

ภาคผนวก ค

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ใบรับรองผลการวิเคราะห์

## คุณภาพอากาศในบรรยากาศ

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## Analysis / Test Report

TESTING  
No.0042

**Client :** THAI MMA Co., Ltd.  
88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150  
**P/O :** PMM-23-13  
**Project Name :** Environmental Monitoring  
**Project Location :** CCS Site 7

**Lot ID: 24116814**

Date Received : Nov 11, 2024  
Date Reported : Nov 14, 2024  
Report Number: 3134501-1

Page 1 of 1

**Sample Description** Air Quality  
**Location** นนทบุรี (GPS 47P 735652, 1049177)  
**Date Analysis Commenced** Nov 12, 2024  
**Condition of Sample** Drawn into one glass filter paper (8x10 inch) placed in plastic bag, one quartz filter paper (8x10 inch) placed in plastic bag

Sample Number	Sampled Date	Total Suspended Particulate (mg/m3)	Particulate Matter (PM-10) (mg/m3)	Barometric Pressure (mm Hg)	Atmospheric Temperature (°C)
24116814-1	Nov 02 - Nov 03, 2024	0.046	0.038	755	31
24116814-2	Nov 03 - Nov 04, 2024	0.056	0.040	755	31
24116814-3	Nov 04 - Nov 05, 2024	0.043	0.025	755	31
24116814-4	Nov 05 - Nov 06, 2024	0.030	0.019	755	31
24116814-5	Nov 06 - Nov 07, 2024	0.043	0.025	755	31
24116814-6	Nov 07 - Nov 08, 2024	0.033	0.025	755	31
24116814-7	Nov 08 - Nov 09, 2024	0.039	0.029	755	31
<b>Guideline</b>		0.33	0.12	-	-

### Reference Method

Total Suspended Particulate : US EPA 40 CFR Part 50 Appendix B  
Particulate Matter (PM-10) : US EPA 40 CFR Part 50 Appendix J

**Guideline :** Notification of the National Environmental Board. No.24, 2004 (B.E.2547) dated September 22, 2004

**Sampled By :** Chatchai Sukpia

### Remark :

- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Approved by

*Thanita K.*

Thanita Kulsuriwong  
Scientist (4)

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. No part of this report may be reproduced in any form without written consent from the laboratory. ALS Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

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## Analysis / Test Report

TESTING  
No.0042

**Client :** THAI MMA Co., Ltd.  
88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150  
**P/O :** PMM-23-13  
**Project Name :** Environmental Monitoring  
**Project Location :** CCS Site 7

**Lot ID: 24116814**

Date Received : Nov 11, 2024  
Date Reported : Nov 14, 2024  
Report Number: 3134501-2

Page 1 of 1

**Sample Description** Air Quality  
**Location** ระยอง (GPS 47P 734593, 1408560)  
**Date Analysis Commenced** Nov 12, 2024  
**Condition of Sample** Drawn into one glass filter paper (8x10 inch) placed in plastic bag, one quartz filter paper (8x10 inch) placed in plastic bag

Sample Number	Sampled Date	Total Suspended Particulate (mg/m3)	Particulate Matter (PM-10) (mg/m3)	Barometric Pressure (mm Hg)	Atmospheric Temperature (°C)
24116814-8	Nov 02 - Nov 03, 2024	0.043	0.037	755	31
24116814-9	Nov 03 - Nov 04, 2024	0.061	0.037	755	31
24116814-10	Nov 04 - Nov 05, 2024	0.039	0.023	755	31
24116814-11	Nov 05 - Nov 06, 2024	0.028	0.015	755	31
24116814-12	Nov 06 - Nov 07, 2024	0.030	0.018	755	31
24116814-13	Nov 07 - Nov 08, 2024	0.032	0.015	755	31
24116814-14	Nov 08 - Nov 09, 2024	0.043	0.027	755	31
<b>Guideline</b>		0.33	0.12	-	-

### Reference Method

Total Suspended Particulate : US EPA 40 CFR Part 50 Appendix B  
Particulate Matter (PM-10) : US EPA 40 CFR Part 50 Appendix J

**Guideline :** Notification of the National Environmental Board. No.24, 2004 (B.E.2547) dated September 22, 2004

**Sampled By :** Chatchai Sukpia

### Remark :

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## Analysis / Test Report

TESTING  
No.0042

**Client :** THAI MMA Co., Ltd.  
88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150  
**P/O :** PMM-23-13  
**Project Name :** Environmental Monitoring  
**Project Location :** CCS Site 7

**Lot ID: 24116814**

Date Received : Nov 11, 2024  
Date Reported : Nov 14, 2024  
Report Number: 3134501-3

Page 1 of 1

**Sample Description** Air Quality  
**Location** บ้านเนินพยอม (GPS 47P 734593, 1408560)  
**Date Analysis Commenced** Nov 12, 2024  
**Condition of Sample** Drawn into one glass filter paper (8x10 inch) placed in plastic bag, one quartz filter paper (8x10 inch) placed in plastic bag

Sample Number	Sampled Date	Total Suspended Particulate (mg/m3)	Particulate Matter (PM-10) (mg/m3)	Barometric Pressure (mm Hg)	Atmospheric Temperature (°C)
24116814-15	Nov 02 - Nov 03, 2024	0.070	0.037	755	31
24116814-16	Nov 03 - Nov 04, 2024	0.077	0.038	755	31
24116814-17	Nov 04 - Nov 05, 2024	0.054	0.023	755	31
24116814-18	Nov 05 - Nov 06, 2024	0.048	0.018	755	31
24116814-19	Nov 06 - Nov 07, 2024	0.063	0.026	755	31
24116814-20	Nov 07 - Nov 08, 2024	0.058	0.025	755	31
24116814-21	Nov 08 - Nov 09, 2024	0.057	0.029	755	31
<b>Guideline</b>		0.33	0.12	-	-

### Reference Method

Total Suspended Particulate : US EPA 40 CFR Part 50 Appendix B  
Particulate Matter (PM-10) : US EPA 40 CFR Part 50 Appendix J

**Guideline :** Notification of the National Environmental Board. No.24, 2004 (B.E.2547) dated September 22, 2004

**Sampled By :** Chatchai Sukpia

### Remark :

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## Analysis / Test Report

**Client** : THAI MMA Co., Ltd.

88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150

**P/O** : PMM-23-13

**Project Name** : Environmental Monitoring

**Project Location** : CCS Site 7

**Lot ID: 24116811**

Date Received :Nov 11, 2024

Date Reported :Nov 15, 2024

Report Number :3134496-1

Page 1 of 2

**Sample Number** 24116811-1 to 7  
**Parameter** Wind Speed / Wind Direction  
**Location** นอนนุญ (GPS 47P 0735652, 1049177)  
**Sampling Date** Nov 02 - Nov 09, 2024  
**Sampling by** Chatchai Sukpia

Time	Nov 02 - Nov 03, 2024			Nov 03 - Nov 04, 2024			Nov 04 - Nov 05, 2024			Nov 05 - Nov 06, 2024			Nov 06 - Nov 07, 2024			Nov 07 - Nov 08, 2024			Nov 08 - Nov 09, 2024		
	WS (m/s)	WD (deg)		WS (m/s)	WD (deg)		WS (m/s)	WD (deg)		WS (m/s)	WD (deg)		WS (m/s)	WD (deg)		WS (m/s)	WD (deg)		WS (m/s)	WD (deg)	
10:00 AM - 11:00 AM	0.6	332.0	NNW	0.7	99.0	E	0.0	-	-	1.6	120.0	ESE	1.0	106.0	ESE	0.0	-	-	1.8	142.0	SE
11:00 AM - 12:00 PM	3.0	77.0	ENE	1.6	121.0	ESE	0.5	144.0	SE	1.6	212.0	SSW	0.0	-	-	4.3	91.0	E	0.0	-	-
12:00 PM - 01:00 PM	0.7	24.0	NNE	2.2	64.0	ENE	0.8	80.0	E	0.6	149.0	SSE	0.8	110.0	ESE	3.3	116.0	ESE	1.7	283.0	WNW
01:00 PM - 02:00 PM	0.3	141.0	SE	1.0	36.0	NE	0.7	59.0	ENE	0.0	-	-	0.0	-	-	2.8	108.0	ESE	0.0	-	-
02:00 PM - 03:00 PM	0.6	352.0	N	0.5	164.0	SSE	1.4	74.0	ENE	0.5	129.0	SE	0.0	-	-	2.0	103.0	ESE	0.7	214.0	SW
03:00 PM - 04:00 PM	0.3	48.0	NE	0.0	-	-	0.0	-	-	0.7	332.0	NNW	0.0	-	-	0.0	-	-	0.0	-	-
04:00 PM - 05:00 PM	0.0	-	-	1.0	334.0	NNW	0.0	-	-	0.5	320.0	NW	0.0	-	-	0.4	6.0	N	0.0	-	-
05:00 PM - 06:00 PM	0.0	-	-	0.0	-	-	1.1	145.0	SE	1.3	58.0	ENE	0.0	-	-	0.0	-	-	0.0	-	-
06:00 PM - 07:00 PM	0.0	-	-	0.0	-	-	0.0	-	-	2.4	46.0	NE	0.0	-	-	0.0	-	-	0.0	-	-
07:00 PM - 08:00 PM	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	1.0	352.0	N	0.0	-	-	0.4	79.0	E
08:00 PM - 09:00 PM	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.3	21.0	NNE
09:00 PM - 10:00 PM	0.0	-	-	0.0	-	-	0.0	-	-	0.6	352.0	N	1.4	46.0	NE	0.0	-	-	0.6	40.0	NE
10:00 PM - 11:00 PM	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	1.7	56.0	NE	0.0	-	-	1.6	355.0	N
11:00 PM - 12:00 AM	0.0	-	-	0.0	-	-	0.0	-	-	0.6	0.0	N	3.3	25.0	NNE	0.0	-	-	0.9	66.0	ENE
12:00 AM - 01:00 AM	0.0	-	-	0.0	-	-	2.8	51.0	NE	1.9	60.0	ENE	2.5	61.0	ENE	0.2	-	-	0.0	-	-
01:00 AM - 02:00 AM	1.1	359.0	N	0.0	-	-	0.0	-	-	0.7	10.0	N	4.5	48.0	NE	0.9	14.0	NNE	1.6	2.0	N
02:00 AM - 03:00 AM	0.0	-	-	0.0	-	-	0.9	42.0	NE	2.0	0.0	N	0.0	-	-	0.0	-	-	0.0	-	-
03:00 AM - 04:00 AM	1.0	66.0	ENE	0.0	-	-	0.3	101.0	E	1.3	352.0	N	1.6	64.0	ENE	0.6	46.0	NE	0.0	-	-
04:00 AM - 05:00 AM	1.4	46.0	NE	0.0	-	-	0.0	-	-	0.8	0.0	N	0.5	353.0	N	0.0	-	-	0.0	-	-
05:00 AM - 06:00 AM	0.0	-	-	0.0	-	-	0.0	-	-	1.7	62.0	ENE	0.1	-	-	1.3	36.0	NE	1.6	352.0	N
06:00 AM - 07:00 AM	0.0	-	-	0.0	-	-	0.0	-	-	1.2	312.0	NW	0.6	49.0	NE	3.1	75.0	ENE	0.6	25.0	NNE
07:00 AM - 08:00 AM	0.0	-	-	0.7	223.0	SW	0.3	357.0	N	2.0	131.0	SE	0.5	333.0	NNW	3.7	86.0	E	1.2	16.0	NNE
08:00 AM - 09:00 AM	2.3	17.0	NNE	0.0	-	-	0.9	40.0	NE	2.9	119.0	ESE	0.5	24.0	NNE	1.6	88.0	E	0.8	32.0	NNE
09:00 AM - 10:00 AM	1.0	264.0	W	1.3	77.0	ENE	0.0	-	-	0.0	-	-	0.9	131.0	SE	1.5	79.0	E	1.0	50.0	NE

Reference Method : Cup Anemometer & Anodized Aluminium Vane Method

The above results are valid only for the analyzed/tested sample(s) as indicated in this report. No part of this report or certificate may be reproduced in any form without written consent from the Laboratory. ALS Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

Approved by

Sarayuth Jittrantont  
Assistant General Manager



## Analysis / Test Report

**Client** : THAI MMA Co., Ltd.

88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150

**P/O** : PMM-23-13

**Project Name** : Environmental Monitoring

**Project Location** : CCS Site 7

**Lot ID:** 24116811

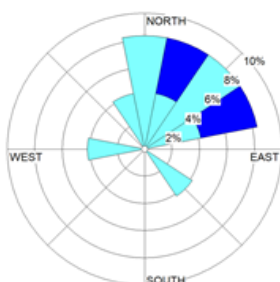
Date Received :Nov 11, 2024

Date Reported :Nov 15, 2024

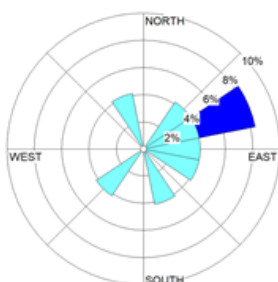
Report Number :3134496-1

Page 2 of 2

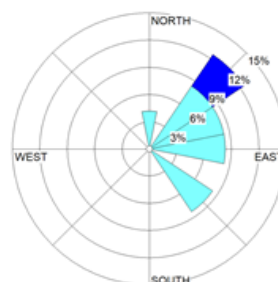
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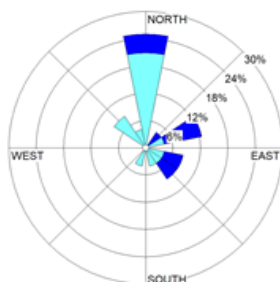
Date : Nov 02-03, 2024



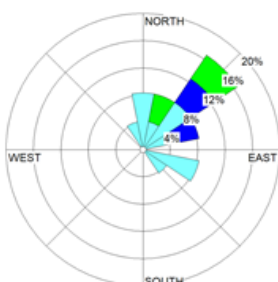
Date : Nov 03-04, 2024



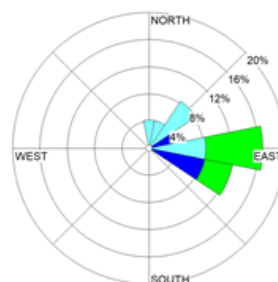
Date : Nov 04-05, 2024



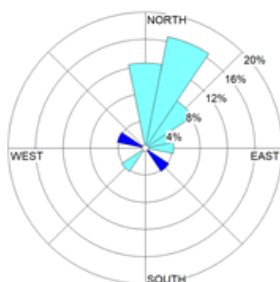
Date : Nov 05-06, 2024



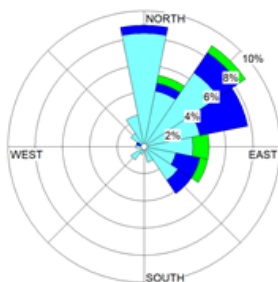
Date : Nov 06-07, 2024



Date : Nov 07-08, 2024



Date : Nov 08-09, 2024



Date : Nov 02-09, 2024

WS (m/s)	%
≥ 10.0	0.00
8.0-10.0	0.00
5.5-8.0	0.00
3.3-5.5	2.98
1.7-3.3	10.12
0.3-1.7	39.29
Calms	47.62

The above results are valid only for the analyzed/tested sample(s) as indicated in this report. No part of this report or certificate may be reproduced in any form without written consent from the Laboratory. ALS Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

Approved by

Sarayuth Jitranont  
Assistant General Manager



## Analysis / Test Report

**Client** : THAI MMA Co., Ltd.

88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150

**Lot ID: 24116811**

Date Received :Nov 11, 2024

Date Reported :Nov 15, 2024

Report Number :3134496-1

**P/O** : PMM-23-13

**Project Name** : Environmental Monitoring

**Project Location** : CCS Site 7

Page 1 of 2

**Sample Number** 24116811-8 to 14  
**Parameter** Wind Speed / Wind Direction  
**Location** บ้านนาหวาย (GPS 47P 0734593, 1408560)  
**Sampling Date** Nov 02 - Nov 09, 2024  
**Sampling by** Chatchai Sukpia

Time	Nov 02 - Nov 03, 2024			Nov 03 - Nov 04, 2024			Nov 04 - Nov 05, 2024			Nov 05 - Nov 06, 2024			Nov 06 - Nov 07, 2024			Nov 07 - Nov 08, 2024			Nov 08 - Nov 09, 2024		
	WS (m/s)	WD (deg)		WS (m/s)	WD (deg)		WS (m/s)	WD (deg)		WS (m/s)	WD (deg)		WS (m/s)	WD (deg)		WS (m/s)	WD (deg)		WS (m/s)	WD (deg)	
11:00 AM - 12:00 PM	2.0	92.0	E	0.0	-	-	0.0	-	-	1.4	24.0	NNE	0.1	-	-	0.8	50.0	NE	1.3	43.0	NE
12:00 PM - 01:00 PM	1.5	71.0	ENE	0.9	13.0	NNE	0.4	65.0	ENE	1.4	100.0	E	0.5	29.0	NNE	1.2	349.0	N	0.9	120.0	ESE
01:00 PM - 02:00 PM	0.0	-	-	0.0	-	-	0.0	-	-	2.1	115.0	ESE	0.0	-	-	0.5	325.0	NW	3.3	4.0	N
02:00 PM - 03:00 PM	0.7	137.0	SE	0.0	-	-	0.0	-	-	1.1	145.0	SE	0.3	23.0	NNE	1.1	103.0	ESE	0.7	129.0	SE
03:00 PM - 04:00 PM	0.0	-	-	1.1	148.0	SSE	0.0	-	-	3.5	4.0	N	0.0	-	-	0.2	-	-	1.0	303.0	WNW
04:00 PM - 05:00 PM	0.5	41.0	NE	0.0	-	-	0.0	-	-	0.0	-	-	1.5	0.0	N	2.9	105.0	ESE	1.9	257.0	WSW
05:00 PM - 06:00 PM	0.5	33.0	NNE	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	1.4	273.0	W
06:00 PM - 07:00 PM	0.0	-	-	1.2	15.0	NNE	0.3	187.0	S	0.0	-	-	0.0	-	-	0.0	-	-	0.8	158.0	SSE
07:00 PM - 08:00 PM	0.0	-	-	0.0	-	-	1.1	299.0	WNW	0.9	4.0	N	0.0	-	-	1.5	10.0	N	0.0	-	-
08:00 PM - 09:00 PM	0.0	-	-	0.5	14.0	NNE	0.7	332.0	NNW	0.3	10.0	N	0.0	-	-	3.9	19.0	NNE	0.0	-	-
09:00 PM - 10:00 PM	0.0	-	-	0.0	-	-	0.0	-	-	2.0	359.0	N	1.2	25.0	NNE	1.8	7.0	N	0.0	-	-
10:00 PM - 11:00 PM	0.0	-	-	2.2	5.0	N	0.7	114.0	ESE	0.1	-	-	1.1	53.0	NE	0.4	26.0	NNE	0.1	-	-
11:00 PM - 12:00 AM	0.0	-	-	1.4	335.0	NNW	0.0	-	-	0.7	23.0	NNE	1.0	3.0	N	1.1	24.0	NNE	1.2	359.0	N
12:00 AM - 01:00 AM	0.0	-	-	0.0	-	-	1.7	0.0	N	1.0	359.0	N	0.6	313.0	NW	0.7	48.0	NE	0.0	-	-
01:00 AM - 02:00 AM	0.0	-	-	1.7	7.0	N	0.4	3.0	N	0.4	13.0	NNE	0.5	94.0	E	0.0	-	-	1.5	349.0	N
02:00 AM - 03:00 AM	4.9	340.0	NNW	1.3	29.0	NNE	0.3	90.0	E	0.9	20.0	NNE	0.2	-	-	0.3	53.0	NE	1.3	316.0	NW
03:00 AM - 04:00 AM	1.1	17.0	NNE	3.7	4.0	N	1.0	28.0	NNE	1.2	29.0	NNE	0.7	148.0	SSE	1.7	16.0	NNE	0.9	11.0	N
04:00 AM - 05:00 AM	1.4	343.0	NNW	2.0	9.0	N	0.3	50.0	NE	1.1	28.0	NNE	0.1	-	-	1.6	45.0	NE	1.9	359.0	N
05:00 AM - 06:00 AM	2.0	43.0	NE	1.2	351.0	N	0.0	-	-	1.4	11.0	N	1.1	80.0	E	3.0	56.0	NE	1.8	3.0	N
06:00 AM - 07:00 AM	2.7	15.0	NNE	1.5	327.0	NNW	0.8	30.0	NNE	2.1	9.0	N	2.9	32.0	NNE	0.3	29.0	NNE	0.8	7.0	N
07:00 AM - 08:00 AM	0.0	-	-	2.1	333.0	NNW	1.0	359.0	N	3.3	2.0	N	1.0	20.0	NNE	2.8	25.0	NNE	1.4	21.0	NNE
08:00 AM - 09:00 AM	1.9	213.0	SSW	0.0	-	-	2.0	340.0	NNW	0.0	-	-	1.9	39.0	NE	0.9	42.0	NE	0.9	102.0	ESE
09:00 AM - 10:00 AM	3.5	58.0	ENE	0.0	-	-	1.8	359.0	N	0.0	-	-	2.1	20.0	NNE	1.9	18.0	NNE	1.6	19.0	NNE
10:00 AM - 11:00 AM	2.0	19.0	NNE	0.0	-	-	1.0	28.0	NNE	2.5	359.0	N	2.5	351.0	N	2.4	9.0	N	1.2	26.0	NNE

Reference Method : Cup Anemometer & Anodized Aluminium Vane Method

The above results are valid only for the analyzed/tested sample(s) as indicated in this report. No part of this report or certificate may be reproduced in any form without written consent from the Laboratory. ALS Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

Approved by

Sarayuth Jittrantont  
Assistant General Manager





## Analysis / Test Report

**Client** : THAI MMA Co., Ltd.

88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150

**P/O** : PMM-23-13

**Project Name** : Environmental Monitoring

**Project Location** : CCS Site 7

**Lot ID:** 24116811

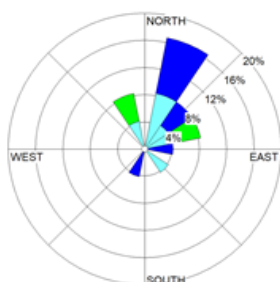
Date Received :Nov 11, 2024

Date Reported :Nov 15, 2024

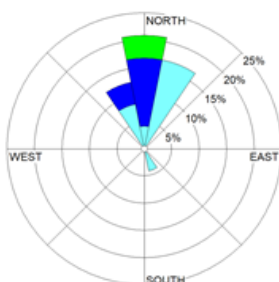
Report Number :3134496-1

Page 2 of 2

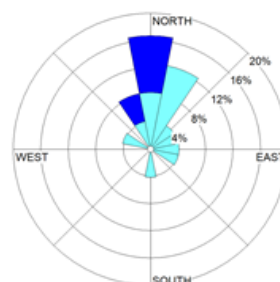
### Wind Rose



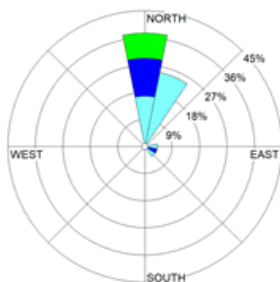
Date : Nov 02-03, 2024



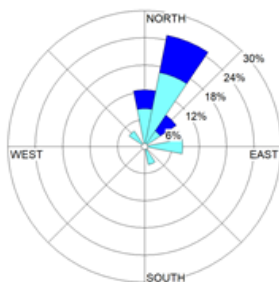
Date : Nov 03-04, 2024



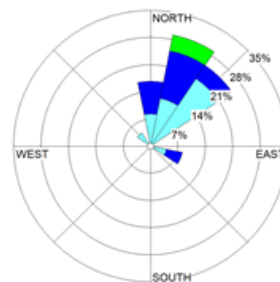
Date : Nov 04-05, 2024



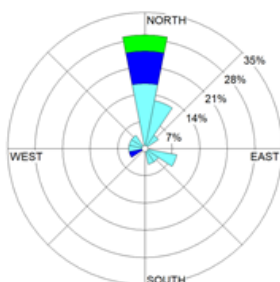
Date : Nov 05-06, 2024



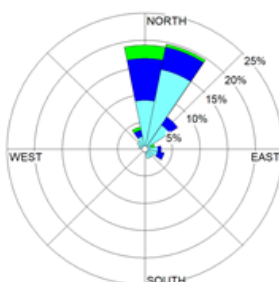
Date : Nov 06-07, 2024



Date : Nov 07-08, 2024



Date : Nov 08-09, 2024



Date : Nov 02-09, 2024

WS (m/s)	%
≥ 10.0	0.00
8.0-10.0	0.00
5.5-8.0	0.00
3.3-5.5	4.17
1.7-3.3	17.86
0.3-1.7	45.24
Calms	32.74

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Approved by

Sarayuth Jitranont  
Assistant General Manager



## Analysis / Test Report

**Client** : THAI MMA Co., Ltd.

88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150

**Lot ID: 24116811**

Date Received :Nov 11, 2024

Date Reported :Nov 15, 2024

Report Number :3134496-1

**P/O** : PMM-23-13

**Project Name** : Environmental Monitoring

**Project Location** : CCS Site 7

Page 1 of 2

**Sample Number** 24116811-15 to 21  
**Parameter** Wind Speed / Wind Direction  
**Location** บ้านเนินพยอม (GPS 47P 0734593, 1408560)  
**Sampling Date** Nov 02 - Nov 09, 2024  
**Sampling by** Chatchai Sukpia

Time	Nov 02 - Nov 03, 2024			Nov 03 - Nov 04, 2024			Nov 04 - Nov 05, 2024			Nov 05 - Nov 06, 2024			Nov 06 - Nov 07, 2024			Nov 07 - Nov 08, 2024			Nov 08 - Nov 09, 2024		
	WS (m/s)	WD (deg)		WS (m/s)	WD (deg)		WS (m/s)	WD (deg)		WS (m/s)	WD (deg)		WS (m/s)	WD (deg)		WS (m/s)	WD (deg)		WS (m/s)	WD (deg)	
09:00 AM - 10:00 AM	3.0	358.0	N	2.8	341.0	NNW	1.6	27.0	NNE	2.1	353.0	N	3.8	356.0	N	1.1	359.0	N	3.6	350.0	N
10:00 AM - 11:00 AM	3.1	53.0	NE	0.8	328.0	NNW	2.8	10.0	N	2.1	14.0	NNE	1.2	48.0	NE	1.9	1.0	N	2.4	347.0	NNW
11:00 AM - 12:00 PM	2.7	352.0	N	3.0	1.0	N	2.1	11.0	N	1.5	10.0	N	2.3	9.0	N	2.7	7.0	N	0.6	336.0	NNW
12:00 PM - 01:00 PM	0.0	-	-	4.2	0.0	N	3.0	14.0	NNE	1.9	355.0	N	1.1	358.0	N	1.9	0.0	N	3.8	15.0	NNE
01:00 PM - 02:00 PM	1.6	41.0	NE	0.0	-	-	1.2	21.0	NNE	0.6	309.0	NW	1.8	326.0	NW	0.1	-	-	0.9	344.0	NNW
02:00 PM - 03:00 PM	2.7	52.0	NE	1.4	8.0	N	1.7	340.0	NNW	1.5	185.0	S	0.3	318.0	NW	2.4	356.0	N	0.3	147.0	SSE
03:00 PM - 04:00 PM	0.0	-	-	0.0	-	-	2.2	355.0	N	1.1	325.0	NW	1.9	0.0	N	0.0	-	-	0.3	133.0	SE
04:00 PM - 05:00 PM	0.0	-	-	0.0	-	-	2.0	358.0	N	2.1	0.0	N	1.3	340.0	NNW	0.4	8.0	N	1.2	177.0	S
05:00 PM - 06:00 PM	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	1.1	351.0	N	0.0	-	-
06:00 PM - 07:00 PM	0.0	-	-	0.0	-	-	0.1	-	-	0.0	-	-	0.0	-	-	0.2	-	-	0.9	57.0	ENE
07:00 PM - 08:00 PM	0.7	0.0	N	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	1.2	350.0	N	0.0	-	-
08:00 PM - 09:00 PM	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.4	305.0	NW	0.0	-	-
09:00 PM - 10:00 PM	0.0	-	-	0.0	-	-	0.0	-	-	1.1	340.0	NNW	0.0	-	-	0.1	-	-	0.0	-	-
10:00 PM - 11:00 PM	0.0	-	-	0.0	-	-	0.0	-	-	0.8	354.0	N	0.0	-	-	1.3	359.0	N	0.0	-	-
11:00 PM - 12:00 AM	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	1.7	338.0	NNW	0.6	351.0	N	0.0	-	-
12:00 AM - 01:00 AM	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	2.7	353.0	N	0.0	-	-	0.0	-	-
01:00 AM - 02:00 AM	0.0	-	-	0.0	-	-	0.2	-	-	0.0	-	-	3.3	20.0	NNE	0.0	-	-	0.0	-	-
02:00 AM - 03:00 AM	0.0	-	-	0.4	2.0	N	1.5	8.0	N	0.0	-	-	3.0	349.0	N	0.0	-	-	0.0	-	-
03:00 AM - 04:00 AM	0.3	338.0	NNW	0.0	-	-	0.4	358.0	N	0.0	-	-	1.7	359.0	N	1.6	4.0	N	0.1	-	-
04:00 AM - 05:00 AM	2.0	355.0	N	1.0	4.0	N	0.0	-	-	1.2	357.0	N	1.8	351.0	N	1.4	0.0	N	1.0	345.0	NNW
05:00 AM - 06:00 AM	0.0	-	-	0.0	-	-	0.0	-	-	1.6	3.0	N	1.2	352.0	N	1.1	346.0	NNW	1.3	352.0	N
06:00 AM - 07:00 AM	0.0	-	-	0.0	-	-	0.2	-	-	1.7	309.0	NW	1.2	338.0	NNW	2.8	13.0	NNE	1.8	359.0	N
07:00 AM - 08:00 AM	0.0	-	-	0.0	-	-	0.8	342.0	NNW	2.3	359.0	N	1.7	359.0	N	3.5	359.0	N	1.9	357.0	N
08:00 AM - 09:00 AM	1.4	2.0	N	4.0	344.0	NNW	2.6	359.0	N	1.6	8.0	N	3.0	0.0	N	2.0	19.0	NNE	2.4	5.0	N

Reference Method : Cup Anemometer & Anodized Aluminium Vane Method

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Approved by

Sarayuth Jittrantont  
Assistant General Manager



## Analysis / Test Report

**Client** : THAI MMA Co., Ltd.

88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150

**P/O** : PMM-23-13

**Project Name** : Environmental Monitoring

**Project Location** : CCS Site 7

**Lot ID:** 24116811

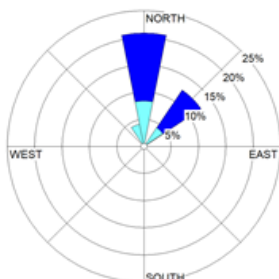
Date Received :Nov 11, 2024

Date Reported :Nov 15, 2024

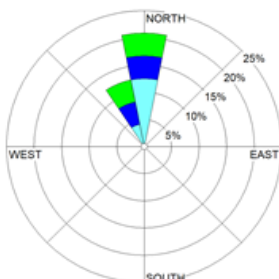
Report Number :3134496-1

Page 2 of 2

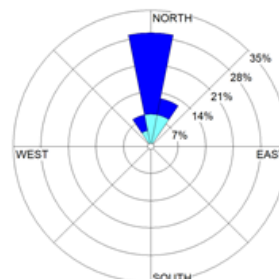
### Wind Rose



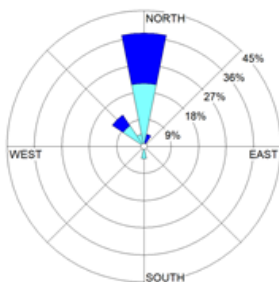
Date : Nov 02-03, 2024



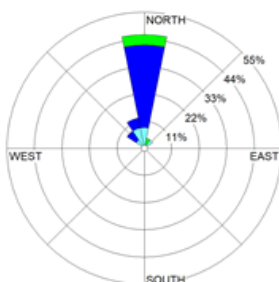
Date : Nov 03-04, 2024



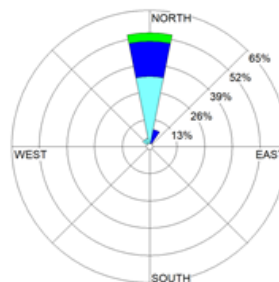
Date : Nov 04-05, 2024



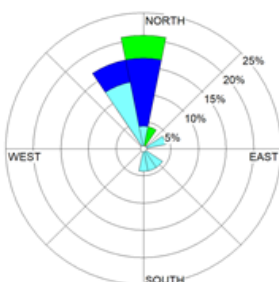
Date : Nov 05-06, 2024



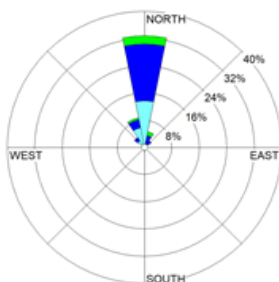
Date : Nov 06-07, 2024



Date : Nov 07-08, 2024



Date : Nov 08-09, 2024



Date : Nov 02-09, 2024

WS (m/s)	%
≥ 10.0	0.00
8.0-10.0	0.00
5.5-8.0	0.00
3.3-5.5	4.17
1.7-3.3	23.81
0.3-1.7	27.38
Calms	44.64

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Approved by

Sarayuth Jitranont  
Assistant General Manager

คุณภาพอากาศจากปล่องระบายอากาศ

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## Analysis / Test Report

TESTING  
No.0042

**Client :** THAI MMA Co., Ltd.  
88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150  
**P/O :** PMM-23-13  
**Project Name :** Environmental Monitoring  
**Project Location :** CCS Site 7

**Lot ID: 24116817**  
Date Received : Nov 08, 2024  
Date Reported : Nov 15, 2024  
Report Number: 3134503-1

Page 1 of 2

**Sample Number** 24116817-1  
**Sampled Date** Nov 08, 2024  
**Sample Description** Emission from Stationary Source  
**Location** Turbulence dust collector  
**Date Analysis Commenced** Nov 11, 2024  
**Condition of Sample** Extracted into one filter paper placed in plastic petri dish and one plastic bottle

### Stack Description

Ambient Pressure	756	mmHg	Diameter	0.80	m	Oxygen	20.9	%
Ambient Temperature	31.4	°C	Shape	Circle		Carbon Dioxide	0.0	%
Type of Process	Process		Stack Temperature	42.0	°C	Gas Velocity	9.4	m/s
Type of Fuel	-		Moisture	2.66	%	Flow Rate (Actual O2)	15580	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Air Testing</b>									
Total Suspended Particulate	10:00 AM - 10:42 AM	mg/m3	-	0.5	<0.5	400	60	United States Environmental Protection Agency, EPA Method 5	Rayong

**Guideline :** Guideline(1) : Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)  
Guideline(2) : Environmental Impact Assessment Report of THAI MMA Co., Ltd.

Technical Management

*Thanita K.*

Thanita Kulsuriwong  
Scientist (4)  
ทะเบียนเลขที่ ว-323-จ-0029

Approved by

*D. Changchon.*

Dej Changchon  
Senior Manager  
ทะเบียนเลขที่ ว-323-ค-0001

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. No part of this report may be reproduced in any form without written consent from the laboratory.  
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16417-21/ EMAIL

S:\Reports\\_Air Stack\\_2GL.rpt ( 2:00PM)



## Analysis / Test Report

TESTING  
No.0042

**Client :** THAI MMA Co., Ltd.  
88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150  
**P/O :** PMM-23-13  
**Project Name :** Environmental Monitoring  
**Project Location :** CCS Site 7

**Lot ID: 24116817**  
Date Received : Nov 08, 2024  
Date Reported : Nov 15, 2024  
Report Number: 3134503-1

Page 2 of 2

**Sample Number** 24116817-1  
**Sampled Date** Nov 08, 2024  
**Sample Description** Emission from Stationary Source  
**Location** Turbulence dust collector  
**Date Analysis Commenced** Nov 11, 2024  
**Condition of Sample** Extracted into one filter paper placed in plastic petri dish and one plastic bottle

### Stack Description

Ambient Pressure	756	mmHg	Diameter	0.80	m	Oxygen	20.9	%
Ambient Temperature	31.4	°C	Shape	Circle		Carbon Dioxide	0.0	%
Type of Process	Process		Stack Temperature	42.0	°C	Gas Velocity	9.4	m/s
Type of Fuel	-		Moisture	2.66	%	Flow Rate (Actual O2)	15580	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Air Testing</b>									
Total Suspended Particulate *	10:00 AM - 10:42 AM	g/s	-	-	<0.002	-	0.22	Calculated	Rayong

**Guideline :** Guideline(1) : Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)  
Guideline(2) : Environmental Impact Assessment Report of THAI MMA Co., Ltd.

**Sampling By :** Sathapron Thakarw ทะเบียนเลขที่ ว-323-จ-0036

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked \* is/are not included in scope of Accreditation ISO/IEC 17025.

Technical Management

*Thanita K.*

Thanita Kulsuriwong  
Scientist (4)  
ทะเบียนเลขที่ ว-323-จ-0029

Approved by

*D. Changchon.*

Dej Changchon  
Senior Manager  
ทะเบียนเลขที่ ว-323-ค-0001

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16417-21/ EMAIL

S:\Reports\\_Air Stack\\_2GL.rpt ( 2:00PM)



## Analysis / Test Report

**Client :** THAI MMA Co., Ltd.  
88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150  
**P/O :** PMM-23-13  
**Project Name :** Environmental Monitoring  
**Project Location :** CCS Site 7

**Lot ID: 24116818**

Date Received : Nov 08, 2024

Date Reported : Nov 15, 2024

Report Number: 3134507-1

Page 1 of 2

**Sample Number** 24116818-1  
**Sampled Date** Nov 08, 2024  
**Sample Description** Emission from Stationary Source  
**Location** Main Stack  
**Date Analysis Commenced** Nov 11, 2024  
**Condition of Sample** Extracted into two sorbent tubes, refrigerated

### Stack Description

Ambient Pressure	756	mmHg	Diameter	1.60 x 1.60	m	Oxygen	20.9	%
Ambient Temperature	31.4	°C	Shape	Square		Carbon Dioxide	0.0	%
Type of Process	Process		Stack Temperature	31.0	°C	Gas Velocity	3.8	m/s
Type of Fuel	-		Moisture	3.16	%	Flow Rate (Actual O2)	33292	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Testing Location
<b>Air Testing</b>								
Butyl acrylate	10:50 AM - 11:05 AM	ppm	-	0.3	<0.3	No Standard	United States Environmental Protection Agency, EPA Method 18	Bangkok
Butyl acrylate	10:50 AM - 11:05 AM	mg/m3	-	1.0	<1.0	39	United States Environmental Protection Agency, EPA Method 18	Bangkok
Methyl Methacrylate	10:50 AM - 11:05 AM	ppm	-	0.3	4.1	No Standard	United States Environmental Protection Agency, EPA Method 18	Bangkok
Methyl Methacrylate	10:50 AM - 11:05 AM	mg/m3	-	1.0	16.6	520	United States Environmental Protection Agency, EPA Method 18	Bangkok

Approved by

*Saranya C.*

Saranya Chalermthamrong  
Scientist (4)

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. No part of this report may be reproduced in any form without written consent from the laboratory. ALS Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.



## Analysis / Test Report

**Client :** THAI MMA Co., Ltd.  
88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150  
**P/O :** PMM-23-13  
**Project Name :** Environmental Monitoring  
**Project Location :** CCS Site 7

**Lot ID: 24116818**  
Date Received : Nov 08, 2024  
Date Reported : Nov 15, 2024  
Report Number: 3134507-1

Page 2 of 2

**Sample Number** 24116818-1  
**Sampled Date** Nov 08, 2024  
**Sample Description** Emission from Stationary Source  
**Location** Main Stack  
**Date Analysis Commenced** Nov 11, 2024  
**Condition of Sample** Extracted into two sorbent tubes, refrigerated

### Stack Description

Ambient Pressure	756	mmHg	Diameter	1.60 x 1.60	m	Oxygen	20.9	%
Ambient Temperature	31.4	°C	Shape	Square		Carbon Dioxide	0.0	%
Type of Process	Process		Stack Temperature	31.0	°C	Gas Velocity	3.8	m/s
Type of Fuel	-		Moisture	3.16	%	Flow Rate (Actual O2)	33292	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline Limit	Method	Testing Location
<b>Air Testing</b>								
Butyl acrylate	10:50 AM - 11:05 AM	g/s	-	-	<0.01	0.13	Calculated	Bangkok
Methyl Methacrylate	10:50 AM - 11:05 AM	g/s	-	-	0.15	1.73	Calculated	Bangkok

**Guideline :** Environmental Impact Assessment Report of THAI MMA Co., Ltd.

**Sampling By :** Chatchai Sukpia

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Approved by

*Saranya C.*

Saranya Chalermthamrong  
Scientist (4)

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## Analysis / Test Report

**Client :** THAI MMA Co., Ltd.  
88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150  
**P/O :** PMM-23-13  
**Project Name :** Environmental Monitoring  
**Project Location :** CCS Site 7

**Lot ID: 24116820**  
Date Received : Nov 08, 2024  
Date Reported : Nov 18, 2024  
Report Number: 3134506-1

Page 1 of 1

**Sample Number** 24116820-1  
**Sampled Date** Nov 08, 2024  
**Sample Description** Emission from Stationary Source  
**Location** ปล่อง Carbon Absorber  
**Date Analysis Commenced** Nov 11, 2024  
**Condition of Sample** Extracted into one 10-L air sampling bag

### Stack Description

Ambient Pressure	756	mmHg	Diameter	0.15	m	Oxygen	20.9	%
Ambient Temperature	31.4	°C	Shape	Circle		Carbon Dioxide	0.0	%
Type of Process	Process		Stack Temperature	34.0	°C	Gas Velocity	9.2	m/s
Type of Fuel	-		Moisture	3.16	%	Flow Rate (Actual O2)	545	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
<b>Air Testing</b>							
Total VOCs as Propane	10:20 AM - 10:30 AM	ppm	-	1.0	22.4	United States Environmental Protection Agency, EPA Method 25A	Bangkok

**Sampling By :** Chatchai Sukpia

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Approved by

Tanyatorn Mongkonjirawut  
Supervisor

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## Analysis / Test Report

TESTING

No.0042

**Lot ID: 2469169**

Date Received : Jul 05, 2024

Date Reported : Jul 12, 2024

Report Number : 3028188-1

**Client** : THAI MMA Co., Ltd.

88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150

**P/O** : PMM-23-13

**Project Name** : Environmental Monitoring

**Project Location** : CCS Site 7

Page 1 of 2

<b>Sample Number</b>	2469169-1
<b>Sampled Date</b>	Jul 05, 2024 2:08 PM
<b>Sample Description</b>	Wastewater
<b>Location</b>	บ่อสุดท้าย Cesspool
<b>Date Analysis Commenced</b>	Jul 05, 2024
<b>Condition of Sample</b>	Contained in one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	30.9	≤500	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	80	≤750	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	7.1	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Sulfate *	mg/L	0.6	2	61.2	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-SO4 (E)	Rayong
Temperature *	Degree C	-	-	32.4	≤45	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	278	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	7	≤200	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

**Guideline** : Notification of the Industrial Estate Authority of Thailand No.029/2567 : General Standards for Wastewater drainage into central wastewater treatment systems in Industrial Estates.

**Sampling By** : Wanlop Hunchainaow ทะเบียนเลขที่ ว-323-จ-9457

Remark :

Technical Management

Photchana S.

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ ว-323-จ-9446

Approved by

D. Changchon.

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ว-323-ค-9442

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## Analysis / Test Report

**Client** : THAI MMA Co., Ltd.  
88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150  
**P/O** : PMM-23-13  
**Project Name** : Environmental Monitoring  
**Project Location** : CCS Site 7

**TESTING**  
**No.0042**  
**Lot ID: 2469169**  
Date Received : Jul 05, 2024  
Date Reported : Jul 12, 2024  
Report Number : 3028188-1

Page 2 of 2

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked \* is/are not included in scope of Accreditation ISO/IEC 17025.
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Photchana S.

Photchana Seeda  
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-9446

Approved by

D. Chumson.

Dej Changchon  
Senior Manager

ทะเบียนเลขที่ ว-323-ค-9442

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**Client :** THAI MMA Co., Ltd.  
88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150  
**P/O :** PMM-23-13  
**Project Name :** Environmental Monitoring  
**Project Location :** CCS Site 7

**Lot ID: 2469169**

Date Received : Jul 05, 2024  
Date Reported : Jul 12, 2024  
Report Number : 3028188-2

Page 1 of 1

<b>Sample Number</b>	2469169-1						
<b>Sampled Date</b>	Jul 05, 2024 2:08 PM						
<b>Sample Description</b>	Wastewater						
<b>Location</b>	บ่อสุดท้าย Cesspool						
<b>Date Analysis Commenced</b>	Jul 08, 2024						
<b>Condition of Sample</b>	Contained in one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
Sulfate	mg/L	0.6	2	61.2	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-SO <sub>4</sub> (E)	Rayong

**Guideline :** Notification of the Industrial Estate Authority of Thailand No.029/2567 : General Standards for Wastewater drainage into central wastewater treatment systems in Industrial Estates.

**Sampling By :** Wanlop Hunchainaow

Remark :

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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Approved by

Photchana S.

Photchana Seeda  
Scientist (4)

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## Analysis / Test Report

TESTING

No.0042

**Lot ID: 2479895**

Date Received : Aug 09, 2024

Date Reported : Aug 16, 2024

Report Number : 3053390-1

**Client** : THAI MMA Co., Ltd.

88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150

**P/O** : PMM-23-13

**Project Name** : Environmental Monitoring

**Project Location** : CCS Site 7

Page 1 of 1

<b>Sample Number</b>	2479895-1						
<b>Sampled Date</b>	Aug 09, 2024 2:03 PM						
<b>Sample Description</b>	Wastewater						
<b>Location</b>	บ่อสุดท้าย Cesspool						
<b>Date Analysis Commenced</b>	Aug 09, 2024						
<b>Condition of Sample</b>	Contained in one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	45.6	≤500	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	75	≤750	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	7.2	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	30.3	≤45	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	210	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	15	≤200	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

**Guideline** : Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

**Sampling By** : Wanlop Hunchainaow ทะเบียนเลขที่ ๖-323-จ-9457

Remark :

- LOD : Limit of Detection
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- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Photchana S.

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ ๖-323-จ-9446

Approved by

D. Chumson.

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ๖-323-ค-9442

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## Analysis / Test Report

**Client :** THAI MMA Co., Ltd.  
88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150  
**P/O :** PMM-23-13  
**Project Name :** Environmental Monitoring  
**Project Location :** CCS Site 7

**Lot ID: 2479895**

Date Received : Aug 09, 2024  
Date Reported : Aug 16, 2024  
Report Number : 3053390-2

Page 1 of 1

<b>Sample Number</b>	2479895-1						
<b>Sampled Date</b>	Aug 09, 2024 2:03 PM						
<b>Sample Description</b>	Wastewater						
<b>Location</b>	บ่อสุดท้าย Cesspool						
<b>Date Analysis Commenced</b>	Aug 16, 2024						
<b>Condition of Sample</b>	Contained in one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
Sulfate	mg/L	0.6	2	70.9	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-SO4 (E)	Rayong

**Guideline :** Notification of the Industrial Estate Authority of Thailand No.76, B.E. 2560 : Criteria of wastewater characteristic from factory discharge to central wastewater Treatment Plant

**Sampling By :** Wanlop Hunchainaow

Remark :

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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Approved by

Photchana S.

Photchana Seeda  
Scientist (4)

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## Analysis / Test Report

TESTING

No.0042

**Lot ID: 2479896**

Date Received : Sep 06, 2024

Date Reported : Sep 12, 2024

Report Number : 3078985-1

**Client** : THAI MMA Co., Ltd.

88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150

**P/O** : PMM-23-13

**Project Name** : Environmental Monitoring

**Project Location** : CCS Site 7

Page 1 of 2

<b>Sample Number</b>	2479896-1						
<b>Sampled Date</b>	Sep 06, 2024 1:50 PM						
<b>Sample Description</b>	Wastewater						
<b>Location</b>	บ่อสุดท้าย Cesspool						
<b>Date Analysis Commenced</b>	Sep 06, 2024						
<b>Condition of Sample</b>	Contained in one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	31.4	≤500	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	69	≤750	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Oil & Grease	mg/L	-	3	4	≤10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	6.9	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Sulfate *	mg/L	0.6	2	78.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-SO4 (E)	Rayong
Temperature *	Degree C	-	-	33.9	≤45	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	266	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	6	≤200	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

**Guideline** : Notification of the Industrial Estate Authority of Thailand No.029/2567 : General Standards for Wastewater drainage into central wastewater treatment systems in Industrial Estates.

**Sampling By** : Phongthep Sitthiloh ทะเบียนเลขที่ ว-323-จ-0023

Remark :

Technical Management

Photchana S.

Photchana Seeda

Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Changchon.

Dej Changchon

Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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**P/O** : PMM-23-13  
**Project Name** : Environmental Monitoring  
**Project Location** : CCS Site 7

**TESTING**  
**No.0042**  
**Lot ID: 2479896**  
Date Received : Sep 06, 2024  
Date Reported : Sep 12, 2024  
Report Number : 3078985-1

Page 2 of 2

- LOD : Limit of Detection
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Technical Management

Photchana S.

Photchana Seeda  
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Changchon

Dej Changchon  
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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## Analysis / Test Report

**Client** : THAI MMA Co., Ltd.  
88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150  
**P/O** : PMM-23-13  
**Project Name** : Environmental Monitoring  
**Project Location** : CCS Site 7

**TESTING**  
**No.0042**  
**Lot ID: 24107693**  
Date Received : Oct 04, 2024  
Date Reported : Oct 11, 2024  
Report Number : 3114290-1

Page 1 of 1

<b>Sample Number</b>	24107693-1						
<b>Sampled Date</b>	Oct 04, 2024 1:40 PM						
<b>Sample Description</b>	Wastewater						
<b>Location</b>	บ่อสุดท้าย Cesspool						
<b>Date Analysis Commenced</b>	Oct 04, 2024						
<b>Condition of Sample</b>	Contained in one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤500	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	118	≤750	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5220 D	Rayong
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C		-	-	7.2	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	35.5	≤45	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	312	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	8	≤200	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

**Guideline** : Notification of the Industrial Estate Authority of Thailand No.029/2567 : General Standards for Wastewater drainage into central wastewater treatment systems in Industrial Estates.

**Sampling By** : Narunat thammassaro ทะเบียนเลขที่ ว-323-จ-0052 , Phongthep Sitthiloh ทะเบียนเลขที่ ว-323-จ-0023

Remark :

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- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
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- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Photchana S.

Photchana Seeda  
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumson.

Dej Changchon  
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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## Analysis / Test Report

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88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150  
**P/O :** PMM-23-13  
**Project Name :** Environmental Monitoring  
**Project Location :** CCS Site 7

**Lot ID: 24107693**

Date Received : Oct 04, 2024

Date Reported : Oct 11, 2024

Report Number : 3114290-2

Page 1 of 1

<b>Sample Number</b>	24107693-1						
<b>Sampled Date</b>	Oct 04, 2024 1:40 PM						
<b>Sample Description</b>	Wastewater						
<b>Location</b>	บ่อสุดท้าย Cesspool						
<b>Date Analysis Commenced</b>	Oct 04, 2024						
<b>Condition of Sample</b>	Contained in one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
Sulfate	mg/L	0.6	2	58.9	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-SO <sub>4</sub> (E)	Rayong

**Guideline :** Notification of the Industrial Estate Authority of Thailand No.029/2567 : General Standards for Wastewater drainage into central wastewater treatment systems in Industrial Estates.

**Sampling By :** Narunat thammassaro , Phongthep Sitthiloh

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Approved by

Photchana S.

Photchana Seeda  
Scientist (4)

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## Analysis / Test Report

**Client** : THAI MMA Co., Ltd.  
88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150  
**P/O** : PMM-23-13  
**Project Name** : Environmental Monitoring  
**Project Location** : CCS Site 7

**TESTING**  
**No.0042**  
**Lot ID: 24116826**  
Date Received : Nov 08, 2024  
Date Reported : Nov 15, 2024  
Report Number : 3134513-1

Page 1 of 1

<b>Sample Number</b>	24116826-1						
<b>Sampled Date</b>	Nov 08, 2024 2:10 PM						
<b>Sample Description</b>	Wastewater						
<b>Location</b>	บ่อสุดท้าย Cesspool						
<b>Date Analysis Commenced</b>	Nov 08, 2024						
<b>Condition of Sample</b>	Contained in one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	94.4	≤500	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	163	≤750	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5220 D	Rayong
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C		-	-	6.9	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	34.5	≤45	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	272	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	7	≤200	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

**Guideline** : Notification of the Industrial Estate Authority of Thailand No.029/2567 : General Standards for Wastewater drainage into central wastewater treatment systems in Industrial Estates.

**Sampling By** : Wanlop Hunchainaow ทะเบียนเลขที่ ๖-323-จ-0038

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked \* is/are not included in scope of Accreditation ISO/IEC 17025.
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Photchana S.

Photchana Seeda  
Scientist (4)

ทะเบียนเลขที่ ๖-323-จ-0028

Approved by

D. Changchon.

Dej Changchon  
Senior Manager

ทะเบียนเลขที่ ๖-323-ค-0001

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## Analysis / Test Report

**Client :** THAI MMA Co., Ltd.  
88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150  
**P/O :** PMM-23-13  
**Project Name :** Environmental Monitoring  
**Project Location:** CCS Site 7

**Lot ID: 24116826**

Date Received : Nov 08, 2024

Date Reported : Nov 15, 2024

Report Number : 3134513-2

Page 1 of 1

<b>Sample Number</b>	24116826-1						
<b>Sampled Date</b>	Nov 08, 2024 2:10 PM						
<b>Sample Description</b>	Wastewater						
<b>Location</b>	บ่อสุดท้าย Cesspool						
<b>Date Analysis Commenced</b>	Nov 09, 2024						
<b>Condition of Sample</b>	Contained in one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
Sulfate	mg/L	0.6	2	67.5	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-SO4 (E)	Rayong

**Guideline :** Notification of the Industrial Estate Authority of Thailand No.029/2567 : General Standards for Wastewater drainage into central wastewater treatment systems in Industrial Estates.

**Sampling By :** Wanlop Hunchainaow

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Approved by

Photchana S.

Photchana Seeda  
Scientist (4)

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## Analysis / Test Report

**Client** : THAI MMA Co., Ltd.  
88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150  
**P/O** : PMM-23-13  
**Project Name** : Environmental Monitoring  
**Project Location** : CCS Site 7

**TESTING**  
**No.0042**  
**Lot ID: 24132094**  
Date Received : Dec 09, 2024  
Date Reported : Dec 14, 2024  
Report Number : 3171798-1

Page 1 of 1

<b>Sample Number</b>	24132094-1						
<b>Sampled Date</b>	Dec 09, 2024 2:05 PM						
<b>Sample Description</b>	Wastewater						
<b>Location</b>	บ่อสุดท้าย Cesspool						
<b>Date Analysis Commenced</b>	Dec 09, 2024						
<b>Condition of Sample</b>	Contained in one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	28.6	≤500	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	73	≤750	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5220 D	Rayong
Oil & Grease	mg/L	-	3	<3	≤10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C		-	-	7.2	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	33.8	≤45	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	332	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	8	≤200	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

**Guideline** : Notification of the Industrial Estate Authority of Thailand No.029/2567 : General Standards for Wastewater drainage into central wastewater treatment systems in Industrial Estates.

**Sampling By** : Sansoen Khuiyoksui ทะเบียนเลขที่ ว-323-จ-0005

**Remark :**

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) marked \* is/are not included in scope of Accreditation ISO/IEC 17025.
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

**Technical Management**

**Photchana S.**

Photchana Seeda  
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

**Approved by**

**D. Changchon.**

Dej Changchon  
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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## Analysis / Test Report

**Client** : THAI MMA Co., Ltd.  
88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150  
**P/O** : PMM-23-13  
**Project Name** : Environmental Monitoring  
**Project Location** : CCS Site 7

**Lot ID: 24132094**

Date Received : Dec 09, 2024

Date Reported : Dec 14, 2024

Report Number : 3171798-2

Page 1 of 1

<b>Sample Number</b>	24132094-1						
<b>Sampled Date</b>	Dec 09, 2024 2:05 PM						
<b>Sample Description</b>	Wastewater						
<b>Location</b>	บ่อสุดท้าย Cesspool						
<b>Date Analysis Commenced</b>	Dec 10, 2024						
<b>Condition of Sample</b>	Contained in one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
Sulfate	mg/L	0.6	2	57.9	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-SO4 (E)	Rayong

**Guideline** : Notification of the Industrial Estate Authority of Thailand No.029/2567 : General Standards for Wastewater drainage into central wastewater treatment systems in Industrial Estates.

**Sampling By** : Sansoen Khuiyoksui

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Approved by

Photchana S.

Photchana Seeda  
Scientist (4)

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## Analysis / Test Report

TESTING  
No.0042

**Client :** THAI MMA Co., Ltd.  
88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150  
**P/O :** PMM-23-13  
**Project Name :** Environmental Monitoring  
**Project Location :** CCS Site 7

**Lot ID: 24116815**  
Date Received : Nov 05, 2024  
Date Reported : Nov 11, 2024  
Report Number: 3161915-1

Page 1 of 1

**Sample Number** 24116815-1  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บ้านบน (GPS 47P 735641, 1409191)  
**Measurement Date** Nov 02 - Nov 03, 2024  
**Measurement by** Chatchai Sukpia  
**Sound Level meter** Serial No. 472130

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	60.7	85.8	58.1
12:00 PM - 01:00 PM	58.9	70.7	57.1
01:00 PM - 02:00 PM	59.1	83.4	57.2
02:00 PM - 03:00 PM	59.1	72.5	57.5
03:00 PM - 04:00 PM	59.4	70.5	57.7
04:00 PM - 05:00 PM	60.2	75.2	58.3
05:00 PM - 06:00 PM	60.8	79.8	58.3
06:00 PM - 07:00 PM	59.7	68.5	58.7
07:00 PM - 08:00 PM	61.9	68.7	59.2
08:00 PM - 09:00 PM	59.7	69.7	58.1
09:00 PM - 10:00 PM	53.4	65.2	51.3
10:00 PM - 11:00 PM	53.8	65.6	50.8
11:00 PM - 12:00 AM	52.7	69.1	50.1
12:00 AM - 01:00 AM	51.8	65.0	50.0
01:00 AM - 02:00 AM	51.2	68.6	49.5
02:00 AM - 03:00 AM	51.3	61.8	50.1
03:00 AM - 04:00 AM	52.6	63.9	50.5
04:00 AM - 05:00 AM	54.3	76.1	50.9
05:00 AM - 06:00 AM	51.8	59.0	50.6
06:00 AM - 07:00 AM	55.0	72.9	51.3
07:00 AM - 08:00 AM	63.1	79.3	51.5
08:00 AM - 09:00 AM	61.9	77.9	52.4
09:00 AM - 10:00 AM	57.7	64.5	56.8
10:00 AM - 11:00 AM	59.6	82.8	57.5

Leq Average 24 hrs. (dB(A)) 58.6  
Lmax (dB(A)) 85.8  
L90 (dB(A)) 52.4  
Ldn (dB(A)) 61.4  
Standard (dB(A)) 70 115

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป  
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Chontichak

Chonticha Subongkoch  
Scientist (3)

Approved by

Supot S

Supot Salamteh  
Section Head



## Analysis / Test Report

TESTING  
No.0042

**Client :** THAI MMA Co., Ltd.  
88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150  
**P/O :** PMM-23-13  
**Project Name :** Environmental Monitoring  
**Project Location :** CCS Site 7

**Lot ID: 24116815**  
Date Received : Nov 05, 2024  
Date Reported : Nov 11, 2024  
Report Number: 3161916-1

Page 1 of 1

**Sample Number** 24116815-2  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บ้านบน (GPS 47P 735641, 1409191)  
**Measurement Date** Nov 03 - Nov 04, 2024  
**Measurement by** Chatchai Sukpia  
**Sound Level meter** Serial No. 472130

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	60.0	83.2	57.4
12:00 PM - 01:00 PM	58.0	82.0	57.1
01:00 PM - 02:00 PM	57.6	73.7	57.0
02:00 PM - 03:00 PM	58.3	77.8	57.4
03:00 PM - 04:00 PM	58.2	70.9	57.5
04:00 PM - 05:00 PM	58.6	74.0	57.7
05:00 PM - 06:00 PM	58.5	72.9	57.7
06:00 PM - 07:00 PM	59.0	81.4	57.5
07:00 PM - 08:00 PM	64.9	74.2	58.4
08:00 PM - 09:00 PM	64.2	73.2	58.3
09:00 PM - 10:00 PM	59.5	75.8	50.9
10:00 PM - 11:00 PM	52.0	70.7	50.0
11:00 PM - 12:00 AM	51.4	61.2	50.1
12:00 AM - 01:00 AM	52.0	63.9	50.4
01:00 AM - 02:00 AM	52.9	63.4	50.4
02:00 AM - 03:00 AM	52.4	62.6	50.1
03:00 AM - 04:00 AM	54.2	68.0	49.8
04:00 AM - 05:00 AM	50.8	64.8	49.5
05:00 AM - 06:00 AM	57.2	79.0	49.8
06:00 AM - 07:00 AM	57.3	79.9	50.3
07:00 AM - 08:00 AM	57.4	76.9	52.5
08:00 AM - 09:00 AM	58.1	81.7	53.2
09:00 AM - 10:00 AM	59.4	79.8	57.4
10:00 AM - 11:00 AM	59.9	80.8	58.2

Leq Average 24 hrs. (dB(A)) 58.7  
Lmax (dB(A)) 83.2  
L90 (dB(A)) 53.2  
Ldn (dB(A)) 62.0  
Standard (dB(A)) 70 115

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป  
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Chontichak

Chonticha Subongkoch  
Scientist (3)

Approved by

Supot S

Supot Salamteh  
Section Head



## Analysis / Test Report

TESTING  
No.0042

**Client :** THAI MMA Co., Ltd.  
88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150  
**P/O :** PMM-23-13  
**Project Name :** Environmental Monitoring  
**Project Location :** CCS Site 7

**Lot ID: 24116815**  
Date Received : Nov 05, 2024  
Date Reported : Nov 11, 2024  
Report Number: 3161917-1

Page 1 of 1

**Sample Number** 24116815-3  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บ้านบน (GPS 47P 735641, 1409191)  
**Measurement Date** Nov 04 - Nov 05, 2024  
**Measurement by** Chatchai Sukpia  
**Sound Level meter** Serial No. 472130

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	59.1	77.3	56.9
12:00 PM - 01:00 PM	58.7	82.4	57.2
01:00 PM - 02:00 PM	58.3	81.2	57.3
02:00 PM - 03:00 PM	58.9	76.1	57.7
03:00 PM - 04:00 PM	58.7	79.5	57.6
04:00 PM - 05:00 PM	59.1	79.1	57.7
05:00 PM - 06:00 PM	61.3	86.0	58.2
06:00 PM - 07:00 PM	65.9	91.8	58.9
07:00 PM - 08:00 PM	60.5	80.1	58.8
08:00 PM - 09:00 PM	59.6	71.3	58.1
09:00 PM - 10:00 PM	55.0	65.4	52.7
10:00 PM - 11:00 PM	51.2	70.8	47.3
11:00 PM - 12:00 AM	50.7	71.8	48.2
12:00 AM - 01:00 AM	53.6	66.6	49.3
01:00 AM - 02:00 AM	63.3	68.9	50.3
02:00 AM - 03:00 AM	52.0	65.1	50.0
03:00 AM - 04:00 AM	51.0	62.0	50.0
04:00 AM - 05:00 AM	51.5	59.8	50.5
05:00 AM - 06:00 AM	51.5	71.8	50.2
06:00 AM - 07:00 AM	53.4	70.8	50.8
07:00 AM - 08:00 AM	58.9	87.5	52.8
08:00 AM - 09:00 AM	60.0	86.5	54.8
09:00 AM - 10:00 AM	62.6	82.5	58.7
10:00 AM - 11:00 AM	62.5	81.9	58.6

Leq Average 24 hrs. (dB(A)) 59.4  
Lmax (dB(A)) 91.8  
L90 (dB(A)) 54.8  
Ldn (dB(A)) 63.3  
Standard (dB(A)) 70 115

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป  
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Chontichak

Chonticha Subongkoch  
Scientist (3)

Approved by

Supot S

Supot Salamteh  
Section Head

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## Analysis / Test Report

TESTING  
No.0042

**Client :** THAI MMA Co., Ltd.  
88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150  
**P/O :** PMM-23-13  
**Project Name :** Environmental Monitoring  
**Project Location :** CCS Site 7

**Lot ID: 24116815**  
Date Received : Nov 05, 2024  
Date Reported : Nov 11, 2024  
Report Number: 3161918-1

Page 1 of 1

**Sample Number** 24116815-4  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บ้านนาบะ (GPS 47P 734556, 1408551)  
**Measurement Date** Nov 02 - Nov 03, 2024  
**Measurement by** Chatchai Sukpia  
**Sound Level meter** Serial No. 472127

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	58.4	82.1	54.4
01:00 PM - 02:00 PM	58.2	77.0	54.3
02:00 PM - 03:00 PM	64.2	97.1	57.0
03:00 PM - 04:00 PM	60.5	78.1	57.1
04:00 PM - 05:00 PM	61.0	77.6	56.6
05:00 PM - 06:00 PM	61.7	78.6	57.1
06:00 PM - 07:00 PM	59.5	74.1	56.2
07:00 PM - 08:00 PM	59.3	73.5	56.0
08:00 PM - 09:00 PM	61.2	81.4	55.8
09:00 PM - 10:00 PM	56.6	71.7	53.7
10:00 PM - 11:00 PM	58.2	83.0	54.2
11:00 PM - 12:00 AM	54.4	68.3	52.7
12:00 AM - 01:00 AM	55.0	72.0	51.6
01:00 AM - 02:00 AM	53.6	68.2	50.6
02:00 AM - 03:00 AM	52.2	71.0	50.3
03:00 AM - 04:00 AM	52.5	79.1	49.4
04:00 AM - 05:00 AM	53.8	81.8	48.8
05:00 AM - 06:00 AM	51.4	68.1	49.3
06:00 AM - 07:00 AM	54.7	71.2	50.6
07:00 AM - 08:00 AM	59.3	80.7	52.4
08:00 AM - 09:00 AM	62.9	78.8	55.9
09:00 AM - 10:00 AM	58.1	78.3	51.8
10:00 AM - 11:00 AM	57.6	73.2	52.6
11:00 AM - 12:00 PM	57.6	73.4	52.7

Leq Average 24 hrs. (dB(A)) 58.9  
Lmax (dB(A)) 97.1  
L90 (dB(A)) 52.7  
Ldn (dB(A)) 62.3  
Standard (dB(A)) 70 115

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป  
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Chontichak

Chonticha Subongkoch  
Scientist (3)

Approved by

Supot S

Supot Salamteh  
Section Head



## Analysis / Test Report

TESTING  
No.0042

**Client :** THAI MMA Co., Ltd.  
88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150  
**P/O :** PMM-23-13  
**Project Name :** Environmental Monitoring  
**Project Location :** CCS Site 7

**Lot ID: 24116815**

Date Received : Nov 05, 2024  
Date Reported : Nov 11, 2024  
Report Number: 3161919-1

Page 1 of 1

**Sample Number** 24116815-5  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บ้านนาบะ (GPS 47P 734556, 1408551)  
**Measurement Date** Nov 03 - Nov 04, 2024  
**Measurement by** Chatchai Sukpia  
**Sound Level meter** Serial No. 472127

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	57.2	78.5	53.0
01:00 PM - 02:00 PM	57.7	79.9	53.2
02:00 PM - 03:00 PM	58.6	74.2	54.7
03:00 PM - 04:00 PM	57.8	73.6	54.7
04:00 PM - 05:00 PM	59.7	78.2	55.8
05:00 PM - 06:00 PM	59.6	72.7	56.0
06:00 PM - 07:00 PM	59.3	75.0	55.7
07:00 PM - 08:00 PM	59.6	78.1	55.9
08:00 PM - 09:00 PM	62.1	76.2	59.4
09:00 PM - 10:00 PM	59.1	78.1	57.2
10:00 PM - 11:00 PM	58.1	76.4	55.3
11:00 PM - 12:00 AM	57.2	81.2	54.6
12:00 AM - 01:00 AM	58.5	75.5	55.4
01:00 AM - 02:00 AM	56.0	68.7	51.2
02:00 AM - 03:00 AM	55.3	68.5	51.0
03:00 AM - 04:00 AM	57.2	73.5	51.4
04:00 AM - 05:00 AM	57.0	82.4	50.3
05:00 AM - 06:00 AM	57.1	70.7	50.4
06:00 AM - 07:00 AM	55.3	72.4	51.1
07:00 AM - 08:00 AM	59.7	75.3	52.5
08:00 AM - 09:00 AM	63.0	79.9	56.2
09:00 AM - 10:00 AM	58.8	77.8	54.4
10:00 AM - 11:00 AM	59.3	75.7	55.5
11:00 AM - 12:00 PM	58.7	73.6	54.9

Leq Average 24 hrs. (dB(A)) 58.8  
Lmax (dB(A)) 82.4  
L90 (dB(A)) 54.7  
Ldn (dB(A)) 63.9  
Standard (dB(A)) 70 115

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป  
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Chontichak

Chonticha Subongkoch  
Scientist (3)

Approved by

Supot S

Supot Salamteh  
Section Head

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## Analysis / Test Report

TESTING  
No.0042

**Client :** THAI MMA Co., Ltd.  
88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150  
**P/O :** PMM-23-13  
**Project Name :** Environmental Monitoring  
**Project Location :** CCS Site 7

**Lot ID: 24116815**

Date Received : Nov 05, 2024  
Date Reported : Nov 11, 2024  
Report Number: 3161920-1

Page 1 of 1

**Sample Number** 24116815-6  
**Parameter** Noise (Leq 24 hrs.)  
**Location** บ้านนาบะ (GPS 47P 734556, 1408551)  
**Measurement Date** Nov 04 - Nov 05, 2024  
**Measurement by** Chatchai Sukpia  
**Sound Level meter** Serial No. 472127

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	57.5	72.8	53.3
01:00 PM - 02:00 PM	57.7	76.3	53.5
02:00 PM - 03:00 PM	58.7	75.9	54.2
03:00 PM - 04:00 PM	59.1	74.4	54.6
04:00 PM - 05:00 PM	62.7	94.9	55.1
05:00 PM - 06:00 PM	60.9	79.3	56.3
06:00 PM - 07:00 PM	59.7	76.3	55.8
07:00 PM - 08:00 PM	59.9	71.8	57.2
08:00 PM - 09:00 PM	61.6	78.9	58.3
09:00 PM - 10:00 PM	60.2	71.9	58.2
10:00 PM - 11:00 PM	59.3	74.8	57.4
11:00 PM - 12:00 AM	58.8	70.5	57.1
12:00 AM - 01:00 AM	58.0	72.2	55.3
01:00 AM - 02:00 AM	56.7	74.1	55.0
02:00 AM - 03:00 AM	56.7	76.1	54.1
03:00 AM - 04:00 AM	56.3	71.5	53.4
04:00 AM - 05:00 AM	54.8	69.0	52.6
05:00 AM - 06:00 AM	54.4	72.9	52.7
06:00 AM - 07:00 AM	56.0	70.2	53.2
07:00 AM - 08:00 AM	60.1	75.8	54.1
08:00 AM - 09:00 AM	61.9	76.4	57.0
09:00 AM - 10:00 AM	59.3	76.0	54.7
10:00 AM - 11:00 AM	58.9	76.1	55.0
11:00 AM - 12:00 PM	59.1	77.1	54.6

Leq Average 24 hrs. (dB(A)) 59.2  
Lmax (dB(A)) 94.9  
L90 (dB(A)) 54.7  
Ldn (dB(A)) 64.1  
Standard (dB(A)) 70 115

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป  
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

Technical Management

Chontichak

Chonticha Subongkoch  
Scientist (3)

Approved by

Supot S

Supot Salamteh  
Section Head

คุณภาพอากาศภายในสถานประกอบการ

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## Analysis / Test Report

**Client** : THAI MMA Co., Ltd.  
88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150  
**P/O** : PMM-23-13  
**Project Name** : Environmental Monitoring  
**Project Location** : CCS Site 7

**Lot ID: 2479887**

Date Received : Aug 14, 2024  
Date Reported : Aug 17, 2024  
Report Number : 3058407-1

Page 1 of 5

**Sample Number** : 2479887-1  
**Sampled Date** : Aug 14, 2024  
**Sample Description** : Air Quality  
**Location** : ไฉระเหยออกจากถังซีลน้ำ (Water Seal)  
**Date Analysis Commenced** : Aug 16, 2024  
**Condition of Sample** : Drawn into one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
Total VOC	09:35 AM - 09:55 AM	ppm	-	0.10	1.8	No Standard	Total VOC Analyzer	-	Bangkok

**Guideline :**

**Sampled By** : Santi Chaichana

**Remark :**

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Approved by

*Orawan R.*

Orawan Rakyong  
Scientist (3)

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. No part of this report may be reproduced in any form without written consent from the laboratory. ALS Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

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**P/O :** PMM-23-13  
**Project Name :** Environmental Monitoring  
**Project Location :** CCS Site 7

**Lot ID: 2479887**

Date Received : Aug 14, 2024  
Date Reported : Aug 17, 2024  
Report Number : 3058407-1

Page 2 of 5

**Sample Number** 2479887-2  
**Sampled Date** Aug 14, 2024  
**Sample Description** Air Quality  
**Location** ไอระเหยที่ออกจากขั้นตอนการนำสารที่ได้จากการทำให้บริสุทธิ์ถ่ายลงถังขนาด 200 ลิตร  
**Date Analysis Commenced** Aug 16, 2024  
**Condition of Sample** Drawn into one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
Total VOC	09:30 AM - 09:50 AM	ppm	-	0.10	6.4	No Standard	Total VOC Analyzer	-	Bangkok

**Guideline :**

**Sampled By :** Santi Chaichana

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Approved by

*Orawan R.*

Orawan Rakyong  
Scientist (3)

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**P/O :** PMM-23-13  
**Project Name :** Environmental Monitoring  
**Project Location :** CCS Site 7

**Lot ID: 2479887**

Date Received : Aug 14, 2024  
Date Reported : Aug 17, 2024  
Report Number : 3058407-1

Page 3 of 5

**Sample Number** 2479887-3  
**Sampled Date** Aug 14, 2024  
**Sample Description** Air Quality  
**Location** ไอระเหยจากการถ่ายของเสียที่ไม่สามารถนำกลับมาใช้ได้เกิดจากกระบวนการลงสู่ถังขนาด 200 ลิตร  
**Date Analysis Commenced** Aug 16, 2024  
**Condition of Sample** Drawn into one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
Total VOC	09:32 AM - 09:52 AM	ppm	-	0.10	0.1	No Standard	Total VOC Analyzer	-	Bangkok

**Guideline :**

**Sampled By :** Santi Chaichana

**Remark :**

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Approved by

*Orawan R.*

Orawan Rakyong  
Scientist (3)

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**P/O :** PMM-23-13  
**Project Name :** Environmental Monitoring  
**Project Location :** CCS Site 7

**Lot ID: 2479887**

Date Received : Aug 14, 2024  
Date Reported : Aug 17, 2024  
Report Number : 3058407-1

Page 4 of 5

**Sample Number** 2479887-4  
**Sampled Date** Aug 14, 2024  
**Sample Description** Air Quality  
**Location** บริเวณโหละเหยชาออกจาก Carbon Absorber  
**Date Analysis Commenced** Aug 16, 2024  
**Condition of Sample** Drawn into one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
Total VOC	09:40 AM - 10:00 AM	ppm	-	0.10	38.8	No Standard	Total VOC Analyzer	-	Bangkok

**Guideline :**

**Sampled By :** Santi Chaichana

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Approved by

*Orawan R.*

Orawan Rakyong  
Scientist (3)

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**P/O** : PMM-23-13  
**Project Name** : Environmental Monitoring  
**Project Location** : CCS Site 7

**Lot ID: 2479887**

Date Received : Aug 14, 2024  
Date Reported : Aug 17, 2024  
Report Number : 3058407-1

Page 5 of 5

**Sample Number** : 2479887-5  
**Sampled Date** : Aug 14, 2024  
**Sample Description** : Air Quality  
**Location** : Cutter Zone  
**Date Analysis Commenced** : Aug 15, 2024  
**Condition of Sample** : Drawn into one filter paper placed in plastic cassette  
**Barometric Pressure** : 754 mmHg  
**Atmospheric Temperature** : 31.5 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
Total Dust	09:00 AM - 11:00 AM	mg/m3	-	0.15	<0.15	15	Based on NIOSH (1994), 0500	OSHA	Rayong

**Guideline :**

OSHA : Occupational Safety and Health Administration

**Sampled By** : Santi Chaichana

**Remark :**

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Approved by

*Orawan R.*

Orawan Rakyong  
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**P/O :** PMM-23-13  
**Project Name :** Environmental Monitoring  
**Project Location :** CCS Site 7

**Lot ID: 24116822**

Date Received : Nov 07, 2024  
Date Reported : Nov 13, 2024  
Report Number : 3134509-1

Page 1 of 5

**Sample Number** 24116822-1  
**Sampled Date** Nov 07, 2024  
**Sample Description** Air Quality  
**Location** ไอระเหยออกจากถังซีลน้ำ (Water Seal)  
**Date Analysis Commenced** Nov 08, 2024  
**Condition of Sample** Drawn into one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
Total VOC	09:15 AM - 09:35 AM	ppm	-	0.10	0.4	No Standard	Total VOC Analyzer	-	Bangkok

**Guideline :**

**Sampled By :** Prasanmit Kueanpet

**Remark :**

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Approved by

*Orawan R.*

Orawan Rakyong  
Scientist (3)

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**P/O :** PMM-23-13  
**Project Name :** Environmental Monitoring  
**Project Location :** CCS Site 7

**Lot ID: 24116822**

Date Received : Nov 07, 2024  
Date Reported : Nov 13, 2024  
Report Number : 3134509-1

Page 2 of 5

**Sample Number** 24116822-2  
**Sampled Date** Nov 07, 2024  
**Sample Description** Air Quality  
**Location** ไอระเหยที่ออกจากขั้นตอนการนำสารที่ได้จากการทำให้บริสุทธิ์ถ่ายลงถังขนาด 200 ลิตร  
**Date Analysis Commenced** Nov 08, 2024  
**Condition of Sample** Drawn into one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
Total VOC	09:15 AM - 09:35 AM	ppm	-	0.10	<0.1	No Standard	Total VOC Analyzer	-	Bangkok

**Guideline :**

**Sampled By :** Prasanmit Kueanpet

**Remark :**

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Approved by

*Orawan R.*

Orawan Rakyong  
Scientist (3)

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**P/O :** PMM-23-13  
**Project Name :** Environmental Monitoring  
**Project Location :** CCS Site 7

**Lot ID: 24116822**

Date Received : Nov 07, 2024  
Date Reported : Nov 13, 2024  
Report Number : 3134509-1

Page 3 of 5

**Sample Number** 24116822-3  
**Sampled Date** Nov 07, 2024  
**Sample Description** Air Quality  
**Location** ไอลระเหยจากการถ่ายของเสียที่ไม่สามารถนำกลับมาใช้ได้เกิดจากกระบวนการลงสู่ถังขนาด 200 ลิตร  
**Date Analysis Commenced** Nov 08, 2024  
**Condition of Sample** Drawn into one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
Total VOC	09:15 AM - 09:35 AM	ppm	-	0.10	7.9	No Standard	Total VOC Analyzer	-	Bangkok

**Guideline :**

**Sampled By :** Prasanmit Kueanpet

**Remark :**

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Approved by

*Orawan R.*

Orawan Rakyong  
Scientist (3)

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## Analysis / Test Report

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**P/O :** PMM-23-13  
**Project Name :** Environmental Monitoring  
**Project Location :** CCS Site 7

**Lot ID: 24116822**

Date Received : Nov 07, 2024

Date Reported : Nov 13, 2024

Report Number : 3134509-1

Page 4 of 5

**Sample Number** 24116822-4  
**Sampled Date** Nov 07, 2024  
**Sample Description** Air Quality  
**Location** บริเวณโหละเหยงขาออกจาก Carbon Absorber  
**Date Analysis Commenced** Nov 08, 2024  
**Condition of Sample** Drawn into one 10-L air sampling bag

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
Total VOC	09:15 AM - 09:35 AM	ppm	-	0.10	1.9	No Standard	Total VOC Analyzer	-	Bangkok

**Guideline :**

**Sampled By :** Prasanmit Kueanpet

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Approved by

*Orawan R.*

Orawan Rakyong  
Scientist (3)

Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. No part of this report may be reproduced in any form without written consent from the laboratory. ALS Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

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## Analysis / Test Report

**Client** : THAI MMA Co., Ltd.  
88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150  
**P/O** : PMM-23-13  
**Project Name** : Environmental Monitoring  
**Project Location** : CCS Site 7

**Lot ID: 24116822**

Date Received : Nov 07, 2024  
Date Reported : Nov 13, 2024  
Report Number : 3134509-1

Page 5 of 5

**Sample Number** : 24116822-5  
**Sampled Date** : Nov 07, 2024  
**Sample Description** : Air Quality  
**Location** : Cutter Zone  
**Date Analysis Commenced** : Nov 08, 2024  
**Condition of Sample** : Drawn into one filter paper placed in plastic cassette  
**Barometric Pressure** : 759 mmHg  
**Atmospheric Temperature** : 31.2 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
<b>Air Testing</b>									
Total Dust	09:15 AM - 11:15 AM	mg/m3	-	0.15	<0.15	15	Based on NIOSH (1994), OSHA 0500		Rayong

**Guideline :**

OSHA : Occupational Safety and Health Administration

**Sampled By** : Prasanmit Kueanpet

**Remark :**

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Approved by

*Orawan R.*

Orawan Rakyong  
Scientist (3)

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## Analysis / Test Report

**Client :** THAI MMA Co., Ltd.  
88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150  
**P/O :** PMM-23-13  
**Project Name :** Environmental Monitoring  
**Project Location :** CCS Site 7

**Lot ID: 24116824**

Date Received : Nov 07, 2024  
Date Reported : Nov 12, 2024  
Report Number: 3163708-1

Page 1 of 1

**Sample Number** 24116824-1  
**Parameter** Noise (Leq 8 hrs.)  
**Location** บริเวณ Process 300  
**Measurement Date** Nov 07, 2024  
**Measurement by** Prasanmit Kueanpet

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
08:58 AM - 09:58 AM	82.3	93.8	80.8
09:58 AM - 10:58 AM	81.1	86.4	80.7
10:58 AM - 11:58 AM	80.9	90.9	79.9
11:58 AM - 12:58 PM	80.2	88.4	79.6
12:58 PM - 01:58 PM	80.0	84.0	79.5
01:58 PM - 02:58 PM	79.8	82.5	79.5
02:58 PM - 03:58 PM	79.7	81.5	79.4
03:58 PM - 04:58 PM	80.0	81.8	79.7

Leq Average 8 hrs. (dB(A))

80.6

Lmax (dB(A))

93.8

Standard (dB(A))

90

140

Reference Method : ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย  
ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๔๖

**Technical Management**

Chontichak

Chonticha Subongkoch  
Scientist (3)

**Approved by**

Supot S

Supot Salamteh  
Section Head

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## Analysis / Test Report

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88/6, 3191 Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150  
**P/O :** PMM-23-13  
**Project Name :** Environmental Monitoring  
**Project Location :** CCS Site 7

**Lot ID: 24116824**

Date Received : Nov 07, 2024  
Date Reported : Nov 12, 2024  
Report Number: 3163709-1

Page 1 of 1

**Sample Number** 24116824-2  
**Parameter** Noise (Leq 8 hrs.)  
**Location** บริเวณ Packing  
**Measurement Date** Nov 07, 2024  
**Measurement by** Prasanmit Kueanpet

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
08:53 AM - 09:53 AM	71.5	81.9	67.4
09:53 AM - 10:53 AM	70.9	83.1	66.9
10:53 AM - 11:53 AM	72.6	85.7	67.9
11:53 AM - 12:53 PM	71.4	84.1	67.2
12:53 PM - 01:53 PM	72.3	86.8	68.1
01:53 PM - 02:53 PM	70.0	79.2	66.6
02:53 PM - 03:53 PM	70.8	84.0	66.5
03:53 PM - 04:53 PM	70.4	83.6	66.1

Leq Average 8 hrs. (dB(A))

71.3

Lmax (dB(A))

86.8

Standard (dB(A))

90

140

Reference Method : ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย  
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**Technical Management**

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