- g)
0	0.00000	± 0.00007
1	+ 0.00003	± 0.00007
5	+ 0.00005	± 0.00008
10	+ 0.00006	± 0.00008
20	+ 0.00007	± 0.00008
40	+ 0.00006	± 0.00010
60	+ 0.00005	± 0.00011
80	+ 0.00008	± 0.00013
100	+ 0.00004	± 0.00016
120	+ 0.00003	± 0.00018
140	+ 0.00008	± 0.00020
160	+ 0.00005	± 0.00022
180	+ 0.00002	± 0.00024
200	+ 0.00003	± 0.00027

Calibrated by :

Khemchuda Insorn

(Miss Khemchuda Insorn)

Approved By :

Narisa Poowasanpetch

(Miss Narisa Poowasanpetch)

Testing Officer

Date :

22/05/2026

Chief of Technical Management

Date :

22/05/2026

Issued Date : May 22, 2026

Agilent CrossLab Start Up Services

Agilent 5100 5110 ICP-OES Preventive Maintenance

Agilent Preventive Maintenance provides factory recommended service for your analytical instruments to assure reliable operation and the accuracy of your results

Delivered by highly trained and certified service engineers using genuine Agilent parts and supplies, Agilent Preventive Maintenance provides what you need to reduce unplanned downtime and keep your systems operating at their peak performance.

This checklist is used as a guide for completing the preventive maintenance tasks. A signed copy of this checklist is provided for your records.

Introduction

Customer Information

- Customers should provide all necessary operating supplies upon request of the engineer.
- A customer representative should be available to the engineer while performing the preventive maintenance procedures. Customers are responsible for regular maintenance and are encouraged to observe the service representative.
- Any parts not included in the Parts Lists section of this document are not part of the recommended Preventive Maintenance service nor are they included in the price of this service.
- If a system requires the use of extra or special procedures and/or parts for the maintenance service, then these must be ordered separately and charged as a repair, which may incur additional costs.
- For customers using HF applications, the instrument should be returned to its standard sample introduction system.

Important Customer Web Links

- To access **Agilent University**, visit <http://www.agilent.com/crosslab/university/> to learn about training options, which include online, classroom and onsite delivery. A training specialist can work directly with you to help determine your best options.
- To access the **Agilent Resource Center** web page, visit <https://www.agilent.com/en-us/agilentresources>. The following information topics are available:
 - Sample Prep and Containment
 - Chemical Standards
 - Analysis
 - Service and Support
 - Application Workflows
- The **Agilent Community** is an excellent place to get answers, collaborate with others about applications and Agilent products, and find in-depth documents and videos relevant to Agilent technologies. Visit <https://community.agilent.com/welcome>
- Videos about specific preparation requirements for your instrument can be found by searching the **Agilent YouTube** channel at <https://www.youtube.com/user/agilent>
- **Need to place a service call?** Flexible Repair Options | Agilent

Service Engineer's Responsibilities

- Contact the customer and ensure that all necessary supplies are available before the preventive maintenance visit.
- Only select those pages that relate to the system or module being serviced.
- Complete empty fields with the relevant information.
- Complete the relevant checkboxes in the checklist using either a "X" or tick mark "✓".
- Check "**Service not applicable**" check boxes to indicate services/tasks not delivered, as appropriate.
- Complete the Preventive Maintenance services in the most logical order relevant to the individual system service in the order of the tasks listed.
- Complete the **Service Review** section together with the customer.
- Complete the fields for page numbers at the foot of each selected page
- Add relevant page numbers to selected pages and complete the total number of pages field in the Service Completion section
- **Ask the customer to sign the Service Verification section including the customer's and your signature.**

Instrument Maintenance

System Information

- ☒ Check this box if an instrument configuration report is attached instead of completing the table.

Instrument System Name and ID	ICP-OES 5110 / MY16230003
Instrument System Site and Location	SECOT CO. LTD.

List System Component Product Numbers	List the Serial Numbers of each Component
1. 68015A	MY16230003
2. 68410A	AV16181341
3. 68481-80000	3B1641345
4.	
5.	
6.	
7.	
8.	
9.	

ICP-OES Configuration Table	Circle the type or write in the type if other
Nebulizer Type	<u>SeaSpray</u> OneNeb Conikal Other
Spray Chamber	Cyclonic Single Pass <u>Cyclonic Double Pass</u> Other
Torch	Radial <u>Dual View</u> Other
Torch Type	<u>One Piece</u> Semi Demountable Fully Demountable Other
Injector Diameter	2.4mm <u>1.8mm</u> 1.4mm 0.8mm Other
Injector Material	<u>Quartz</u> Ceramic Other

Preparation

- ☒ Discuss any specific issues with the customer before starting.
- ☒ Review the instrument logbook for recorded problems and comments.
- ☒ Save instrument control settings before starting the procedure.
- ☒ Perform a general inspection of the system for cleanliness.
- ☒ Check for proper installation of parts, assemblies, sensors etc.
- ☒ Check system for required installation of components and implementation of Service Notes
- ☒ Check for required firmware/software updates and verify with customers if they would like them installed.
- ☐ For HF application systems, if standard sample introduction system was not installed, ask the customer to install it.
- ☒ Ask the customer to remove any samples from the ICP-OES sample introduction area, auto sampler or around the ICP-OES.

Preventive Maintenance Procedures

Record Pre-PM instrument performance

- ☒ Run Instrument Performance test.
- ☒ Record results in Instrument Performance Test Results Table – Pre-PM.

Clean and inspect ICP-OES system

- ☒ Look for any obvious external damage or problems.
- ☒ Inspect water cooling hoses, gas lines and power cord for excessive wear or damage.
- ☒ Perform a general internal inspection of the system for excessive dust accumulation, clean if necessary.
- ☒ Inspect sample introduction components and record any required maintenance in the Service Engineer Comments and notify the customer as the required actions required.
- ☒ Record the instrument operating conditions in the ICP-OES Status Results Table.
- ☒ Replace the polychromator purge filter.
- ☒ Replace the radial pre-optics window
- ☒ Replace the axial pre-optics window for SVDV and VDV instruments.
- ☒ Check exhaust flow for the correct positive extraction at the exhaust duct to insure they meet minimum specifications.
- ☒ Replace air inlet dust filter.
- ☒ Replace high capacity air inlet dust filter element if installed.
- ☒ Remove and clean instrument water inlet filter.

Agilent Water Recirculator

- ☒ **Service not applicable** Cooling water customer had problem After test
- ☐ Drain cooling fluid and remove any particles from the chiller reservoir
- ☐ Remove, clean and reinstall water inlet metal mesh filter if present.
- ☐ Re fill with Agilent Cool Clear cooling fluid.
- ☐ Clean the cooling system Air filter and the condenser.

SPS 3 Auto Sampler

- ☒ **Service not applicable**
- ☐ Power cycle the autosampler and verify successful initialization.
- ☐ Inspect X and Z axis belts for wear. Replace is necessary.
- ☐ Clean X and Z axis slide shafts.
- ☐ Using customer's racks and the Agilent software move the sample probe to the 4 outermost corners and rinse port, ensure that the probe is approximately centered in the vial.

SPS 4 Auto sampler

- ☐ **Service not applicable**
- ☒ Clean the spill tray, rack location mat, end frames and chassis with a damp soft cloth and diluted mild detergent.
- ☒ Clean the auto sampler cover panels, if cover kit is installed, with domestic window cleaner.
- ☒ Check the X-axis and Z-axis drive belts for cracks, splits, damaged teeth, excessive fraying, color changes or degradation from fumes.
- ☒ Check the X-axis, Theta-axis and Z-axis FFC cables for cracks, incorrect positioning, damaged edges or damaged connectors.
- ☒ Pump Tubing Replacement. Replace peristaltic pump tubing. Replace all tubing that goes from the rinse station to the pump and from the pump to the waste/rinse bottles
- ☒ Test using customer's tray and move the sample probe to the sample vial 1, wash vial and rinse port and ensure that the probe is centered in the vial. If not use calibration wizard and calibrate the position.

AVS 4, 6, 7 Advanced Valve System

- ☒ **Service not applicable**
- ☐ Replace valve rotor seal
- ☐ Check fittings for signs of leaks
- ☐ Check tubing including autosampler tubing for kinks or excessive wear
- ☐ Check high flow pump for signs of leaks

ADS 2 Advanced Dilution System (5110 only)

- ☒ **SERVICE NOT APPLICABLE**
- ☐ LOOK FOR ANY OBVIOUS EXTERNAL DAMAGE OR PROBLEMS.
- ☐ REPLACE VALVE ROTOR SEAL ON VALVES A AND B.
- ☐ REPLACE BOTH SYRINGES.
- ☐ REPLACE ACID VAPOR FILTER (WASTE VESSEL)
- ☐ REPLACE VENTING VALVE (DILUENT CARRIER BOTTLE)
- ☐ CHECK FITTINGS FOR SIGNS OF LEAKS.
- ☐ CHECK TUBING INCLUDING AUTOSAMPLER TUBING FOR KINKS OR EXCESSIVE WEAR.

ICP-OES adjustment

- ☒ Check position of Zn peak, adjust if required.
- ☒ Check Argon Ratio, adjust to specified value if required.
- ☒ Perform Detector Calibration.
- ☒ Perform Instrument Calibration.

Record Post-PM instrument performance

- ☒ Run Instrument Performance test.
- ☒ Record results in Instrument Performance Test Results Table - Post PM.
- ☒ For systems using ICP Expert version 7.3 and above, run the following Instrument tests
 - ☒ Subsystem Communications Test
 - ☒ Air Flow
 - ☒ Water Flow
 - ☒ Gas Flows
 - ☒ RF Generator
 - ☒ Camera Test
 - ☒ Optics Test
 - ☐ Nebulizer Test
- ☒ Record the result in the Instrument Test Results Table

Restore Instrument

- ☐ For HF applications, ask the customer to reinstall their sample introduction system.
- ☒ Leave system in an idle state: on and purging.
- ☒ Guidance: If the PM service is performed prior to a qualification service, then use the qualification procedure as a guide for final instrument set up and checkout.

Service Review

- ☒ Attach available reports/printouts of all tests to this documentation.
- ☒ Record the Preventive Maintenance service activity in the customer's records/logbook.
- ☒ Record the PM event in the Smart Alerts logbook, if applicable.
- ☒ Update/reset instrument maintenance counters as appropriate.
- ☒ Affix the PM sticker to the system or instrument logbook based on the customer's request.
- ☒ Complete the Service Engineer Comments section if there are additional comments.
- ☒ Review this service, parts replaced, and test results obtained with the customer.
- ☒ If the instrument firmware was updated, record the details of the change in the Service Engineer's Comments box. Systems in a compliant environment may need additional documentation.
- ☒ Complete the Signature Page with both Service Engineer and Customer signatures.

Test Results

Instrument Performance Test Results Table

Note: These measurements do not form part of any specification and are for reference only.

	Pre PM Sensitivity Check		Post PM Sensitivity Check	
	Radial	Axial *	Radial	Axial*
Zn 213.857 nm SRBR	4009.3	8855.1	3897.7	9259.9
Mn 257.610 nm SRBR	9247.9	29340.6	9728.5	29370.2
Al 396.152 nm SBR	6.5	20.9	7.5	24.4
K 766.491 nm SBR	2.1	52.7	1033.6	2689.4

* Axial result is not applicable for G8016AA, G8012AA Radial View instruments.

Instrument Test Results Table

Note: The Instrument Test results are for systems using ICP Expert version 7.3 and above only.

Instrument Test	Result
Subsystem Communications Test	Pass
Air Flow	Pass
Water Flow	Pass
Gas Flows	Pass
RF Generator	Pass
Camera Test	Pass
Optics Test	Pass
Nebulizer test	Pass

ICP-OES Status Results Table

Note: These measurements do not form part of any specification and are for reference only.

Measurement	Standby Mode		Plasma On	
Mains Voltage	226.512	VAC	222.151	VAC
Mains Current	0.101	A	0.270	A
Instrument Temperature	23.2	°C	24.1	°C
RF Air Flow (sensor speed)	14.0	Hz	16.0	Hz
Plasma Exhaust Temperature	No measurement		59.8	°C
Water Flow Oscillator	No measurement		1.40	L/min
Water Flow Detector	1.11	L/min	1.11	L/min
Water Inlet Temperature	19.5	°C	20.4	°C
Polychromator Temperature	35.0	°C	35.3	°C
CCD Temperature	-40.0	°C	-39.9	°C
Thermal Stabilizer	35.0	°C	35.0	°C
Argon Supply Pressure	538.86	kPa	467.14	kPa
Purge Gas Supply Pressure*1	537.32	kPa	526.28	kPa
Option Gas Supply Pressure*1	-	kPa	-	kPa
Nebulizer Flow	No measurement		0.80	L/min
Nebulizer Back Pressure	No measurement		361.64	kPa
Plasma Gas Flow	No measurement		15.02	L/min
Auxiliary Gas Flow	No measurement		1.20	L/min
RF Power	No measurement		1202.0	W
RF Supply Current	No measurement		8673	A
RF Supply Voltage	No measurement		184.793	V

*1 If option installed

Consumed PM Parts

Part Description	Part Number	Product or Model# where used	Quantity consumed
Axial Pre-Optic Window	G8010-68014	G8010A, G8011A, G8014A/G8015A	1
Radial Pre-Optic Window	G8010-68015	All	1
Agilent Cool Clear Coolant Fluid	5799-0037	Agilent Water Recirculator	-
Purge Gas Filter	G8010-60136	All	-
Air inlet filter	G8000-68002	All	1
High Capacity Air Filter	G8010-60189	Optional	1
Rotor seal for 6-7 port valve for AVS6/7	G8494-60002	G8494A/G8495, ADS 2	-
Rotor seal for 4 port valve for AVS4	G8493-60002	G8493A	-
Rinse solution to rinse station 2.5mm id x 1m	G8410-80123	SPS 4	-
Barb connector 2.5mm-1.5mm ID	G8410-80124	SPS 4	-
PVC waste tubing 8mm od x 5mm id, 2m	G8410-80122	SPS 4	-
Syringe, 5mL	5299-0037	ADS 2	-
Syringe, 10mL	5299-0038	ADS 2	-
Acid vapor filter	5043-1193	ADS 2	-
Venting valve	5043-1190	ADS 2	-

Additional Parts may be required from engineer's stock:

X axis drive belt	5410047500	SPS 3	-
Z axis drive belt	5410047400	SPS 3	-
Peristaltic pump tubing, PVC SolvaFlex, 3 bridged,	3710049000	SPS 4	-

Consumed Parts Reference
(Purchased by customer, not included as part of PM)

☒ Section Not Applicable.

Part Description	Part Number	Product or Model# where used	Quantity consumed
------------------	-------------	------------------------------	-------------------

Part Description	Part Number	Product or Model# where used	Quantity consumed
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Signature Page

Service Engineer Comments (optional)

If there are any specific points you wish to note as part of performing the installation or other items of interest for the customer, please write in this box.

Cooling water leak recommend change cooling water because cooling water
leak doing flow drop

Service Verification

Service Request Number:

6008554478

Service Engineer Name:

Sarinya Chiothet

Date Service Completed:

27 Apr 2026

Customer Name:

Araya Tipparuk

Service Engineer Signature:

Sarinya C.

Total number of pages in this document:

15

Customer Signature:

~ T2



PinAAcle 900T Preventive Maintenance Report

Company Name: Secot.co.th
Instrument Location: Instrument Room
239 Rimkhlong Prapa Rd, Bang Sue, Bangkok 10800
Instrument Serial No.: PTDS23051001
Date: 22 APR 2026

PinAAcle 900T Preventive Maintenance (PM)

Company Name:	Secot.co.th		
Address (Instrument Location):	239 Rimkhlong Prapa Rd, Bang Sue, Bangkok 10800		
Serial Number:	PTDS23051001	PM Number:	1/1
Customer Name (if applicable):	K.Araya	Telephone Number:	0-2959-3600
Customer Support Engineer Name:	Prasit	Service Order Number:	WO-11866808
Date PM Performed: (DD-MMM-YYYY)	22 APR 2026	Next PM Due Date: (DD-MMM-YYYY)	22 APR 2027
Standard Labor Hours to Complete PM :		5 hours	

Part Number	Release	Publication Date	
09370143 Rev.9	A	January 2018	

Scope

The purpose of this PM is to ensure the continued functionality of the PinAAcle 900T by inspecting and replacing any worn or damaged parts. This service should only be performed by a trained representative of PerkinElmer.

The customer should save their method before the PM begins.

General Instructions:

The customer must provide the engineer operational data to demonstrate recent instrument performance prior to starting the PM. Always check with the customer before making any changes that may affect the customer's analysis or calibration, including a current back-up of system software and/or data files. The completed document should be signed by an authorized PerkinElmer and customer representative and left with the customer. Update the PM sticker and instrument logbook as required.

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Component List

Component / Specific Model	Serial #	Configuration Notes
PinAAcle900T	PTDS23051001	Syngistix V. 5.1.0

Parts Lists

Parts Included with the PM

Part Number (if applicable)	Description	Quantity
B0501696	Fan Filters	N/A
B3002013	THGA Contact Cylinders	N/A
B3141064	Glycerol for THGA Cooling	N/A
N3160156	O-Ring Kits for Sampling Introduction (Stainless Steels Nebulizer)	N/A
N3160157	O-Ring Kits for Sampling Introduction (Plastic Nebulizer)	N/A
N9301714	Replacement Acetylene Filter Cartridge	N/A
TH001022	Replacement Air Filter Cartridge	N/A

Additional Reagents and Standards Required for PM

Part Number (if applicable)	Description	Quality	Batch/Lot #	Expired Date (MM/YY)
N9300183	1000 mg/L Copper Standard	AR	27-156CUY1	SEP-2026
N9300244	GFAAS Mixed Standard	AR		

Additional Reagents and Standards Required for PM (Customer Support Solution)

Part Number (if applicable)	Description	Quantity	Batch/Lot #	Expiration Date (MM/YY)
N/A	DI Water	250 ml.	AR	AR
N/A	0.5% HNO ₃	250 ml.	AR	AR

Additional Tools Required for PM

Part Number (if applicable)	Description	Quantity	Serial #
N1013000	0.2A Neutral density filter	1	MG0-704
N1013002	1.0A Neutral density filter	1	MG2-891
B3100652 Or N9307029	Electronic Flow Meter	1	MY2231FC07
B0505495	Test Jig	1	N/A
03030997	System 2 EDL Driver	1	030309-97E
N3050605	As System 2 EDL	1	17986
N3050121	Cu Lumina HCL	1	000003793D12
N3050109	Ba Lumina HCL	1	041123-010120
N3050139	K Lumina HCL	1	000003788E1D
N3050152	Ni Lumina HCL	1	N/A
N3050119	Cr Lumina HCL	1	010324-0300050

Procedure Checklist

Use (✓) to check off those steps in the checklist that have been completed.

1. General:

- ☒ Review the instrument performance with the customer and document any recent problems.
- ☒ Inspect the customer log book and make any appropriate PM entries.
- ☒ Perform general inspection of system for cleanliness.

2. PC Instrument Software:

- ☒ Instrument Software user files/databases archived, packed, and/or deleted as needed.

3. Mechanical:

- ☒ Inspect and clean all fans and filters. Replace filters if necessary
- ☒ Inspect all gas and water lines for leaks and/or wear. Replace if needed. Thoroughly inspect all quick connects. Replace the Y connector, P/N 09921079, if needed.
- ☒ Clean exterior of the instrument.

3.1 Flame Technique

- ☒ Inspect the burner head, burner chamber, and nebulizer. Clean if needed as stated in the Hardware Guide.
- ☒ Check burner head dimensions with the feeler gauge as stated in the Hardware Guide in the Maintenance chapter section on cleaning the burner head and checking sloth width. Replace if out of specification
- ☒ Check the condition of the end cap, burner head, and nebulizer O-rings. Replace if necessary.
- ☒ Check the drain system for signs of wear. Replace worn or damaged parts.
- ☒ Visually check for proper flame conditions when igniting the Air-C₂H₂ and N₂O-C₂H₂ flames (if applicable).

3.2 THGA Technique

- ☒ Inspect the pole pieces and clean where the pole pieces contact the furnace. Replace the pole piece p-rings as needed, P/N's B0501018 & B0501250. Grease the O-rings as needed with Apiezon L grease, P/N 09905148
- ☒ Inspect the four insulation pads on the front contact housing of the THGA in furnace. If the pads are missing replace the THGA furnace or replace the insulator pads on the furnace.
- ☒ Inspect the graphite tube and clean the contact cylinders. Replace if necessary.
- ☒ Check internal and external gas flows with the Electronic Gas Flow Meter and the Gas Flow Test Probe as described in the Service Manual. Correct if necessary.
- ☒ Check furnace open/close function.
- ☒ Verify the operation of the GFTV Camera for proper operation and viewing alignment in the furnace camera Tube View window. Align if needed.
- ☒ Check the operation of the Halogen Light ASSY for the GFTV Camera. Replace if needed.
- ☒ Check the water level/quality in the recirculation (if applicable). Add distilled water if necessary.
- ☒ Check the cooling system fluid flow rate with the FCS In-Line Flow Meter for proper levels if needed. Refer to SDB# COSY008.STN

- ☒ Perform Cooling System maintenance if needed per SDB# COSY005.STN.
- ☒ Check auto sampler operation.
- ☒ Perform an auto sampler check valve test as described in the Service Manual.
- ☒ Lubricate the spindles of the auto sampler pumps and all moving parts of the tray mechanics as described in the Service Manual.
- ☒ Inspect the auto sampler sampling capillary as described in the Service Manual. Replace if necessary.

4. Electrical:

- ☒ Inspect PC boards. Clean if necessary.
- ☒ Carefully check all internal and external cable connections.
- ☒ Check instrument firmware revisions upgrade to current levels (if necessary)
- ☒ Run Diagnostics Test within the Advanced function of the Spectrometer page. Check the results in the service log folder in the Spectrometer BM Log Viewer.

5. Optics:

- ☒ Inspect and clean the sample compartment windows, if needed.
- ☒ Inspect and clean the furnace windows, if needed.
- ☒ Inspect and clean the GFTV camera lens, if needed.
- ☒ Inspect optics. Clean or replace if necessary,

6. Gasses:

- ☒ Verify that the Gasses supplied to the instrument are within the pressure and purity specifications found in the PinAAcle 900 Series Pre-installation Checklist SDB.
- ☒ Verify that the air filter element is dry. Replace if necessary.

7. Flame Interlock Check:

Description: Check to ensure that all safety interlocks are closed.

Parameter	Specification	Test Results	Pass/Fail
Flame Sensor	Air/C ₂ H ₂ Flame correctly shuts down	Active	☒ Passed
Drain Sensor	Air/C ₂ H ₂ Flame correctly shuts down	Active	☒ Passed
Nebulizer Sensor	Air/C ₂ H ₂ Flame correctly shuts down	Active	☒ Passed
C ₂ H ₂ Pressure Sensor	Air/C ₂ H ₂ Flame correctly shuts down	Active	☒ Passed
Air Pressure Sensor	Air/C ₂ H ₂ Flame correctly shuts down	Active	☒ Passed
Burner Head Sensor	Choosing Nitrous Oxide as the oxidant should trigger an interlock shuts down	Active	☒ Passed

8. After PM Performance tests [Flame]:

8.1 Detector Linearity with Barium

Description: Ensures that the detector is linear in the Visible Range.

Parameter	Specification	Certificate Value at 553.6 nm (Abs.)	Test Results	Pass/Fail
1.0 A ND Filter	± 5% from Cert.	0.9874	0.9798	Passed
0.2 A ND Filter	± 5% from Cert.	0.1886	0.1893	Passed

8.2 Baseline Noise at 1.0 Absorbance with Barium

Description: Ensures that a high absorbance will not produce excessive noise.

Parameter	Specification	Results	Pass/Fail
Standard Deviation	≤ 0.010	0.0013	Passed

8.3 AA Baseline Noise with Copper

Description: Check baseline noise.

Parameter	Specification	Results	Pass/Fail
Standard Deviation	≤ 0.001	0.0001	Passed

8.4 D₂ Background Compensation with Copper

Description: Verifies the instruments ability to compensate for Background absorption.

Parameter	Specification	Results	Pass/Fail
Standard Deviation	≤ 0.010	0.0046	Passed

8.5 AA-BG Baseline Noise with Copper

Description: Ensures that background correction does not produce excessive noise.

Parameter	Specification	Results	Pass/Fail
Standard Deviation	≤ 0.005	0.0003	Passed

8.6 AA-BG Baseline Noise with Arsenic

Description: Ensures that background correction does not produce excessive noise at a low wavelength.

Parameter	Specification	Results	Pass/Fail
Standard Deviation	≤ 0.005	0.0004	Passed

8.7 Flame Sensitivity

Description: Instrument Sensitivity checked against Copper standard.

Standard Copper Sensitivity	Specification	Results (Abs.)	Pass/Fail
5 mg/L Sensitivity SS Neb (if applicable)	> 0.250 Abs.	N/A	Not Applicable
2 mg/L Sensitivity HS Neb (if applicable)	> 0.250 Abs.	0.3028	Passed

9. After PM Performance tests [THGA]:

9.1 Furnace Gas Flows

Description: Ensures the flow rates are within specification.

Parameter	Specification	Test Results	Pass/Fail
Internal Flow Rate	250 mL/min ± 25 mL/min	252	Passed
External Flow Rate	100 mL/min ± 10 mL/min	97	Passed

9.2 Chromium Baseline Noise

Description: Signal to noise check.

Parameter	Specification	Results	Pass/Fail
Baseline Noise	≤ 0.005 Abs.	0.0019	Passed
Standard Deviation	≤ 0.005	0.0001	Passed

9.3 Chromium Characteristic Mass and Precision

Description: Calculate the characteristic mass using the characteristic mass tool and precision from the integrated absorbance values.

Parameter	Specification	Results	Pass/Fail
Cr m ₀ Results	≤ 7.0 pg/0.0044 A-s	6.2	Passed
Precision	≤ 2.0 %	1.29	Passed

9.4 Copper Characteristic Mass and Zeeman Ratio

Description: Calculate the characteristic mass using the characteristic mass tool and check the Zeeman Ratio.

Parameter	Specification	Results	Pass/Fail
Cu m ₀ Result	≤ 16.5 pg/0.0044 A-s	8.3	Passed
Zeeman Ratio	0.52 ± 0.04	0.53	Passed

10. Review:

- ☒ Review with the customer PM work performed.
- ☒ Review with the customer routine maintenance procedures.
- ☒ Discuss recommended customer supplied materials to have on hand.
- ☒ Attach PM sticker.

Additional Comments

Additional Comments Regarding the PM

$$\begin{aligned}\text{Zeeman Ratio} &= \frac{\text{Atomic Signal (Peak area)}}{\text{Atomic Signal (Peak area)} + \text{Background Signal (Peak area)}} \\ &= \frac{0.2696}{0.2696 + 0.2346} \\ &= 0.5347\end{aligned}$$

Review

The preventive maintenance checks and if applicable performance tests for PinAAcle 900T have been completed.

This PinAAcle 900T Passes ☒ Fails ☐ the preventive maintenance.

Review of Preventive Maintenance:

Authorized PerkinElmer Representative:

Prasit

Date:
22 APR 2026
(DD-MMM-YYYY)

Authorized Customer Representative:

Date:
22 APR 2026
(DD-MMM-YYYY)

Additional Comments

Additional Comments Regarding the PM

$$\begin{aligned}\text{Zeeman Ratio} &= \frac{\text{Atomic Signal (Peak area)}}{\text{Atomic Signal (Peak area) + Background Signal (Peak area)}} \\ &= \frac{0.2696}{0.2696 + 0.2346} \\ &= 0.5347\end{aligned}$$

Review

The preventive maintenance checks and if applicable performance tests for PinAAcle 900T have been completed.

This PinAAcle 900T Passes ☒ Fails ☐ the preventive maintenance.

Review of Preventive Maintenance:

Authorized PerkinElmer Representative:

Prasit

Date:

22 APR 2026

(DD-MMM-YYYY)

Authorized Customer Representative:

6201

Date:

22 APR 2026

(DD-MMM-YYYY)

ภาคผนวก ฉ

หนังสืออนุญาตขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน
จากกรมโรงงานอุตสาหกรรม



ที่ อก ๐๓๑๐(๑)/ ๔๐๕๖

กรมโรงงานอุตสาหกรรม
ถนนพระรามที่ ๖ เขตราชเทวี
กรุงเทพมหานคร ๑๐๔๐๐

๑๙ มิถุนายน ๒๕๖๙

เรื่อง ต่ออายุหนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน

เรียน กรรมการผู้จัดการ บริษัท ซีคอฟ จำกัด

อ้างถึง คำขอขึ้นทะเบียน/ต่ออายุ/เปลี่ยนแปลงบุคลากร และชนิดสารมลพิษของห้องปฏิบัติการวิเคราะห์เอกชน

ลงวันที่ ๒ เมษายน ๒๕๖๙

สิ่งที่ส่งมาด้วย ๑. รายชื่อผู้ควบคุมดูแลห้องปฏิบัติการวิเคราะห์ จำนวน ๑ แผ่น

๒. รายชื่อเจ้าหน้าที่ประจำห้องปฏิบัติการวิเคราะห์ จำนวน ๑ แผ่น

๓. ขอบข่ายสารมลพิษที่ได้รับขึ้นทะเบียนจากกรมโรงงานอุตสาหกรรม จำนวน ๓๑ แผ่น

ตามคำขอที่อ้างถึง บริษัท ซีคอฟ จำกัด ขอต่ออายุหนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน เลขทะเบียน ว-๒๓๙ สถานที่ตั้งเลขที่ ๒๓๙ ถนนริมคลองประปา แขวงบางซื่อ เขตบางซื่อ กรุงเทพมหานคร ต่อกรมโรงงานอุตสาหกรรม นั้น

กรมโรงงานอุตสาหกรรมพิจารณาแล้ว ให้บริษัท ซีคอฟ จำกัด ต่ออายุหนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน โดยมีองค์ประกอบดังนี้

ก. ผู้ควบคุมห้องปฏิบัติการวิเคราะห์เอกชน จำนวน ๙ ราย ตามสิ่งที่ส่งมาด้วย ๑

ข. เจ้าหน้าที่ห้องปฏิบัติการวิเคราะห์เอกชน จำนวน ๔๐ ราย ตามสิ่งที่ส่งมาด้วย ๒

ค. ขอบข่ายชนิดสารมลพิษที่ได้รับขึ้นทะเบียนให้วิเคราะห์ในน้ำ/น้ำเสีย น้ำใต้ดิน อากาศเสีย สิ่งปฏิกูลหรือวัสดุที่ไม่ใช้แล้ว และดิน ตามสิ่งที่ส่งมาด้วย ๓

หนังสือฉบับนี้จะหมดอายุในวันที่ ๒ พฤษภาคม ๒๕๗๓ หากประสงค์จะต่ออายุหนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน ให้ยื่นคำขอต่ออายุพร้อมเอกสารประกอบคำขอต่อกรมโรงงานอุตสาหกรรมภายใน ๖๐ วัน ก่อนวันสิ้นอายุของหนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน

จึงเรียนมาเพื่อทราบ

ขอแสดงความนับถือ

(นายศิริระ จันทรเกิด)

นักวิทยาศาสตร์เชี่ยวชาญ วิชาการการแทน
ผู้อำนวยการกองวิจัยและเตือนภัยมลพิษโรงงาน
ปฏิบัติการแทนอธิบดีกรมโรงงานอุตสาหกรรม

กองวิจัยและเตือนภัยมลพิษโรงงาน

กลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษและทะเบียนห้องปฏิบัติการ

โทร. ๐ ๒๔๓๐ ๖๓๑๒ ต่อ ๒๑๐๓-๕

โทรสาร ๐ ๒๔๓๐ ๖๓๑๒ ต่อ ๒๑๔๙

ไปรษณีย์อิเล็กทรอนิกส์ saraban@div.mail.go.th



“อุตสาหกรรมก้าวหน้า ประเทศไทยก้าวหน้า ร่วมกันพัฒนา อุตสาหกรรมสีเขียว”



เอกสารแนบท้ายหนังสือรับต่ออายุขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน

บริษัท ซีคอฟ จำกัด

เลขทะเบียน ว-๒๓๙

ที่ อก ๐๓๑๐(๑)/ ๔๐๕๖

ลงวันที่ ๑๙ มิถุนายน ๒๕๖๙

ก. ผู้ควบคุมดูแลห้องปฏิบัติการวิเคราะห์ จำนวน ๙ ราย

๑) นายขรรชัย เกรียงไกรอุดม

ทะเบียนเลขที่ ว-๒๓๙-ค-๐๐๐๒

๒) นางสาวฤดี เกรียงไกรอุดม

ทะเบียนเลขที่ ว-๒๓๙-ค-๐๐๐๓

๓) นางสาวเชมชุตตา อินทร์ศรี

ทะเบียนเลขที่ ว-๒๓๙-ค-๐๐๐๕

๔) นางสาวปรีดา สมใจ

ทะเบียนเลขที่ ว-๒๓๙-ค-๐๐๐๖

๕) นางสาวอรุณญา มาตา

ทะเบียนเลขที่ ว-๒๓๙-ค-๐๐๐๗

๖) นางสาวลดาวัลย์ วงศ์เจริญ

ทะเบียนเลขที่ ว-๒๓๙-ค-๐๐๐๘

๗) นางสาวณัฏฐา เกตวันดี

ทะเบียนเลขที่ ว-๒๓๙-ค-๐๐๐๙

๘) นางสาวนริสา ภูวสรเพ็ชญ์

ทะเบียนเลขที่ ว-๒๓๙-ค-๐๐๑๐

๙) นางสาวศิริวรรณ ฉิมสง่า

ทะเบียนเลขที่ ว-๒๓๙-ค-๐๐๑๑

ก. ๙

เอกสารแนบท้ายหนังสือรับต่ออายุขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน

บริษัท ซีคอฟ จำกัด

เลขทะเบียน ว-๒๓๓๙

ที่ อก ๐๓๑๐(๑)/๔๐๕๖

ลงวันที่ ๑๙ มิถุนายน ๒๕๖๔

ข. เจ้าหน้าที่ประจำห้องปฏิบัติการวิเคราะห์ จำนวน ๔๐ ราย

- ๑) นางสาวสุตาพร สุนทร
- ๒) นางสาวสุธาทิพย์ เทียนเตี้ย
- ๓) นางสาวสุนันทา ศิริพัฒน์นันท์
- ๔) นายบวร ดิษฐ์ยะ
- ๕) นางสาวเกศรินทร์ วรเดชวิทยา
- ๖) นายอนิวัฒน์ พิมพ์นา
- ๗) นายชิตพล สมประสงค์
- ๘) นางสาวศศิธร พรหมประเสริฐ
- ๙) นายศิวะนนท์ กุลวงษ์
- ๑๐) นางสาวอลิษา คณิธรานนท์
- ๑๑) นางสาวสิริวรรณ แก้วชิงดวง
- ๑๒) นางสาวปัทมวรรณ สุวรรณวิโรจน์
- ๑๓) นางสาวกนิษฐา เจริญเชื้อ
- ๑๔) นายชอง เสงฆ์วัลกุล
- ๑๕) นางสาวพรนภา บุตรธรรม
- ๑๖) นางสาวธาริณี อาจปลิว
- ๑๗) นางสาวจุฑารัตน์ แจ่มเรือน
- ๑๘) นางสาวจณิสตา กุ้ยอ่อน
- ๑๙) นายกิตติพงศ์ ณะเกิงสุข
- ๒๐) นายจิรวัฒน์ โคตรคำหาญ
- ๒๑) นายชนะพล อัครผล
- ๒๒) นางสาวทิพย์สุดา วรรณการ
- ๒๓) นายสิทธิชัย สว่างวงศ์ไชย
- ๒๔) นายพิษณุ สีนามเพ็ง
- ๒๕) นายธนาวดี ด่วนแสง
- ๒๖) นายรอมฎอน เหล็กหมาด
- ๒๗) นางสาววิระยา ปิงนิมบุรณ์
- ๒๘) นางสาวสุภาพร สุวรรณมณี
- ๒๙) นางสาวณัฐธิดา วิสัยทอง
- ๓๐) นางสาวนิศาตร์ พิมพ์จินดา
- ๓๑) นายพงศ์ศิริ จักรแก้ว
- ๓๒) นายอรรถชัย นวนนัม
- ๓๓) นางสาวรัตนติยากร ชื่นชม
- ๓๔) นางสาวชนิตา หล้าสาย
- ๓๕) นางสาวดวงกมล ทองศิริ
- ๓๖) นายอภิวัฒน์ เมฆสุวรรณ
- ๓๗) นางสาวบุญนุช รุ่งแรก
- ๓๘) นางสาวปวีศา มากกักติ
- ๓๙) นางสาว เจตนา กำรัมย์
- ๔๐) นายณัฐชัย ไชยโคตร

- ทะเบียนเลขที่
- ว-๒๓๓๙-จ-๐๐๐๑
- ว-๒๓๓๙-จ-๐๐๐๒
- ว-๒๓๓๙-จ-๐๐๐๓
- ว-๒๓๓๙-จ-๐๐๐๔
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- ว-๒๓๓๙-จ-๐๐๕๑
- ว-๒๓๓๙-จ-๐๐๕๒

เอกสารแนบท้ายหนังสือรับต่ออายุขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน

บริษัท ซีคอฟ จำกัด

เลขทะเบียน ว-๒๓๓๙

ที่ อก ๐๓๑๐(๑)/๔๐๕๖

ลงวันที่ ๑๙ มิถุนายน ๒๕๖๔

ขอขยายสารมลพิษที่ได้รับขึ้นทะเบียนจากกรมโรงงานอุตสาหกรรม จำนวน ๓๖๔ รายการ

นำ/นำเลย จำนวน 45 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Aldrin	1) Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾ 2) Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ⁽⁴⁾
2	Arsenic	1) Digestion, Hydride Generation Atomic Absorption Spectrometric Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾
3	Barium	1) Digestion, Flame Atomic Absorption Spectrometric Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾
4	α-BHC	1) Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾ 2) Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ⁽⁴⁾
5	β-BHC	1) Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾ 2) Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ⁽⁴⁾
6	γ-BHC	1) Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾ 2) Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ⁽⁴⁾
7	δ-BHC	1) Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾ 2) Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ⁽⁴⁾
8	Biochemical Oxygen Demand	1) 5-Day BOD Test, Azide Modification Method ⁽⁴⁾ 2) 5-Day BOD Test, Membrane-Electrode Method ⁽⁴⁾
9	Cadmium	1) Digestion, Flame Atomic Absorption Spectrometric Method ⁽⁴⁾ 2) Digestion, Electrothermal Atomic Absorption Spectrometric Method ⁽⁴⁾ 3) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
10	Chemical Oxygen Demand	1) Open Reflux, Titrimetric method ^[4] 2) Closed Reflux, Colorimetric method ^[4] 3) Closed Reflux, Titrimetric Method ^[4]
11	Chlordane	1) Liquid-Liquid Extraction, Gas Chromatographic Method ^[4] 2) Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
12	Chromium	1) Digestion, Flame Atomic Absorption Spectrometric Method ^[4] 2) Digestion, Electrothermal Atomic Absorption Spectrometric Method ^[4] 3) Digestion, Inductively Coupled Plasma Method ^[4]
13	Color	ADMI Weighted-Ordinate Spectrophotometric Method ^[4]
14	Copper	1) Digestion, Flame Atomic Absorption Spectrometric Method ^[4] 2) Digestion, Electrothermal Atomic Absorption Spectrometric Method ^[4] 3) Digestion, Inductively Coupled Plasma Method ^[4]
15	Cyanide	Total Cyanide after Distillation, Colorimetric Method ^[4]
16	4,4'-DDD	1) Liquid-Liquid Extraction, Gas Chromatographic Method ^[4] 2) Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
17	4,4'-DDE	1) Liquid-Liquid Extraction, Gas Chromatographic Method ^[4] 2) Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
18	4,4'-DDT	1) Liquid-Liquid Extraction, Gas Chromatographic Method ^[4] 2) Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
19	Dieldrin	1) Liquid-Liquid Extraction, Gas Chromatographic Method ^[4] 2) Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
20	Endosulfan I	1) Liquid-Liquid Extraction, Gas Chromatographic Method ^[4]

2) Liquid-Liquid...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
21	Endosulfan II	2) Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4] 1) Liquid-Liquid Extraction, Gas Chromatographic Method ^[4] 2) Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
22	Endosulfan Sulfate	1) Liquid-Liquid Extraction, Gas Chromatographic Method ^[4] 2) Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
23	Endrin	1) Liquid-Liquid Extraction, Gas Chromatographic Method ^[4] 2) Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
24	Endrin Aldehyde	1) Liquid-Liquid Extraction, Gas Chromatographic Method ^[4] 2) Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
25	Formaldehyde	Distillation, Colorimetric Method ^[2]
26	Free Chlorine	1) Iodometric Method ^[4] 2) DPD Colorimetric Method ^[4]
27	Heptachlor	1) Liquid-Liquid Extraction, Gas Chromatographic Method ^[4] 2) Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
28	Heptachlor epoxide	1) Liquid-Liquid Extraction, Gas Chromatographic Method ^[4] 2) Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
29	Hexavalent Chromium	1) Colorimetric Method ^[4] 2) Extraction, Air-Acetylene Flame Method ^[4]
30	Lead	1) Digestion, Flame Atomic Absorption Spectrometric Method ^[4] 2) Digestion, Electrothermal Atomic Absorption Spectrometric Method ^[4] 3) Digestion, Inductively Coupled Plasma Method ^[4]

31 Manganese...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
31	Manganese	1) Digestion, Flame Atomic Absorption Spectrometric Method ^[4] 2) Digestion, Electrothermal Atomic Absorption Spectrometric Method ^[4] 3) Digestion, Inductively Coupled Plasma Method ^[4]
32	Mercury	Digestion, Cold-Vapor Atomic Absorption Spectrometric Method ^[4]
33	Methoxychlor	1) Liquid-Liquid Extraction, Gas Chromatographic Method ^[4] 2) Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
34	Nickel	1) Digestion, Flame Atomic Absorption Spectrometric Method ^[4] 2) Digestion, Electrothermal Atomic Absorption Spectrometric Method ^[4] 3) Digestion, Inductively Coupled Plasma Method ^[4]
35	Oil & Grease	1) Liquid-Liquid, Partition-Gravimetric Method ^[4] 2) Soxhlet Extraction Method ^[4]
36	pH	Electrometric Method ^[4]
37	Phenols	1) Distillation, Chloroform Extraction Method ^[4] 2) Distillation, Direct Photometric Method ^[4]
38	Selenium	1) Digestion, Hydride Generation Atomic Absorption Spectrometric Method ^[4] 2) Digestion, Inductively Coupled Plasma Method ^[4]
39	Sulfide	1) Iodometric Method ^[4] 2) Methylene Blue Method ^[4]
40	Temperature	Laboratory and Field Methods ^[4]
41	Total Dissolved Solids	Dried at 180 °C ^[4]
42	Total Kjeldahl Nitrogen	1) Macro-Kjeldahl Method ^[4] 2) Semi-Micro-Kjeldahl Method ^[4]
43	Total Suspended Solids	Dried from 103 to 105 °C ^[4]
44	Trivalent Chromium	Calculation ^[4]
45	Zinc	1) Digestion, Flame Atomic Absorption Spectrometric Method ^[4] 2) Digestion, Electrothermal Atomic Absorption Spectrometric Method ^[4] 3) Digestion, Inductively Coupled Plasma Method ^[4]

น้ำใต้ดิน...

น้ำใต้ดิน จำนวน 129 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Acenaphthene	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
2	Acetone	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
3	Aldrin	1) Liquid-Liquid Extraction, Gas Chromatographic Method ^[4] 2) Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
4	Aluminum	Digestion, Inductively Coupled Plasma Method ^[4]
5	Anthracene	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
6	Antimony	Digestion, Inductively Coupled Plasma Spectrometric Method ^[4]
7	Arsenic	1) Digestion, Hydride Generation/Atomic Absorption Spectrometric Method ^[4] 2) Digestion, Inductively Coupled Plasma Method ^[4]
8	Atrazine	Liquid-Liquid Extraction, Gas Chromatographic Method ^[4]
9	Barium	1) Digestion, Flame Atomic Absorption Spectrometric Method ^[4] 2) Digestion, Inductively Coupled Plasma Spectrometric Method ^[4]
10	Benzo(a)anthracene	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
11	Benzene	Purge and Trap Gas Chromatographic/Mass spectrometric Method ^[4]
12	Benzo(b)fluoranthene	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
13	Benzo(k)fluoranthene	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
14	Benzoic acid	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
15	Benzo(a)pyrene	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
16	Benzo(ghi)perylene	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]

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17 Beryllium...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
17	Beryllium	Digestion, Inductively Coupled Plasma Spectrometric Method ^[4]
18	Bis(2-chloroethyl)ether	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
19	Bis(2-ethylhexyl)phthalate	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
20	Bromodichloromethane	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
21	Bromoform	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
22	Butanol	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
23	Butyl benzyl phthalate	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
24	Cadmium	1) Digestion, Flame Atomic Absorption Spectrometric Method ^[4] 2) Digestion, Electrothermal Atomic Absorption Spectrometric Method ^[4] 3) Digestion, Inductively Coupled Plasma Spectrometric Method ^[4]
25	Carbazole	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
26	Carbon disulfide	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
27	Carbon tetrachloride	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
28	Chlordane	1) Liquid-Liquid Extraction, Gas Chromatographic Method ^[4] 2) Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
29	p-Chloroaniline	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
30	Chlorobenzene	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
31	Chlorodibromomethane	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]

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32 Chloroform...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
32	Chloroform	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
33	2-Chlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
34	Chromium	1) Digestion, Flame Atomic Absorption Spectrometric Method ^[4] 2) Digestion, Electrothermal Atomic Absorption Spectrometric Method ^[4] 3) Digestion, Inductively Coupled Plasma Spectrometric Method ^[4]
35	Chromium (III)	Calculation ^[4]
36	Chromium (VI)	1) Colorimetric Method ^[4] 2) Extraction, Air-Acetylene Flame Method ^[4]
37	Chrysene	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
38	Copper	Digestion, Inductively Coupled Plasma Method ^[4]
39	Cyanide	1) Distillation, Titrimetric Method ^[4] 2) Distillation, Colorimetric Method ^[4]
40	2,4-D	Liquid-Liquid Extraction, Gas Chromatographic Method ^[4]
41	DDD	1) Liquid-Liquid Extraction, Gas Chromatographic Method ^[4] 2) Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
42	DDE	1) Liquid-Liquid Extraction, Gas Chromatographic Method ^[4] 2) Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
43	DDT	1) Liquid-Liquid Extraction, Gas Chromatographic Method ^[4] 2) Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
44	Dibenz(a,h)anthracene	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
45	Di-n-butyl phthalate	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
46	1,2-Dichlorobenzene	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]

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47 1,3-Dichlorobenzene...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
47	1,3-Dichlorobenzene	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
48	1,4-Dichlorobenzene	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
49	3,3'-Dichlorobenzidine	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
50	1,1-Dichloroethane	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
51	1,2-Dichloroethane	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
52	1,1-Dichloroethylene	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
53	cis-1,2-Dichloroethylene	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
54	trans-1,2-Dichloroethylene	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
55	2,4-Dichlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
56	1,2-Dichloropropane	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
57	1,3-Dichloropropane	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
58	1,3-Dichloropropene	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
59	Dieldrin	1) Liquid-Liquid Extraction, Gas Chromatographic Method ^[4] 2) Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
60	Diethyl phthalate	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
61	2,4-Dimethylphenol	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
62	2,4-Dinitrophenol	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
63	2,4-Dinitrotoluene	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
64	2,6-Dinitrotoluene	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
65	Di-n-Octyl phthalate	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
66	Endosulfan	1) Liquid-Liquid Extraction, Gas Chromatographic Method ^[4] 2) Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
67	Endrin	1) Liquid-Liquid Extraction, Gas Chromatographic Method ^[4] 2) Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
68	Ethylbenzene	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
69	Fluoranthene	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
70	Fluorene	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
71	Heptachlor	1) Liquid-Liquid Extraction, Gas Chromatographic Method ^[4] 2) Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
72	Heptachlor epoxide	1) Liquid-Liquid Extraction, Gas Chromatographic Method ^[4] 2) Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
73	Hexachlorobenzene	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
74	Hexachloro-1,3-butadiene	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
75	n-Hexane	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
76	α -HCH	1) Liquid-Liquid Extraction, Gas Chromatographic Method ^[4] 2) Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
77	β -HCH	1) Liquid-Liquid Extraction, Gas Chromatographic Method ^[4] 2) Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
78	γ -HCH	1) Liquid-Liquid Extraction, Gas Chromatographic Method ^[4] 2) Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
79	Hexachlorocyclopentadiene	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
80	Hexachloroethane	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
81	Indeno(1,2,3-cd)pyrene	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
82	Iron	Digestion, Inductively Coupled Plasma Method ^[4]
83	Isophorone	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
84	Lead	1) Digestion, Flame Atomic Absorption Spectrometric Method ^[4] 2) Digestion, Electrothermal Atomic Absorption Spectrometric Method ^[4] 3) Digestion, Inductively Coupled Plasma Spectrometric Method ^[4]
85	Manganese	1) Digestion, Flame Atomic Absorption Spectrometric Method ^[4] 2) Digestion, Electrothermal Atomic Absorption Spectrometric Method ^[4] 3) Digestion, Inductively Coupled Plasma Spectrometric Method ^[4]
86	Mercury	Digestion, Cold-Vapor Atomic Absorption Spectrometric Method ^[4]
87	Methanol	Purge and Trap Gas Chromatographic/Mass spectrometric Method ^[4]
88	Methoxychlor	1) Liquid-Liquid Extraction, Gas Chromatographic Method ^[4] 2) Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]

89 Methyl bromide...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
89	Methyl bromide	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
90	Methylene chloride	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
91	2-Methylphenol	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
92	2-Methylnaphthalene	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
93	Methyl tert-butyl ether	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
94	Molybdenum	Digestion, Inductively Coupled Plasma Method ^[4]
95	Naphthalene	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
96	Nickel	1) Digestion, Flame Atomic Absorption Spectrometric Method ^[4] 2) Digestion, Electrothermal Atomic Absorption Spectrometric Method ^[4] 3) Digestion, Inductively Coupled Plasma Spectrometric Method ^[4]
97	Nitrobenzene	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
98	N-Nitrosodiphenylamine	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
99	N-Nitrosodi-n-propylamine	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
100	PCBs	Liquid-Liquid Extraction, Gas Chromatographic Method ^[4]
101	Pentachlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
102	pH	Electrometric method ^[4]
103	Phenanthrene	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
104	Phenol	1) Distillation, Chloroform Extraction Method ^[4] 2) Distillation, Direct Photometric Method ^[4] 3) Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
105	Pyrene	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]

106 Selenium...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
106	Selenium	1) Digestion, Hydride Generation Atomic Absorption Spectrometric Method ^[4]
107	Silver	2) Digestion, Inductively Coupled Plasma Method ^[4] 1) Digestion, Flame Atomic Absorption Spectrometric Method ^[4]
108	Styrene	2) Digestion, Inductively Coupled Plasma Method ^[4] Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
109	1,1,2,2-Tetrachloroethane	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
110	Tetrachloroethylene	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
111	Toluene	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
112	TPH (C ₅ -C ₈)	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[12,26]
113	TPH (C ₈ -C ₁₆)	1) Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic Method ^[9,21] 2) Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass spectrometric Method ^[9,27]
114	TPH (C ₁₆ -C ₃₅)	1) Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic Method ^[9,21] 2) Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass spectrometric Method ^[9,27]
115	1,2,4-Trichlorobenzene	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
116	1,1,1-Trichloroethane	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
117	1,1,2-Trichloroethane	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
118	Trichloroethylene	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
119	2,4,5-Trichlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
120	2,4,6-Trichlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]

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121 1,3,5-Trimethylbenzene...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
121	1,3,5-Trimethylbenzene	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
122	Vanadium	Digestion, Inductively Coupled Plasma Spectrometric Method ^[4]
123	Vinyl acetate	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
124	Vinyl chloride	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
125	m-Xylene	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
126	o-Xylene	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
127	p-Xylene	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
128	Xylene (Total)	Purge and Trap Gas Chromatographic/Mass Spectrometric Method ^[4]
129	Zinc	1) Digestion, Direct Air-Acetylene Flame Method ^[4] 2) Digestion, Electrothermal Atomic Absorption Spectrometric Method ^[4] 3) Digestion, Inductively Coupled Plasma Spectrometric Method ^[4]

อากาศเสีย (ปล่องระบาย) จำนวน 27 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Antimony	1) Isokinetic Sampling, Digestion, Direct Air-Acetylene Flame Method ^[5] 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ^[5]
2	Arsenic	1) Isokinetic Sampling, Digestion, Hydride Generation/Atomic Absorption Spectrometric Method ^[5] 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ^[5]
3	Beryllium	Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ^[5]

จนนี้

4 Cadmium...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
4	Cadmium	1) Isokinetic Sampling, Digestion, Direct Air-Acetylene Flame Method ^[5] 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ^[5]
5	Carbon monoxide	Instrumental Analyzer Method ^[5]
6	Chlorine	1) Absorption Sampling, Ion Chromatographic Method ^[5] 2) Isokinetic Sampling, Ion Chromatographic Method ^[5]
7	Chromium	1) Isokinetic Sampling, Digestion, Direct Air-Acetylene Flame Method ^[5] 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ^[5]
8	Cobalt	Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ^[5]
9	Copper	1) Isokinetic Sampling, Digestion, Direct Air-Acetylene Flame Method ^[5] 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ^[5]
10	Cresol	Adsorption Sampling, Gas Chromatographic Method ^[5]
11	Dioxin/Furans	Isokinetic Sampling ^[5]
12	Hydrogen chloride	1) Absorption Sampling, Ion Chromatographic Method ^[5] 2) Isokinetic Sampling, Ion Chromatographic Method ^[5]
13	Hydrogen Fluoride	1) Absorption Sampling, Ion Chromatographic Method ^[5] 2) Isokinetic Sampling, Ion Chromatographic Method ^[5]
14	Hydrogen Sulfide	Absorption Sampling, Iodometric Method ^[5]
15	Lead	1) Isokinetic Sampling, Digestion, Direct Air-Acetylene Flame Method ^[5] 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ^[5]
16	Manganese	1) Isokinetic Sampling, Digestion, Direct Air-Acetylene Flame Method ^[5] 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ^[5]
17	Mercury	Isokinetic Sampling, Digestion, Cold-Vapor Atomic Absorption Spectrometric Method ^[5]
18	Nickel	1) Isokinetic Sampling, Digestion, Direct Air-Acetylene Flame Method ^[5]

2) Isokinetic...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
19	Opacity	2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ^[5]
20	Oxides of Nitrogen	Ringelmann's Method ^[11] 1) Absorption Sampling, Phenoldisulfonic acid Method ^[5] 2) Absorption Sampling, Ion Chromatographic Method ^[5] 3) Instrumental Analyzer Method ^[5]
21	Selenium	1) Isokinetic Sampling, Digestion, Hydride Generation/Atomic Absorption Spectrometric Method ^[5] 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ^[5]
22	Sulfur dioxide	1) Isokinetic Sampling, Barium-Thorin Titrimetric Method ^[5] 2) Absorption Sampling, Barium-Thorin Titrimetric Method ^[5] 3) Instrumental Analyzer Method ^[5]
23	Sulfuric acid	Isokinetic Sampling, Barium-Thorin Titrimetric Method ^[5]
24	Tin	Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ^[5]
25	Total Suspended Particulate	1) Isokinetic Sampling, Gravimetric Method ^[5] 2) Paired Train, Isokinetic Sampling, Gravimetric Method ^[5]
26	Vanadium	Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ^[5]
27	Xylene	1) Adsorption Sampling, Gas Chromatographic Method ^[5] 2) Adsorption Sampling, Gas Chromatographic/Mass Spectrometric Method ^[5]

สิ่งปลูกปลูกหรือวัสดุที่ไม่ใช่แล้ว จำนวน 34 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Aldrin	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic Method ^[3,6,9,22] 2) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[3,6,9,27]

3) Soxhlet...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
2	Antimony	3) Soxhlet Extraction, Gas Chromatographic Method ^[10,22] 4) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27] 1) Waste Extraction, Digestion, Hydride Generation/Atomic Absorption Spectrometric Method ^[3,6,16] 2) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^[3,6,14] 3) Digestion, Hydride Generation/Atomic Absorption Spectrometric Method ^[7,16] 4) Digestion, Inductively Coupled Plasma Method ^[7,14]
3	Arsenic	1) Waste Extraction, Digestion, Hydride Generation/Atomic Absorption Spectrometric Method ^[3,6,16] 2) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^[3,6,14] 3) Digestion, Hydride Generation/Atomic Absorption Spectrometric Method ^[7,16] 4) Digestion, Inductively Coupled Plasma Method ^[7,14]
4	Barium	1) Waste Extraction, Digestion, Flame Atomic Absorption Spectrometric Method ^[3,6,15] 2) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^[3,6,14] 3) Digestion, Flame Atomic Absorption Spectrometric Method ^[7,15] 4) Digestion, Inductively Coupled Plasma Method ^[7,14]
5	Beryllium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^[3,6,14] 2) Digestion, Inductively Coupled Plasma Method ^[7,14]
6	Cadmium	1) Waste Extraction, Digestion, Flame Atomic Absorption Spectrometric Method ^[3,6,15] 2) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^[3,6,14] 3) Digestion, Flame Atomic Absorption Spectrometric Method ^[7,15] 4) Digestion, Inductively Coupled Plasma Method ^[7,14]
7	Chlordane	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic Method ^[3,9,22]

2) Waste Extraction...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
8	Chromium	2) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[3,9,27] 3) Soxhlet Extraction, Gas Chromatographic Method ^[10,22] 4) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27] 1) Waste Extraction, Digestion, Flame Atomic Absorption Spectrometric Method ^[3,6,15] 2) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^[3,6,14] 3) Digestion, Flame Atomic Absorption Spectrometric Method ^[7,15] 4) Digestion, Inductively Coupled Plasma Method ^[7,14]
9	Chromium (III)	Calculation ^[3,6,7,8,14,15,17]
10	Chromium (VI)	1) Waste Extraction, Colorimetric Method ^[3,17] 2) Alkaline Digestion, Colorimetric Method ^[8,17]
11	Cobalt	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^[3,6,14] 2) Digestion, Inductively Coupled Plasma Method ^[7,14]
12	Copper	1) Waste Extraction, Digestion, Flame Atomic Absorption Spectrometric Method ^[3,6,15] 2) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^[3,6,14] 3) Digestion, Flame Atomic Absorption Spectrometric Method ^[7,15] 4) Digestion, Inductively Coupled Plasma Method ^[7,14]
13	2,4-D	1) Waste Extraction, Gas Chromatographic/Mass Spectrometric Method ^[3,25] 2) Ultrasonic Extraction, Gas Chromatographic/Mass Spectrometric Method ^[25]
14	DDD	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic Method ^[3,9,22] 2) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[3,9,27] 3) Soxhlet Extraction, Gas Chromatographic Method ^[10,22]

4) Soxhlet Extraction...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
15	DDE	4) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27] 1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic Method ^[3,9,22] 2) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[3,9,27] 3) Soxhlet Extraction, Gas Chromatographic Method ^[10,22] 4) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
16	DDT	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic Method ^[3,9,22] 2) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[3,9,27] 3) Soxhlet Extraction, Gas Chromatographic Method ^[10,22] 4) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
17	Dieldrin	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic Method ^[3,9,22] 2) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[3,9,27] 3) Soxhlet Extraction, Gas Chromatographic Method ^[10,22] 4) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
18	Endrin	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic Method ^[3,9,22] 2) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[3,9,27] 3) Soxhlet Extraction, Gas Chromatographic Method ^[10,22] 4) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
19	Heptachlor	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic Method ^[3,9,22] 2) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[3,9,27] 3) Soxhlet Extraction, Gas Chromatographic Method ^[10,22] 4) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]

3) Soxhlet Extraction...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
20	Lead	3) Soxhlet Extraction, Gas Chromatographic Method ^[10,22] 4) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27] 1) Waste Extraction, Digestion, Flame Atomic Absorption Spectrometric Method ^[3,6,15] 2) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^[3,6,14] 3) Digestion, Flame Atomic Absorption Spectrometric Method ^[7,15] 4) Digestion, Inductively Coupled Plasma Method ^[7,14]
21	Lindane	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic Method ^[3,9,22] 2) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[3,9,27] 3) Soxhlet Extraction, Gas Chromatographic Method ^[10,22] 4) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
22	Mercury	1) Waste Extraction, Digestion, Cold-Vapor Atomic Absorption Spectrometric Method ^[3,18] 2) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^[3,6,14] 3) Digestion, Cold-Vapor Atomic Absorption Spectrometric Method ^[19] 4) Digestion, Inductively Coupled Plasma Method ^[7,14]
23	Methoxychlor	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic Method ^[3,9,22] 2) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[3,9,27] 3) Soxhlet Extraction, Gas Chromatographic Method ^[10,22] 4) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
24	Molybdenum	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^[3,6,14] 2) Digestion, Inductively Coupled Plasma Method ^[7,14]

25 Nickel...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
25	Nickel	1) Waste Extraction, Digestion, Flame Atomic Absorption Spectrometric Method ^[3,6,15] 2) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^[3,6,14] 3) Digestion, Flame Atomic Absorption Spectrometric Method ^[7,15] 4) Digestion, Inductively Coupled Plasma Method ^[7,14]
26	PCBs	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic Method ^[3,9,23] 2) Soxhlet Extraction, Gas Chromatographic Method ^[10,23]
27	Pentachlorophenol	1) Waste Extraction, Gas Chromatographic/Mass Spectrometric Method ^[3,25] 2) Ultrasonic Extraction, Gas Chromatographic/Mass Spectrometric Method ^[25]
28	pH	Electrometric Method ^[31,32]
29	Selenium	1) Waste Extraction, Digestion, Hydride Generation/Atomic Absorption Spectrometric Method ^[3,6,20] 2) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^[3,6,14] 3) Digestion, Hydride Generation/Atomic Absorption Spectrometric Method ^[7,20] 4) Digestion, Inductively Coupled Plasma Method ^[7,14]
30	Silver	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^[3,6,14] 2) Digestion, Inductively Coupled Plasma Method ^[7,14]
31	Thallium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^[3,6,14] 2) Digestion, Inductively Coupled Plasma Method ^[7,14]
32	Trichloroethylene	1) Waste Extraction, Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[3,12,26] 2) Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[12,26]
33	Vanadium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^[3,6,14] 2) Digestion, Inductively Coupled Plasma Method ^[7,14]

34 Zinc...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
34	Zinc	1) Waste Extraction, Digestion, Flame Atomic Absorption Spectrometric Method ^[3,6,15] 2) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^[3,6,14] 3) Digestion, Flame Atomic Absorption Spectrometric Method ^[7,15] 4) Digestion, Inductively Coupled Plasma Method ^[7,14]

ดิน จำนวน 129 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Acenaphthene	Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
2	Acetone	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
3	Aldrin	1) Ultrasonic Extraction, Gas Chromatographic Method ^[11,22] 2) Ultrasonic Extraction, Gas Chromatographic/Mass Spectrometric Method ^[11,27]
4	Aluminum	Digestion, Inductively Coupled Plasma Method ^[7,14]
5	Anthracene	Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
6	Antimony	1) Digestion, Hydride Generation/Atomic Absorption Spectrometric Method ^[7,16] 2) Digestion, Inductively Coupled Plasma Method ^[7,14]
7	Arsenic	1) Digestion, Hydride Generation/Atomic Absorption Spectrometric Method ^[7,16] 2) Digestion, Inductively Coupled Plasma Method ^[7,14]
8	Atrazine	Ultrasonic Extraction, Gas Chromatographic Method ^[11,26]
9	Barium	1) Digestion, Flame Atomic Absorption Spectrometric Method ^[7,15] 2) Digestion, Inductively Coupled Plasma Method ^[7,14]
10	Benzo(a)anthracene	Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
11	Benzene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]

12 Benzo(b)fluoranthene...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
12	Benzo(b)fluoranthene	Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
13	Benzo(k)fluoranthene	Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
14	Benzoic acid	Ultrasonic Extraction, Gas Chromatographic/Mass Spectrometric Method ^[11,27]
15	Benzo(a)pyrene	Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
16	Benzo(ghi)perylene	Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
17	Beryllium	Digestion, Inductively Coupled Plasma Method ^[7,14]
18	Bis(2-chloroethyl)ether	Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
19	Bis(2-ethylhexyl)phthalate	Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
20	Bromodichloromethane	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
21	Bromoform	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
22	Butanol	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
23	Butyl benzyl phthalate	Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
24	Cadmium	1) Digestion, Flame Atomic Absorption Spectrometric Method ^[7,15] 2) Digestion, Inductively Coupled Plasma Method ^[7,14]
25	Carbazole	Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
26	Carbon disulfide	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
27	Carbon tetrachloride	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
28	Chlordane	1) Ultrasonic Extraction, Gas Chromatographic Method ^[11,22] 2) Ultrasonic Extraction, Gas Chromatographic/Mass Spectrometric Method ^[11,27]

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
29	p-Chloroaniline	Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
30	Chlorobenzene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
31	Chlorodibromomethane	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
32	Chloroform	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
33	2-Chlorophenol	Ultrasonic Extraction, Gas Chromatographic/Mass Spectrometric Method ^[11,27]
34	Chromium	1) Digestion, Flame Atomic Absorption Spectrometric Method ^[7,15] 2) Digestion, Inductively Coupled Plasma Method ^[7,14]
35	Chromium (III)	Calculation ^[7,8,14,15,17]
36	Chromium (VI)	Alkaline Digestion, Colorimetric Method ^[8,17]
37	Chrysene	Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
38	Copper	Digestion, Inductively Coupled Plasma Method ^[7,14]
39	Cyanide	1) Extraction, Distillation, Titrimetric Method ^[28,29,30] 2) Extraction, Distillation, Colorimetric Method ^[28,29,30]
40	2,4-D	Ultrasonic Extraction, Gas Chromatographic/Mass Spectrometric Method ^[25]
41	DDD	1) Ultrasonic Extraction, Gas Chromatographic Method ^[11,22] 2) Ultrasonic Extraction, Gas Chromatographic/Mass Spectrometric Method ^[11,27]
42	DDE	1) Ultrasonic Extraction, Gas Chromatographic Method ^[11,22] 2) Ultrasonic Extraction, Gas Chromatographic/Mass Spectrometric Method ^[11,27]
43	DDT	1) Ultrasonic Extraction, Gas Chromatographic Method ^[11,22] 2) Ultrasonic Extraction, Gas Chromatographic/Mass Spectrometric Method ^[11,27]
44	Dibenz(a,h)anthracene	Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
45	Di-n-butyl phthalate	Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
46	1,2-Dichlorobenzene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
47	1,3-Dichlorobenzene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
48	1,4-Dichlorobenzene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
49	3,3'-Dichlorobenzidine	Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
50	1,1-Dichloroethane	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
51	1,2-Dichloroethane	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
52	1,1-Dichloroethylene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
53	cis-1,2-Dichloroethylene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
54	trans-1,2-Dichloroethylene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
55	2,4-Dichlorophenol	Ultrasonic Extraction, Gas Chromatographic/Mass Spectrometric Method ^[11,27]
56	1,2-Dichloropropane	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
57	1,3-Dichloropropane	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
58	1,3-Dichloropropene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
59	Dieldrin	1) Ultrasonic Extraction, Gas Chromatographic Method ^[11,22] 2) Ultrasonic Extraction, Gas Chromatographic/Mass Spectrometric Method ^[11,27]
60	Diethyl phthalate	Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
61	2,4-Dimethylphenol	Ultrasonic Extraction, Gas Chromatographic/Mass Spectrometric Method ^[11,27]

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
62	2,4-Dinitrophenol	Ultrasonic Extraction, Gas Chromatographic/Mass Spectrometric Method ^[11,27]
63	2,4-Dinitrotoluene	Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
64	2,6-Dinitrotoluene	Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
65	Di-n-Octyl phthalate	Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
66	Endosulfan	1) Ultrasonic Extraction, Gas Chromatographic Method ^[11,22] 2) Ultrasonic Extraction, Gas Chromatographic/Mass Spectrometric Method ^[11,27]
67	Endrin	1) Ultrasonic Extraction, Gas Chromatographic Method ^[11,22] 2) Ultrasonic Extraction, Gas Chromatographic/Mass Spectrometric Method ^[11,27]
68	Ethylbenzene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
69	Fluoranthene	Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
70	Fluorene	Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
71	Heptachlor	1) Ultrasonic Extraction, Gas Chromatographic Method ^[11,22] 2) Ultrasonic Extraction, Gas Chromatographic/Mass Spectrometric Method ^[11,27]
72	Heptachlor epoxide	1) Ultrasonic Extraction, Gas Chromatographic Method ^[11,22] 2) Ultrasonic Extraction, Gas Chromatographic/Mass Spectrometric Method ^[11,27]
73	Hexachlorobenzene	Ultrasonic Extraction, Gas Chromatographic/Mass Spectrometric Method ^[11,27]
74	Hexachloro-1,3-butadiene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
75	n-Hexane	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
76	α -HCH	1) Ultrasonic Extraction, Gas Chromatographic Method ^[11,22] 2) Ultrasonic Extraction, Gas Chromatographic/Mass Spectrometric Method ^[11,27]
77	β -HCH	1) Ultrasonic Extraction, Gas Chromatographic Method ^[11,22] 2) Ultrasonic Extraction, Gas Chromatographic/Mass Spectrometric Method ^[11,27]
78	γ -HCH	1) Ultrasonic Extraction, Gas Chromatographic Method ^[11,22] 2) Ultrasonic Extraction, Gas Chromatographic/Mass Spectrometric Method ^[11,27]
79	Hexachlorocyclopentadiene	Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
80	Hexachloroethane	Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
81	Indeno(1,2,3-cd)pyrene	Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
82	Iron	Digestion, Inductively Coupled Plasma Method ^[7,14]
83	Isophorone	Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
84	Lead	1) Digestion, Flame Atomic Absorption Spectrometric Method ^[7,15] 2) Digestion, Inductively Coupled Plasma Method ^[7,14]
85	Manganese	1) Digestion, Flame Atomic Absorption Spectrometric Method ^[7,15] 2) Digestion, Inductively Coupled Plasma Method ^[7,14]
86	Mercury	1) Digestion, Cold-Vapor Atomic Absorption Spectrometric Method ^[19] 2) Digestion, Inductively Coupled Plasma Method ^[7,14]
87	Methanol	1) Ultrasonic Extraction, Gas Chromatographic Method ^[11,21] 2) Equilibrium Headspace, Gas Chromatographic Method ^[11,21]

88 Methoxychlor...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
88	Methoxychlor	1) Ultrasonic Extraction, Gas Chromatographic Method ^[11,22] 2) Ultrasonic Extraction, Gas Chromatographic/Mass Spectrometric Method ^[11,27]
89	Methyl bromide	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
90	Methylene chloride	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
91	Molybdenum	Digestion, Inductively Coupled Plasma Method ^[2,3]
92	2-Methylphenol	Ultrasonic Extraction, Gas Chromatographic/Mass Spectrometric Method ^[11,27]
93	2-Methylnaphthalene	Ultrasonic Extraction, Gas Chromatographic/Mass Spectrometric Method ^[11,27]
94	Methyl tert-butyl ether	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
95	Naphthalene	Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
96	Nickel	1) Digestion, Flame Atomic Absorption Spectrometric Method ^[7,15] 2) Digestion, Inductively Coupled Plasma Method ^[7,14]
97	Nitrobenzene	Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
98	N-Nitrosodiphenylamine	Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
99	N-Nitrosodi-n-propylamine	Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
100	PCBs	Soxhlet Extraction, Gas Chromatographic Method ^[10,23]
101	Pentachlorophenol	Ultrasonic Extraction, Gas Chromatographic/Mass Spectrometric Method ^[24]
102	pH	Electrometric Method ^[4]
103	Phenanthrene	Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
104	Phenol	Ultrasonic Extraction, Gas Chromatographic/Mass Spectrometric Method ^[11,27]
105	Pyrene	Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]

106 Selenium...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
106	Selenium	1) Digestion, Hydride Generation/Atomic Absorption Spectrometric Method ^[7,20]
		2) Digestion, Inductively Coupled Plasma Method ^[7,14]
107	Silver	1) Digestion, Flame Atomic Absorption Spectrometric Method ^[7,15]
		2) Digestion, Inductively Coupled Plasma Method ^[7,14]
108	Styrene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
109	1,1,2,2-Tetrachloroethane	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
110	Tetrachloroethylene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
111	Toluene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
112	TPH (C ₅ -C ₈)	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
113	TPH (C ₈ -C ₁₆)	1) Soxhlet Extraction, Gas Chromatographic Method ^[10,21]
		2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
114	TPH (C ₁₆ -C ₃₅)	1) Soxhlet Extraction, Gas Chromatographic Method ^[10,21]
		2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,27]
115	1,2,4-Trichlorobenzene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
116	1,1,1-Trichloroethane	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
117	1,1,2-Trichloroethane	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
118	Trichloroethylene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
119	2,4,5-Trichlorophenol	Ultrasonic Extraction, Gas Chromatographic/Mass Spectrometric Method ^[11,27]
120	2,4,6-Trichlorophenol	Ultrasonic Extraction, Gas Chromatographic/Mass Spectrometric Method ^[11,27]

121 1,3,5-Trimethylbenzene...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
121	1,3,5-Trimethylbenzene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
122	Vanadium	Digestion, Inductively Coupled Plasma Method ^[7,14]
123	Vinyl acetate	Purge and Trap, Gas Chromatographic/Mass spectrometric Method ^[13,26]
124	Vinyl chloride	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
125	m-Xylene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
126	o-Xylene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
127	p-Xylene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
128	Xylene (Total)	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[13,26]
129	Zinc	1) Digestion, Flame Atomic Absorption Spectrometric Method ^[7,15]
		2) Digestion, Inductively Coupled Plasma Method ^[7,14]

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๑๗

ภาคผนวก ข

ใบรับรองความสามารถห้องปฏิบัติการและขอบข่ายการรับรอง
ห้องปฏิบัติการทดสอบ ตามมาตรฐาน ISO/IEC 17025
จากสำนักงานมาตรฐานอุตสาหกรรม (สมอ.)



แบบ กมช./สมอ.๒
Form NSC/TISI 2

ใบรับรองเลขที่ 24-LB0026
(Certificate No.)

ใบรับรองระบบงาน

(Certificate of Accreditation)

อาศัยอำนาจตามความในพระราชบัญญัติการมาตรฐานแห่งชาติ พ.ศ. ๒๕๕๑
(By Virtue of National Standardization Act B.E. 2551 (2008))

เลขาธิการสำนักงานมาตรฐานผลิตภัณฑ์อุตสาหกรรม
(Secretary-General, Thai Industrial Standards Institute)

ออกใบรับรองฉบับนี้ให้
(Issues this certificate to)

บริษัท ซีคอต จำกัด ฝ่ายห้องปฏิบัติการทดสอบด้านสิ่งแวดล้อม
(Secot Company Limited, Environmental Laboratory Division)

ตั้งอยู่เลขที่
(Address)

๒๓๙ ถนนริมคลองประปา แขวงบางซื่อ เขตบางซื่อ กรุงเทพมหานคร
(239 Rimklongsrapa Road, Bangsue, Bangkok)

ได้รับการรับรองความสามารถ
(Certificate of competence)

ตามมาตรฐานเลขที่ มอก. ๑๗๐๒๕ - ๒๕๖๑
(Standard No. TIS 17025-2561 (2018) (ISO/IEC 17025: 2017))

ข้อกำหนดทั่วไปว่าด้วยความสามารถของ ห้องปฏิบัติการทดสอบและห้องปฏิบัติการสอบเทียบ
(General requirements for the competence of testing and calibration laboratories)

หมายเลขการรับรองที่ ทดสอบ ๐๓๙๔
(Accreditation No. Testing 0394)

โดยมีรายละเอียดสาขาและขอบข่ายที่ได้ใบรับรอง แสดงไว้ใน QR CODE และ www.tisi.go.th
(Details of the scheme and scope of the certificate are shown in QR CODE and www.tisi.go.th)

ออกให้ ณ วันที่ ๖ ธันวาคม พ.ศ. ๒๕๖๖
(Issue date : 6 December B.E. 2566 (2023))

(นายวีระศักดิ์ เพ็งหล่ง)

ผู้อำนวยการสำนักงานคณะกรรมการการมาตรฐานแห่งชาติ
ปฏิบัติราชการแทน

เลขาธิการสำนักงานมาตรฐานผลิตภัณฑ์อุตสาหกรรม



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กระทรวงอุตสาหกรรม สำนักงานมาตรฐานผลิตภัณฑ์อุตสาหกรรม
(Ministry of Industry Thailand, Thai Industrial Standards Institute)



รายละเอียดสาขาและขอบข่ายใบรับรองห้องปฏิบัติการ
(Scope of Accreditation for Testing)
ใบรับรองเลขที่ 24-LB0026
(Certification No. 24-LB0026)



ชื่อห้องปฏิบัติการ
(Laboratory Name)

หมายเลขการรับรองที่
(Accreditation No.)

ฉบับที่ 03
(Issue No. 03)

สถานภาพห้องปฏิบัติการ
(Laboratory status)

บริษัท ซีคอต จำกัด ฝ่ายห้องปฏิบัติการทดสอบด้านสิ่งแวดล้อม
(Secot Company Limited, Environmental Laboratory Division)

ทดสอบ 0394
(Testing 0394)

ออกให้ตั้งแต่วันที่ 15 กันยายน พ.ศ. 2568
(Valid from 15 September B.E. 2568 (2025))

☒ถาวร
(Permanent)

☐นอกสถานที่
(Site)

☐ชั่วคราว
(Temporary)

ถึงวันที่ 8 กันยายน พ.ศ. 2571
(Until 8 September B.E. 2571 (2028))

☐เคลื่อนที่
(Mobile)

☐หลายสถานที่
(Multisite)

สาขาการทดสอบ (Field of Testing)	รายการทดสอบ (Parameter)	วิธีทดสอบ (Test Method)
สาขาส่งแวดล้อม (Environmental field) 1. น้ำและน้ำเสีย (Water and wastewater)	- Heavy metals • Arsenic (As) 0.000 5 mg/L to 0.090 0 mg/L • Arsenic (As) 0.05 mg/L to 4.50 mg/L • Barium (Ba) 0.02 mg/L to 4.50 mg/L • Cadmium (Cd) 0.01 mg/L to 4.50 mg/L • Chromium (Cr) 0.01 mg/L to 4.50 mg/L	- Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 24 th edition, 2023, Part 3030 F and Part 3114 C - Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 24 th edition, 2023, Part 3030 E and Part 3120 B

กระทรวงอุตสาหกรรม สำนักงานมาตรฐานผลิตภัณฑ์อุตสาหกรรม
(Ministry of Industry, Thai Industrial Standards Institute)

รายละเอียดสาขาและขอบข่ายใบรับรองห้องปฏิบัติการ
(Scope of Accreditation for Testing)
ใบรับรองเลขที่ 24-LB0026
(Certification No. 24-LB0026)



ฉบับที่ 03
(Issue No. 03)

ออกให้ตั้งแต่วันที่ 15 กันยายน พ.ศ. 2568
(Valid from 15 September B.E.2568 (2025))

ถึงวันที่ 8 กันยายน พ.ศ. 2571
(Until 8 September B.E.2571 (2028))

สถานภาพห้องปฏิบัติการ
(Laboratory status)

☒ ถาวร
(Permanent)

☐ นอกสถานที่
(Site)

☐ ชั่วคราว
(Temporary)

☐ เคลื่อนที่
(Mobile)

☐ หลายสถานที่
(Multisite)

สาขาการทดสอบ (Field of Testing)	รายการทดสอบ (Parameter)	วิธีทดสอบ (Test Method)
สาขาสิ่งแวดล้อม (Environmental field) 1. น้ำและน้ำเสีย (ต่อ) (Water and wastewater) (cont.)	- Heavy metals - Copper (Cu) 0.02 mg/L to 4.50 mg/L - Iron (Fe) 0.05 mg/L to 9.00 mg/L - Lead (Pb) 0.03 mg/L to 4.50 mg/L - Manganese (Mn) 0.01 mg/L to 9.00 mg/L - Nickel (Ni) 0.01 mg/L to 4.50 mg/L - Zinc (Zn) 0.02 mg/L to 9.00 mg/L - Chemical oxygen demand (COD) 10.00 mg/L to 9 000 mg/L	- Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 24th edition, 2023, Part 3030 E and Part 3120 B - Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 24th edition, 2023, Part 5220 D

รายละเอียดสาขาและขอบข่ายใบรับรองห้องปฏิบัติการ
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(Until 8 September B.E.2571 (2028))

สถานภาพห้องปฏิบัติการ
(Laboratory status)

☒ ถาวร
(Permanent)

☐ นอกสถานที่
(Site)

☐ ชั่วคราว
(Temporary)

☐ เคลื่อนที่
(Mobile)

☐ หลายสถานที่
(Multisite)

สาขาการทดสอบ (Field of Testing)	รายการทดสอบ (Parameter)	วิธีทดสอบ (Test Method)
สาขาสิ่งแวดล้อม (Environmental field) 2. บริเวณทำงาน (Workplace)	- Total dust 0.10 mg/filter to 2.00 mg/filter - Respirable dust 0.10 mg/filter to 2.00 mg/filter - Benzene 0.70 µg/tube to 420 µg/tube - Toluene 0.70 µg/tube to 420 µg/tube - Total xylenes 1.40 µg/tube to 840 µg/tube - m, p-Xylene 0.70 µg/tube to 420 µg/tube	- NIOSH Manual of Analytical Methods (NMAM), Method 0500, 4th edition, 15th August 1994 (Exclude Sampling) - NIOSH Manual of Analytical Methods (NMAM), Method 0600, 4th edition, 15th January 1998 (Exclude Sampling) - NIOSH Manual of Analytical Methods (NMAM), Method 1501, 4th edition, 15th March 2003 (Exclude Sampling)

รายละเอียดสาขาและขอบข่ายใบรับรองห้องปฏิบัติการ
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ฉบับที่ 03
(Issue No. 03)

ออกให้ตั้งแต่วันที่ 15 กันยายน พ.ศ. 2568
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ถึงวันที่ 8 กันยายน พ.ศ. 2571
(Until 8 September B.E.2571 (2028))

สถานภาพห้องปฏิบัติการ
(Laboratory status)

☒ ถาวร (Permanent) ☐ นอกสถานที่ (Site) ☐ชั่วคราว (Temporary)

☐ เคลื่อนที่ (Mobile) ☐ หลายสถานที่ (Multisite)

สาขาการทดสอบ (Field of Testing)	รายการทดสอบ (Parameter)	วิธีทดสอบ (Test Method)
สาขาส่งแวดล้อม (Environmental field) 2. บริเวณทำงาน (ต่อ) (Workplace) (Cont.) 3. ปล่องระบายอากาศ (Stack)	- o-Xylene 0.70 µg/tube to 420 µg/tube - Sulfur dioxide 1.00 mg/L to 16 000 mg/L - Hydrogen fluoride 5 µg/sample to 400 µg/sample - Hydrogen chloride 5 µg/sample to 400 µg/sample	- NIOSH Manual of Analytical Methods (NMAM), Method 1501, 4th edition, 15th March 2003 (Exclude Sampling) - US.EPA, Code of Federal Regulations, 40 CFR 60 appendix A, Method 6, July 2024 (Exclude Sampling) - WI-7.2-1-22 based on US.EPA, Code of Federal Regulations, 40 CFR 60 appendix A, Method 26, 26A, 2024

รายละเอียดสาขาและขอบข่ายใบรับรองห้องปฏิบัติการ
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ใบรับรองเลขที่ 24-LB0026
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ฉบับที่ 03
(Issue No. 03)

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(Until 8 September B.E.2571 (2028))

สถานภาพห้องปฏิบัติการ
(Laboratory status)

☒ ถาวร (Permanent) ☒ นอกสถานที่ (Site) ☐ชั่วคราว (Temporary)

☐ เคลื่อนที่ (Mobile) ☐ หลายสถานที่ (Multisite)

สาขาการทดสอบ (Field of Testing)	รายการทดสอบ (Parameter)	วิธีทดสอบ (Test Method)
สาขาส่งแวดล้อม (Environmental field) 4. บรรยากาศทั่วไป (Ambient air)	- Volatile organic compounds (VOCs) - Chloroethene 0.05 µg/m³ to 51.00 µg/m³ (0.02 ppbv to 20.00 ppbv) 1,3-butadiene 0.04 µg/m³ to 44.00 µg/m³ (0.02 ppbv to 20.00 ppbv) - Bromomethane 0.08 µg/m³ to 77.00 µg/m³ (0.02 ppbv to 20.00 ppbv) - Acrolein 0.05 µg/m³ to 45.00 µg/m³ (0.02 ppbv to 20.00 ppbv) - Acrylonitrile 0.04 µg/m³ to 43.00 µg/m³ (0.02 ppbv to 20.00 ppbv) - Dichloromethane 0.14 µg/m³ to 69.00 µg/m³ 0.04 ppbv to 20.00 ppbv	- WI-7.2-1-24 based on US EPA, Compendium Method TO-15, EPA/625/R-96/010b, Second edition, January 1999

รายละเอียดสาขาและขอบข่ายใบรับรองห้องปฏิบัติการ
(Scope of Accreditation for Testing)
ใบรับรองเลขที่ 24-LB0026
(Certification No. 24-LB0026)



ฉบับที่ 03
(Issue No. 03)

ออกให้ตั้งแต่วันที่ 15 กันยายน พ.ศ. 2568
(Valid from 15 September B.E.2568 (2025))

ถึงวันที่ 8 กันยายน พ.ศ. 2571
(Until 8 September B.E.2571 (2028))

สถานภาพห้องปฏิบัติการ
(Laboratory status)

☒ ถาวร
(Permanent)

☒ นอกสถานที่
(Site)

☐ชั่วคราว
(Temporary)

☐ เคลื่อนที่
(Mobile)

☐ หลายสถานที่
(Multisite)

สาขาการทดสอบ (Field of Testing)	รายการทดสอบ (Parameter)	วิธีทดสอบ (Test Method)
สาขาส่งแวดล้อม (Environmental field) 4. บรรยากาศทั่วไป (ต่อ) (Ambient air) (cont.)	- Volatile organic compounds (VOCs) - Carbon disulfide 0.06 $\mu\text{g}/\text{m}^3$ to 62.00 $\mu\text{g}/\text{m}^3$ (0.02 ppbv to 20.00 ppbv) - Trichloromethane 0.20 $\mu\text{g}/\text{m}^3$ to 97.00 $\mu\text{g}/\text{m}^3$ (0.04 ppbv to 20.00 ppbv) 1,2-dichloroethane 0.08 $\mu\text{g}/\text{m}^3$ to 80.00 $\mu\text{g}/\text{m}^3$ (0.02 ppbv to 20.00 ppbv) - Benzene 0.06 $\mu\text{g}/\text{m}^3$ to 63.00 $\mu\text{g}/\text{m}^3$ (0.02 ppbv to 20.00 ppbv) - Carbon tetrachloride 0.25 $\mu\text{g}/\text{m}^3$ to 125 $\mu\text{g}/\text{m}^3$ (0.04 ppbv to 20.00 ppbv) - Trichloroethylene 0.21 $\mu\text{g}/\text{m}^3$ to 107 $\mu\text{g}/\text{m}^3$ (0.04 ppbv to 20.00 ppbv)	- WI-7.2-1-24 based on US EPA, Compendium Method TO-15, EPA/625/R-96/010b, Second edition, January 1999

รายละเอียดสาขาและขอบข่ายใบรับรองห้องปฏิบัติการ
(Scope of Accreditation for Testing)
ใบรับรองเลขที่ 24-LB0026
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สถานภาพห้องปฏิบัติการ
(Laboratory status)

☒ ถาวร
(Permanent)

☒ นอกสถานที่
(Site)

☐ชั่วคราว
(Temporary)

☐ เคลื่อนที่
(Mobile)

☐ หลายสถานที่
(Multisite)

สาขาการทดสอบ (Field of Testing)	รายการทดสอบ (Parameter)	วิธีทดสอบ (Test Method)
สาขาส่งแวดล้อม (environmental field) 4. บรรยากาศทั่วไป (ต่อ) (Ambient air) (Cont.)	- Volatile organic compounds (VOCs) 1,2-dichloropropane 0.18 $\mu\text{g}/\text{m}^3$ to 92.00 $\mu\text{g}/\text{m}^3$ (0.04 ppbv to 20.00 ppbv) - Tetrachloroethylene 0.27 $\mu\text{g}/\text{m}^3$ to 135 $\mu\text{g}/\text{m}^3$ (0.04 ppbv to 20.00 ppbv) 1,2-dibromoethane 0.31 $\mu\text{g}/\text{m}^3$ to 153 $\mu\text{g}/\text{m}^3$ (0.04 ppbv to 20.00 ppbv) 1,1,2,2-tetrachloroethane 0.69 $\mu\text{g}/\text{m}^3$ to 137 $\mu\text{g}/\text{m}^3$ (0.10 ppbv to 20.00 ppbv) - Benzyl chloride 0.52 $\mu\text{g}/\text{m}^3$ to 103 $\mu\text{g}/\text{m}^3$ (0.10 ppbv to 20.00 ppbv) 1,4-dichlorobenzene 0.24 $\mu\text{g}/\text{m}^3$ to 120 $\mu\text{g}/\text{m}^3$ (0.04 ppbv to 20.00 ppbv)	- WI-7.2-1-24 based on US EPA, Compendium Method TO-15, EPA/625/R-96/010b, Second edition, January 1999

ภาคผนวก ซ

ใบอนุญาตเป็นนิติบุคคลผู้ให้บริการตรวจวัดและวิเคราะห์การทำงาน
จากกรมสวัสดิการและคุ้มครองแรงงาน



แบบ ก.บ.ญ
นิติบุคคล

กรมสวัสดิการและคุ้มครองแรงงาน

ใบอนุญาต

เป็นนิติบุคคลผู้ให้บริการตรวจวัดและวิเคราะห์สภาวะการทำงานเกี่ยวกับระดับเสียง

ใบอนุญาตเลขที่ ๑๔๑๓-๑๓-๒๕๖๕-๐๑๔๘

อนุญาตให้ นริศ ชีคอท จำกัด

เลขทะเบียนนิติบุคคล ๐๑๑๕๕๓๖๐๐๐๔๗๖

ตั้งอยู่เลขที่ ๒๓๙ ถนนริมคลองประปา แขวงบางซื่อ เขตบางซื่อ กรุงเทพมหานคร

เป็นนิติบุคคลผู้ให้บริการด้านความปลอดภัย อาชีวอนามัย และสภาพแวดล้อมในการทำงาน ตามกฎกระทรวง กำหนดมาตรฐานในการบริหาร จัดการ และดำเนินการด้านความปลอดภัย อาชีวอนามัย และสภาพแวดล้อมในการทำงานเกี่ยวกับความร้อน แสงสว่าง และเสียง พ.ศ. ๒๕๕๙ ในการตรวจวัดและวิเคราะห์สภาวะการทำงานเกี่ยวกับระดับเสียง ประกอบกับกฎกระทรวงกำหนดค่าระดับเสียงและการอนุญาตให้บริการเพื่อส่งเสริมความปลอดภัย อาชีวอนามัย และสภาพแวดล้อมในการทำงาน พ.ศ. ๒๕๖๔ แห่งพระราชบัญญัติความปลอดภัย อาชีวอนามัย และสภาพแวดล้อมในการทำงาน พ.ศ. ๒๕๕๔ โดยมีบุคลากร จำนวน ๗ ราย และรายการเครื่องมือตรวจวัด จำนวน ๖๕ เครื่อง ดังรายละเอียดแนบท้ายใบอนุญาตนี้

ทั้งนี้ ตั้งแต่วันที่ ๑๗ มิถุนายน พ.ศ. ๒๕๖๕ ถึงวันที่ ๑๖ มิถุนายน พ.ศ. ๒๕๗๑

ให้ไว้ ณ วันที่ ๒ มิถุนายน พ.ศ. ๒๕๖๕

(นายศักดิ์ศิลป์ ตูลาธร)

ผู้ตรวจราชการกรม ปฏิบัติราชการแทน
อธิบดีกรมสวัสดิการและคุ้มครองแรงงาน

เลขทะเบียนควบคุม
๓-๑๓-๐๔๐๓-๐๕๓-๐๒-๖๘

(ลงนาม) _____ (นายทะเบียน)

(นางสาวสุวดี ทวีสุข)

ตำแหน่ง ผู้อำนวยการกองความปลอดภัยแรงงาน

รายชื่อบุคลากรแนบท้ายใบอนุญาต
 เป็นนิติบุคคลผู้ให้บริการตรวจวัดและวิเคราะห์สภาวะการทำงานเกี่ยวกับระดับเสียง
 ของบริษัท ซีคोट จำกัด
 ใบอนุญาตเลขที่ ๐๔๐๓-๐๓-๒๕๖๕-๐๐๔๘

- | | |
|------------------|---------------|
| ๑. นางสาวสุนันหา | ศิริพัฒนานนท์ |
| ๒. นางสาวกนิษฐา | เจริญเชื้อ |
| ๓. นางสาวอลิษา | คนิวรานนท์ |
| ๔. นางสาวชนิตา | หล้าสาย |
| ๕. นางสาวศลิษา | อินริย์ |
| ๖. นางสาววิระยา | ปัจฉิมบุรณ์ |
| ๗. นายพงศ์ศิริ | จักรแก้ว |

ทั้งนี้ ตั้งแต่วันที่ ๑๗ มิถุนายน พ.ศ. ๒๕๖๘ ถึงวันที่ ๑๖ มิถุนายน พ.ศ. ๒๕๗๑

ให้ไว้ ณ วันที่ ๒ มิถุนายน พ.ศ. ๒๕๖๘



(นายศักดิ์ศิลป์ ตูลาธร)
 ผู้ตรวจราชการกรม ปฏิบัติราชการแทน
 อธิบดีกรมสวัสดิการและคุ้มครองแรงงาน

รายการเครื่องมือตรวจวัดแบบท่ายใบอนุญาต
 เป็นนิติบุคคลผู้ให้บริการตรวจวัดและวิเคราะห์สภาวะการทำงานเกี่ยวกับระดับเสียง
 ของบริษัท ซีคोट จำกัด
 ใบอนุญาตเลขที่ ๐๔๐๓-๐๓-๒๕๖๕-๐๐๔๘

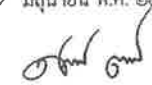
ลำดับที่	รายการเครื่องมือ	รายละเอียด		จำนวน (เครื่อง)
		ยี่ห้อ	รุ่น	
๑	เครื่องวัดเสียง และเครื่องวัดเสียง กระทบหรือเสียงกระทบ	Cirrus	CR162B	๑๐
		Serial No.	G302737	
			G302738	
			G302740	
			G302742	
			G302743	
			G301014	
			G302333	
			G302330	
			G302237	
			G300709	
		มาตรฐาน	IEC 61672-1	
		Cirrus	CR162C	๓
		Serial No.	G300832	
			G300838	
			G300841	
		มาตรฐาน	IEC 61672-1	
		Cirrus	CR171B	๒
		Serial No.	G303411	
			G303415	
		มาตรฐาน	IEC 61672-1	
		SCARLET TECH	ST-21D	
		Serial No.	820722	๑๕
			820723	
			820724	
			820725	
			820726	
			820727	

ลำดับที่	รายการเครื่องมือ	รายละเอียด		จำนวน (เครื่อง)
			820728 820729 820730 820731 821078 821079 821080 821081 821082	
		มาตรฐาน	IEC 61672	
๒	เครื่องวัดปริมาณเสียงสะสม	ยี่ห้อ	Cirrus	๒๐
		รุ่น	CR:110A	
		Serial No.	CB1023	
			CB1025	
			CB1026	
			CB1040	
			CB1041	
			CB1042	
			CB1043	
			CB1047	
			CB1048	
			CB1049	
			CB1050	
			CB1052	
			CB1053	
			CB1054	
			CB1055	
			CB1056	
			CB1101	
			CB1102	
			CB1103	
			CB1104	
		มาตรฐาน	IEC 61252	
		ยี่ห้อ	Pulsar	๑๐
		รุ่น	Model 22R	

ลำดับที่	รายการเครื่องมือ	รายละเอียด		จำนวน (เครื่อง)
		Serial No.	PB614 PB617 PB618 PB621 PB632 PB636 PB637 PB638 PB643 PB644	
		มาตรฐาน	IEC 61252	
๓	อุปกรณ์ตรวจสอบความถูกต้อง	ยี่ห้อ	Cirrus	๒
		รุ่น	CR:515	
		Serial No.	94296 97097	
		มาตรฐาน	IEC 60942	
๔	อุปกรณ์ตรวจสอบความถูกต้อง (เสียงสะสม)	ยี่ห้อ	Cirrus	๒
		รุ่น	RC:110A	
		Serial No.	95167 95168	
		มาตรฐาน	IEC 60942	
		ยี่ห้อ	Pulsar	๑
		รุ่น	Model 22R	
		Serial No.	79781	
		มาตรฐาน	IEC 60942	

ทั้งนี้ ตั้งแต่วันที่ ๑๗ มิถุนายน พ.ศ. ๒๕๖๘ ถึงวันที่ ๑๖ มิถุนายน พ.ศ. ๒๕๗๑

ให้ไว้ ณ วันที่ ๒ มิถุนายน พ.ศ. ๒๕๖๘



(นายศักดิ์ศิลป์ ตูลาธร)

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