

ภาคผนวก ค

ผลการตรวจวัดคุณภาพสิ่งแวดล้อม

ภาคผนวก ค-1

ใบรับรองผลการตรวจวัดคุณภาพอากาศในบรรยากาศ



Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107399

Date Received : Oct 01, 2024
Date Reported : Oct 07, 2024
Report Number: 3113668-1

Page 1 of 1

Sample Description Air Quality
Location SCG site 3
Parameter Nitrogen dioxide (ppb)
Measurement Date Sep 23, 2024 - Sep 29, 2024
Measurement by Santi Chaichana

Time	24107399-1 Sep 23, 2024	24107399-2 Sep 24, 2024	24107399-3 Sep 25, 2024	24107399-4 Sep 26, 2024	24107399-5 Sep 27, 2024	24107399-6 Sep 28, 2024	24107399-7 Sep 29, 2024
11:00 AM - 12:00 PM	3.4	2.4	5.4	9.2	2.2	3.5	3.5
12:00 PM - 01:00 PM	2.0	2.0	4.4	7.4	3.0	2.8	2.6
01:00 PM - 02:00 PM	2.1	2.4	6.0	4.9	3.8	2.6	2.4
02:00 PM - 03:00 PM	2.3	2.2	6.4	6.2	3.9	3.3	2.4
03:00 PM - 04:00 PM	2.5	2.6	6.7	5.6	4.8	4.0	2.3
04:00 PM - 05:00 PM	2.6	2.8	4.5	5.0	3.9	4.0	2.9
05:00 PM - 06:00 PM	2.5	2.7	5.4	5.5	4.2	3.4	2.9
06:00 PM - 07:00 PM	2.4	2.5	6.4	5.3	4.1	3.8	3.2
07:00 PM - 08:00 PM	2.0	2.5	5.5	5.1	3.7	4.4	3.3
08:00 PM - 09:00 PM	2.1	2.3	4.6	4.1	3.5	3.1	3.7
09:00 PM - 10:00 PM	2.3	2.2	4.6	4.1	3.0	3.0	3.0
10:00 PM - 11:00 PM	2.8	2.1	4.0	3.9	2.9	3.1	3.1
11:00 PM - 12:00 AM	2.6	1.6	3.6	3.8	2.9	3.1	2.6
12:00 AM - 01:00 AM	2.8	1.9	3.0	3.7	2.5	2.7	2.9
01:00 AM - 02:00 AM	2.0	1.7	3.3	3.6	2.0	2.8	3.0
02:00 AM - 03:00 AM	1.6	1.6	3.0	3.2	2.0	2.6	2.8
03:00 AM - 04:00 AM	1.4	1.7	2.7	3.1	2.2	2.8	2.7
04:00 AM - 05:00 AM	1.4	1.9	2.7	2.8	2.1	2.3	2.9
05:00 AM - 06:00 AM	1.6	2.3	2.8	2.8	2.0	2.3	3.3
06:00 AM - 07:00 AM	1.8	2.3	3.1	3.1	2.2	2.5	3.3
07:00 AM - 08:00 AM	1.8	2.5	3.6	2.8	2.8	2.8	2.8
08:00 AM - 09:00 AM	1.8	2.4	3.4	2.6	3.0	3.0	2.5
09:00 AM - 10:00 AM	2.3	2.4	4.2	3.6	4.1	2.7	3.4
10:00 AM - 11:00 AM	2.7	4.1	7.0	3.7	3.9	3.0	3.9
Average (24 hrs)	2.2	2.3	4.4	4.4	3.1	3.1	3.0
1hr - Maximum	3.4	4.1	7.0	9.2	4.8	4.4	3.9
Standard 1hr	170 ppb (320 ug/m3)						
Standard 24 hrs	-						

Standard : Notification of the National Environment Board No. 33, 2009 (B.E. 2552).
Reference Method : US EPA Method Part 50 App. F (Chemiluminescence)

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.

Approved by

Orawan R.

Orawan Rakyong
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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107399

Date Received : Oct 01, 2024
Date Reported : Oct 07, 2024
Report Number: 3130030-1

Page 1 of 1

Sample Description Air Quality
Location วัดหนองแฟบ
Parameter Nitrogen dioxide (ppb)
Measurement Date Sep 23, 2024 - Sep 29, 2024
Measurement by Santi Chaichana

Time	24107399-8 Sep 23, 2024	24107399-9 Sep 24, 2024	24107399-10 Sep 25, 2024	24107399-11 Sep 26, 2024	24107399-12 Sep 27, 2024	24107399-13 Sep 28, 2024	24107399-14 Sep 29, 2024
02:00 PM - 03:00 PM	5.8	5.1	2.6	3.3	4.5	1.0	1.3
03:00 PM - 04:00 PM	7.3	6.3	2.8	2.9	3.9	1.0	1.3
04:00 PM - 05:00 PM	3.5	6.4	2.7	1.3	2.5	1.0	1.5
05:00 PM - 06:00 PM	4.1	5.8	2.6	1.4	1.9	0.8	1.3
06:00 PM - 07:00 PM	4.2	5.4	2.4	1.5	1.5	1.2	1.8
07:00 PM - 08:00 PM	3.6	5.6	3.3	2.8	1.7	1.4	1.7
08:00 PM - 09:00 PM	1.7	5.2	4.6	2.8	2.1	1.9	2.7
09:00 PM - 10:00 PM	2.3	6.4	7.0	2.8	2.4	2.0	2.4
10:00 PM - 11:00 PM	3.0	5.7	6.3	3.9	2.3	1.4	2.0
11:00 PM - 12:00 AM	3.8	5.7	5.2	3.5	2.3	1.2	1.3
12:00 AM - 01:00 AM	3.5	4.7	3.0	2.7	1.9	1.1	1.2
01:00 AM - 02:00 AM	3.9	4.2	2.8	3.7	1.7	1.2	1.0
02:00 AM - 03:00 AM	3.9	4.2	2.8	3.8	1.5	1.0	0.8
03:00 AM - 04:00 AM	3.6	3.9	1.2	2.4	1.2	1.0	0.8
04:00 AM - 05:00 AM	3.2	3.4	1.3	3.1	1.0	0.7	1.8
05:00 AM - 06:00 AM	3.2	2.8	2.5	3.6	2.0	0.6	1.9
06:00 AM - 07:00 AM	3.1	2.9	1.3	3.1	2.4	0.6	1.7
07:00 AM - 08:00 AM	3.4	2.5	2.0	1.9	2.4	0.6	1.1
08:00 AM - 09:00 AM	4.7	2.6	3.7	1.6	1.1	0.9	1.2
09:00 AM - 10:00 AM	9.2	2.2	4.2	2.2	1.8	1.3	2.2
10:00 AM - 11:00 AM	25.8	2.7	4.0	3.0	3.3	1.9	2.4
11:00 AM - 12:00 PM	2.6	9.9	5.1	3.1	1.7	1.6	1.8
12:00 PM - 01:00 PM	4.6	19.0	4.3	4.0	1.5	1.1	4.6
01:00 PM - 02:00 PM	6.3	17.0	3.7	3.5	1.3	1.2	3.0
Average (24 hrs)	5.0	5.8	3.4	2.8	2.1	1.2	1.8
1hr - Maximum	25.8	19.0	7.0	4.0	4.5	2.0	4.6
Standard 1hr	170 ppb (320 ug/m3)						
Standard 24 hrs	-						

Standard : Notification of the National Environment Board No. 33, 2009 (B.E. 2552).
Reference Method : US EPAMethod Part 50 App. F (Chemiluminescence)

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Approved by

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Orawan Rakyong
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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107399

Date Received : Oct 01, 2024
Date Reported : Oct 07, 2024
Report Number: 3130032-1

Page 1 of 1

Sample Description Air Quality
Location รร.บ้านนาบตาพุด
Parameter Nitrogen dioxide (ppb)
Measurement Date Sep 23, 2024 - Sep 29, 2024
Measurement by Santi Chaichana

Time	24107399-15 Sep 23, 2024	24107399-16 Sep 24, 2024	24107399-17 Sep 25, 2024	24107399-18 Sep 26, 2024	24107399-19 Sep 27, 2024	24107399-20 Sep 28, 2024	24107399-21 Sep 29, 2024
12:00 PM - 01:00 PM	1.6	1.2	2.0	2.0	3.6	4.6	3.4
01:00 PM - 02:00 PM	1.9	1.8	3.5	1.9	3.0	3.8	3.7
02:00 PM - 03:00 PM	1.6	2.2	6.3	3.0	2.9	4.7	3.7
03:00 PM - 04:00 PM	1.2	1.9	4.8	3.1	3.5	3.5	2.8
04:00 PM - 05:00 PM	1.3	2.3	5.8	3.4	5.0	3.6	2.8
05:00 PM - 06:00 PM	1.5	2.1	3.2	2.3	5.3	5.2	3.8
06:00 PM - 07:00 PM	1.7	1.9	4.2	2.9	6.2	4.5	2.9
07:00 PM - 08:00 PM	2.0	2.4	4.0	3.8	5.8	5.3	3.2
08:00 PM - 09:00 PM	1.9	2.8	3.2	3.6	5.4	5.5	3.8
09:00 PM - 10:00 PM	1.5	2.6	3.6	2.6	4.8	5.3	4.1
10:00 PM - 11:00 PM	2.2	2.3	2.6	5.1	4.4	4.2	4.0
11:00 PM - 12:00 AM	2.0	2.2	3.0	4.4	3.4	3.7	3.6
12:00 AM - 01:00 AM	2.5	1.7	4.2	4.3	3.2	2.9	2.7
01:00 AM - 02:00 AM	3.1	1.5	3.7	4.1	2.8	2.7	2.3
02:00 AM - 03:00 AM	4.0	1.6	4.2	3.6	3.0	2.4	2.3
03:00 AM - 04:00 AM	2.8	1.9	3.6	3.7	3.0	1.8	2.3
04:00 AM - 05:00 AM	1.8	1.4	3.5	3.4	2.5	1.9	2.2
05:00 AM - 06:00 AM	1.1	1.2	3.0	3.0	2.6	2.2	2.3
06:00 AM - 07:00 AM	0.9	1.5	2.8	2.9	2.2	2.0	2.7
07:00 AM - 08:00 AM	1.0	1.6	2.8	2.9	2.5	2.0	2.8
08:00 AM - 09:00 AM	1.1	1.7	2.9	2.9	2.0	2.5	3.4
09:00 AM - 10:00 AM	1.3	1.7	2.8	2.8	2.5	2.5	3.5
10:00 AM - 11:00 AM	1.4	1.7	3.2	2.0	2.7	3.1	3.5
11:00 AM - 12:00 PM	1.3	1.4	3.1	2.4	3.5	3.9	2.7
Average (24 hrs)	1.8	1.9	3.6	3.2	3.6	3.5	3.1
1hr - Maximum	4.0	2.8	6.3	5.1	6.2	5.5	4.1
Standard 1hr	170 ppb (320 ug/m3)						
Standard 24 hrs	-						

Standard : Notification of the National Environment Board No. 33, 2009 (B.E. 2552).
Reference Method : US EPA Method Part 50 App. F (Chemiluminescence)

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Approved by

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Orawan Rakyong
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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107406

Date Received : Sep 30, 2024
Date Reported : Oct 07, 2024
Report Number : 3113693-1

Page 1 of 21

Sample Number 24107406-1
Sampled Date Sep 23, 2024
Sample Description Air Quality
Location SCG site 3
Date Analysis Commenced Oct 01, 2024
Condition of Sample Drawn into one glass filter paper (8x10 inch) placed in plastic bag and one 10-L air sampling bag
Barometric Pressure 756 mmHg
Atmospheric Temperature 32.6 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Total Hydrocarbon as Methane *	23/09/24 - 24/09/24	ppm	-	1.0	7.3	No Standard	Total Hydrocarbon Analyzer (FID)	-	Rayong
Total Suspended Particulate	23/09/24 - 24/09/24	mg/m3	-	0.002	0.022	0.33	US EPA 40 CFR Part 50, Appendix B	NEB No.24	Rayong

Guideline :

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

Sampled By : Santi Chaichana

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.

Approved by

Thanita K.

Thanita Kulsuriwong
Scientist (4)

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107406

Date Received : Sep 30, 2024

Date Reported : Oct 07, 2024

Report Number : 3113693-1

Page 2 of 21

Sample Number 24107406-2
Sampled Date Sep 24, 2024
Sample Description Air Quality
Location SCG site 3
Date Analysis Commenced Oct 01, 2024
Condition of Sample Drawn into one glass filter paper (8x10 inch) placed in plastic bag and one 10-L air sampling bag
Barometric Pressure 756 mmHg
Atmospheric Temperature 31.7 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Total Hydrocarbon as Methane *	24/09/24 - 25/09/24	ppm	-	1.0	3.5	No Standard	Total Hydrocarbon Analyzer (FID)	-	Rayong
Total Suspended Particulate	24/09/24 - 25/09/24	mg/m3	-	0.002	0.027	0.33	US EPA 40 CFR Part 50, Appendix B	NEB No.24	Rayong

Guideline :

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

Sampled By : Santi Chaichana

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Approved by

Thanita K.

Thanita Kulsuriwong
Scientist (4)

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107406

Date Received : Sep 30, 2024

Date Reported : Oct 07, 2024

Report Number : 3113693-1

Page 3 of 21

Sample Number 24107406-3
Sampled Date Sep 25, 2024
Sample Description Air Quality
Location SCG site 3
Date Analysis Commenced Oct 01, 2024
Condition of Sample Drawn into one glass filter paper (8x10 inch) placed in plastic bag and one 10-L air sampling bag
Barometric Pressure 756 mmHg
Atmospheric Temperature 31.4 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Total Hydrocarbon as Methane *	25/09/24 - 26/09/24	ppm	-	1.0	2.2	No Standard	Total Hydrocarbon Analyzer (FID)	-	Rayong
Total Suspended Particulate	25/09/24 - 26/09/24	mg/m3	-	0.002	0.035	0.33	US EPA 40 CFR Part 50, Appendix B	NEB No.24	Rayong

Guideline :

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

Sampled By : Santi Chaichana

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Approved by

Thanita K.

Thanita Kulsuriwong
Scientist (4)

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107406

Date Received : Sep 30, 2024
Date Reported : Oct 07, 2024
Report Number : 3113693-1

Page 4 of 21

Sample Number 24107406-4
Sampled Date Sep 26, 2024
Sample Description Air Quality
Location SCG site 3
Date Analysis Commenced Oct 01, 2024
Condition of Sample Drawn into one glass filter paper (8x10 inch) placed in plastic bag and one 10-L air sampling bag
Barometric Pressure 756 mmHg
Atmospheric Temperature 30.6 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Total Hydrocarbon as Methane *	26/09/24 - 27/09/24	ppm	-	1.0	2.7	No Standard	Total Hydrocarbon Analyzer (FID)	-	Rayong
Total Suspended Particulate	26/09/24 - 27/09/24	mg/m3	-	0.002	0.045	0.33	US EPA 40 CFR Part 50, Appendix B	NEB No.24	Rayong

Guideline :

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

Sampled By : Santi Chaichana

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Approved by

Thanita K.

Thanita Kulsuriwong
Scientist (4)

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107406

Date Received : Sep 30, 2024
Date Reported : Oct 07, 2024
Report Number : 3113693-1

Page 5 of 21

Sample Number 24107406-5
Sampled Date Sep 27, 2024
Sample Description Air Quality
Location SCG site 3
Date Analysis Commenced Oct 01, 2024
Condition of Sample Drawn into one glass filter paper (8x10 inch) placed in plastic bag and one 10-L air sampling bag
Barometric Pressure 756 mmHg
Atmospheric Temperature 30.8 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Total Hydrocarbon as Methane *	27/09/24 - 28/09/24	ppm	-	1.0	2.5	No Standard	Total Hydrocarbon Analyzer (FID)	-	Rayong
Total Suspended Particulate	27/09/24 - 28/09/24	mg/m3	-	0.002	0.034	0.33	US EPA 40 CFR Part 50, Appendix B	NEB No.24	Rayong

Guideline :

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

Sampled By : Santi Chaichana

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
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P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107406

Date Received : Sep 30, 2024
Date Reported : Oct 07, 2024
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Sample Number 24107406-6
Sampled Date Sep 28, 2024
Sample Description Air Quality
Location SCG site 3
Date Analysis Commenced Oct 01, 2024
Condition of Sample Drawn into one glass filter paper (8x10 inch) placed in plastic bag and one 10-L air sampling bag
Barometric Pressure 756 mmHg
Atmospheric Temperature 31.4 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Total Hydrocarbon as Methane *	28/09/24 - 29/09/24	ppm	-	1.0	3.4	No Standard	Total Hydrocarbon Analyzer (FID)	-	Rayong
Total Suspended Particulate	28/09/24 - 29/09/24	mg/m3	-	0.002	0.022	0.33	US EPA 40 CFR Part 50, Appendix B	NEB No.24	Rayong

Guideline :

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

Sampled By : Santi Chaichana

Remark :

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Approved by

Thanita K.

Thanita Kulsuriwong
Scientist (4)

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107406

Date Received : Sep 30, 2024
Date Reported : Oct 07, 2024
Report Number : 3113693-1

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Sample Number 24107406-7
Sampled Date Sep 29, 2024
Sample Description Air Quality
Location SCG site 3
Date Analysis Commenced Oct 01, 2024
Condition of Sample Drawn into one glass filter paper (8x10 inch) placed in plastic bag and one 10-L air sampling bag
Barometric Pressure 756 mmHg
Atmospheric Temperature 32.1 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Total Hydrocarbon as Methane *	29/09/24 - 30/09/24	ppm	-	1.0	2.2	No Standard	Total Hydrocarbon Analyzer (FID)	-	Rayong
Total Suspended Particulate	29/09/24 - 30/09/24	mg/m3	-	0.002	0.026	0.33	US EPA 40 CFR Part 50, Appendix B	NEB No.24	Rayong

Guideline :

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

Sampled By : Santi Chaichana

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No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107406

Date Received : Sep 30, 2024

Date Reported : Oct 07, 2024

Report Number : 3113693-1

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Sample Number 24107406-8
Sampled Date Sep 23, 2024
Sample Description Air Quality
Location วัดหนองแฟบ
Date Analysis Commenced Oct 01, 2024
Condition of Sample Drawn into one glass filter paper (8x10 inch) placed in plastic bag and one 10-L air sampling bag
Barometric Pressure 754 mmHg
Atmospheric Temperature 28.0 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Total Hydrocarbon as Methane *	23/09/24 - 24/09/24	ppm	-	1.0	3.7	No Standard	Total Hydrocarbon Analyzer (FID)	-	Rayong
Total Suspended Particulate	23/09/24 - 24/09/24	mg/m3	-	0.002	0.023	0.33	US EPA 40 CFR Part 50, Appendix B	NEB No.24	Rayong

Guideline :

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

Sampled By : Santi Chaichana

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271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107406

Date Received : Sep 30, 2024
Date Reported : Oct 07, 2024
Report Number : 3113693-1

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Sample Number 24107406-9
Sampled Date Sep 24, 2024
Sample Description Air Quality
Location วัดหนองแฟบ
Date Analysis Commenced Oct 01, 2024
Condition of Sample Drawn into one glass filter paper (8x10 inch) placed in plastic bag and one 10-L air sampling bag
Barometric Pressure 754 mmHg
Atmospheric Temperature 28.2 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Total Hydrocarbon as Methane *	24/09/24 - 25/09/24	ppm	-	1.0	7.0	No Standard	Total Hydrocarbon Analyzer (FID)	-	Rayong
Total Suspended Particulate	24/09/24 - 25/09/24	mg/m3	-	0.002	0.024	0.33	US EPA 40 CFR Part 50, Appendix B	NEB No.24	Rayong

Guideline :

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

Sampled By : Santi Chaichana

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No.0042

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P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107406

Date Received : Sep 30, 2024

Date Reported : Oct 07, 2024

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Sample Number : 24107406-10
Sampled Date : Sep 25, 2024
Sample Description : Air Quality
Location : วัดหนองแฟบ
Date Analysis Commenced : Oct 01, 2024
Condition of Sample : Drawn into one glass filter paper (8x10 inch) placed in plastic bag and one 10-L air sampling bag
Barometric Pressure : 759 mmHg
Atmospheric Temperature : 29.6 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Total Hydrocarbon as Methane *	25/09/24 - 26/09/24	ppm	-	1.0	4.2	No Standard	Total Hydrocarbon Analyzer (FID)	-	Rayong
Total Suspended Particulate	25/09/24 - 26/09/24	mg/m3	-	0.002	0.044	0.33	US EPA 40 CFR Part 50, Appendix B	NEB No.24	Rayong

Guideline :

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

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P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107406

Date Received : Sep 30, 2024
Date Reported : Oct 07, 2024
Report Number : 3113693-1

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Sample Number 24107406-11
Sampled Date Sep 26, 2024
Sample Description Air Quality
Location วัดหนองแฟบ
Date Analysis Commenced Oct 01, 2024
Condition of Sample Drawn into one glass filter paper (8x10 inch) placed in plastic bag and one 10-L air sampling bag
Barometric Pressure 759 mmHg
Atmospheric Temperature 32.0 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Total Hydrocarbon as Methane *	26/09/24 - 27/09/24	ppm	-	1.0	3.6	No Standard	Total Hydrocarbon Analyzer (FID)	-	Rayong
Total Suspended Particulate	26/09/24 - 27/09/24	mg/m3	-	0.002	0.050	0.33	US EPA 40 CFR Part 50, Appendix B	NEB No.24	Rayong

Guideline :

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P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107406

Date Received : Sep 30, 2024
Date Reported : Oct 07, 2024
Report Number : 3113693-1

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Sample Number : 24107406-12
Sampled Date : Sep 27, 2024
Sample Description : Air Quality
Location : วัดหนองแฟบ
Date Analysis Commenced : Oct 01, 2024
Condition of Sample : Drawn into one glass filter paper (8x10 inch) placed in plastic bag and one 10-L air sampling bag
Barometric Pressure : 759 mmHg
Atmospheric Temperature : 32.9 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Total Hydrocarbon as Methane *	27/09/24 - 28/09/24	ppm	-	1.0	5.3	No Standard	Total Hydrocarbon Analyzer (FID)	-	Rayong
Total Suspended Particulate	27/09/24 - 28/09/24	mg/m3	-	0.002	0.037	0.33	US EPA 40 CFR Part 50, Appendix B	NEB No.24	Rayong

Guideline :

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P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107406

Date Received : Sep 30, 2024
Date Reported : Oct 07, 2024
Report Number : 3113693-1

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Sample Number 24107406-13
Sampled Date Sep 28, 2024
Sample Description Air Quality
Location วัดหนองแฟบ
Date Analysis Commenced Oct 01, 2024
Condition of Sample Drawn into one glass filter paper (8x10 inch) placed in plastic bag and one 10-L air sampling bag
Barometric Pressure 759 mmHg
Atmospheric Temperature 32.6 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Total Hydrocarbon as Methane *	28/09/24 - 29/09/24	ppm	-	1.0	4.3	No Standard	Total Hydrocarbon Analyzer (FID)	-	Rayong
Total Suspended Particulate	28/09/24 - 29/09/24	mg/m3	-	0.002	0.018	0.33	US EPA 40 CFR Part 50, Appendix B	NEB No.24	Rayong

Guideline :

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P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107406

Date Received : Sep 30, 2024
Date Reported : Oct 07, 2024
Report Number : 3113693-1

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Sample Number : 24107406-14
Sampled Date : Sep 29, 2024
Sample Description : Air Quality
Location : วัดหนองแฟบ
Date Analysis Commenced : Oct 01, 2024
Condition of Sample : Drawn into one glass filter paper (8x10 inch) placed in plastic bag and one 10-L air sampling bag
Barometric Pressure : 759 mmHg
Atmospheric Temperature : 32.1 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Total Hydrocarbon as Methane *	29/09/24 - 30/09/24	ppm	-	1.0	2.1	No Standard	Total Hydrocarbon Analyzer (FID)	-	Rayong
Total Suspended Particulate	29/09/24 - 30/09/24	mg/m3	-	0.002	0.021	0.33	US EPA 40 CFR Part 50, Appendix B	NEB No.24	Rayong

Guideline :

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P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107406

Date Received : Sep 30, 2024

Date Reported : Oct 07, 2024

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Sample Number : 24107406-15
Sampled Date : Sep 23, 2024
Sample Description : Air Quality
Location : รร.บ้านมาบตาพุด
Date Analysis Commenced : Oct 01, 2024
Condition of Sample : Drawn into one glass filter paper (8x10 inch) placed in plastic bag and one 10-L air sampling bag
Barometric Pressure : 756 mmHg
Atmospheric Temperature : 32.6 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Total Hydrocarbon as Methane *	23/09/24 - 24/09/24	ppm	-	1.0	5.9	No Standard	Total Hydrocarbon Analyzer (FID)	-	Rayong
Total Suspended Particulate	23/09/24 - 24/09/24	mg/m3	-	0.002	0.026	0.33	US EPA 40 CFR Part 50, Appendix B	NEB No.24	Rayong

Guideline :

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Sampled By : Santi Chaichana

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271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107406

Date Received : Sep 30, 2024
Date Reported : Oct 07, 2024
Report Number : 3113693-1

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Sample Number : 24107406-16
Sampled Date : Sep 24, 2024
Sample Description : Air Quality
Location : รร.บ้านมาบตาพุด
Date Analysis Commenced : Oct 01, 2024
Condition of Sample : Drawn into one glass filter paper (8x10 inch) placed in plastic bag and one 10-L air sampling bag
Barometric Pressure : 756 mmHg
Atmospheric Temperature : 31.7 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Total Hydrocarbon as Methane *	24/09/24 - 25/09/24	ppm	-	1.0	7.0	No Standard	Total Hydrocarbon Analyzer (FID)	-	Rayong
Total Suspended Particulate	24/09/24 - 25/09/24	mg/m3	-	0.002	0.029	0.33	US EPA 40 CFR Part 50, Appendix B	NEB No.24	Rayong

Guideline :

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

Sampled By : Santi Chaichana

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P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107406

Date Received : Sep 30, 2024

Date Reported : Oct 07, 2024

Report Number : 3113693-1

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Sample Number : 24107406-17
Sampled Date : Sep 25, 2024
Sample Description : Air Quality
Location : รร.บ้านมาบตาพุด
Date Analysis Commenced : Oct 01, 2024
Condition of Sample : Drawn into one glass filter paper (8x10 inch) placed in plastic bag and one 10-L air sampling bag
Barometric Pressure : 756 mmHg
Atmospheric Temperature : 31.4 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Total Hydrocarbon as Methane *	25/09/24 - 26/09/24	ppm	-	1.0	4.9	No Standard	Total Hydrocarbon Analyzer (FID)	-	Rayong
Total Suspended Particulate	25/09/24 - 26/09/24	mg/m3	-	0.002	0.031	0.33	US EPA 40 CFR Part 50, Appendix B	NEB No.24	Rayong

Guideline :

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Thanita Kulsuriwong
Scientist (4)

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107406

Date Received : Sep 30, 2024

Date Reported : Oct 07, 2024

Report Number : 3113693-1

Page 18 of 21

Sample Number : 24107406-18
Sampled Date : Sep 26, 2024
Sample Description : Air Quality
Location : รร.บ้านมาบตาพุด
Date Analysis Commenced : Oct 01, 2024
Condition of Sample : Drawn into one glass filter paper (8x10 inch) placed in plastic bag and one 10-L air sampling bag
Barometric Pressure : 756 mmHg
Atmospheric Temperature : 30.6 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Total Hydrocarbon as Methane *	26/09/24 - 27/09/24	ppm	-	1.0	6.1	No Standard	Total Hydrocarbon Analyzer (FID)	-	Rayong
Total Suspended Particulate	26/09/24 - 27/09/24	mg/m3	-	0.002	0.044	0.33	US EPA 40 CFR Part 50, Appendix B	NEB No.24	Rayong

Guideline :

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

Sampled By : Santi Chaichana

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.

Approved by

Thanita K.

Thanita Kulsuriwong
Scientist (4)

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107406

Date Received : Sep 30, 2024
Date Reported : Oct 07, 2024
Report Number : 3113693-1

Page 19 of 21

Sample Number : 24107406-19
Sampled Date : Sep 27, 2024
Sample Description : Air Quality
Location : รร.บ้านมาบตาพุด
Date Analysis Commenced : Oct 01, 2024
Condition of Sample : Drawn into one glass filter paper (8x10 inch) placed in plastic bag and one 10-L air sampling bag
Barometric Pressure : 756 mmHg
Atmospheric Temperature : 30.8 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Total Hydrocarbon as Methane *	27/09/24 - 28/09/24	ppm	-	1.0	7.0	No Standard	Total Hydrocarbon Analyzer (FID)	-	Rayong
Total Suspended Particulate	27/09/24 - 28/09/24	mg/m3	-	0.002	0.032	0.33	US EPA 40 CFR Part 50, Appendix B	NEB No.24	Rayong

Guideline :

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

Sampled By : Santi Chaichana

Remark :

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Approved by

Thanita K.

Thanita Kulsuriwong
Scientist (4)

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107406

Date Received : Sep 30, 2024

Date Reported : Oct 07, 2024

Report Number : 3113693-1

Page 20 of 21

Sample Number : 24107406-20
Sampled Date : Sep 28, 2024
Sample Description : Air Quality
Location : รร.บ้านมาบตาพุด
Date Analysis Commenced : Oct 01, 2024
Condition of Sample : Drawn into one glass filter paper (8x10 inch) placed in plastic bag and one 10-L air sampling bag
Barometric Pressure : 756 mmHg
Atmospheric Temperature : 31.4 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Total Hydrocarbon as Methane *	28/09/24 - 29/09/24	ppm	-	1.0	4.9	No Standard	Total Hydrocarbon Analyzer (FID)	-	Rayong
Total Suspended Particulate	28/09/24 - 29/09/24	mg/m3	-	0.002	0.026	0.33	US EPA 40 CFR Part 50, Appendix B	NEB No.24	Rayong

Guideline :

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

Sampled By : Santi Chaichana

Remark :

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Approved by

Thanita K.

Thanita Kulsuriwong
Scientist (4)

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107406

Date Received : Sep 30, 2024

Date Reported : Oct 07, 2024

Report Number : 3113693-1

Page 21 of 21

Sample Number 24107406-21
Sampled Date Sep 29, 2024
Sample Description Air Quality
Location รร.บ้านมาบตาพุด
Date Analysis Commenced Oct 01, 2024
Condition of Sample Drawn into one glass filter paper (8x10 inch) placed in plastic bag and one 10-L air sampling bag
Barometric Pressure 756 mmHg
Atmospheric Temperature 32.1 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Total Hydrocarbon as Methane *	29/09/24 - 30/09/24	ppm	-	1.0	3.2	No Standard	Total Hydrocarbon Analyzer (FID)	-	Rayong
Total Suspended Particulate	29/09/24 - 30/09/24	mg/m3	-	0.002	0.023	0.33	US EPA 40 CFR Part 50, Appendix B	NEB No.24	Rayong

Guideline :

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

Sampled By : Santi Chaichana

Remark :

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

Thanita K.

Thanita Kulsuriwong
Scientist (4)

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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150

Lot ID: 24107404
Date Received : Sep 30, 2024
Date Reported : Oct 04, 2024
Report Number : 3113690-1

P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Page 1 of 2

Sample Number 24107404-1 to 7
Parameter Wind Speed / Wind Direction
Location รร บ้านนาบตาพุด
Sampling Date Sep 23 - Sep 30, 2024
Sampling by Santi Chaichana

Time	Sep 23 - Sep 24, 2024			Sep 24 - Sep 25, 2024			Sep 25 - Sep 26, 2024			Sep 26 - Sep 27, 2024			Sep 27 - Sep 28, 2024			Sep 28 - Sep 29, 2024			Sep 29 - Sep 30, 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)	
12:00 PM - 01:00 PM	1.3	200.0	SSW	1.5	179.0	S	1.5	359.0	N	1.7	147.0	SSE	1.0	216.0	SW	2.0	28.0	NNE	1.0	197.0	SSW
01:00 PM - 02:00 PM	0.7	214.0	SW	1.0	180.0	S	0.9	181.0	S	1.1	17.0	NNE	1.2	206.0	SSW	1.3	342.0	NNW	1.0	208.0	SSW
02:00 PM - 03:00 PM	0.0	-	-	1.2	208.0	SSW	0.2	-	-	0.4	322.0	NW	1.3	258.0	WSW	1.6	168.0	SSE	0.2	-	-
03:00 PM - 04:00 PM	0.2	-	-	0.4	184.0	S	0.4	191.0	S	0.6	10.0	N	0.6	193.0	SSW	1.0	202.0	SSW	0.3	150.0	SSE
04:00 PM - 05:00 PM	0.3	273.0	W	1.0	214.0	SW	0.5	234.0	SW	0.7	0.0	N	1.0	5.0	N	0.5	230.0	SW	0.4	138.0	SE
05:00 PM - 06:00 PM	0.3	246.0	WSW	2.0	186.0	S	0.5	220.0	SW	0.7	357.0	N	0.2	-	-	0.6	191.0	S	2.0	185.0	S
06:00 PM - 07:00 PM	0.6	224.0	SW	0.8	141.0	SE	0.8	359.0	N	1.0	9.0	N	0.6	218.0	SW	0.3	181.0	S	1.3	156.0	SSE
07:00 PM - 08:00 PM	0.9	196.0	SSW	1.1	176.0	S	1.1	5.0	N	1.3	115.0	ESE	0.3	44.0	NE	0.2	-	-	0.2	-	-
08:00 PM - 09:00 PM	0.3	171.0	S	0.1	-	-	0.1	-	-	0.7	165.0	SSE	0.2	-	-	0.1	-	-	0.5	193.0	SSW
09:00 PM - 10:00 PM	1.1	225.0	SW	0.9	15.0	NNE	0.9	310.0	NW	1.5	6.0	N	0.1	-	-	0.6	85.0	E	0.2	-	-
10:00 PM - 11:00 PM	1.3	112.0	ESE	1.1	75.0	ENE	1.1	359.0	N	1.7	299.0	WNW	0.6	350.0	N	0.5	6.0	N	0.3	140.0	SE
11:00 PM - 12:00 AM	0.8	191.0	S	0.6	9.0	N	0.6	345.0	NNW	1.2	347.0	NNW	0.3	359.0	N	0.4	70.0	ENE	0.7	195.0	SSW
12:00 AM - 01:00 AM	1.9	227.0	SW	1.7	30.0	NNE	1.7	24.0	NNE	2.1	172.0	S	0.6	343.0	NNW	0.3	177.0	S	0.0	-	-
01:00 AM - 02:00 AM	0.9	355.0	N	0.7	7.0	N	0.7	23.0	NNE	1.1	168.0	SSE	0.4	1.0	N	0.2	-	-	0.1	-	-
02:00 AM - 03:00 AM	1.1	328.0	NNW	0.9	5.0	N	0.9	359.0	N	1.3	2.0	N	1.0	8.0	N	0.0	-	-	0.6	359.0	N
03:00 AM - 04:00 AM	1.2	2.0	N	1.0	3.0	N	1.0	342.0	NNW	1.4	359.0	N	0.3	-	-	1.0	185.0	S	0.8	188.0	S
04:00 AM - 05:00 AM	1.8	151.0	SSE	1.6	333.0	NNW	1.6	12.0	NNE	2.0	359.0	N	0.8	13.0	NNE	1.2	198.0	SSW	0.1	-	-
05:00 AM - 06:00 AM	0.6	18.0	NNE	0.4	176.0	S	0.4	19.0	NNE	0.8	24.0	NNE	0.6	352.0	N	1.0	208.0	SSW	0.6	162.0	SSE
06:00 AM - 07:00 AM	0.2	-	-	2.0	3.0	N	0.0	-	-	0.4	358.0	N	2.0	10.0	N	2.1	198.0	SSW	0.3	11.0	N
07:00 AM - 08:00 AM	0.2	-	-	1.5	34.0	NE	0.0	-	-	0.4	4.0	N	1.2	324.0	NW	0.6	198.0	SSW	1.0	7.0	N
08:00 AM - 09:00 AM	2.1	173.0	S	1.9	332.0	NNW	1.9	175.0	S	2.3	320.0	NW	1.0	171.0	S	0.7	133.0	SE	1.5	297.0	WNW
09:00 AM - 10:00 AM	0.4	215.0	SW	0.2	-	-	0.2	-	-	0.6	190.0	S	0.6	223.0	SW	0.5	279.0	W	1.0	300.0	WNW
10:00 AM - 11:00 AM	0.5	222.0	SW	2.0	33.0	NNE	0.3	206.0	SSW	0.7	119.0	ESE	0.8	197.0	SSW	0.3	201.0	SSW	0.9	342.0	NNW
11:00 AM - 12:00 PM	0.0	-	-	0.6	197.0	SSW	0.6	181.0	S	0.2	-	-	0.1	-	-	0.2	-	-	0.5	299.0	WNW

Reference Method : Cup Anemometer & Anodized Aluminium Vane Method

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Approved by

Sarayuth Jittranont
Assistant General Manager



Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150

Lot ID: 24107404
Date Received : Sep 30, 2024
Date Reported : Oct 04, 2024
Report Number : 3113690-1

P/O : PMM-23-13

Project Name : Environmental Monitoring

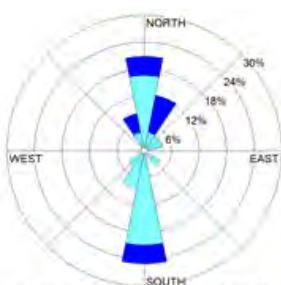
Project Location : MMA Site 3

Page 2 of 2

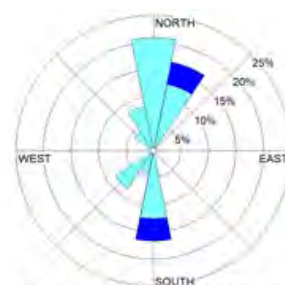
Wind Rose



Date : Sep 23-24, 2024



Date : Sep 24-25, 2024



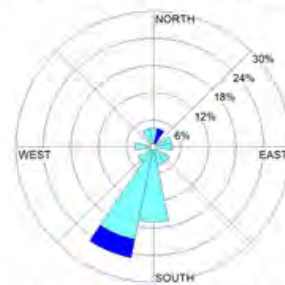
Date : Sep 25-26, 2024



Date : Sep 26-27, 2024



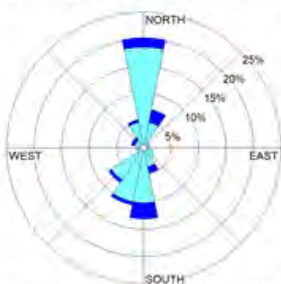
Date : Sep 27-28, 2024



Date : Sep 28-29, 2024



Date : Sep 29-30, 2024



Date : Sep 23-30, 2024

WS (m/s)	%
≥ 10.0	0.00
8.0-10.0	0.00
5.5-8.0	0.00
3.3-5.5	0.00
1.7-3.3	11.31
0.3-1.7	72.02
Calms	16.67

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Approved by

Sarayuth Jitranont
Assistant General Manager

ภาคผนวก ค-2

ใบรับรองผลการตรวจวัดคุณภาพอากาศจากปล่องระบาย



Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107672
Date Received : Sep 26, 2024
Date Reported : Oct 07, 2024
Report Number : 3114236-1

Page 1 of 1

Sample Number 24107672-1
Sample Description Emission from Stationary Source
Location ปล่อง Z-6210
Measurement Date Sep 26, 2024

Stack Description

Ambient Temperature	33 °C	Diameter	1.75 m	Oxygen	4.84 %
Ambient Pressure	755 mmHg	Shape	Circle	Carbon dioxide	8.72 %
Type of Process	Combustion	Stack Temperature	130 °C	Gas Velocity	19.13 m/s
Type of Fuel	Waste Liquid	Moisture	18.27 %	Flow Rate	99365 Nm ³ /hr

Run No.	Sampling Time	Oxygen (%)	Carbon Dioxide (%)	Oxides of Nitrogen (ppm)	
				at Actual O ₂	At 7% O ₂
1	11:00 AM - 11:20 AM	4.85	8.72	10.50	9.09
2	11:21 AM - 11:41 AM	4.84	8.72	10.36	8.97
3	11:42 AM - 12:02 PM	4.84	8.72	10.39	9.00
Average (ppm)		4.84	8.72	10.42	9.02
Guideline ^{1/} (ppm)				-	42.4
Guideline ^{2/} (ppm)				-	200
Result (mg/Nm ³)				19.60	16.97
Emission Rate at Actual O ₂ (g/s)				0.5411	
Guideline ^{1/} (g/s)				2.743	
Method				US EPA Method 7E	

Sampled By : Sathapron Thakarw
Guideline : ^{1/}Environmental Impact Assessment Report of THAI MMA Co., Ltd.
^{2/}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)

Technical Management

Wichan Choonharat
Manager
ทะเบียนเลขที่ ว-204-ค-0006

Approved by

Sarayuth Jittranont
Assistant General Manager
ทะเบียนเลขที่ ว-204-ค-0003

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107675

Date Received : Sep 26, 2024
Date Reported : Oct 10, 2024
Report Number: 3114240-1

Page 1 of 2

Sample Number 24107675-1
Sampled Date Sep 26, 2024
Sample Description Emission from Stationary Source
Location ปล่อง Z-6210
Date Analysis Commenced Sep 27, 2024
Condition of Sample Extracted into one filter paper placed in plastic cassette and four sorbent tubes, refrigerated

Stack Description

Ambient Pressure	755	mmHg	Diameter	1.75	m	Oxygen	4.8	%
Ambient Temperature	33.0	°C	Shape	Circle		Carbon Dioxide	8.7	%
Type of Process	Combustion		Stack Temperature	130	°C	Gas Velocity	19.2	m/s
Type of Fuel	Waste Liquid		Moisture	18.23	%	Flow Rate (Actual O2)	99526	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result		Guideline (1)	Guideline (2)	Method	Testing Location
					at 7 %O ₂	at 4.8 % O ₂				
Air Testing										
Total Suspended Particulate	11:00 AM - 11:48 AM	mg/m3	-	0.5	6.2	7.18	320	127.7	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

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8032-71/ EMAIL

S:\Reports_Air Stack_O2_2GL.rpt (10:39AM)



Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107675

Date Received : Sep 26, 2024
Date Reported : Oct 10, 2024
Report Number: 3114240-1

Page 2 of 2

Sample Number 24107675-1
Sampled Date Sep 26, 2024
Sample Description Emission from Stationary Source
Location ปล่อง Z-6210
Date Analysis Commenced Sep 27, 2024
Condition of Sample Extracted into one filter paper placed in plastic cassette and four sorbent tubes, refrigerated

Stack Description

Ambient Pressure	755	mmHg	Diameter	1.75	m	Oxygen	4.8	%
Ambient Temperature	33.0	°C	Shape	Circle		Carbon Dioxide	8.7	%
Type of Process	Combustion		Stack Temperature	130	°C	Gas Velocity	19.2	m/s
Type of Fuel	Waste Liquid		Moisture	18.23	%	Flow Rate (Actual O2)	99526	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline (1)	Guideline (2)	Method	Testing Location
Air Testing									
Total Suspended Particulate *	11:00 AM - 11:48 AM	g/s	-	-	0.196	-	4.2	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 : Sittipan Sanachiw ทะเบียนเลขที่ ว-323-จ-0009 , Thitipong Buadaeng ทะเบียนเลขที่ ว-204-จ-0102

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. Amorn.

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

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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107675

Date Received : Sep 26, 2024
Date Reported : Oct 05, 2024
Report Number: 3114240-2

Page 1 of 2

Sample Number 24107675-1
Sampled Date Sep 26, 2024
Sample Description Emission from Stationary Source
Location แปลง Z-6210
Date Analysis Commenced Sep 27, 2024
Condition of Sample Extracted into one filter paper placed in plastic cassette and four sorbent tubes, refrigerated

Stack Description

Ambient Pressure	755	mmHg	Diameter	1.75	m	Oxygen	4.8	%
Ambient Temperature	33.0	°C	Shape	Circle		Carbon Dioxide	8.7	%
Type of Process	Combustion		Stack Temperature	130	°C	Gas Velocity	19.2	m/s
Type of Fuel	Waste Liquid		Moisture	18.23	%	Flow Rate (Actual O2)	99526	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result		Method	Testing Location
					at 7 %O ₂	at 4.8 % O ₂		
Air Testing								
Acrylic Acid	11:26 AM - 11:31 AM	ppm	-	1.0	<1.0	<1.0	Based on OSHA, ID 28	Bangkok
Methanol	11:00 AM - 11:15 AM	ppm	-	1.00	<1.00	<1.00	United States Environmental Protection Agency, EPA Method 18	Bangkok
Methyl Methacrylate	11:50 AM - 12:05 PM	ppm	-	0.3	<0.3	<0.3	United States Environmental Protection Agency, EPA Method 18	Bangkok
Toluene	11:33 AM - 11:48 AM	ppm	-	0.3	<0.3	<0.3	United States Environmental Protection Agency, EPA Method 18	Bangkok

Approved by

Saranya C.

Saranya Chalermthamrong
Scientist (4)

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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107675
Date Received : Sep 26, 2024
Date Reported : Oct 05, 2024
Report Number: 3114240-2

Page 2 of 2

Sample Number 24107675-1
Sampled Date Sep 26, 2024
Sample Description Emission from Stationary Source
Location ปล่อง Z-6210
Date Analysis Commenced Sep 27, 2024
Condition of Sample Extracted into one filter paper placed in plastic cassette and four sorbent tubes, refrigerated

Stack Description

Ambient Pressure	755	mmHg	Diameter	1.75	m	Oxygen	4.8	%
Ambient Temperature	33.0	°C	Shape	Circle		Carbon Dioxide	8.7	%
Type of Process	Combustion		Stack Temperature	130	°C	Gas Velocity	19.2	m/s
Type of Fuel	Waste Liquid		Moisture	18.23	%	Flow Rate (Actual O2)	99526	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Method	Testing Location
Air Testing							
Acrylic Acid	11:26 AM - 11:31 AM	g/s	-	-	<0.03	Calculated	Bangkok
Methanol	11:00 AM - 11:15 AM	g/s	-	-	<0.04	Calculated	Bangkok
Methyl Methacrylate	11:50 AM - 12:05 PM	g/s	-	-	<0.03	Calculated	Bangkok
Toluene	11:33 AM - 11:48 AM	g/s	-	-	<0.03	Calculated	Bangkok

Sampling By : Sittipan Sanachiw , Thitipong Buadaeng

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.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107673
Date Received : Sep 30, 2024
Date Reported : Oct 07, 2024
Report Number : 3114237-1

Page 1 of 1

Sample Number 24107673-1
Sample Description Emission from Stationary Source
Location ปล่อง 2Z-6210
Measurement Date Sep 28, 2024

Stack Description

Ambient Temperature	32.1 °C	Diameter	1.56 m	Oxygen	6.19 %
Ambient Pressure	759.5 mmHg	Shape	Circle	Carbon dioxide	7.46 %
Type of Process	Combustion	Stack Temperature	110 °C	Gas Velocity	20.45 m/s
Type of Fuel	Waste Liquid	Moisture	30.79 %	Flow Rate	75636 Nm ³ /hr

Run No.	Sampling Time	Oxygen (%)	Carbon Dioxide (%)	Oxides of Nitrogen (ppm)	
				at Actual O ₂	At 7% O ₂
1	11:45 AM - 12:05 PM	6.26	7.38	10.67	10.13
2	12:06 PM - 12:26 PM	6.18	7.48	10.46	9.87
3	12:27 PM - 12:47 PM	6.14	7.53	10.56	9.95
Average (ppm)		6.19	7.46	10.56	9.98
Guideline ^{1/} (ppm)				-	19.9
Guideline ^{2/} (ppm)				-	200
Result (mg/Nm ³)				19.88	18.79
Emission Rate at Actual O ₂ (g/s)				0.4176	
Guideline ^{1/} (g/s)				1.3500	
Method				US EPA Method 7E	

Sampled By : Sathapron Thakarw
Guideline : ^{1/}Environmental Impact Assessment Report of THAI MMA Co., Ltd.
^{2/}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)

Technical Management

Wichan Choonharat
Manager
ทะเบียนเลขที่ ว-204-ค-0006

Approved by

Sarayuth Jittranont
Assistant General Manager
ทะเบียนเลขที่ ว-204-ค-0003

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107676

Date Received : Sep 28, 2024
Date Reported : Oct 18, 2024
Report Number: 3114239-1

Page 1 of 2

Sample Number 24107676-1
Sampled Date Sep 28, 2024
Sample Description Emission from Stationary Source
Location ปล่อง 2Z-6210
Date Analysis Commenced Oct 01, 2024
Condition of Sample Extracted into one filter paper placed in plastic petri dish, one plastic bottle and five sorbent tubes, refrigerated

Stack Description

Ambient Pressure	760	mmHg	Diameter	1.56	m	Oxygen	6.2	%
Ambient Temperature	32.1	°C	Shape	Circle		Carbon Dioxide	7.5	%
Type of Process	Combustion		Stack Temperature	110	°C	Gas Velocity	20.5	m/s
Type of Fuel	Waste Liquid		Moisture	30.80	%	Flow Rate (Actual O2)	75706	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result		Guideline (1)	Guideline (2)	Method	Testing Location
					at 7 %O ₂	at 6.2 % O ₂				
Air Testing										
Total Suspended Particulate	11:50 AM - 12:38 PM	mg/m3	-	0.5	2.9	3.07	320	127.7	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

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107676

Date Received : Sep 28, 2024
Date Reported : Oct 18, 2024
Report Number: 3114239-1

Page 2 of 2

Sample Number 24107676-1
Sampled Date Sep 28, 2024
Sample Description Emission from Stationary Source
Location ปล่อง 2Z-6210
Date Analysis Commenced Oct 01, 2024
Condition of Sample Extracted into one filter paper placed in plastic petri dish, one plastic bottle and five sorbent tubes, refrigerated

Stack Description

Ambient Pressure	760	mmHg	Diameter	1.56	m	Oxygen	6.2	%
Ambient Temperature	32.1	°C	Shape	Circle		Carbon Dioxide	7.5	%
Type of Process	Combustion		Stack Temperature	110	°C	Gas Velocity	20.5	m/s
Type of Fuel	Waste Liquid		Moisture	30.80	%	Flow Rate (Actual O2)	75706	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline (1)	Guideline (2)	Method	Testing Location
Air Testing									
Total Suspended Particulate *	11:50 AM - 12:38 PM	g/s	-	-	0.065	-	4.2	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 : Sutdamrong Chokpitinan ทะเบียนเลขที่ ว-323-จ-0037 , Thitipong Buadaeng ทะเบียนเลขที่ ว-204-จ-0102

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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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107676
Date Received : Sep 28, 2024
Date Reported : Oct 18, 2024
Report Number: 3114239-2

Page 1 of 2

Sample Number 24107676-1
Sampled Date Sep 28, 2024
Sample Description Emission from Stationary Source
Location ปล่อง 2Z-6210
Date Analysis Commenced Oct 02, 2024
Condition of Sample Extracted into one filter paper placed in plastic petri dish, one plastic bottle and five sorbent tubes, refrigerated

Stack Description

Ambient Pressure	760	mmHg	Diameter	1.56	m	Oxygen	6.2	%
Ambient Temperature	32.1	°C	Shape	Circle		Carbon Dioxide	7.5	%
Type of Process	Combustion		Stack Temperature	110	°C	Gas Velocity	20.5	m/s
Type of Fuel	Waste Liquid		Moisture	30.80	%	Flow Rate (Actual O2)	75706	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result		Method	Testing Location
					at 7 %O ₂	at 6.2 % O ₂		
Air Testing								
Acrylic Acid	11:50 AM - 12:05 PM	ppm	-	1.0	<1.0	<1.0	Based on OSHA, ID 28	Bangkok
Methanol	11:50 AM - 12:05 PM	ppm	-	1.00	<1.00	<1.00	United States Environmental Protection Agency, EPA Method 18	Bangkok
Methyl Methacrylate	12:10 PM - 12:25 PM	ppm	-	0.3	<0.3	<0.3	United States Environmental Protection Agency, EPA Method 18	Bangkok
Toluene	12:10 PM - 12:25 PM	ppm	-	0.3	<0.3	<0.3	United States Environmental Protection Agency, EPA Method 18	Bangkok

Approved by

Orawan R.

Orawan Rakyong
Scientist (3)

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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107676

Date Received : Sep 28, 2024
Date Reported : Oct 18, 2024
Report Number: 3114239-2

Page 2 of 2

Sample Number 24107676-1
Sampled Date Sep 28, 2024
Sample Description Emission from Stationary Source
Location แปลง 22-6210
Date Analysis Commenced Oct 02, 2024
Condition of Sample Extracted into one filter paper placed in plastic petri dish, one plastic bottle and five sorbent tubes, refrigerated

Stack Description

Ambient Pressure	760	mmHg	Diameter	1.56	m	Oxygen	6.2	%
Ambient Temperature	32.1	°C	Shape	Circle		Carbon Dioxide	7.5	%
Type of Process	Combustion		Stack Temperature	110	°C	Gas Velocity	20.5	m/s
Type of Fuel	Waste Liquid		Moisture	30.80	%	Flow Rate (Actual O2)	75706	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Method	Testing Location
Air Testing							
Acrylic Acid	11:50 AM - 12:05 PM	g/s	-	-	<0.02	Calculated	Bangkok
Methanol	11:50 AM - 12:05 PM	g/s	-	-	<0.03	Calculated	Bangkok
Methyl Methacrylate	12:10 PM - 12:25 PM	g/s	-	-	<0.03	Calculated	Bangkok
Toluene	12:10 PM - 12:25 PM	g/s	-	-	<0.02	Calculated	Bangkok

Sampling By : Sutdamrong Chokpitinan , Thitipong Buadaeng

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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ภาคผนวก ค-3

ใบรับรองผลการตรวจวัดคุณภาพน้ำ



Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2469149

Date Received : Jul 05, 2024
Date Reported : Jul 12, 2024
Report Number : 3054223-1

Page 1 of 1

Sample Number	2469149-1
Sampled Date	Jul 05, 2024 9:35 AM
Sample Description	Wastewater
Location	Equalization (T-9610)
Date Analysis Commenced	Jul 05, 2024
Condition of Sample	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	Method	Testing Location
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	630	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	1350	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	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	9.4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	33.9	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	1620	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	43	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

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

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

Chontichak

Chonticha Subongkoch
Scientist (3)

ทะเบียนเลขที่ ว-323-จ-9449

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.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2469149

Date Received : Jul 05, 2024

Date Reported : Jul 12, 2024

Report Number : 3054223-2

Page 1 of 1

Sample Number 2469149-1
Sampled Date Jul 05, 2024 9:35 AM
Sample Description Wastewater
Location Equalization (T-9610)
Date Analysis Commenced Jul 08, 2024
Condition of Sample 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	Method	Testing Location
Water Testing						
Sulfate	mg/L	0.6	2	226	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-SO4 (E)	Rayong

Sampling By : Wanlop Hunchainaow

Remark :

- LOD : Limit of Detection
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Approved by

Chontichak

Chonticha Subongkoch
Scientist (3)

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2469149

Date Received : Jul 05, 2024
Date Reported : Jul 12, 2024
Report Number : 3054224-1

Page 1 of 1

Sample Number 2469149-2
Sampled Date Jul 05, 2024 9:28 AM
Sample Description Wastewater
Location Drainage before Check Basin (T-9640)
Date Analysis Commenced Jul 05, 2024
Condition of Sample Contained in one amber glass bottle, one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	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	103	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	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	8.4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	32.1	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	612	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	2.5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

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

Remark :

- LOD : Limit of Detection
- "<" : 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

Chontichak

Chonticha Subongkoch
Scientist (3)

ทะเบียนเลขที่ ว-323-จ-9449

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.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2469149

Date Received : Jul 05, 2024
Date Reported : Jul 12, 2024
Report Number : 3054224-2

Page 1 of 1

Sample Number 2469149-2
Sampled Date Jul 05, 2024 9:28 AM
Sample Description Wastewater
Location Drainage before Check Basin (T-9640)
Date Analysis Commenced Jul 08, 2024
Condition of Sample Contained in one amber glass bottle, one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
Sulfate	mg/L	0.6	2	107	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-SO4 (E)	Rayong

Sampling By : Wanlop Hunchainaow

Remark :

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

Approved by

Chontichak

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Analysis / Test Report

TESTING

No.0042

Lot ID: 2469149

Date Received : Jul 05, 2024

Date Reported : Jul 12, 2024

Report Number : 3054225-1

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Page 1 of 2

Sample Number : 2469149-3
Sampled Date : Jul 05, 2024 9:23 AM
Sample Description : Wastewater
Location : Effluent from the Check Basin (T-9650)
Date Analysis Commenced : Jul 05, 2024
Condition of Sample : Contained in one amber glass bottle, one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤20	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	72	≤120	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	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	8.3	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	-	-	31.8	≤40	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	556	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	<1.0	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	12	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

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

Technical Management

Chontichak

Chonticha Subongkoch
Scientist (3)
ทะเบียนเลขที่ ว-323-จ-9449

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.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location: MMA Site 3

TESTING
No.0042
Lot ID: 2469149
Date Received : Jul 05, 2024
Date Reported : Jul 12, 2024
Report Number : 3054225-1

Page 2 of 2

Remark :

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Technical Management

Chontichak

Chonticha Subongkoch
Scientist (3)
ทะเบียนเลขที่ ว-323-จ-9449

Approved by

D. Johnson

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ว-323-ค-9442

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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location: MMA Site 3

Lot ID: 2469149

Date Received : Jul 05, 2024
Date Reported : Jul 12, 2024
Report Number : 3054225-2

Page 1 of 1

Sample Number 2469149-3
Sampled Date Jul 05, 2024 9:23 AM
Sample Description Wastewater
Location Effluent from the Check Basin (T-9650)
Date Analysis Commenced Jul 08, 2024
Condition of Sample Contained in one amber glass bottle, one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Sulfate	mg/L	0.6	2	152	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-SO ₄ (E)	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Wanlop Hunchainaow

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2469151

Date Received : Jul 05, 2024
Date Reported : Jul 12, 2024
Report Number : 3054214-1

Page 1 of 1

Sample Number	2469151-1
Sampled Date	Jul 05, 2024 9:58 AM
Sample Description	Wastewater
Location	Equalization (2T-9610)
Date Analysis Commenced	Jul 05, 2024
Condition of Sample	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	Method	Testing Location
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	647	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	1098	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	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	7.5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	32.1	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	1840	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	324	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

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

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Technical Management

Chontichak

Chonticha Subongkoch
Scientist (3)

ทะเบียนเลขที่ ว-323-จ-9449

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.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2469151

Date Received : Jul 05, 2024
Date Reported : Jul 12, 2024
Report Number : 3054214-2

Page 1 of 1

Sample Number 2469151-1
Sampled Date Jul 05, 2024 9:58 AM
Sample Description Wastewater
Location Equalization (2T-9610)
Date Analysis Commenced Jul 08, 2024
Condition of Sample 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	Method	Testing Location
Water Testing						
Sulfate	mg/L	0.6	2	628	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-SO4 (E)	Rayong

Sampling By : Wanlop Hunchainaow

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2469151

Date Received : Jul 05, 2024
Date Reported : Jul 12, 2024
Report Number : 3054215-1

Page 1 of 1

Sample Number	2469151-2
Sampled Date	Jul 05, 2024 9:50 AM
Sample Description	Wastewater
Location	Drainage before Check Basin (2T-9640)
Date Analysis Commenced	Jul 05, 2024
Condition of Sample	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	Method	Testing Location
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	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	66	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	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	8.3	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	32.4	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	1300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	2.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	23	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

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

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Technical Management

Chontichak

Chonticha Subongkoch
Scientist (3)

ทะเบียนเลขที่ ว-323-จ-9449

Approved by

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Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-9442

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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2469151

Date Received : Jul 05, 2024
Date Reported : Jul 12, 2024
Report Number : 3054215-2

Page 1 of 1

Sample Number 2469151-2
Sampled Date Jul 05, 2024 9:50 AM
Sample Description Wastewater
Location Drainage before Check Basin (2T-9640)
Date Analysis Commenced Jul 08, 2024
Condition of Sample 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	Method	Testing Location
Water Testing						
Sulfate	mg/L	0.6	2	474	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-SO4 (E)	Rayong

Sampling By : Wanlop Hunchainaow

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2469151
Date Received : Jul 05, 2024
Date Reported : Jul 12, 2024
Report Number : 3054216-1

Page 1 of 2

Sample Number	2469151-3
Sampled Date	Jul 05, 2024 9:54 AM
Sample Description	Wastewater
Location	Effluent from the Check Basin (2T-9650)
Date Analysis Commenced	Jul 05, 2024
Condition of Sample	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
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤20	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	52	≤120	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	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	8.3	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	-	-	32.2	≤40	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	1210	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	1.8	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	20	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

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

Technical Management

Chontichak

Chonticha Subongkoch
Scientist (3)
ทะเบียนเลขที่ ว-323-จ-9449

Approved by

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Senior Manager
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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

TESTING
No.0042
Lot ID: 2469151
Date Received : Jul 05, 2024
Date Reported : Jul 12, 2024
Report Number : 3054216-1

Page 2 of 2

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271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2469151

Date Received : Jul 05, 2024
Date Reported : Jul 12, 2024
Report Number : 3054216-2

Page 1 of 1

Sample Number	2469151-3						
Sampled Date	Jul 05, 2024 9:54 AM						
Sample Description	Wastewater						
Location	Effluent from the Check Basin (2T-9650)						
Date Analysis Commenced	Jul 08, 2024						
Condition of Sample	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
Water Testing							
Sulfate	mg/L	0.6	2	481	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-SO ₄ (E)	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Wanlop Hunchainaow

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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2469154

Date Received : Jul 05, 2024
Date Reported : Jul 09, 2024
Report Number : 3047080-1

Page 1 of 2

Sample Number : 2469154-1
Sampled Date : Jul 05, 2024 9:38 AM
Sample Description : Wastewater
Location : บริเวณขาออกจากระบบน้ำหล่อเย็นก่อนเข้าระบบบำบัดน้ำเสียโรงงาน MMA1
Date Analysis Commenced : Jul 05, 2024
Condition of Sample : data sheet

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
Residual Chlorine - as ClO ₂	mg/L	-	0.01	0.1	In-house method based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Cl (G)	Rayong

Sampling By : Wanlop Hunchainaow

Remark :

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

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Approved by

Photchana S.

Photchana Seeda
Scientist (4)

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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2469154

Date Received : Jul 05, 2024
Date Reported : Jul 09, 2024
Report Number : 3047080-1

Page 2 of 2

Sample Number 2469154-2
Sampled Date Jul 05, 2024 10:00 AM
Sample Description Wastewater
Location บริเวณขาออกจากกระบวนน้ำหล่อเย็นก่อนเข้าระบบบำบัดน้ำเสียโรงงาน MMA2
Date Analysis Commenced Jul 05, 2024
Condition of Sample data sheet

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
Residual Chlorine - as ClO ₂	mg/L	-	0.01	0.1	In-house method based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Cl (G)	Rayong

Sampling By : Wanlop Hunchainaow

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2479865

Date Received : Aug 13, 2024
Date Reported : Aug 20, 2024
Report Number : 3087229-1

Page 1 of 1

Sample Number	2479865-1
Sampled Date	Aug 13, 2024 12:00 PM
Sample Description	Wastewater
Location	Equalization (T-9610)
Date Analysis Commenced	Aug 13, 2024
Condition of Sample	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	Method	Testing Location
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	764	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	1402	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	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	9.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	34.9	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	748	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	20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Sampling By : Paramet Sattayakun ทะเบียนเลขที่ ว-323-จ-0051

Remark :

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Technical Management

Photchana S.

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumon.

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2479865

Date Received : Aug 13, 2024
Date Reported : Aug 20, 2024
Report Number : 3087229-2

Page 1 of 1

Sample Number 2479865-1
Sampled Date Aug 13, 2024 12:00 PM
Sample Description Wastewater
Location Equalization (T-9610)
Date Analysis Commenced Aug 16, 2024
Condition of Sample 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	Method	Testing Location
Water Testing						
Sulfate	mg/L	0.6	2	436	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-SO ₄ (E)	Rayong

Sampling By : Paramet Sattayakun

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Photchana S.

Photchana Seeda
Scientist (4)

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2479865

Date Received : Aug 13, 2024
Date Reported : Aug 20, 2024
Report Number : 3087230-1

Page 1 of 1

Sample Number	2479865-2
Sampled Date	Aug 13, 2024 11:55 AM
Sample Description	Wastewater
Location	Drainage before Check Basin (T-9640)
Date Analysis Commenced	Aug 13, 2024
Condition of Sample	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	Method	Testing Location
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	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	121	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	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	8.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	35.6	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	520	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	2.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	8	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Sampling By : Paramet Sattayakun ทะเบียนเลขที่ ว-323-จ-0051

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Technical Management

Photchana S.

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumon.

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2479865

Date Received : Aug 13, 2024

Date Reported : Aug 20, 2024

Report Number : 3087230-2

Page 1 of 1

Sample Number 2479865-2
Sampled Date Aug 13, 2024 11:55 AM
Sample Description Wastewater
Location Drainage before Check Basin (T-9640)
Date Analysis Commenced Aug 16, 2024
Condition of Sample 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	Method	Testing Location
Water Testing						
Sulfate	mg/L	0.6	2	101	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-SO4 (E)	Rayong

Sampling By : Paramet Sattayakun

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Approved by

Photchana S.

Photchana Seeda

Scientist (4)

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Analysis / Test Report

TESTING

No.0042

Lot ID: 2479865

Date Received : Aug 13, 2024

Date Reported : Aug 20, 2024

Report Number : 3087231-1

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Page 1 of 2

Sample Number	2479865-3						
Sampled Date	Aug 13, 2024 11:50 AM						
Sample Description	Wastewater						
Location	Effluent from the Check Basin (T-9650)						
Date Analysis Commenced	Aug 13, 2024						
Condition of Sample	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
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤20	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	62	≤120	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	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	8.2	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	-	-	35.2	≤40	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	628	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	1.1	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	7	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Paramet Sattayakun ทะเบียนเลขที่ ว-323-จ-0051

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.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

TESTING
No.0042
Lot ID: 2479865
Date Received : Aug 13, 2024
Date Reported : Aug 20, 2024
Report Number : 3087231-1

Page 2 of 2

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Technical Management

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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.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location: MMA Site 3

Lot ID: 2479865

Date Received : Aug 13, 2024
Date Reported : Aug 20, 2024
Report Number : 3087231-2

Page 1 of 1

Sample Number	2479865-3						
Sampled Date	Aug 13, 2024 11:50 AM						
Sample Description	Wastewater						
Location	Effluent from the Check Basin (T-9650)						
Date Analysis Commenced	Aug 16, 2024						
Condition of Sample	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
Water Testing							
Sulfate	mg/L	0.6	2	175	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-SO ₄ (E)	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Paramet Sattayakun

Remark :

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2479867

Date Received : Aug 09, 2024
Date Reported : Aug 16, 2024
Report Number : 3085166-1

Page 1 of 1

Sample Number	2479867-1
Sampled Date	Aug 09, 2024 9:58 AM
Sample Description	Wastewater
Location	Equalization (2T-9610)
Date Analysis Commenced	Aug 09, 2024
Condition of Sample	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	Method	Testing Location
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	555	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	1025	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	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	8.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	30.8	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	2310	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	380	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

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

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Technical Management

Photchana S.

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-9446

Approved by

D. Chumon.

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-9442

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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2479867

Date Received : Aug 09, 2024

Date Reported : Aug 16, 2024

Report Number : 3085166-2

Page 1 of 1

Sample Number 2479867-1
Sampled Date Aug 09, 2024 9:58 AM
Sample Description Wastewater
Location Equalization (2T-9610)
Date Analysis Commenced Aug 16, 2024
Condition of Sample 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	Method	Testing Location
Water Testing						
Sulfate	mg/L	0.6	2	853	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-SO4 (E)	Rayong

Sampling By : Wanlop Hunchainaow

Remark :

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Photchana Seeda

Scientist (4)

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2479867

Date Received : Aug 09, 2024
Date Reported : Aug 16, 2024
Report Number : 3085167-1

Page 1 of 1

Sample Number	2479867-2
Sampled Date	Aug 09, 2024 9:55 AM
Sample Description	Wastewater
Location	Drainage before Check Basin (2T-9640)
Date Analysis Commenced	Aug 09, 2024
Condition of Sample	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	Method	Testing Location
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	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	64	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	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	8.3	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	30.5	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	1420	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	1.7	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

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

Remark :

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

Photchana S.

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-9446

Approved by

D. Chumon.

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-9442

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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2479867

Date Received : Aug 09, 2024
Date Reported : Aug 16, 2024
Report Number : 3085167-2

Page 1 of 1

Sample Number 2479867-2
Sampled Date Aug 09, 2024 9:55 AM
Sample Description Wastewater
Location Drainage before Check Basin (2T-9640)
Date Analysis Commenced Aug 16, 2024
Condition of Sample 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	Method	Testing Location
Water Testing						
Sulfate	mg/L	0.6	2	561	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-SO4 (E)	Rayong

Sampling By : Wanlop Hunchainaow

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Approved by

Photchana S.

Photchana Seeda
Scientist (4)

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Analysis / Test Report

TESTING

No.0042

Lot ID: 2479867

Date Received : Aug 09, 2024

Date Reported : Aug 16, 2024

Report Number : 3085168-1

Client : THAI MMA Co., Ltd.

271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150

P/O : PMM-23-13

Project Name : Environmental Monitoring

Project Location : MMA Site 3

Page 1 of 2

Sample Number	2479867-3						
Sampled Date	Aug 09, 2024 9:52 AM						
Sample Description	Wastewater						
Location	Effluent from the Check Basin (2T-9650)						
Date Analysis Commenced	Aug 09, 2024						
Condition of Sample	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
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤20	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	59	≤120	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	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	8.4	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	-	-	30.1	≤40	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	1320	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	1.4	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	18	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

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

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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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location: MMA Site 3

TESTING
No.0042
Lot ID: 2479867
Date Received : Aug 09, 2024
Date Reported : Aug 16, 2024
Report Number : 3085168-1

Page 2 of 2

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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.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2479867

Date Received : Aug 09, 2024

Date Reported : Aug 16, 2024

Report Number : 3085168-2

Page 1 of 1

Sample Number	2479867-3						
Sampled Date	Aug 09, 2024 9:52 AM						
Sample Description	Wastewater						
Location	Effluent from the Check Basin (2T-9650)						
Date Analysis Commenced	Aug 16, 2024						
Condition of Sample	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
Water Testing							
Sulfate	mg/L	0.6	2	566	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-SO ₄ (E)	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Wanlop Hunchainaow

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Approved by

Photchana S.

Photchana Seeda
Scientist (4)

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Client : THAI MMA Co., Ltd.
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P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2479870

Date Received : Aug 09, 2024
Date Reported : Aug 14, 2024
Report Number : 3053349-1

Page 1 of 1

Sample Number 2479870-2
Sampled Date Aug 09, 2024 10:00 AM
Sample Description Wastewater
Location บริเวณขาออกจากระบบน้ำหล่อเย็นก่อนเข้าระบบบำบัดน้ำเสียโรงงาน MMA2
Date Analysis Commenced Aug 09, 2024
Condition of Sample data sheet

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
Residual Chlorine - as ClO ₂	mg/L	-	0.01	0.1	In-house method based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Cl (G)	Rayong

Sampling By : Wanlop Hunchainaow

Remark :

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Photchana Seeda
Scientist (4)

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Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2492073

Date Received : Aug 13, 2024
Date Reported : Aug 16, 2024
Report Number : 3079346-1

Page 1 of 1

Sample Number : 2492073-1
Sampled Date : Aug 13, 2024 12:05 PM
Sample Description : Wastewater
Location : บริเวณขาออกจากระบบน้ำหล่อเย็นก่อนเข้าระบบบำบัดน้ำเสียโรงงาน MMA1
Date Analysis Commenced : Aug 13, 2024
Condition of Sample : data sheet

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
Residual Chlorine - as ClO ₂	mg/L	-	0.01	<0.0	In-house method based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Cl (G)	Rayong

Sampling By : Paramet Sattayakun

Remark :

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Photchana Seeda
Scientist (4)

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
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P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2495692

Date Received : Sep 06, 2024
Date Reported : Sep 13, 2024
Report Number : 3110082-1

Page 1 of 1

Sample Number	2495692-1
Sampled Date	Sep 06, 2024 10:30 AM
Sample Description	Wastewater
Location	Equalization (T-9610)
Date Analysis Commenced	Sep 06, 2024
Condition of Sample	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	Method	Testing Location
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	589	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	859	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	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	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	-	-	38.5	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	1980	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	25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Sampling By : Wanlop Hunchainaow ทะเบียนเลขที่ ว-323-จ-0038

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Technical Management

Photchana S.

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumon.

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2495692

Date Received : Sep 06, 2024

Date Reported : Sep 13, 2024

Report Number : 3110082-2

Page 1 of 1

Sample Number 2495692-1
Sampled Date Sep 06, 2024 10:30 AM
Sample Description Wastewater
Location Equalization (T-9610)
Date Analysis Commenced Sep 06, 2024
Condition of Sample 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	Method	Testing Location
Water Testing						
Sulfate	mg/L	0.6	2	633	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-SO4 (E)	Rayong

Sampling By : Wanlop Hunchainaow

Remark :

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Photchana Seeda

Scientist (4)

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2495692

Date Received : Sep 06, 2024
Date Reported : Sep 13, 2024
Report Number : 3110083-1

Page 1 of 1

Sample Number	2495692-2
Sampled Date	Sep 06, 2024 10:25 AM
Sample Description	Wastewater
Location	Drainage before Check Basin (T-9640)
Date Analysis Commenced	Sep 06, 2024
Condition of Sample	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	Method	Testing Location
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	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	94	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	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	8.4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	34.1	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	1620	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	1.4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Sampling By : Wanlop Hunchainaow ทะเบียนเลขที่ ว-323-จ-0038

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Technical Management

Photchana S.

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumon.

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2495692

Date Received : Sep 06, 2024

Date Reported : Sep 13, 2024

Report Number : 3110083-2

Page 1 of 1

Sample Number 2495692-2
Sampled Date Sep 06, 2024 10:25 AM
Sample Description Wastewater
Location Drainage before Check Basin (T-9640)
Date Analysis Commenced Sep 06, 2024
Condition of Sample 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	Method	Testing Location
Water Testing						
Sulfate	mg/L	0.6	2	529	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-SO4 (E)	Rayong

Sampling By : Wanlop Hunchainaow

Remark :

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Approved by

Photchana S.

Photchana Seeda

Scientist (4)

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Analysis / Test Report

TESTING

No.0042

Lot ID: 2495692

Date Received : Sep 06, 2024

Date Reported : Sep 13, 2024

Report Number : 3110084-1

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Page 1 of 2

Sample Number	2495692-3						
Sampled Date	Sep 06, 2024 10:20 AM						
Sample Description	Wastewater						
Location	Effluent from the Check Basin (T-9650)						
Date Analysis Commenced	Sep 06, 2024						
Condition of Sample	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
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤20	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	59	≤120	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	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	8.3	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	-	-	35.7	≤40	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	1240	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	<1.0	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Wanlop Hunchainaow ทะเบียนเลขที่ ว-323-จ-0038

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

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

TESTING
No.0042
Lot ID: 2495692
Date Received : Sep 06, 2024
Date Reported : Sep 13, 2024
Report Number : 3110084-1

Page 2 of 2

Remark :

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

Photchana S.

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Johnson.

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2495692

Date Received : Sep 06, 2024
Date Reported : Sep 13, 2024
Report Number : 3110084-2

Page 1 of 1

Sample Number	2495692-3						
Sampled Date	Sep 06, 2024 10:20 AM						
Sample Description	Wastewater						
Location	Effluent from the Check Basin (T-9650)						
Date Analysis Commenced	Sep 06, 2024						
Condition of Sample	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
Water Testing							
Sulfate	mg/L	0.6	2	424	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-SO ₄ (E)	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Wanlop Hunchainaow

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TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2495695

Date Received : Sep 06, 2024
Date Reported : Sep 13, 2024
Report Number : 3110090-1

Page 1 of 1

Sample Number	2495695-1
Sampled Date	Sep 06, 2024 11:12 AM
Sample Description	Wastewater
Location	Equalization (2T-9610)
Date Analysis Commenced	Sep 06, 2024
Condition of Sample	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	Method	Testing Location
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	763	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	1322	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	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	8.8	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	35.6	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	2610	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	239	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Sampling By : Wanlop Hunchainaow ทะเบียนเลขที่ ว-323-จ-0038

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Technical Management

Photchana S.

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumon.

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2495695

Date Received : Sep 06, 2024

Date Reported : Sep 13, 2024

Report Number : 3110090-2

Page 1 of 1

Sample Number 2495695-1
Sampled Date Sep 06, 2024 11:12 AM
Sample Description Wastewater
Location Equalization (2T-9610)
Date Analysis Commenced Sep 06, 2024
Condition of Sample 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	Method	Testing Location
Water Testing						
Sulfate	mg/L	0.6	2	912	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-SO4 (E)	Rayong

Sampling By : Wanlop Hunchainaow

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Photchana Seeda

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2495695

Date Received : Sep 06, 2024
Date Reported : Sep 13, 2024
Report Number : 3110091-1

Page 1 of 1

Sample Number	2495695-2
Sampled Date	Sep 06, 2024 11:10 AM
Sample Description	Wastewater
Location	Drainage before Check Basin (2T-9640)
Date Analysis Commenced	Sep 06, 2024
Condition of Sample	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	Method	Testing Location
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	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	68	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	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	8.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	34.3	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	1210	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	1.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	22	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Sampling By : Wanlop Hunchainaow ทะเบียนเลขที่ ว-323-จ-0038

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Technical Management

Photchana S.

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumon.

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2495695

Date Received : Sep 06, 2024

Date Reported : Sep 13, 2024

Report Number : 3110091-2

Page 1 of 1

Sample Number 2495695-2
Sampled Date Sep 06, 2024 11:10 AM
Sample Description Wastewater
Location Drainage before Check Basin (2T-9640)
Date Analysis Commenced Sep 06, 2024
Condition of Sample 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	Method	Testing Location
Water Testing						
Sulfate	mg/L	0.6	2	479	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-SO4 (E)	Rayong

Sampling By : Wanlop Hunchainaow

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Photchana Seeda

Scientist (4)

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Analysis / Test Report

TESTING

No.0042

Lot ID: 2495695

Date Received : Sep 06, 2024

Date Reported : Sep 13, 2024

Report Number : 3110092-1

Client : THAI MMA Co., Ltd.

271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150

P/O : PMM-23-13

Project Name : Environmental Monitoring

Project Location : MMA Site 3

Page 1 of 2

Sample Number	2495695-3
Sampled Date	Sep 06, 2024 11:05 AM
Sample Description	Wastewater
Location	Effluent from the Check Basin (2T-9650)
Date Analysis Commenced	Sep 06, 2024
Condition of Sample	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
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	9.5	≤20	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	47	≤120	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	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	8.2	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	-	-	33.7	≤40	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	970	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	1.0	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	16	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Wanlop Hunchainaow ทะเบียนเลขที่ ว-323-จ-0038

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

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

TESTING
No.0042
Lot ID: 2495695
Date Received : Sep 06, 2024
Date Reported : Sep 13, 2024
Report Number : 3110092-1

Page 2 of 2

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Technical Management

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Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Johnson.

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2495695

Date Received : Sep 06, 2024

Date Reported : Sep 13, 2024

Report Number : 3110092-2

Page 1 of 1

Sample Number	2495695-3						
Sampled Date	Sep 06, 2024 11:05 AM						
Sample Description	Wastewater						
Location	Effluent from the Check Basin (2T-9650)						
Date Analysis Commenced	Sep 06, 2024						
Condition of Sample	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
Water Testing							
Sulfate	mg/L	0.6	2	438	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-SO ₄ (E)	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

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271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2495697

Date Received : Sep 06, 2024
Date Reported : Sep 09, 2024
Report Number : 3087408-1

Page 1 of 2

Sample Number 2495697-1
Sampled Date Sep 05, 2024 10:35 AM
Sample Description Wastewater
Location บริเวณขาออกจากกระบวนน้ำหล่อเย็นก่อนเข้าระบบบำบัดน้ำเสียโรงงาน MMA1
Date Analysis Commenced Sep 06, 2024
Condition of Sample data sheet

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
Residual Chlorine - as ClO ₂	mg/L	-	0.01	0.1	In-house method based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Cl (G)	Rayong

Sampling By : Wanlop Hunchainaow

Remark :

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Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2495697

Date Received : Sep 06, 2024
Date Reported : Sep 09, 2024
Report Number : 3087408-1

Page 2 of 2

Sample Number 2495697-2
Sampled Date Sep 05, 2024 11:15 AM
Sample Description Wastewater
Location บริเวณขาออกจากระบบน้ำหล่อเย็นก่อนเข้าระบบบำบัดน้ำเสียโรงงาน MMA2
Date Analysis Commenced Sep 06, 2024
Condition of Sample data sheet

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
Residual Chlorine - as ClO ₂	mg/L	-	0.01	0.3	In-house method based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Cl (G)	Rayong

Sampling By : Wanlop Hunchainaow

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Photchana S.

Photchana Seeda
Scientist (4)

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107683

Date Received : Oct 04, 2024
Date Reported : Oct 11, 2024
Report Number : 3135671-1

Page 1 of 1

Sample Number	24107683-1
Sampled Date	Oct 04, 2024 10:35 AM
Sample Description	Wastewater
Location	Equalization (T-9610)
Date Analysis Commenced	Oct 04, 2024
Condition of Sample	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	Method	Testing Location
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	416	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	955	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5220 D	Rayong
Oil & Grease	mg/L	-	3	4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C		-	-	9.1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	39.0	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	2760	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	29	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Sampling By : Narunat thammasaro ทะเบียนเลขที่ ว-323-จ-0052

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Technical Management

Photchana S.

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumon.

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107683

Date Received : Oct 04, 2024

Date Reported : Oct 11, 2024

Report Number : 3135671-2

Page 1 of 1

Sample Number 24107683-1
Sampled Date Oct 04, 2024 10:35 AM
Sample Description Wastewater
Location Equalization (T-9610)
Date Analysis Commenced Oct 04, 2024
Condition of Sample 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	Method	Testing Location
Water Testing						
Sulfate	mg/L	0.6	2	739	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-SO ₄ (E)	Rayong

Sampling By : Narunat thammassaro

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Photchana S.

Photchana Seeda

Scientist (4)

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107683

Date Received : Oct 04, 2024

Date Reported : Oct 11, 2024

Report Number : 3135672-1

Page 1 of 1

Sample Number	24107683-2
Sampled Date	Oct 04, 2024 10:25 AM
Sample Description	Wastewater
Location	Drainage before Check Basin (T-9640)
Date Analysis Commenced	Oct 04, 2024
Condition of Sample	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	Method	Testing Location
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	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	125	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	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C		-	-	8.5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	34.0	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	1620	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	1.9	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	13	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Sampling By : Narunat thammassaro ทะเบียนเลขที่ ว-323-จ-0052

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Technical Management

Photchana S.

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumon.

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107683

Date Received : Oct 04, 2024

Date Reported : Oct 11, 2024

Report Number : 3135672-2

Page 1 of 1

Sample Number 24107683-2
Sampled Date Oct 04, 2024 10:25 AM
Sample Description Wastewater
Location Drainage before Check Basin (T-9640)
Date Analysis Commenced Oct 04, 2024
Condition of Sample 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	Method	Testing Location
Water Testing						
Sulfate	mg/L	0.6	2	513	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-SO4 (E)	Rayong

Sampling By : Narunat thammasaro

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Approved by

Photchana S.

Photchana Seeda

Scientist (4)

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P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

TESTING
No.0042
Lot ID: 24107683
Date Received : Oct 04, 2024
Date Reported : Oct 11, 2024
Report Number : 3135673-1

Page 1 of 2

Sample Number	24107683-3						
Sampled Date	Oct 04, 2024 10:15 AM						
Sample Description	Wastewater						
Location	Effluent from the Check Basin (T-9650)						
Date Analysis Commenced	Oct 04, 2024						
Condition of Sample	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
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤20	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	67	≤120	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	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C		-	-	8.4	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	-	-	34.1	≤40	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	1410	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	1.1	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	7	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Narunat thammassaro ทะเบียนเลขที่ ว-323-จ-0052

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

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location: MMA Site 3

TESTING
No.0042
Lot ID: 24107683
Date Received : Oct 04, 2024
Date Reported : Oct 11, 2024
Report Number : 3135673-1

Page 2 of 2

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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.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location: MMA Site 3

Lot ID: 24107683

Date Received : Oct 04, 2024

Date Reported : Oct 11, 2024

Report Number : 3135673-2

Page 1 of 1

Sample Number	24107683-3						
Sampled Date	Oct 04, 2024 10:15 AM						
Sample Description	Wastewater						
Location	Effluent from the Check Basin (T-9650)						
Date Analysis Commenced	Oct 04, 2024						
Condition of Sample	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
Water Testing							
Sulfate	mg/L	0.6	2	329	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-SO4 (E)	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Narunat thammasaro

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TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107684

Date Received : Oct 04, 2024

Date Reported : Oct 11, 2024

Report Number : 3135678-1

Page 1 of 1

Sample Number	24107684-1
Sampled Date	Oct 04, 2024 10:55 AM
Sample Description	Wastewater
Location	Equalization (2T-9610)
Date Analysis Commenced	Oct 04, 2024
Condition of Sample	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	Method	Testing Location
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	562	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	1087	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5220 D	Rayong
Oil & Grease	mg/L	-	3	4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C		-	-	8.9	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	36.7	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	2500	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	144	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Sampling By : Narunat thammasaro ทะเบียนเลขที่ ว-323-จ-0052

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Technical Management

Photchana S.

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chamon.

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107684

Date Received : Oct 04, 2024

Date Reported : Oct 11, 2024

Report Number : 3135678-2

Page 1 of 1

Sample Number 24107684-1
Sampled Date Oct 04, 2024 10:55 AM
Sample Description Wastewater
Location Equalization (2T-9610)
Date Analysis Commenced Oct 04, 2024
Condition of Sample 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	Method	Testing Location
Water Testing						
Sulfate	mg/L	0.6	2	647	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-SO ₄ (E)	Rayong

Sampling By : Narunat thammassaro

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Scientist (4)

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107684

Date Received : Oct 04, 2024

Date Reported : Oct 11, 2024

Report Number : 3135679-1

Page 1 of 1

Sample Number	24107684-2
Sampled Date	Oct 04, 2024 10:50 AM
Sample Description	Wastewater
Location	Drainage before Check Basin (2T-9640)
Date Analysis Commenced	Oct 04, 2024
Condition of Sample	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	Method	Testing Location
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	7.6	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	67	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	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C		-	-	8.3	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	34.9	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	1350	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	2.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	29	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Sampling By : Narunat thammassaro ทะเบียนเลขที่ ว-323-จ-0052

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Technical Management

Photchana S.

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumon.

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107684

Date Received : Oct 04, 2024

Date Reported : Oct 11, 2024

Report Number : 3135679-2

Page 1 of 1

Sample Number 24107684-2
Sampled Date Oct 04, 2024 10:50 AM
Sample Description Wastewater
Location Drainage before Check Basin (2T-9640)
Date Analysis Commenced Oct 04, 2024
Condition of Sample 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	Method	Testing Location
Water Testing						
Sulfate	mg/L	0.6	2	476	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-SO ₄ (E)	Rayong

Sampling By : Narunat thammassaro

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

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

TESTING
No.0042
Lot ID: 24107684
Date Received : Oct 04, 2024
Date Reported : Oct 11, 2024
Report Number : 3135680-1

Page 1 of 2

Sample Number	24107684-3						
Sampled Date	Oct 04, 2024 10:45 AM						
Sample Description	Wastewater						
Location	Effluent from the Check Basin (2T-9650)						
Date Analysis Commenced	Oct 04, 2024						
Condition of Sample	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
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	16.8	≤20	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	55	≤120	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	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C		-	-	8.3	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	-	-	34.3	≤40	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	1340	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	1.6	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	24	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Narunat thammassaro ทะเบียนเลขที่ ว-323-จ-0052

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.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

TESTING
No.0042
Lot ID: 24107684
Date Received : Oct 04, 2024
Date Reported : Oct 11, 2024
Report Number : 3135680-1

Page 2 of 2

Remark :

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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. Changchon

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107684

Date Received : Oct 04, 2024

Date Reported : Oct 11, 2024

Report Number : 3135680-2

Page 1 of 1

Sample Number	24107684-3						
Sampled Date	Oct 04, 2024 10:45 AM						
Sample Description	Wastewater						
Location	Effluent from the Check Basin (2T-9650)						
Date Analysis Commenced	Oct 04, 2024						
Condition of Sample	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
Water Testing							
Sulfate	mg/L	0.6	2	482	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-SO ₄ (E)	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Narunat thammasaro

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Photchana S.

Photchana Seeda
Scientist (4)

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Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107686

Date Received : Oct 04, 2024
Date Reported : Oct 07, 2024
Report Number : 3114284-1

Page 1 of 2

Sample Number 24107686-1
Sampled Date Oct 04, 2024 10:40 AM
Sample Description Wastewater
Location บริเวณขาออกจากระบบน้ำหล่อเย็นก่อนเข้าระบบบำบัดน้ำเสียโรงงาน MMA1
Date Analysis Commenced Oct 04, 2024
Condition of Sample data sheet

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
Residual Chlorine - as ClO ₂	mg/L	-	0.01	0.1	In-house method based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Cl (G)	Rayong

Sampling By : Narunat thammassaro

Remark :

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P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107686

Date Received : Oct 04, 2024

Date Reported : Oct 07, 2024

Report Number : 3114284-1

Page 2 of 2

Sample Number : 24107686-2
Sampled Date : Oct 04, 2024 11:00 AM
Sample Description : Wastewater
Location : บริเวณขาออกจากระบบน้ำหล่อเย็นก่อนเข้าระบบบำบัดน้ำเสียโรงงาน MMA2
Date Analysis Commenced : Oct 04, 2024
Condition of Sample : data sheet

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
Residual Chlorine - as ClO ₂	mg/L	-	0.01	0.0	In-house method based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Cl (G)	Rayong

Sampling By : Narunat thammassaro

Remark :

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24116835

Date Received : Nov 08, 2024

Date Reported : Nov 15, 2024

Report Number : 3167099-1

Page 1 of 1

Sample Number	24116835-1
Sampled Date	Nov 08, 2024 10:15 AM
Sample Description	Wastewater
Location	Equalization (T-9610)
Date Analysis Commenced	Nov 08, 2024
Condition of Sample	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	Method	Testing Location
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	423	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	1161	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	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C		-	-	9.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	37.0	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	3040	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	35	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Sampling By : Wanlop Hunchainaow ทะเบียนเลขที่ ว-323-จ-0038

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Technical Management

Photchana S.

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumon.

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24116835

Date Received : Nov 08, 2024

Date Reported : Nov 15, 2024

Report Number : 3167099-2

Page 1 of 1

Sample Number 24116835-1
Sampled Date Nov 08, 2024 10:15 AM
Sample Description Wastewater
Location Equalization (T-9610)
Date Analysis Commenced Nov 09, 2024
Condition of Sample 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	Method	Testing Location
Water Testing						
Sulfate	mg/L	0.6	2	975	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-SO4 (E)	Rayong

Sampling By : Wanlop Hunchainaow

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Scientist (4)

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24116835
Date Received : Nov 08, 2024
Date Reported : Nov 15, 2024
Report Number : 3167100-1

Page 1 of 1

Sample Number	24116835-2
Sampled Date	Nov 08, 2024 10:10 AM
Sample Description	Wastewater
Location	Drainage before Check Basin (T-9640)
Date Analysis Commenced	Nov 08, 2024
Condition of Sample	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	Method	Testing Location
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	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	65	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	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C		-	-	8.5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	34.0	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	1410	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	1.4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	6	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Sampling By : Wanlop Hunchainaow ทะเบียนเลขที่ ว-323-จ-0038

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Technical Management

Photchana S.

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumon.

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24116835

Date Received : Nov 08, 2024

Date Reported : Nov 15, 2024

Report Number : 3167100-2

Page 1 of 1

Sample Number 24116835-2
Sampled Date Nov 08, 2024 10:10 AM
Sample Description Wastewater
Location Drainage before Check Basin (T-9640)
Date Analysis Commenced Nov 09, 2024
Condition of Sample 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	Method	Testing Location
Water Testing						
Sulfate	mg/L	0.6	2	540	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-SO4 (E)	Rayong

Sampling By : Wanlop Hunchainaow

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Scientist (4)

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Analysis / Test Report

TESTING

No.0042

Lot ID: 24116835

Date Received : Nov 08, 2024

Date Reported : Nov 15, 2024

Report Number : 3167101-1

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Page 1 of 2

Sample Number	24116835-3						
Sampled Date	Nov 08, 2024 10:00 AM						
Sample Description	Wastewater						
Location	Effluent from the Check Basin (T-9650)						
Date Analysis Commenced	Nov 08, 2024						
Condition of Sample	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
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤20	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	43	≤120	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	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C		-	-	8.4	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	-	-	33.2	≤40	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	1136	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	<1.0	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	8	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Wanlop Hunchainaow ทะเบียนเลขที่ ว-323-จ-0038

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.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

TESTING
No.0042
Lot ID: 24116835
Date Received : Nov 08, 2024
Date Reported : Nov 15, 2024
Report Number : 3167101-1

Page 2 of 2

Remark :

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Technical Management

Photchana S.

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Johnson.

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location: MMA Site 3

Lot ID: 24116835

Date Received : Nov 08, 2024

Date Reported : Nov 15, 2024

Report Number : 3167101-2

Page 1 of 1

Sample Number	24116835-3						
Sampled Date	Nov 08, 2024 10:00 AM						
Sample Description	Wastewater						
Location	Effluent from the Check Basin (T-9650)						
Date Analysis Commenced	Nov 09, 2024						
Condition of Sample	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
Water Testing							
Sulfate	mg/L	0.6	2	382	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-SO ₄ (E)	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Wanlop Hunchainaow

Remark :

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Approved by

Photchana S.

Photchana Seeda
Scientist (4)

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24116837
Date Received : Nov 08, 2024
Date Reported : Nov 15, 2024
Report Number : 3167102-1

Page 1 of 1

Sample Number	24116837-1
Sampled Date	Nov 08, 2024 10:35 AM
Sample Description	Wastewater
Location	Equalization (2T-9610)
Date Analysis Commenced	Nov 08, 2024
Condition of Sample	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	Method	Testing Location
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	392	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	820	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	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C		-	-	7.8	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	35.6	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	1200	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	275	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Sampling By : Wanlop Hunchainaow ทะเบียนเลขที่ ว-323-จ-0038

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Technical Management

Photchana S.

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumon.

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24116837

Date Received : Nov 08, 2024

Date Reported : Nov 15, 2024

Report Number : 3167102-2

Page 1 of 1

Sample Number 24116837-1
Sampled Date Nov 08, 2024 10:35 AM
Sample Description Wastewater
Location Equalization (2T-9610)
Date Analysis Commenced Nov 09, 2024
Condition of Sample 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	Method	Testing Location
Water Testing						
Sulfate	mg/L	0.6	2	239	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-SO4 (E)	Rayong

Sampling By : Wanlop Hunchainaow

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Photchana Seeda

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24116837
Date Received : Nov 08, 2024
Date Reported : Nov 15, 2024
Report Number : 3167103-1

Page 1 of 1

Sample Number	24116837-2
Sampled Date	Nov 08, 2024 10:25 AM
Sample Description	Wastewater
Location	Drainage before Check Basin (2T-9640)
Date Analysis Commenced	Nov 08, 2024
Condition of Sample	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	Method	Testing Location
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	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	59	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	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C		-	-	8.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	32.3	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	996	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	1.4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	19	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Sampling By : Wanlop Hunchainaow ทะเบียนเลขที่ ว-323-จ-0038

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Technical Management

Photchana S.

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumon.

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24116837

Date Received : Nov 08, 2024

Date Reported : Nov 15, 2024

Report Number : 3167103-2

Page 1 of 1

Sample Number 24116837-2
Sampled Date Nov 08, 2024 10:25 AM
Sample Description Wastewater
Location Drainage before Check Basin (2T-9640)
Date Analysis Commenced Nov 09, 2024
Condition of Sample 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	Method	Testing Location
Water Testing						
Sulfate	mg/L	0.6	2	310	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-SO ₄ (E)	Rayong

Sampling By : Wanlop Hunchainaow

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Photchana S.

Photchana Seeda

Scientist (4)

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Analysis / Test Report

TESTING

No.0042

Lot ID: 24116837

Date Received : Nov 08, 2024

Date Reported : Nov 15, 2024

Report Number : 3167104-1

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Page 1 of 2

Sample Number	24116837-3						
Sampled Date	Nov 08, 2024 10:30 AM						
Sample Description	Wastewater						
Location	Effluent from the Check Basin (2T-9650)						
Date Analysis Commenced	Nov 08, 2024						
Condition of Sample	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
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤20	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	59	≤120	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	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C		-	-	8.2	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	-	-	32.4	≤40	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	948	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	1.2	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	14	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Wanlop Hunchainaow ทะเบียนเลขที่ ว-323-จ-0038

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

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

TESTING
No.0042
Lot ID: 24116837
Date Received : Nov 08, 2024
Date Reported : Nov 15, 2024
Report Number : 3167104-1

Page 2 of 2

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Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Changchon.

Dej Changchon
Senior Manager

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271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location: MMA Site 3

Lot ID: 24116837

Date Received : Nov 08, 2024

Date Reported : Nov 15, 2024

Report Number : 3167104-2

Page 1 of 1

Sample Number	24116837-3						
Sampled Date	Nov 08, 2024 10:30 AM						
Sample Description	Wastewater						
Location	Effluent from the Check Basin (2T-9650)						
Date Analysis Commenced	Nov 09, 2024						
Condition of Sample	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
Water Testing							
Sulfate	mg/L	0.6	2	316	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-SO ₄ (E)	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Wanlop Hunchainaow

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Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24116838

Date Received : Nov 08, 2024

Date Reported : Nov 12, 2024

Report Number : 3134526-1

Page 1 of 2

Sample Number : 24116838-1
Sampled Date : Nov 08, 2024 10:17 AM
Sample Description : Wastewater
Location : บริเวณขาออกจากระบบน้ำหล่อเย็นก่อนเข้าระบบบำบัดน้ำเสียโรงงาน MMA1
Date Analysis Commenced : Nov 08, 2024
Condition of Sample : data sheet

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
Residual Chlorine - as ClO ₂	mg/L	-	0.01	0.2	In-house method based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Cl (G)	Rayong

Sampling By : Wanlop Hunchainaow

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Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24116838

Date Received : Nov 08, 2024

Date Reported : Nov 12, 2024

Report Number : 3134526-1

Page 2 of 2

Sample Number 24116838-2
Sampled Date Nov 08, 2024 10:45 AM
Sample Description Wastewater
Location บริเวณขาออกจากระบบน้ำหล่อเย็นก่อนเข้าระบบบำบัดน้ำเสียโรงงาน MMA2
Date Analysis Commenced Nov 08, 2024
Condition of Sample data sheet

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
Residual Chlorine - as ClO ₂	mg/L	-	0.01	0.0	In-house method based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Cl (G)	Rayong

Sampling By : Wanlop Hunchainaow

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Photchana Seeda

Scientist (4)

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24131679
Date Received : Dec 09, 2024
Date Reported : Dec 14, 2024
Report Number : 3193790-1

Page 1 of 1

Sample Number	24131679-1
Sampled Date	Dec 09, 2024 10:15 AM
Sample Description	Wastewater
Location	Equalization (T-9610)
Date Analysis Commenced	Dec 09, 2024
Condition of Sample	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	Method	Testing Location
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	558	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	945	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	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C		-	-	9.5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	33.9	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	2070	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	31	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

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

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Technical Management

Photchana S.

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumon.

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24131679

Date Received : Dec 09, 2024

Date Reported : Dec 14, 2024

Report Number : 3193790-2

Page 1 of 1

Sample Number	24131679-1					
Sampled Date	Dec 09, 2024 10:15 AM					
Sample Description	Wastewater					
Location	Equalization (T-9610)					
Date Analysis Commenced	Dec 10, 2024					
Condition of Sample	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	Method	Testing Location
Water Testing						
Sulfate	mg/L	0.6	2	679	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-SO4 (E)	Rayong

Sampling By : Sansoen Khuiyoksui

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

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24131679
Date Received : Dec 09, 2024
Date Reported : Dec 14, 2024
Report Number : 3193791-1

Page 1 of 1

Sample Number	24131679-2
Sampled Date	Dec 09, 2024 10:10 AM
Sample Description	Wastewater
Location	Drainage before Check Basin (T-9640)
Date Analysis Commenced	Dec 09, 2024
Condition of Sample	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	Method	Testing Location
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	2.7	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	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	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C		-	-	8.4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	32.9	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	1280	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	2.3	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	7	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

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

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Technical Management

Photchana S.

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chamon.

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24131679

Date Received : Dec 09, 2024

Date Reported : Dec 14, 2024

Report Number : 3193791-2

Page 1 of 1

Sample Number	24131679-2					
Sampled Date	Dec 09, 2024 10:10 AM					
Sample Description	Wastewater					
Location	Drainage before Check Basin (T-9640)					
Date Analysis Commenced	Dec 10, 2024					
Condition of Sample	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	Method	Testing Location
Water Testing						
Sulfate	mg/L	0.6	2	377	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-SO ₄ (E)	Rayong

Sampling By : Sansoen Khuiyoksui

Remark :

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Photchana Seeda

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Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

TESTING
No.0042
Lot ID: 24131679
Date Received : Dec 09, 2024
Date Reported : Dec 14, 2024
Report Number : 3193792-1

Page 1 of 2

Sample Number	24131679-3						
Sampled Date	Dec 09, 2024 10:05 AM						
Sample Description	Wastewater						
Location	Effluent from the Check Basin (T-9650)						
Date Analysis Commenced	Dec 09, 2024						
Condition of Sample	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
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	2.1	≤20	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	64	≤120	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	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C		-	-	8.3	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	-	-	32.6	≤40	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	1088	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	1.2	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	13	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).
Sampling By : Sansoen Khuiyoksui ทะเบียนเลขที่ ว-323-จ-0005

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

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

TESTING
No.0042
Lot ID: 24131679
Date Received : Dec 09, 2024
Date Reported : Dec 14, 2024
Report Number : 3193792-1

Page 2 of 2

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Technical Management

Photchana S.

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Johnson.

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24131679

Date Received : Dec 09, 2024
Date Reported : Dec 14, 2024
Report Number : 3193792-2

Page 1 of 1

Sample Number	24131679-3						
Sampled Date	Dec 09, 2024 10:05 AM						
Sample Description	Wastewater						
Location	Effluent from the Check Basin (T-9650)						
Date Analysis Commenced	Dec 10, 2024						
Condition of Sample	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
Water Testing							
Sulfate	mg/L	0.6	2	346	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-SO4 (E)	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

Sampling By : Sansoen Khuiyoksui

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24131680

Date Received : Dec 09, 2024

Date Reported : Dec 14, 2024

Report Number : 3193793-1

Page 1 of 1

Sample Number	24131680-1
Sampled Date	Dec 09, 2024 11:00 AM
Sample Description	Wastewater
Location	Equalization (2T-9610)
Date Analysis Commenced	Dec 09, 2024
Condition of Sample	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	Method	Testing Location
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	612	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	922	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	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C		-	-	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	-	-	32.3	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	2160	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	62	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

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

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Technical Management

Photchana S.

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chumon.

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24131680

Date Received : Dec 09, 2024

Date Reported : Dec 14, 2024

Report Number : 3193793-2

Page 1 of 1

Sample Number	24131680-1
Sampled Date	Dec 09, 2024 11:00 AM
Sample Description	Wastewater
Location	Equalization (2T-9610)
Date Analysis Commenced	Dec 10, 2024
Condition of Sample	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	Method	Testing Location
Water Testing						
Sulfate	mg/L	0.6	2	628	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-SO4 (E)	Rayong

Sampling By : Sansoen Khuiyoksui

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24131680

Date Received : Dec 09, 2024

Date Reported : Dec 14, 2024

Report Number : 3193794-1

Page 1 of 1

Sample Number	24131680-2
Sampled Date	Dec 09, 2024 10:50 AM
Sample Description	Wastewater
Location	Drainage before Check Basin (2T-9640)
Date Analysis Commenced	Dec 09, 2024
Condition of Sample	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	Method	Testing Location
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	2.0	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	62	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	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C		-	-	8.3	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Temperature *	Degree C	-	-	32.8	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	1370	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	1.9	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

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

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Technical Management

Photchana S.

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ว-323-จ-0028

Approved by

D. Chamon.

Dej Changchon
Senior Manager

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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24131680

Date Received : Dec 09, 2024

Date Reported : Dec 14, 2024

Report Number : 3193794-2

Page 1 of 1

Sample Number	24131680-2					
Sampled Date	Dec 09, 2024 10:50 AM					
Sample Description	Wastewater					
Location	Drainage before Check Basin (2T-9640)					
Date Analysis Commenced	Dec 10, 2024					
Condition of Sample	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	Method	Testing Location
Water Testing						
Sulfate	mg/L	0.6	2	516	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-SO4 (E)	Rayong

Sampling By : Sansoen Khuiyoksui

Remark :

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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

TESTING
No.0042
Lot ID: 24131680
Date Received : Dec 09, 2024
Date Reported : Dec 14, 2024
Report Number : 3193795-1

Page 1 of 2

Sample Number	24131680-3						
Sampled Date	Dec 09, 2024 10:55 AM						
Sample Description	Wastewater						
Location	Effluent from the Check Basin (2T-9650)						
Date Analysis Commenced	Dec 09, 2024						
Condition of Sample	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
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤20	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	64	≤120	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	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C		-	-	8.3	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	-	-	32.5	≤40	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	1440	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	2.2	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	14	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).
Sampling By : Sansoen Khuiyoksui ทะเบียนเลขที่ ว-323-จ-0005

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

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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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

TESTING
No.0042
Lot ID: 24131680
Date Received : Dec 09, 2024
Date Reported : Dec 14, 2024
Report Number : 3193795-1

Page 2 of 2

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. Johnson.

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ว-323-ค-0001

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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24131680

Date Received : Dec 09, 2024

Date Reported : Dec 14, 2024

Report Number : 3193795-2

Page 1 of 1

Sample Number	24131680-3						
Sampled Date	Dec 09, 2024 10:55 AM						
Sample Description	Wastewater						
Location	Effluent from the Check Basin (2T-9650)						
Date Analysis Commenced	Dec 10, 2024						
Condition of Sample	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
Water Testing							
Sulfate	mg/L	0.6	2	487	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-SO ₄ (E)	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).

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

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24131682

Date Received : Dec 09, 2024

Date Reported : Dec 12, 2024

Report Number : 3170548-1

Page 1 of 2

Sample Number 24131682-1
Sampled Date Dec 09, 2024 10:20 AM
Sample Description Wastewater
Location บริเวณขาออกจากระบบน้ำหล่อเย็นก่อนเข้าระบบบำบัดน้ำเสียโรงงาน MMA1
Date Analysis Commenced Dec 09, 2024
Condition of Sample data sheet

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
Residual Chlorine - as ClO ₂	mg/L	-	0.01	0.4	In-house method based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Cl (G)	Rayong

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

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24131682

Date Received : Dec 09, 2024

Date Reported : Dec 12, 2024

Report Number : 3170548-1

Page 2 of 2

Sample Number : 24131682-2
Sampled Date : Dec 09, 2024 11:05 AM
Sample Description : Wastewater
Location : บริเวณขาออกจากระบบน้ำหล่อเย็นก่อนเข้าระบบบำบัดน้ำเสียโรงงาน MMA2
Date Analysis Commenced : Dec 09, 2024
Condition of Sample : data sheet

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
Residual Chlorine - as ClO ₂	mg/L	-	0.01	0.3	In-house method based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Cl (G)	Rayong

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)

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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ภาคผนวก ค-4

ใบรับรองผลการตรวจวัดระดับเสียงโดยทั่วไป



Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107407
Date Received : Sep 30, 2024
Date Reported : Oct 03, 2024
Report Number: 3128539-1

Page 1 of 1

Sample Number 24107407-1
Parameter Noise (Leq 24 hrs.)
Location SCG site 3
Measurement Date Sep 23 - Sep 24, 2024
Measurement by Santi Chaichana
Sound Level meter Serial No. 572561

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	59.2	85.6	55.2
12:00 PM - 01:00 PM	55.9	73.0	54.5
01:00 PM - 02:00 PM	57.1	72.2	55.0
02:00 PM - 03:00 PM	56.8	73.2	54.8
03:00 PM - 04:00 PM	56.0	74.0	54.6
04:00 PM - 05:00 PM	57.5	75.4	54.9
05:00 PM - 06:00 PM	56.8	76.7	54.8
06:00 PM - 07:00 PM	57.0	73.5	55.1
07:00 PM - 08:00 PM	57.0	86.0	55.5
08:00 PM - 09:00 PM	56.9	67.6	55.7
09:00 PM - 10:00 PM	56.5	66.4	55.6
10:00 PM - 11:00 PM	56.9	70.8	56.0
11:00 PM - 12:00 AM	56.6	69.6	55.6
12:00 AM - 01:00 AM	56.4	68.5	55.5
01:00 AM - 02:00 AM	60.8	77.2	55.6
02:00 AM - 03:00 AM	56.4	62.6	55.6
03:00 AM - 04:00 AM	55.5	63.6	54.4
04:00 AM - 05:00 AM	54.9	70.7	54.0
05:00 AM - 06:00 AM	54.9	72.1	54.2
06:00 AM - 07:00 AM	56.0	72.8	54.5
07:00 AM - 08:00 AM	57.7	77.0	54.5
08:00 AM - 09:00 AM	58.3	78.4	55.4
09:00 AM - 10:00 AM	58.4	82.5	55.4
10:00 AM - 11:00 AM	59.0	81.8	55.9

Leq Average 24 hrs. (dB(A)) 57.2
Lmax (dB(A)) 86.0
L90 (dB(A)) 55.1
Ldn (dB(A)) 63.4
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.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107407
Date Received : Sep 30, 2024
Date Reported : Oct 03, 2024
Report Number: 3128540-1

Page 1 of 1

Sample Number 24107407-2
Parameter Noise (Leq 24 hrs.)
Location SCG site 3
Measurement Date Sep 24 - Sep 25, 2024
Measurement by Santi Chaichana
Sound Level meter Serial No. 572561

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	58.8	85.0	55.9
12:00 PM - 01:00 PM	56.7	73.5	55.5
01:00 PM - 02:00 PM	58.2	78.5	55.8
02:00 PM - 03:00 PM	57.7	78.4	55.7
03:00 PM - 04:00 PM	58.4	78.1	55.9
04:00 PM - 05:00 PM	59.2	84.3	55.9
05:00 PM - 06:00 PM	58.0	79.4	55.9
06:00 PM - 07:00 PM	57.3	74.9	55.2
07:00 PM - 08:00 PM	56.6	72.5	55.0
08:00 PM - 09:00 PM	56.6	70.0	55.4
09:00 PM - 10:00 PM	56.1	68.4	55.2
10:00 PM - 11:00 PM	55.5	67.6	54.4
11:00 PM - 12:00 AM	59.8	72.3	55.9
12:00 AM - 01:00 AM	56.5	65.5	55.1
01:00 AM - 02:00 AM	56.9	69.5	55.1
02:00 AM - 03:00 AM	55.4	70.5	54.7
03:00 AM - 04:00 AM	55.4	66.5	54.7
04:00 AM - 05:00 AM	55.6	68.1	55.0
05:00 AM - 06:00 AM	55.5	72.5	54.9
06:00 AM - 07:00 AM	56.2	78.7	55.0
07:00 AM - 08:00 AM	57.9	79.6	54.8
08:00 AM - 09:00 AM	58.9	78.1	54.2
09:00 AM - 10:00 AM	56.8	80.2	53.3
10:00 AM - 11:00 AM	56.8	76.8	53.6

Leq Average 24 hrs. (dB(A)) 57.3
Lmax (dB(A)) 85.0
L90 (dB(A)) 55.1
Ldn (dB(A)) 63.2
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.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107407
Date Received : Sep 30, 2024
Date Reported : Oct 03, 2024
Report Number: 3128541-1

Page 1 of 1

Sample Number 24107407-3
Parameter Noise (Leq 24 hrs.)
Location SCG site 3
Measurement Date Sep 25 - Sep 26, 2024
Measurement by Santi Chaichana
Sound Level meter Serial No. 572561

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	68.0	82.5	54.4
12:00 PM - 01:00 PM	64.0	79.1	54.1
01:00 PM - 02:00 PM	57.3	79.5	54.3
02:00 PM - 03:00 PM	57.8	78.7	54.9
03:00 PM - 04:00 PM	64.6	81.7	54.9
04:00 PM - 05:00 PM	57.9	76.4	57.0
05:00 PM - 06:00 PM	57.2	81.6	54.7
06:00 PM - 07:00 PM	63.0	98.9	59.2
07:00 PM - 08:00 PM	59.6	75.6	58.4
08:00 PM - 09:00 PM	59.3	69.3	58.2
09:00 PM - 10:00 PM	59.0	69.9	58.1
10:00 PM - 11:00 PM	59.0	73.9	57.9
11:00 PM - 12:00 AM	58.2	79.9	57.5
12:00 AM - 01:00 AM	57.3	75.5	56.3
01:00 AM - 02:00 AM	56.2	59.9	55.7
02:00 AM - 03:00 AM	56.0	60.7	55.4
03:00 AM - 04:00 AM	55.8	67.7	55.0
04:00 AM - 05:00 AM	55.6	66.3	55.0
05:00 AM - 06:00 AM	54.8	69.4	54.0
06:00 AM - 07:00 AM	55.7	76.2	54.5
07:00 AM - 08:00 AM	58.3	82.7	54.6
08:00 AM - 09:00 AM	57.8	76.7	53.6
09:00 AM - 10:00 AM	55.6	75.8	52.7
10:00 AM - 11:00 AM	55.8	73.0	53.7

Leq Average 24 hrs. (dB(A)) 60.1
Lmax (dB(A)) 98.9
L90 (dB(A)) 54.9
Ldn (dB(A)) 64.2
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.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107407
Date Received : Sep 30, 2024
Date Reported : Oct 03, 2024
Report Number: 3128542-1

Page 1 of 1

Sample Number 24107407-4
Parameter Noise (Leq 24 hrs.)
Location SCG site 3
Measurement Date Sep 26 - Sep 27, 2024
Measurement by Santi Chaichana
Sound Level meter Serial No. 572561

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	56.7	79.4	53.5
12:00 PM - 01:00 PM	56.6	77.7	54.6
01:00 PM - 02:00 PM	59.3	77.7	55.4
02:00 PM - 03:00 PM	65.8	93.5	55.3
03:00 PM - 04:00 PM	59.0	81.5	55.0
04:00 PM - 05:00 PM	58.4	77.8	54.5
05:00 PM - 06:00 PM	57.5	75.9	54.7
06:00 PM - 07:00 PM	57.1	79.9	54.8
07:00 PM - 08:00 PM	56.9	76.6	55.2
08:00 PM - 09:00 PM	56.4	69.1	55.0
09:00 PM - 10:00 PM	55.7	73.9	54.7
10:00 PM - 11:00 PM	55.2	69.2	54.4
11:00 PM - 12:00 AM	55.4	62.8	54.7
12:00 AM - 01:00 AM	55.1	72.2	54.5
01:00 AM - 02:00 AM	55.0	66.1	54.3
02:00 AM - 03:00 AM	54.8	62.0	54.4
03:00 AM - 04:00 AM	54.7	67.9	54.2
04:00 AM - 05:00 AM	54.4	63.3	54.0
05:00 AM - 06:00 AM	54.7	70.2	54.3
06:00 AM - 07:00 AM	55.4	71.3	54.2
07:00 AM - 08:00 AM	56.9	73.3	53.9
08:00 AM - 09:00 AM	57.2	75.5	53.0
09:00 AM - 10:00 AM	55.7	77.9	52.8
10:00 AM - 11:00 AM	56.1	78.3	53.3

Leq Average 24 hrs. (dB(A)) 57.7
Lmax (dB(A)) 93.5
L90 (dB(A)) 54.4
Ldn (dB(A)) 62.2
Standard (dB(A)) 70 115

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการ
โรงงาน 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.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107407
Date Received : Sep 30, 2024
Date Reported : Oct 03, 2024
Report Number: 3128543-1

Page 1 of 1

Sample Number 24107407-5
Parameter Noise (Leq 24 hrs.)
Location SCG site 3
Measurement Date Sep 27 - Sep 28, 2024
Measurement by Santi Chaichana
Sound Level meter Serial No. 572561

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	57.3	78.3	52.8
12:00 PM - 01:00 PM	55.6	78.8	52.8
01:00 PM - 02:00 PM	57.3	76.5	52.8
02:00 PM - 03:00 PM	57.5	84.4	55.1
03:00 PM - 04:00 PM	56.6	77.7	55.0
04:00 PM - 05:00 PM	58.9	78.0	54.6
05:00 PM - 06:00 PM	57.0	76.1	53.5
06:00 PM - 07:00 PM	57.1	80.5	53.6
07:00 PM - 08:00 PM	56.5	78.4	54.4
08:00 PM - 09:00 PM	55.8	76.0	54.3
09:00 PM - 10:00 PM	54.6	64.5	54.1
10:00 PM - 11:00 PM	54.7	69.3	54.0
11:00 PM - 12:00 AM	54.6	63.7	54.1
12:00 AM - 01:00 AM	55.5	67.6	54.8
01:00 AM - 02:00 AM	55.0	65.4	54.3
02:00 AM - 03:00 AM	54.6	70.2	54.1
03:00 AM - 04:00 AM	53.9	66.8	53.2
04:00 AM - 05:00 AM	54.0	68.1	53.5
05:00 AM - 06:00 AM	54.9	75.8	53.9
06:00 AM - 07:00 AM	54.8	77.0	54.0
07:00 AM - 08:00 AM	57.7	77.2	53.8
08:00 AM - 09:00 AM	56.2	79.2	53.1
09:00 AM - 10:00 AM	54.7	75.1	52.6
10:00 AM - 11:00 AM	55.9	75.8	53.3

Leq Average 24 hrs. (dB(A)) 56.1
Lmax (dB(A)) 84.4
L90 (dB(A)) 53.9
Ldn (dB(A)) 61.5
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.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107407
Date Received : Sep 30, 2024
Date Reported : Oct 03, 2024
Report Number: 3128544-1

Page 1 of 1

Sample Number 24107407-6
Parameter Noise (Leq 24 hrs.)
Location SCG site 3
Measurement Date Sep 28 - Sep 29, 2024
Measurement by Santi Chaichana
Sound Level meter Serial No. 572561

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	57.6	80.9	54.6
12:00 PM - 01:00 PM	57.0	84.0	54.8
01:00 PM - 02:00 PM	56.0	82.4	53.6
02:00 PM - 03:00 PM	55.0	73.9	53.3
03:00 PM - 04:00 PM	56.7	77.6	54.2
04:00 PM - 05:00 PM	57.4	81.4	54.0
05:00 PM - 06:00 PM	57.2	78.7	54.3
06:00 PM - 07:00 PM	56.8	75.1	55.1
07:00 PM - 08:00 PM	57.3	78.2	54.2
08:00 PM - 09:00 PM	55.6	71.5	54.3
09:00 PM - 10:00 PM	55.6	70.3	54.4
10:00 PM - 11:00 PM	55.6	77.0	54.6
11:00 PM - 12:00 AM	55.7	78.5	54.7
12:00 AM - 01:00 AM	55.9	68.6	55.2
01:00 AM - 02:00 AM	55.7	61.8	55.1
02:00 AM - 03:00 AM	55.6	64.9	54.9
03:00 AM - 04:00 AM	55.7	63.7	55.1
04:00 AM - 05:00 AM	55.8	63.7	55.2
05:00 AM - 06:00 AM	55.7	68.7	55.1
06:00 AM - 07:00 AM	56.1	74.6	55.2
07:00 AM - 08:00 AM	58.0	80.4	54.9
08:00 AM - 09:00 AM	56.1	73.6	54.3
09:00 AM - 10:00 AM	56.4	72.3	54.1
10:00 AM - 11:00 AM	56.4	71.1	54.3

Leq Average 24 hrs. (dB(A)) 56.4
Lmax (dB(A)) 84.0
L90 (dB(A)) 54.6
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

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107407
Date Received : Sep 30, 2024
Date Reported : Oct 03, 2024
Report Number: 3128545-1

Page 1 of 1

Sample Number 24107407-7
Parameter Noise (Leq 24 hrs.)
Location SCG site 3
Measurement Date Sep 29 - Sep 30, 2024
Measurement by Santi Chaichana
Sound Level meter Serial No. 572561

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	55.4	68.1	54.5
12:00 PM - 01:00 PM	55.6	65.8	54.7
01:00 PM - 02:00 PM	56.7	66.8	55.0
02:00 PM - 03:00 PM	57.0	81.7	55.0
03:00 PM - 04:00 PM	56.3	69.3	55.0
04:00 PM - 05:00 PM	56.5	71.7	55.1
05:00 PM - 06:00 PM	56.6	67.7	55.6
06:00 PM - 07:00 PM	56.6	68.1	55.6
07:00 PM - 08:00 PM	57.5	78.7	55.9
08:00 PM - 09:00 PM	56.6	67.0	55.7
09:00 PM - 10:00 PM	56.5	68.7	55.7
10:00 PM - 11:00 PM	56.5	71.1	55.7
11:00 PM - 12:00 AM	56.7	81.1	55.7
12:00 AM - 01:00 AM	56.9	75.3	55.8
01:00 AM - 02:00 AM	56.5	68.4	55.7
02:00 AM - 03:00 AM	56.5	66.5	55.8
03:00 AM - 04:00 AM	55.8	63.7	54.4
04:00 AM - 05:00 AM	57.6	84.8	55.2
05:00 AM - 06:00 AM	55.6	65.3	55.0
06:00 AM - 07:00 AM	56.1	69.7	55.0
07:00 AM - 08:00 AM	58.1	85.4	55.4
08:00 AM - 09:00 AM	58.2	74.5	55.8
09:00 AM - 10:00 AM	57.0	81.2	54.9
10:00 AM - 11:00 AM	56.9	72.2	54.9

Leq Average 24 hrs. (dB(A)) 56.7
Lmax (dB(A)) 85.4
L90 (dB(A)) 55.2
Ldn (dB(A)) 63.0
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.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107407
Date Received : Sep 30, 2024
Date Reported : Oct 03, 2024
Report Number: 3128546-1

Page 1 of 1

Sample Number 24107407-8
Parameter Noise (Leq 24 hrs.)
Location วัดหนองแฟบ
Measurement Date Sep 23 - Sep 24, 2024
Measurement by Santi Chaichana
Sound Level meter Serial No. 472130

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	59.1	90.0	45.4
01:00 PM - 02:00 PM	57.8	75.5	45.7
02:00 PM - 03:00 PM	56.0	72.7	46.2
03:00 PM - 04:00 PM	55.8	73.1	44.7
04:00 PM - 05:00 PM	55.8	80.8	46.7
05:00 PM - 06:00 PM	50.9	72.6	46.0
06:00 PM - 07:00 PM	50.5	69.6	45.8
07:00 PM - 08:00 PM	49.3	69.4	44.7
08:00 PM - 09:00 PM	49.9	76.9	45.0
09:00 PM - 10:00 PM	47.6	65.0	45.1
10:00 PM - 11:00 PM	47.3	67.2	43.6
11:00 PM - 12:00 AM	44.6	58.8	43.7
12:00 AM - 01:00 AM	44.8	64.5	43.2
01:00 AM - 02:00 AM	45.3	66.6	43.5
02:00 AM - 03:00 AM	46.5	67.4	44.6
03:00 AM - 04:00 AM	50.1	75.2	45.5
04:00 AM - 05:00 AM	46.4	63.6	45.0
05:00 AM - 06:00 AM	50.9	67.3	45.5
06:00 AM - 07:00 AM	54.4	75.1	48.5
07:00 AM - 08:00 AM	54.4	76.7	48.4
08:00 AM - 09:00 AM	53.5	70.6	47.8
09:00 AM - 10:00 AM	54.7	75.3	47.9
10:00 AM - 11:00 AM	54.0	79.5	49.5
11:00 AM - 12:00 PM	55.3	80.2	51.3

Leq Average 24 hrs. (dB(A)) 53.3
Lmax (dB(A)) 90.0
L90 (dB(A)) 45.5
Ldn (dB(A)) 56.9
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



Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107407
Date Received : Sep 30, 2024
Date Reported : Oct 03, 2024
Report Number: 3128547-1

Page 1 of 1

Sample Number 24107407-9
Parameter Noise (Leq 24 hrs.)
Location วัดหนองแฟบ
Measurement Date Sep 24 - Sep 25, 2024
Measurement by Santi Chaichana
Sound Level meter Serial No. 472130

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	53.8	72.4	49.3
01:00 PM - 02:00 PM	52.1	71.6	48.5
02:00 PM - 03:00 PM	53.9	76.4	48.9
03:00 PM - 04:00 PM	52.0	65.7	49.2
04:00 PM - 05:00 PM	58.5	80.2	50.4
05:00 PM - 06:00 PM	64.9	77.5	57.8
06:00 PM - 07:00 PM	59.1	79.1	51.1
07:00 PM - 08:00 PM	53.2	71.6	50.3
08:00 PM - 09:00 PM	51.0	73.3	48.5
09:00 PM - 10:00 PM	51.8	70.9	49.3
10:00 PM - 11:00 PM	53.7	83.4	49.5
11:00 PM - 12:00 AM	64.7	86.8	51.3
12:00 AM - 01:00 AM	57.3	82.1	55.1
01:00 AM - 02:00 AM	54.3	76.3	51.3
02:00 AM - 03:00 AM	52.6	63.0	50.8
03:00 AM - 04:00 AM	58.3	66.9	53.1
04:00 AM - 05:00 AM	61.1	63.8	60.2
05:00 AM - 06:00 AM	62.6	72.8	59.2
06:00 AM - 07:00 AM	65.7	82.6	57.6
07:00 AM - 08:00 AM	62.7	79.9	51.6
08:00 AM - 09:00 AM	53.4	82.2	47.6
09:00 AM - 10:00 AM	52.3	71.1	47.8
10:00 AM - 11:00 AM	51.3	73.5	47.3
11:00 AM - 12:00 PM	56.0	82.7	47.7

Leq Average 24 hrs. (dB(A)) 59.3
Lmax (dB(A)) 86.8
L90 (dB(A)) 50.3
Ldn (dB(A)) 67.2
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.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107407
Date Received : Sep 30, 2024
Date Reported : Oct 03, 2024
Report Number: 3128548-1

Page 1 of 1

Sample Number 24107407-10
Parameter Noise (Leq 24 hrs.)
Location วัดหนองแฟบ
Measurement Date Sep 25 - Sep 26, 2024
Measurement by Santi Chaichana
Sound Level meter Serial No. 472130

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	53.2	77.9	46.6
01:00 PM - 02:00 PM	60.5	91.2	47.2
02:00 PM - 03:00 PM	58.1	77.9	47.7
03:00 PM - 04:00 PM	56.2	76.4	47.0
04:00 PM - 05:00 PM	60.5	87.1	48.2
05:00 PM - 06:00 PM	62.2	86.5	51.0
06:00 PM - 07:00 PM	52.7	73.4	48.7
07:00 PM - 08:00 PM	54.9	78.0	51.8
08:00 PM - 09:00 PM	55.1	65.2	53.3
09:00 PM - 10:00 PM	54.3	67.2	52.2
10:00 PM - 11:00 PM	53.2	71.2	50.2
11:00 PM - 12:00 AM	51.2	65.9	47.2
12:00 AM - 01:00 AM	49.6	68.0	45.5
01:00 AM - 02:00 AM	53.4	61.2	46.4
02:00 AM - 03:00 AM	58.5	68.9	52.0
03:00 AM - 04:00 AM	59.4	68.2	57.8
04:00 AM - 05:00 AM	56.6	61.3	51.4
05:00 AM - 06:00 AM	54.3	83.1	45.8
06:00 AM - 07:00 AM	55.5	74.3	51.0
07:00 AM - 08:00 AM	55.5	72.9	51.0
08:00 AM - 09:00 AM	54.0	72.2	48.8
09:00 AM - 10:00 AM	51.3	74.1	46.1
10:00 AM - 11:00 AM	50.5	66.4	45.6
11:00 AM - 12:00 PM	63.0	87.2	46.1

Leq Average 24 hrs. (dB(A)) 57.1
Lmax (dB(A)) 91.2
L90 (dB(A)) 48.2
Ldn (dB(A)) 62.5
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.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107407
Date Received : Sep 30, 2024
Date Reported : Oct 03, 2024
Report Number: 3128549-1

Page 1 of 1

Sample Number 24107407-11
Parameter Noise (Leq 24 hrs.)
Location วัดหนองแฟบ
Measurement Date Sep 26 - Sep 27, 2024
Measurement by Santi Chaichana
Sound Level meter Serial No. 472130

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	54.6	77.7	48.0
01:00 PM - 02:00 PM	50.1	68.4	45.0
02:00 PM - 03:00 PM	58.5	77.8	46.5
03:00 PM - 04:00 PM	51.7	73.5	47.4
04:00 PM - 05:00 PM	64.6	91.4	47.8
05:00 PM - 06:00 PM	58.0	80.5	49.9
06:00 PM - 07:00 PM	52.2	76.6	48.3
07:00 PM - 08:00 PM	51.8	71.3	48.9
08:00 PM - 09:00 PM	52.1	71.6	48.8
09:00 PM - 10:00 PM	51.2	68.8	49.0
10:00 PM - 11:00 PM	51.3	68.0	49.7
11:00 PM - 12:00 AM	50.4	71.1	48.9
12:00 AM - 01:00 AM	49.6	57.8	48.9
01:00 AM - 02:00 AM	49.8	65.5	48.8
02:00 AM - 03:00 AM	51.6	75.6	48.4
03:00 AM - 04:00 AM	49.8	64.1	48.9
04:00 AM - 05:00 AM	50.7	70.5	48.6
05:00 AM - 06:00 AM	49.7	63.4	48.5
06:00 AM - 07:00 AM	57.0	85.8	49.4
07:00 AM - 08:00 AM	55.3	78.2	50.7
08:00 AM - 09:00 AM	55.4	79.1	49.7
09:00 AM - 10:00 AM	54.9	76.0	50.3
10:00 AM - 11:00 AM	67.4	92.0	47.5
11:00 AM - 12:00 PM	63.8	88.0	46.2

Leq Average 24 hrs. (dB(A)) 58.1
Lmax (dB(A)) 92.0
L90 (dB(A)) 48.8
Ldn (dB(A)) 60.7
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.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107407
Date Received : Sep 30, 2024
Date Reported : Oct 03, 2024
Report Number: 3128550-1

Page 1 of 1

Sample Number 24107407-12
Parameter Noise (Leq 24 hrs.)
Location วัดหนองแฟบ
Measurement Date Sep 27 - Sep 28, 2024
Measurement by Santi Chaichana
Sound Level meter Serial No. 472130

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	60.9	78.7	44.7
01:00 PM - 02:00 PM	52.6	70.7	44.6
02:00 PM - 03:00 PM	58.8	73.5	44.9
03:00 PM - 04:00 PM	58.4	74.9	45.8
04:00 PM - 05:00 PM	50.1	68.5	44.7
05:00 PM - 06:00 PM	56.8	87.9	46.8
06:00 PM - 07:00 PM	53.0	78.1	46.9
07:00 PM - 08:00 PM	53.3	76.8	49.8
08:00 PM - 09:00 PM	51.2	72.2	46.9
09:00 PM - 10:00 PM	49.8	69.7	47.0
10:00 PM - 11:00 PM	50.6	67.1	47.7
11:00 PM - 12:00 AM	50.9	67.8	48.6
12:00 AM - 01:00 AM	46.0	64.0	44.1
01:00 AM - 02:00 AM	44.6	65.5	42.3
02:00 AM - 03:00 AM	44.5	56.9	42.8
03:00 AM - 04:00 AM	46.2	65.3	43.2
04:00 AM - 05:00 AM	48.8	67.1	46.2
05:00 AM - 06:00 AM	47.4	63.1	46.0
06:00 AM - 07:00 AM	54.1	79.6	48.0
07:00 AM - 08:00 AM	54.7	75.7	48.6
08:00 AM - 09:00 AM	51.8	73.7	45.2
09:00 AM - 10:00 AM	67.0	90.9	46.1
10:00 AM - 11:00 AM	52.4	76.0	44.7
11:00 AM - 12:00 PM	52.7	76.8	45.2

Leq Average 24 hrs. (dB(A)) 56.5
Lmax (dB(A)) 90.9
L90 (dB(A)) 45.8
Ldn (dB(A)) 58.6
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.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107407
Date Received : Sep 30, 2024
Date Reported : Oct 03, 2024
Report Number: 3128551-1

Page 1 of 1

Sample Number 24107407-13
Parameter Noise (Leq 24 hrs.)
Location วัดหนองแฟบ
Measurement Date Sep 28 - Sep 29, 2024
Measurement by Santi Chaichana
Sound Level meter Serial No. 472130

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	50.8	71.1	44.4
01:00 PM - 02:00 PM	50.6	71.4	43.8
02:00 PM - 03:00 PM	53.3	77.3	44.6
03:00 PM - 04:00 PM	59.5	85.2	45.0
04:00 PM - 05:00 PM	65.2	96.0	45.9
05:00 PM - 06:00 PM	60.3	86.0	44.8
06:00 PM - 07:00 PM	50.4	69.8	45.5
07:00 PM - 08:00 PM	50.3	71.2	45.4
08:00 PM - 09:00 PM	49.5	75.0	44.4
09:00 PM - 10:00 PM	47.2	69.9	43.5
10:00 PM - 11:00 PM	47.4	70.9	42.5
11:00 PM - 12:00 AM	45.7	66.8	42.0
12:00 AM - 01:00 AM	43.4	62.9	41.3
01:00 AM - 02:00 AM	43.1	58.9	41.3
02:00 AM - 03:00 AM	42.7	53.7	40.7
03:00 AM - 04:00 AM	43.7	65.5	40.7
04:00 AM - 05:00 AM	46.0	67.9	41.2
05:00 AM - 06:00 AM	46.2	69.0	41.9
06:00 AM - 07:00 AM	53.5	80.5	44.1
07:00 AM - 08:00 AM	52.8	72.5	46.0
08:00 AM - 09:00 AM	52.1	72.5	46.3
09:00 AM - 10:00 AM	52.4	79.0	45.8
10:00 AM - 11:00 AM	58.6	87.0	46.0
11:00 AM - 12:00 PM	57.4	89.8	46.1

Leq Average 24 hrs. (dB(A)) 55.4
Lmax (dB(A)) 96.0
L90 (dB(A)) 44.4
Ldn (dB(A)) 57.2
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.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107407
Date Received : Sep 30, 2024
Date Reported : Oct 03, 2024
Report Number: 3128552-1

Page 1 of 1

Sample Number 24107407-14
Parameter Noise (Leq 24 hrs.)
Location วัดหนองแฟบ
Measurement Date Sep 29 - Sep 30, 2024
Measurement by Santi Chaichana
Sound Level meter Serial No. 472130

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	54.6	81.8	45.3
01:00 PM - 02:00 PM	60.1	77.9	43.9
02:00 PM - 03:00 PM	56.1	73.8	45.5
03:00 PM - 04:00 PM	51.2	70.3	44.5
04:00 PM - 05:00 PM	57.6	74.1	45.0
05:00 PM - 06:00 PM	61.2	86.4	46.0
06:00 PM - 07:00 PM	50.4	71.9	44.9
07:00 PM - 08:00 PM	48.7	65.5	44.0
08:00 PM - 09:00 PM	47.5	68.3	43.6
09:00 PM - 10:00 PM	45.6	63.6	43.4
10:00 PM - 11:00 PM	44.8	61.8	42.0
11:00 PM - 12:00 AM	46.2	68.8	40.6
12:00 AM - 01:00 AM	44.6	58.0	41.3
01:00 AM - 02:00 AM	46.0	64.2	40.7
02:00 AM - 03:00 AM	46.4	73.9	40.5
03:00 AM - 04:00 AM	46.7	57.4	41.6
04:00 AM - 05:00 AM	50.0	77.1	44.8
05:00 AM - 06:00 AM	51.1	75.6	45.9
06:00 AM - 07:00 AM	52.7	79.3	45.5
07:00 AM - 08:00 AM	54.7	75.7	48.3
08:00 AM - 09:00 AM	64.3	100.9	47.1
09:00 AM - 10:00 AM	66.1	102.3	45.3
10:00 AM - 11:00 AM	53.8	85.1	45.5
11:00 AM - 12:00 PM	54.8	87.8	44.9

Leq Average 24 hrs. (dB(A)) 57.1
Lmax (dB(A)) 102.3
L90 (dB(A)) 44.8
Ldn (dB(A)) 58.8
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.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107407
Date Received : Sep 30, 2024
Date Reported : Oct 03, 2024
Report Number: 3128553-1

Page 1 of 1

Sample Number 24107407-15
Parameter Noise (Leq 24 hrs.)
Location โรงเรียนบ้านมาบตาพุด
Measurement Date Sep 23 - Sep 24, 2024
Measurement by Santi Chaichana
Sound Level meter Serial No. 472132

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	64.9	83.9	56.5
01:00 PM - 02:00 PM	64.5	85.7	54.6
02:00 PM - 03:00 PM	67.8	83.4	62.9
03:00 PM - 04:00 PM	63.0	82.5	53.6
04:00 PM - 05:00 PM	62.2	86.3	54.8
05:00 PM - 06:00 PM	65.8	82.6	52.4
06:00 PM - 07:00 PM	65.3	84.3	56.9
07:00 PM - 08:00 PM	56.3	76.5	48.3
08:00 PM - 09:00 PM	51.1	67.1	46.3
09:00 PM - 10:00 PM	49.6	67.8	46.2
10:00 PM - 11:00 PM	50.4	74.1	45.2
11:00 PM - 12:00 AM	49.5	66.0	44.9
12:00 AM - 01:00 AM	47.2	71.4	44.6
01:00 AM - 02:00 AM	66.9	83.2	47.7
02:00 AM - 03:00 AM	48.3	61.5	46.7
03:00 AM - 04:00 AM	47.0	59.3	44.8
04:00 AM - 05:00 AM	58.4	76.8	44.5
05:00 AM - 06:00 AM	55.8	75.4	50.3
06:00 AM - 07:00 AM	64.5	81.9	57.4
07:00 AM - 08:00 AM	64.9	86.1	55.0
08:00 AM - 09:00 AM	63.2	86.5	55.6
09:00 AM - 10:00 AM	65.8	82.9	56.3
10:00 AM - 11:00 AM	69.3	87.3	64.5
11:00 AM - 12:00 PM	67.0	84.8	56.8

Leq Average 24 hrs. (dB(A)) 63.6
Lmax (dB(A)) 87.3
L90 (dB(A)) 52.4
Ldn (dB(A)) 67.6
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

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Supot Salamteh
Section Head

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107407
Date Received : Sep 30, 2024
Date Reported : Oct 03, 2024
Report Number: 3128554-1

Page 1 of 1

Sample Number 24107407-16
Parameter Noise (Leq 24 hrs.)
Location โรงเรียนบ้านมาบตาพุด
Measurement Date Sep 24 - Sep 25, 2024
Measurement by Santi Chaichana
Sound Level meter Serial No. 472132

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	67.6	82.2	58.4
01:00 PM - 02:00 PM	64.0	79.7	57.6
02:00 PM - 03:00 PM	66.8	91.0	59.9
03:00 PM - 04:00 PM	62.4	85.3	55.9
04:00 PM - 05:00 PM	63.2	82.8	56.4
05:00 PM - 06:00 PM	63.4	82.9	54.0
06:00 PM - 07:00 PM	62.6	86.7	55.2
07:00 PM - 08:00 PM	66.2	83.0	52.8
08:00 PM - 09:00 PM	50.0	67.4	46.6
09:00 PM - 10:00 PM	49.1	65.5	44.3
10:00 PM - 11:00 PM	50.8	74.5	45.6
11:00 PM - 12:00 AM	49.9	66.4	45.3
12:00 AM - 01:00 AM	47.6	71.8	45.0
01:00 AM - 02:00 AM	51.9	72.2	48.0
02:00 AM - 03:00 AM	48.5	59.8	46.7
03:00 AM - 04:00 AM	48.9	59.7	46.9
04:00 AM - 05:00 AM	49.0	63.9	46.7
05:00 AM - 06:00 AM	55.8	73.7	48.6
06:00 AM - 07:00 AM	63.1	76.5	57.0
07:00 AM - 08:00 AM	58.8	77.2	44.9
08:00 AM - 09:00 AM	56.2	75.8	50.7
09:00 AM - 10:00 AM	64.9	82.3	57.8
10:00 AM - 11:00 AM	63.6	86.9	56.0
11:00 AM - 12:00 PM	66.2	83.3	56.7

Leq Average 24 hrs. (dB(A)) 62.1
Lmax (dB(A)) 91.0
L90 (dB(A)) 50.7
Ldn (dB(A)) 64.4
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.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107407
Date Received : Sep 30, 2024
Date Reported : Oct 03, 2024
Report Number: 3128555-1

Page 1 of 1

Sample Number 24107407-17
Parameter Noise (Leq 24 hrs.)
Location โรงเรียนบ้านมาบตาพุด
Measurement Date Sep 25 - Sep 26, 2024
Measurement by Santi Chaichana
Sound Level meter Serial No. 472132

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	60.8	76.2	55.5
01:00 PM - 02:00 PM	67.1	82.3	59.0
02:00 PM - 03:00 PM	64.4	80.1	58.0
03:00 PM - 04:00 PM	67.2	91.4	60.3
04:00 PM - 05:00 PM	62.8	85.7	56.3
05:00 PM - 06:00 PM	63.6	83.2	56.8
06:00 PM - 07:00 PM	61.8	81.7	55.8
07:00 PM - 08:00 PM	58.8	84.6	51.6
08:00 PM - 09:00 PM	53.9	70.1	51.0
09:00 PM - 10:00 PM	52.3	67.6	49.6
10:00 PM - 11:00 PM	52.4	66.8	49.7
11:00 PM - 12:00 AM	52.4	69.6	49.7
12:00 AM - 01:00 AM	52.3	72.6	48.4
01:00 AM - 02:00 AM	48.9	60.2	47.1
02:00 AM - 03:00 AM	49.3	60.1	47.3
03:00 AM - 04:00 AM	49.4	64.3	47.1
04:00 AM - 05:00 AM	56.2	74.1	49.0
05:00 AM - 06:00 AM	50.4	67.8	47.0
06:00 AM - 07:00 AM	49.5	65.9	44.7
07:00 AM - 08:00 AM	60.8	75.2	52.7
08:00 AM - 09:00 AM	61.1	79.7	51.7
09:00 AM - 10:00 AM	61.6	77.0	51.8
10:00 AM - 11:00 AM	65.7	80.6	55.1
11:00 AM - 12:00 PM	68.7	88.0	57.7

Leq Average 24 hrs. (dB(A)) 62.0
Lmax (dB(A)) 91.4
L90 (dB(A)) 51.6
Ldn (dB(A)) 63.2
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.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107407
Date Received : Sep 30, 2024
Date Reported : Oct 03, 2024
Report Number: 3128556-1

Page 1 of 1

Sample Number 24107407-18
Parameter Noise (Leq 24 hrs.)
Location โรงเรียนบ้านมาบตาพุด
Measurement Date Sep 26 - Sep 27, 2024
Measurement by Santi Chaichana
Sound Level meter Serial No. 472132

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	60.9	81.1	54.4
01:00 PM - 02:00 PM	61.1	80.1	50.5
02:00 PM - 03:00 PM	62.2	77.0	52.6
03:00 PM - 04:00 PM	66.9	82.0	57.1
04:00 PM - 05:00 PM	68.4	89.1	60.0
05:00 PM - 06:00 PM	67.5	83.2	53.8
06:00 PM - 07:00 PM	60.9	79.6	52.4
07:00 PM - 08:00 PM	60.8	76.6	51.7
08:00 PM - 09:00 PM	53.1	67.8	49.8
09:00 PM - 10:00 PM	51.8	66.5	48.6
10:00 PM - 11:00 PM	51.7	65.8	48.4
11:00 PM - 12:00 AM	51.4	69.7	47.8
12:00 AM - 01:00 AM	50.5	66.9	47.6
01:00 AM - 02:00 AM	50.3	65.5	47.4
02:00 AM - 03:00 AM	50.2	63.5	47.7
03:00 AM - 04:00 AM	49.3	65.6	47.4
04:00 AM - 05:00 AM	50.8	62.9	48.0
05:00 AM - 06:00 AM	55.8	79.9	49.3
06:00 AM - 07:00 AM	64.4	83.6	56.2
07:00 AM - 08:00 AM	65.3	80.2	54.7
08:00 AM - 09:00 AM	65.5	84.6	56.5
09:00 AM - 10:00 AM	68.3	86.9	57.1
10:00 AM - 11:00 AM	60.5	80.7	54.0
11:00 AM - 12:00 PM	66.5	81.6	56.7

Leq Average 24 hrs. (dB(A)) 63.0
Lmax (dB(A)) 89.1
L90 (dB(A)) 51.7
Ldn (dB(A)) 65.4
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.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107407
Date Received : Sep 30, 2024
Date Reported : Oct 03, 2024
Report Number: 3128557-1

Page 1 of 1

Sample Number 24107407-19
Parameter Noise (Leq 24 hrs.)
Location โรงเรียนบ้านมาบตาพุด
Measurement Date Sep 27 - Sep 28, 2024
Measurement by Santi Chaichana
Sound Level meter Serial No. 472132

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	68.0	83.2	61.4
01:00 PM - 02:00 PM	67.8	87.7	52.1
02:00 PM - 03:00 PM	52.7	67.4	49.4
03:00 PM - 04:00 PM	63.1	81.9	55.0
04:00 PM - 05:00 PM	64.1	80.0	57.8
05:00 PM - 06:00 PM	54.2	69.8	50.4
06:00 PM - 07:00 PM	51.4	66.1	48.2
07:00 PM - 08:00 PM	51.3	65.4	48.0
08:00 PM - 09:00 PM	53.2	73.7	48.1
09:00 PM - 10:00 PM	54.7	74.4	46.9
10:00 PM - 11:00 PM	51.4	71.0	47.2
11:00 PM - 12:00 AM	50.9	67.9	48.8
12:00 AM - 01:00 AM	50.4	65.7	48.7
01:00 AM - 02:00 AM	50.3	65.9	48.8
02:00 AM - 03:00 AM	49.9	60.8	47.7
03:00 AM - 04:00 AM	48.9	64.0	46.8
04:00 AM - 05:00 AM	50.3	65.9	48.1
05:00 AM - 06:00 AM	53.6	79.9	49.2
06:00 AM - 07:00 AM	54.8	73.9	49.7
07:00 AM - 08:00 AM	58.7	79.8	51.0
08:00 AM - 09:00 AM	61.5	80.1	52.1
09:00 AM - 10:00 AM	62.0	77.4	52.2
10:00 AM - 11:00 AM	61.3	80.0	52.8
11:00 AM - 12:00 PM	61.2	77.0	52.1

Leq Average 24 hrs. (dB(A)) 60.3
Lmax (dB(A)) 87.7
L90 (dB(A)) 49.2
Ldn (dB(A)) 61.9
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

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Chonticha Subongkoch
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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107407
Date Received : Sep 30, 2024
Date Reported : Oct 03, 2024
Report Number: 3128558-1

Page 1 of 1

Sample Number 24107407-20
Parameter Noise (Leq 24 hrs.)
Location โรงเรียนบ้านมาบตาพุด
Measurement Date Sep 28 - Sep 29, 2024
Measurement by Santi Chaichana
Sound Level meter Serial No. 472132

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	61.5	80.5	50.9
01:00 PM - 02:00 PM	62.6	77.4	53.0
02:00 PM - 03:00 PM	68.4	92.8	52.0
03:00 PM - 04:00 PM	49.7	65.5	46.3
04:00 PM - 05:00 PM	51.7	74.2	46.6
05:00 PM - 06:00 PM	50.9	71.6	47.2
06:00 PM - 07:00 PM	51.1	67.5	47.6
07:00 PM - 08:00 PM	51.5	69.4	47.6
08:00 PM - 09:00 PM	50.9	68.5	47.1
09:00 PM - 10:00 PM	50.0	64.1	46.9
10:00 PM - 11:00 PM	49.1	68.9	45.7
11:00 PM - 12:00 AM	49.1	67.5	45.7
12:00 AM - 01:00 AM	47.8	71.5	44.8
01:00 AM - 02:00 AM	47.5	67.0	45.0
02:00 AM - 03:00 AM	47.9	70.6	45.0
03:00 AM - 04:00 AM	48.0	68.6	45.2
04:00 AM - 05:00 AM	47.7	64.4	45.7
05:00 AM - 06:00 AM	51.6	69.5	46.1
06:00 AM - 07:00 AM	53.3	69.8	47.8
07:00 AM - 08:00 AM	54.8	73.8	47.8
08:00 AM - 09:00 AM	56.3	73.1	48.7
09:00 AM - 10:00 AM	59.0	81.4	48.6
10:00 AM - 11:00 AM	64.0	83.2	55.8
11:00 AM - 12:00 PM	68.6	82.5	51.3

Leq Average 24 hrs. (dB(A)) 59.8
Lmax (dB(A)) 92.8
L90 (dB(A)) 47.1
Ldn (dB(A)) 61.0
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

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Scientist (3)

Approved by

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Supot Salamteh
Section Head



Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24107407
Date Received : Sep 30, 2024
Date Reported : Oct 03, 2024
Report Number: 3128559-1

Page 1 of 1

Sample Number 24107407-21
Parameter Noise (Leq 24 hrs.)
Location โรงเรียนบ้านมาบตาพุด
Measurement Date Sep 29 - Sep 30, 2024
Measurement by Santi Chaichana
Sound Level meter Serial No. 472132

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	56.3	74.1	50.5
01:00 PM - 02:00 PM	65.9	81.2	51.6
02:00 PM - 03:00 PM	55.9	73.7	50.1
03:00 PM - 04:00 PM	65.5	80.8	51.2
04:00 PM - 05:00 PM	62.7	81.5	54.6
05:00 PM - 06:00 PM	63.7	79.6	57.4
06:00 PM - 07:00 PM	52.1	66.2	48.6
07:00 PM - 08:00 PM	51.9	67.7	48.4
08:00 PM - 09:00 PM	51.0	69.3	47.4
09:00 PM - 10:00 PM	50.1	66.5	47.2
10:00 PM - 11:00 PM	49.9	65.1	47.0
11:00 PM - 12:00 AM	48.5	64.1	46.0
12:00 AM - 01:00 AM	47.2	63.8	45.0
01:00 AM - 02:00 AM	47.9	63.6	45.7
02:00 AM - 03:00 AM	47.8	66.6	46.0
03:00 AM - 04:00 AM	59.7	89.5	47.0
04:00 AM - 05:00 AM	56.0	84.2	48.3
05:00 AM - 06:00 AM	54.0	71.1	49.6
06:00 AM - 07:00 AM	48.9	65.2	47.0
07:00 AM - 08:00 AM	50.4	62.5	47.6
08:00 AM - 09:00 AM	59.0	78.2	54.7
09:00 AM - 10:00 AM	56.5	80.1	52.0
10:00 AM - 11:00 AM	61.4	80.6	55.7
11:00 AM - 12:00 PM	65.1	84.2	56.1

Leq Average 24 hrs. (dB(A)) 59.4
Lmax (dB(A)) 89.5
L90 (dB(A)) 48.4
Ldn (dB(A)) 62.1
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.

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ภาคผนวก ค-5

ใบรับรองผลการตรวจวัดระดับเสียงในสถานประกอบการ



Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2479687

Date Received : Aug 15, 2024
Date Reported : Aug 19, 2024
Report Number: 3086346-1

Page 1 of 1

Sample Number 2479687-1
Parameter Noise (Leq 12 hrs.)
Location MMA 1 บริเวณ Reactor Unit 2000
Measurement Date Aug 13, 2024
Measurement by Chanon Booncheun

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:02 PM - 02:02 PM	75.7	76.8	75.4
02:02 PM - 03:02 PM	75.7	76.9	75.4
03:02 PM - 04:02 PM	75.6	78.2	75.3
04:02 PM - 05:02 PM	75.7	77.6	75.4
05:02 PM - 06:02 PM	76.0	76.9	75.7
06:02 PM - 07:02 PM	76.1	77.0	75.8
07:02 PM - 08:02 PM	76.1	77.2	75.8
08:02 PM - 09:02 PM	76.2	77.5	75.9
09:02 PM - 10:02 PM	76.1	78.7	75.9
10:02 PM - 11:02 PM	76.1	77.1	75.8
11:02 PM - 12:02 AM	76.2	77.9	75.9
12:02 AM - 01:02 AM	76.2	77.3	76.0
Leq Average 12 hrs. (dB(A))	76.0		
Lmax (dB(A))		78.7	
Standard (dB(A))	87	140	
Reference Method : ISO1996-1 and 1996-2			
Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๕๖			

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Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2479687

Date Received : Aug 15, 2024
Date Reported : Aug 19, 2024
Report Number: 3086347-1

Page 1 of 1

Sample Number 2479687-2
Parameter Noise (Leq 12 hrs.)
Location MMA 1 บริเวณ Unit 3100A/B
Measurement Date Aug 13, 2024
Measurement by Chanon Booncheun

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	80.8	95.4	79.1
03:00 PM - 04:00 PM	81.0	100.2	79.3
04:00 PM - 05:00 PM	79.7	81.5	79.2
05:00 PM - 06:00 PM	79.6	81.5	79.2
06:00 PM - 07:00 PM	79.6	81.6	79.0
07:00 PM - 08:00 PM	79.7	81.8	79.2
08:00 PM - 09:00 PM	79.7	81.6	79.3
09:00 PM - 10:00 PM	79.7	81.7	79.3
10:00 PM - 11:00 PM	79.7	82.9	79.3
11:00 PM - 12:00 AM	79.7	81.6	79.3
12:00 AM - 01:00 AM	79.7	81.9	79.2
01:00 AM - 02:00 AM	79.7	81.5	79.2
Leq Average 12 hrs. (dB(A))	79.9		
Lmax (dB(A))		100.2	
Standard (dB(A))	87	140	
Reference Method : ISO1996-1 and 1996-2			
Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๕๖			

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P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2479687

Date Received : Aug 15, 2024
Date Reported : Aug 19, 2024
Report Number: 3086348-1

Page 1 of 1

Sample Number 2479687-3
Parameter Noise (Leq 12 hrs.)
Location MMA 1 บริเวณนอกอาคาร Compressor
Measurement Date Aug 13, 2024
Measurement by Chanon Booncheun

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:57 PM - 01:57 PM	78.2	83.4	77.8
01:57 PM - 02:57 PM	78.1	81.0	77.7
02:57 PM - 03:57 PM	78.0	79.9	77.7
03:57 PM - 04:57 PM	78.0	80.1	77.7
04:57 PM - 05:57 PM	78.0	79.2	77.8
05:57 PM - 06:57 PM	78.1	79.0	77.8
06:57 PM - 07:57 PM	78.0	79.0	77.8
07:57 PM - 08:57 PM	78.0	79.8	77.8
08:57 PM - 09:57 PM	77.9	78.8	77.7
09:57 PM - 10:57 PM	77.9	78.9	77.6
10:57 PM - 11:57 PM	77.9	78.8	77.6
11:57 PM - 12:57 AM	77.8	78.9	77.6
Leq Average 12 hrs. (dB(A))	78.0		
Lmax (dB(A))		83.4	
Standard (dB(A))	87	140	
Reference Method : ISO1996-1 and 1996-2			
Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๕๖			

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271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2479687

Date Received : Aug 15, 2024
Date Reported : Aug 19, 2024
Report Number: 3086349-1

Page 1 of 1

Sample Number 2479687-4
Parameter Noise (Leq 12 hrs.)
Location MMA 1 บริเวณ Steam Header
Measurement Date Aug 13, 2024
Measurement by Chanon Booncheun

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:00 PM - 02:00 PM	85.8	87.1	85.5
02:00 PM - 03:00 PM	85.9	86.6	85.6
03:00 PM - 04:00 PM	85.8	89.6	85.6
04:00 PM - 05:00 PM	85.7	86.9	85.6
05:00 PM - 06:00 PM	85.9	87.2	85.4
06:00 PM - 07:00 PM	85.9	87.2	85.6
07:00 PM - 08:00 PM	86.0	87.2	85.8
08:00 PM - 09:00 PM	86.0	87.1	85.8
09:00 PM - 10:00 PM	86.0	86.8	85.9
10:00 PM - 11:00 PM	86.1	86.9	85.9
11:00 PM - 12:00 AM	86.1	87.8	85.9
12:00 AM - 01:00 AM	86.2	87.6	85.9
Leq Average 12 hrs. (dB(A))	86.0		
Lmax (dB(A))		89.6	
Standard (dB(A))	87	140	
Reference Method : ISO1996-1 and 1996-2			
Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๕๖			

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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2479687

Date Received : Aug 15, 2024
Date Reported : Aug 19, 2024
Report Number: 3086350-1

Page 1 of 1

Sample Number 2479687-5
Parameter Noise (Leq 12 hrs.)
Location MMA 1 ชั้น 1 ใกล้บริเวณ Reboiler Pump ของ BMA#1 Unit
Measurement Date Aug 13, 2024
Measurement by Chanon Booncheun

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	67.9	79.9	66.7
03:00 PM - 04:00 PM	67.1	82.5	66.7
04:00 PM - 05:00 PM	67.2	78.2	66.6
05:00 PM - 06:00 PM	67.7	72.6	67.0
06:00 PM - 07:00 PM	67.2	70.6	66.8
07:00 PM - 08:00 PM	67.2	78.0	66.9
08:00 PM - 09:00 PM	67.5	85.4	66.7
09:00 PM - 10:00 PM	66.9	77.1	66.4
10:00 PM - 11:00 PM	67.0	70.9	66.5
11:00 PM - 12:00 AM	67.8	70.3	66.9
12:00 AM - 01:00 AM	67.9	70.1	66.8
01:00 AM - 02:00 AM	68.7	77.1	66.9
Leq Average 12 hrs. (dB(A))	67.5		
Lmax (dB(A))		85.4	
Standard (dB(A))	87	140	
Reference Method : ISO1996-1 and 1996-2			
Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๕๖			

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Analysis / Test Report

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271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2479687

Date Received : Aug 15, 2024
Date Reported : Aug 19, 2024
Report Number: 3086351-1

Page 1 of 1

Sample Number 2479687-6
Parameter Noise (Leq 12 hrs.)
Location MMA 1 ชั้น 1 ใกล้บริเวณ Reboiler Pump ของ BMA#2 Unit
Measurement Date Aug 13, 2024
Measurement by Chanon Booncheun

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:22 PM - 03:22 PM	73.5	80.3	72.2
03:22 PM - 04:22 PM	73.3	83.5	72.1
04:22 PM - 05:22 PM	74.3	86.6	73.4
05:22 PM - 06:22 PM	73.1	77.9	72.1
06:22 PM - 07:22 PM	73.1	79.6	72.0
07:22 PM - 08:22 PM	73.4	77.3	72.4
08:22 PM - 09:22 PM	73.3	77.6	72.6
09:22 PM - 10:22 PM	73.3	80.2	72.7
10:22 PM - 11:22 PM	73.1	77.0	72.4
11:22 PM - 12:22 AM	72.6	80.7	71.9
12:22 AM - 01:22 AM	73.5	75.9	72.4
01:22 AM - 02:22 AM	74.2	80.9	72.7
Leq Average 12 hrs. (dB(A))	73.4		
Lmax (dB(A))		86.6	
Standard (dB(A))	87	140	
Reference Method : ISO1996-1 and 1996-2			
Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๕๖			

Technical Management

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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2479687

Date Received : Aug 15, 2024
Date Reported : Aug 19, 2024
Report Number: 3086352-1

Page 1 of 1

Sample Number 2479687-7
Parameter Noise (Leq 12 hrs.)
Location MMA 2 บริเวณ Reactor Unit 2000
Measurement Date Aug 13, 2024
Measurement by Chanon Booncheun

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:39 PM - 02:39 PM	80.4	83.1	80.2
02:39 PM - 03:39 PM	80.5	81.1	80.4
03:39 PM - 04:39 PM	80.5	81.3	80.2
04:39 PM - 05:39 PM	80.8	81.5	80.5
05:39 PM - 06:39 PM	80.9	81.7	80.8
06:39 PM - 07:39 PM	81.0	81.4	80.9
07:39 PM - 08:39 PM	81.0	81.5	80.9
08:39 PM - 09:39 PM	81.0	81.5	80.9
09:39 PM - 10:39 PM	81.0	81.5	80.9
10:39 PM - 11:39 PM	80.9	81.5	80.8
11:39 PM - 12:39 AM	81.0	82.4	80.9
12:39 AM - 01:39 AM	81.0	81.6	80.9
Leq Average 12 hrs. (dB(A))	80.8		
Lmax (dB(A))		83.1	
Standard (dB(A))	87	140	
Reference Method : ISO1996-1 and 1996-2			
Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๕๖			

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Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2479687

Date Received : Aug 15, 2024
Date Reported : Aug 19, 2024
Report Number: 3086353-1

Page 1 of 1

Sample Number 2479687-8
Parameter Noise (Leq 12 hrs.)
Location MMA 2 บริเวณ Unit 3100A/B
Measurement Date Aug 13, 2024
Measurement by Chanon Booncheun

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:50 PM - 02:50 PM	83.7	85.1	83.6
02:50 PM - 03:50 PM	83.6	84.1	83.5
03:50 PM - 04:50 PM	83.6	84.1	83.5
04:50 PM - 05:50 PM	84.3	84.9	84.0
05:50 PM - 06:50 PM	84.2	84.7	84.1
06:50 PM - 07:50 PM	84.2	84.5	84.1
07:50 PM - 08:50 PM	84.1	84.5	84.0
08:50 PM - 09:50 PM	84.1	84.5	84.0
09:50 PM - 10:50 PM	84.0	84.4	83.9
10:50 PM - 11:50 PM	83.9	84.3	83.8
11:50 PM - 12:50 AM	83.7	85.5	83.6
12:50 AM - 01:50 AM	83.6	84.0	83.5
Leq Average 12 hrs. (dB(A))	83.9		
Lmax (dB(A))		85.5	
Standard (dB(A))	87	140	
Reference Method : ISO1996-1 and 1996-2			
Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๕๖			

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271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2479687

Date Received : Aug 15, 2024
Date Reported : Aug 19, 2024
Report Number: 3086354-1

Page 1 of 1

Sample Number 2479687-9
Parameter Noise (Leq 12 hrs.)
Location MMA 2 บริเวณอาคาร Compressor
Measurement Date Aug 13, 2024
Measurement by Chanon Booncheun

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:42 PM - 01:42 PM	80.1	81.2	79.7
01:42 PM - 02:42 PM	80.2	83.0	79.9
02:42 PM - 03:42 PM	80.3	82.0	79.9
03:42 PM - 04:42 PM	80.3	84.9	80.0
04:42 PM - 05:42 PM	80.3	85.2	79.8
05:42 PM - 06:42 PM	80.3	85.7	79.8
06:42 PM - 07:42 PM	80.5	85.7	80.0
07:42 PM - 08:42 PM	80.6	86.0	80.1
08:42 PM - 09:42 PM	80.5	85.4	80.1
09:42 PM - 10:42 PM	80.5	82.8	80.2
10:42 PM - 11:42 PM	80.4	83.2	80.2
11:42 PM - 12:42 AM	80.7	86.3	80.3
Leq Average 12 hrs. (dB(A))	80.4		
Lmax (dB(A))		86.3	
Standard (dB(A))	87	140	
Reference Method : ISO1996-1 and 1996-2			
Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๕๖			

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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2479687

Date Received : Aug 15, 2024
Date Reported : Aug 19, 2024
Report Number: 3086355-1

Page 1 of 1

Sample Number 2479687-10
Parameter Noise (Leq 12 hrs.)
Location MMA 2 บริเวณ Steam Header
Measurement Date Aug 13, 2024
Measurement by Chanon Booncheun

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:00 PM - 02:00 PM	78.8	81.5	78.4
02:00 PM - 03:00 PM	79.0	80.2	78.6
03:00 PM - 04:00 PM	78.9	80.3	78.5
04:00 PM - 05:00 PM	79.1	80.4	78.7
05:00 PM - 06:00 PM	79.2	80.5	78.8
06:00 PM - 07:00 PM	79.2	80.4	78.9
07:00 PM - 08:00 PM	79.2	80.8	78.7
08:00 PM - 09:00 PM	79.3	80.4	78.8
09:00 PM - 10:00 PM	79.2	80.5	78.8
10:00 PM - 11:00 PM	79.3	80.5	78.8
11:00 PM - 12:00 AM	79.2	80.7	78.9
12:00 AM - 01:00 AM	79.4	80.8	79.0
Leq Average 12 hrs. (dB(A))	79.2		
Lmax (dB(A))		81.5	
Standard (dB(A))	87	140	
Reference Method : ISO1996-1 and 1996-2			
Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๕๖			

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P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2479687

Date Received : Aug 15, 2024
Date Reported : Aug 19, 2024
Report Number: 3086356-1

Page 1 of 1

Sample Number 2479687-11
Parameter Noise (Leq 12 hrs.)
Location MMA 2 ในอาคาร Ware House
Measurement Date Aug 13, 2024
Measurement by Chanon Booncheun

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:35 PM - 02:35 PM	81.7	84.5	81.1
02:35 PM - 03:35 PM	81.9	84.5	81.3
03:35 PM - 04:35 PM	81.7	84.0	81.2
04:35 PM - 05:35 PM	81.8	84.3	81.3
05:35 PM - 06:35 PM	81.9	84.6	81.4
06:35 PM - 07:35 PM	82.0	84.3	81.6
07:35 PM - 08:35 PM	82.0	84.5	81.6
08:35 PM - 09:35 PM	82.1	84.4	81.6
09:35 PM - 10:35 PM	82.1	84.4	81.6
10:35 PM - 11:35 PM	82.2	84.7	81.7
11:35 PM - 12:35 AM	82.1	84.4	81.6
12:35 AM - 01:35 AM	81.9	84.0	81.5
Leq Average 12 hrs. (dB(A))	82.0		
Lmax (dB(A))		84.7	
Standard (dB(A))	87	140	
Reference Method : ISO1996-1 and 1996-2			
Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๕๖			

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ภาคผนวก ค-6

ใบรับรองผลการตรวจวัดระดับเสียงที่พนักงานได้รับเฉลี่ยตลอดเวลาทำงาน (TWA)



Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2479859

Date Received : Aug 15, 2024
Date Reported : Aug 20, 2024
Report Number : 3053340-1

Page 1 of 8

Sample Number 2479859-1
Sampled Date Aug 13, 2024
Sample Description Noise Dose (12 hrs.)
Location Field #1000 M1
Personal Sampling คุณณัฐวัฒน์ พรหมจันทร์
Date Analysis Commenced Aug 17, 2024

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Noise Dose (12 hrs.) (Calculated from Lavg)	07:00 AM - 07:00 PM	%	-	1	36.3	No Standard	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong
Noise Dose (8 hrs.)	07:00 AM - 07:00 PM	%	-	1	36.3	No Standard	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong
TWA (12 hrs.) (Calculated from Lavg)	07:00 AM - 07:00 PM	dB(A)	-	-	78.6	83*	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong
TWA (8 hrs.)	07:00 AM - 07:00 PM	dB(A)	-	-	80.6	85	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong

Guideline :

MOL : 1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
2. Notification of Department of Labour Protection and Welfare on the Standard of Time Weighted Average (TWA) Noise Level (B.E. 2561)
* MOL: Recommended guideline limit for 12 working hours should not be over 83 dB(A)

Sampled By : Chanon Booncheun

Remark :

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

Approved by

Supot Salamteh
Section Head

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271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2479859

Date Received : Aug 15, 2024
Date Reported : Aug 20, 2024
Report Number : 3053340-1

Page 2 of 8

Sample Number 2479859-2
Sampled Date Aug 13, 2024
Sample Description Noise Dose (12 hrs.)
Location Field #2-3000 M1
Personal Sampling คุณจตุพร ช่มป่า
Date Analysis Commenced Aug 17, 2024

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Noise Dose (12 hrs.) (Calculated from Lavg)	07:00 AM - 07:00 PM	%	-	1	56.2	No Standard	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong
Noise Dose (8 hrs.)	07:00 AM - 07:00 PM	%	-	1	56.2	No Standard	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong
TWA (12 hrs.) (Calculated from Lavg)	07:00 AM - 07:00 PM	dB(A)	-	-	80.5	83*	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong
TWA (8 hrs.)	07:00 AM - 07:00 PM	dB(A)	-	-	82.5	85	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong

Guideline :

MOL : 1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
2. Notification of Department of Labour Protection and Welfare on the Standard of Time Weighted Average (TWA) Noise Level (B.E. 2561)
* MOL: Recommended guideline limit for 12 working hours should not be over 83 dB(A)

Sampled By : Chanon Booncheun

Remark :

- LOD : Limit of Detection
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271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2479859

Date Received : Aug 15, 2024
Date Reported : Aug 20, 2024
Report Number : 3053340-1

Page 3 of 8

Sample Number 2479859-3
Sampled Date Aug 13, 2024
Sample Description Noise Dose (12 hrs.)
Location Field #4,5000 M1
Personal Sampling คุณสมรรพวัฒน์ พึ่งสุริยะ
Date Analysis Commenced Aug 17, 2024

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Noise Dose (12 hrs.) (Calculated from Lavg)	07:00 AM - 07:00 PM	%	-	1	14.1	No Standard	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong
Noise Dose (8 hrs.)	07:00 AM - 07:00 PM	%	-	1	14.1	No Standard	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong
TWA (12 hrs.) (Calculated from Lavg)	07:00 AM - 07:00 PM	dB(A)	-	-	74.5	83*	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong
TWA (8 hrs.)	07:00 AM - 07:00 PM	dB(A)	-	-	76.5	85	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong

Guideline :

MOL : 1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
2. Notification of Department of Labour Protection and Welfare on the Standard of Time Weighted Average (TWA) Noise Level (B.E. 2561)
* MOL: Recommended guideline limit for 12 working hours should not be over 83 dB(A)

Sampled By : Chanon Booncheun

Remark :

- LOD : Limit of Detection
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P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2479859

Date Received : Aug 15, 2024
Date Reported : Aug 20, 2024
Report Number : 3053340-1

Page 4 of 8

Sample Number 2479859-4
Sampled Date Aug 13, 2024
Sample Description Noise Dose (12 hrs.)
Location Field #1000 M2
Personal Sampling คุณบารมี ทวีคุณ
Date Analysis Commenced Aug 17, 2024

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Noise Dose (12 hrs.) (Calculated from Lavg)	07:00 AM - 07:00 PM	%	-	1	33.1	No Standard	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong
Noise Dose (8 hrs.)	07:00 AM - 07:00 PM	%	-	1	32.4	No Standard	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong
TWA (12 hrs.) (Calculated from Lavg)	07:00 AM - 07:00 PM	dB(A)	-	-	78.2	83*	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong
TWA (8 hrs.)	07:00 AM - 07:00 PM	dB(A)	-	-	80.1	85	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong

Guideline :

MOL : 1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
2. Notification of Department of Labour Protection and Welfare on the Standard of Time Weighted Average (TWA) Noise Level (B.E. 2561)
* MOL: Recommended guideline limit for 12 working hours should not be over 83 dB(A)

Sampled By : Chanon Booncheun

Remark :

- LOD : Limit of Detection
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271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2479859

Date Received : Aug 15, 2024
Date Reported : Aug 20, 2024
Report Number : 3053340-1

Page 5 of 8

Sample Number 2479859-5
Sampled Date Aug 13, 2024
Sample Description Noise Dose (12 hrs.)
Location Field #2-3000 M2
Personal Sampling คุณณณทิพย์ ศรีอ่อน
Date Analysis Commenced Aug 17, 2024

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Noise Dose (12 hrs.) (Calculated from Lavg)	07:00 AM - 07:00 PM	%	-	1	30.2	No Standard	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong
Noise Dose (8 hrs.)	07:00 AM - 07:00 PM	%	-	1	30.2	No Standard	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong
TWA (12 hrs.) (Calculated from Lavg)	07:00 AM - 07:00 PM	dB(A)	-	-	77.8	83*	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong
TWA (8 hrs.)	07:00 AM - 07:00 PM	dB(A)	-	-	79.8	85	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong

Guideline :

MOL : 1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
2. Notification of Department of Labour Protection and Welfare on the Standard of Time Weighted Average (TWA) Noise Level (B.E. 2561)
* MOL: Recommended guideline limit for 12 working hours should not be over 83 dB(A)

Sampled By : Chanon Booncheun

Remark :

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

Approved by

Supot Salamteh
Section Head

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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2479859

Date Received : Aug 15, 2024
Date Reported : Aug 20, 2024
Report Number : 3053340-1

Page 6 of 8

Sample Number 2479859-6
Sampled Date Aug 13, 2024
Sample Description Noise Dose (12 hrs.)
Location Field #4,5000 M2
Personal Sampling คุณโยธิน ดุพิลา
Date Analysis Commenced Aug 17, 2024

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Noise Dose (12 hrs.) (Calculated from Lavg)	07:00 AM - 07:00 PM	%	-	1	49.0	No Standard	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong
Noise Dose (8 hrs.)	07:00 AM - 07:00 PM	%	-	1	49.0	No Standard	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong
TWA (12 hrs.) (Calculated from Lavg)	07:00 AM - 07:00 PM	dB(A)	-	-	79.9	83*	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong
TWA (8 hrs.)	07:00 AM - 07:00 PM	dB(A)	-	-	81.9	85	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong

Guideline :

MOL : 1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
2. Notification of Department of Labour Protection and Welfare on the Standard of Time Weighted Average (TWA) Noise Level (B.E. 2561)
* MOL: Recommended guideline limit for 12 working hours should not be over 83 dB(A)

Sampled By : Chanon Booncheun

Remark :

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

Approved by

Supot Salamteh
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Analysis / Test Report

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2479859

Date Received : Aug 15, 2024
Date Reported : Aug 20, 2024
Report Number : 3053340-1

Page 7 of 8

Sample Number 2479859-7
Sampled Date Aug 13, 2024
Sample Description Noise Dose (12 hrs.)
Location MAA 1-2 (M2)
Personal Sampling คุณคุณากร การหมั่นดี
Date Analysis Commenced Aug 17, 2024

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Noise Dose (12 hrs.) (Calculated from Lavg)	07:00 AM - 07:00 PM	%	-	1	15.1	No Standard	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong
Noise Dose (8 hrs.)	07:00 AM - 07:00 PM	%	-	1	15.1	No Standard	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong
TWA (12 hrs.) (Calculated from Lavg)	07:00 AM - 07:00 PM	dB(A)	-	-	74.8	83*	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong
TWA (8 hrs.)	07:00 AM - 07:00 PM	dB(A)	-	-	76.8	85	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong

Guideline :

MOL : 1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
2. Notification of Department of Labour Protection and Welfare on the Standard of Time Weighted Average (TWA) Noise Level (B.E. 2561)
* MOL: Recommended guideline limit for 12 working hours should not be over 83 dB(A)

Sampled By : Chanon Booncheun

Remark :

- LOD : Limit of Detection
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271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2479859

Date Received : Aug 15, 2024
Date Reported : Aug 20, 2024
Report Number : 3053340-1

Page 8 of 8

Sample Number 2479859-8
Sampled Date Aug 13, 2024
Sample Description Noise Dose (12 hrs.)
Location BMA 1-2 (M1)
Personal Sampling คนวัยระ สดประเสริฐ
Date Analysis Commenced Aug 17, 2024

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Noise Dose (12 hrs.) (Calculated from Lavg)	07:00 AM - 07:00 PM	%	-	1	15.1	No Standard	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong
Noise Dose (8 hrs.)	07:00 AM - 07:00 PM	%	-	1	15.1	No Standard	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong
TWA (12 hrs.) (Calculated from Lavg)	07:00 AM - 07:00 PM	dB(A)	-	-	74.8	83*	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong
TWA (8 hrs.)	07:00 AM - 07:00 PM	dB(A)	-	-	76.8	85	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong

Guideline :

MOL : 1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
2. Notification of Department of Labour Protection and Welfare on the Standard of Time Weighted Average (TWA) Noise Level (B.E. 2561)
* MOL: Recommended guideline limit for 12 working hours should not be over 83 dB(A)

Sampled By : Chanon Booncheun

Remark :

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

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ภาคผนวก ค-7

ใบรับรองผลการตรวจวัดเส้นระดับเสียง (Noise Contour Map)



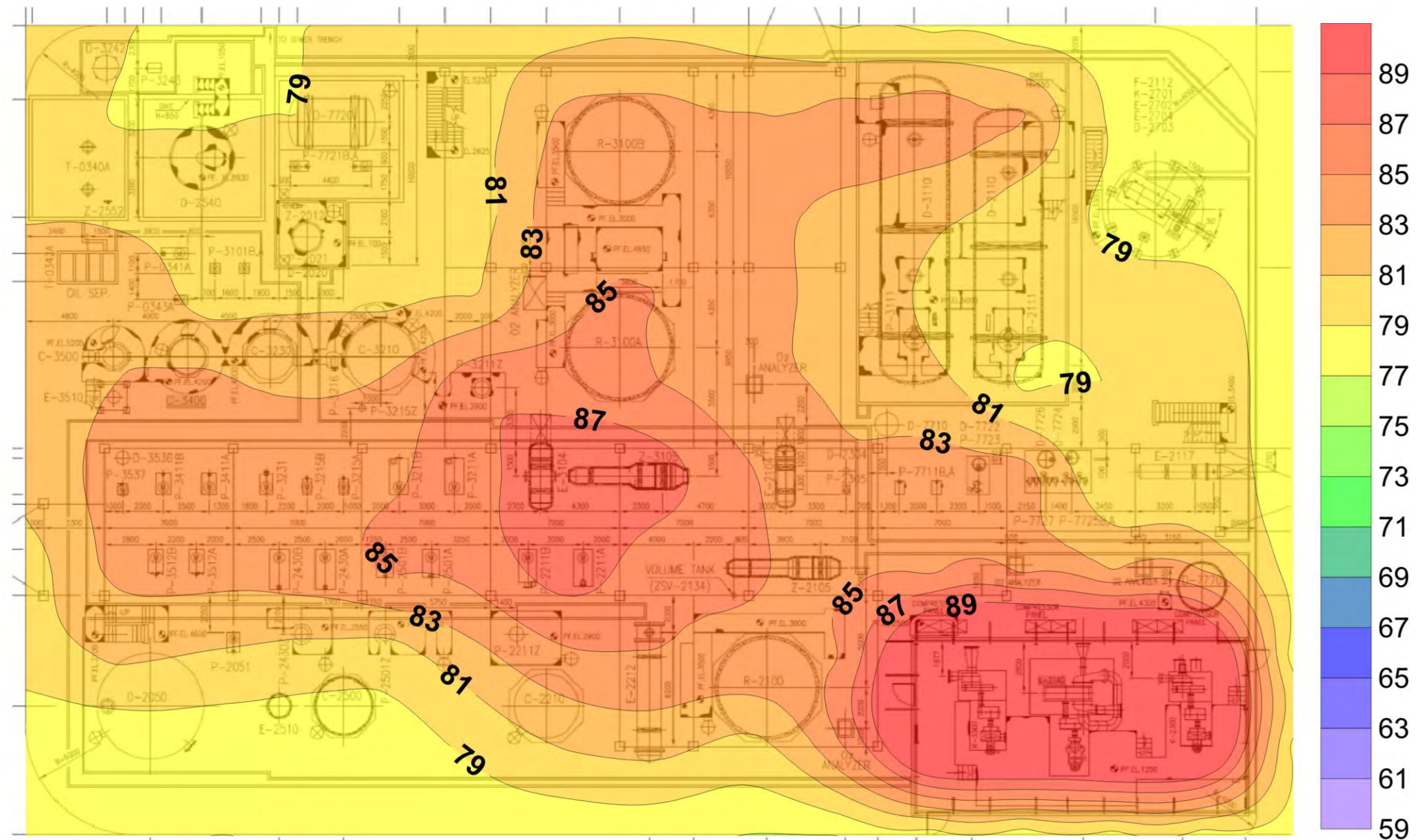
Noise Contour Map

THAI MMA Co., Ltd.

Reference Number : Lot 2432084-1

Measurement Date : Apr 29, 2024

#2000-#3000 Oxidation Unit M1 FL.1



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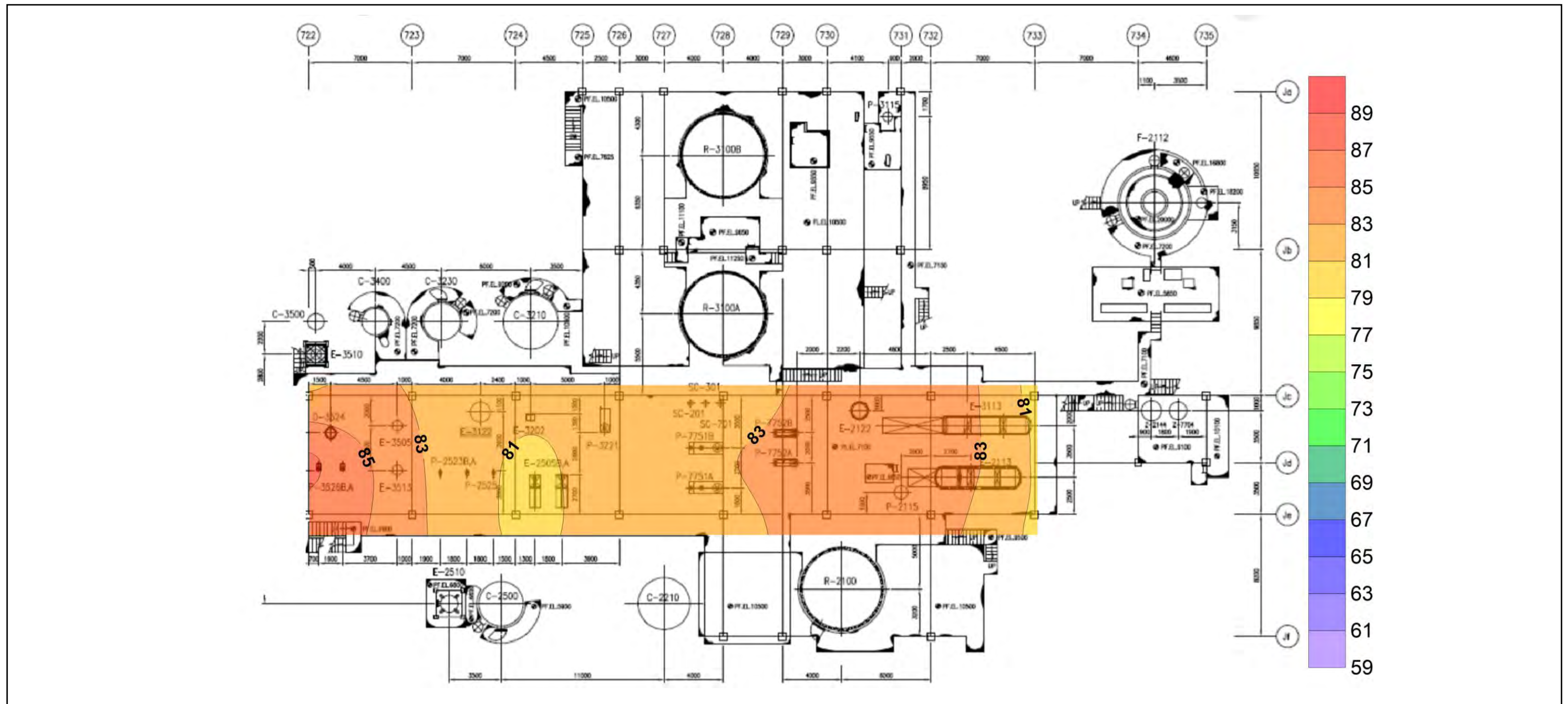
Noise Contour Map

THAI MMA Co., Ltd.

Reference Number : Lot 2432084-1

Measurement Date : Apr 29, 2024

#2000-#3000 Oxidation Unit M1 FL.2



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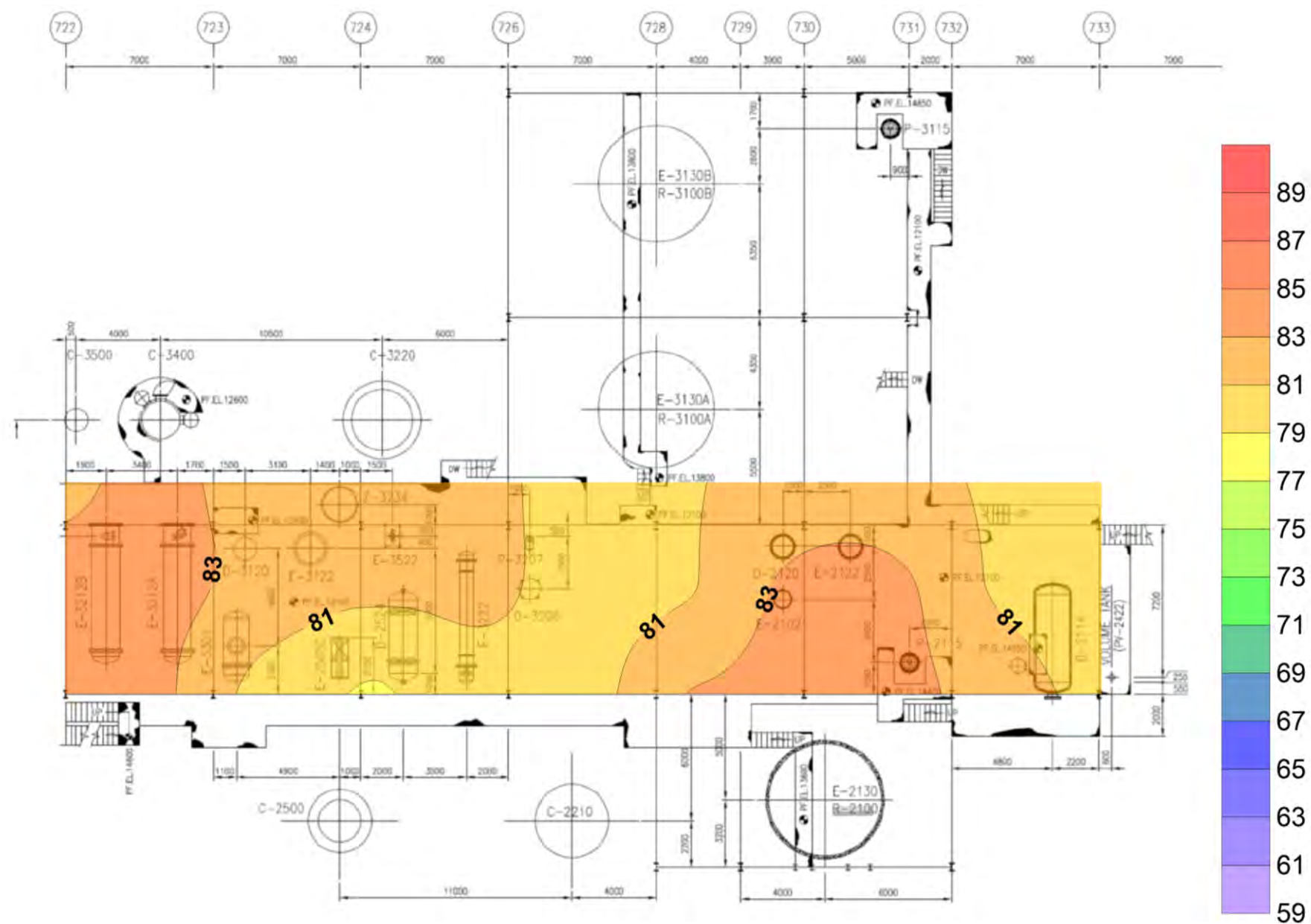
Noise Contour Map

THAI MMA Co., Ltd.

Reference Number : Lot 2432084-1

Measurement Date : Apr 29, 2024

#2000-#3000 Oxidation Unit M1 FL.3



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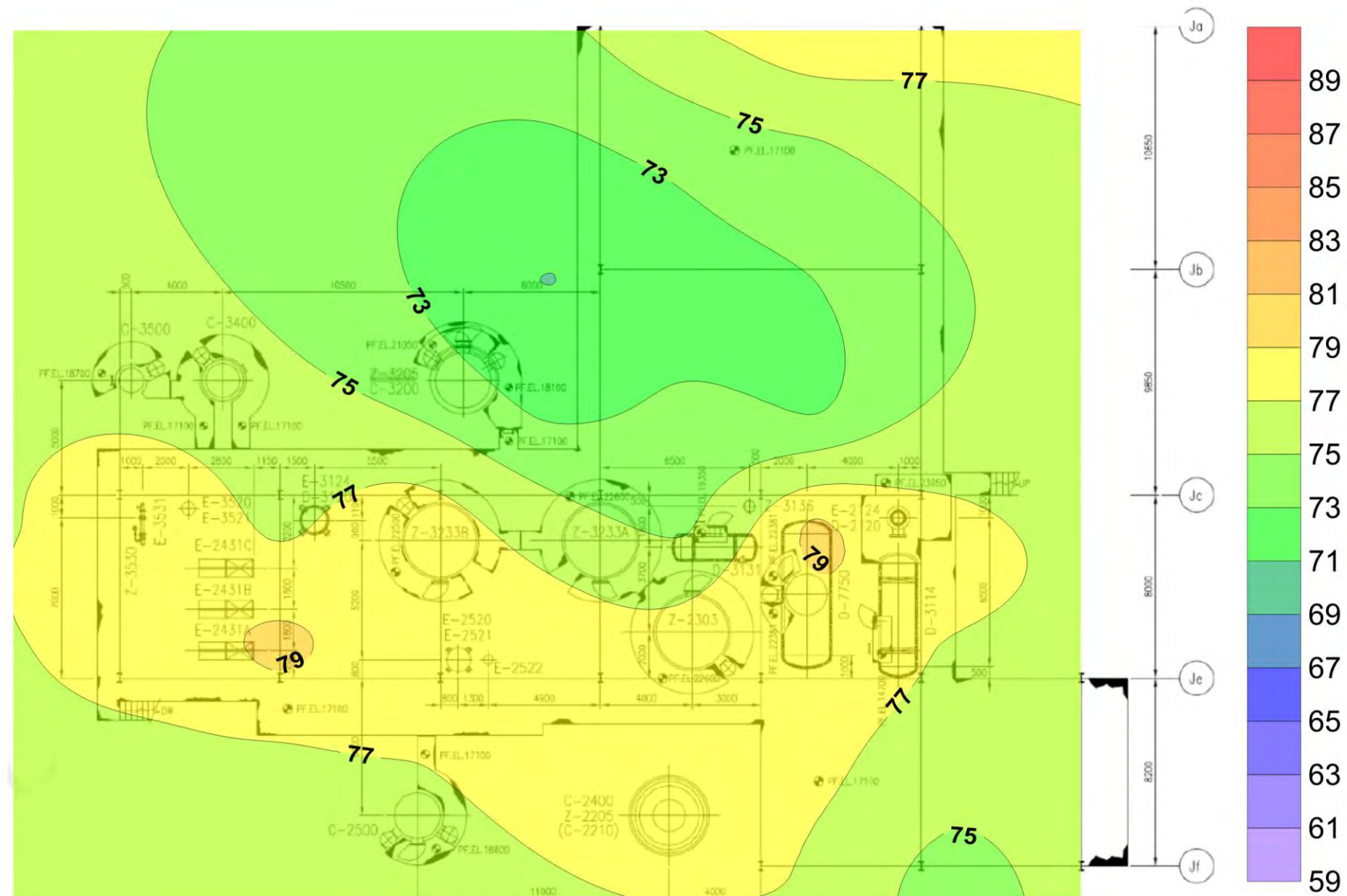
Noise Contour Map

THAI MMA Co., Ltd.

Reference Number : Lot 2432084-1

Measurement Date : Apr 29, 2024

#2000-#3000 Oxidation Unit M1 FL.4



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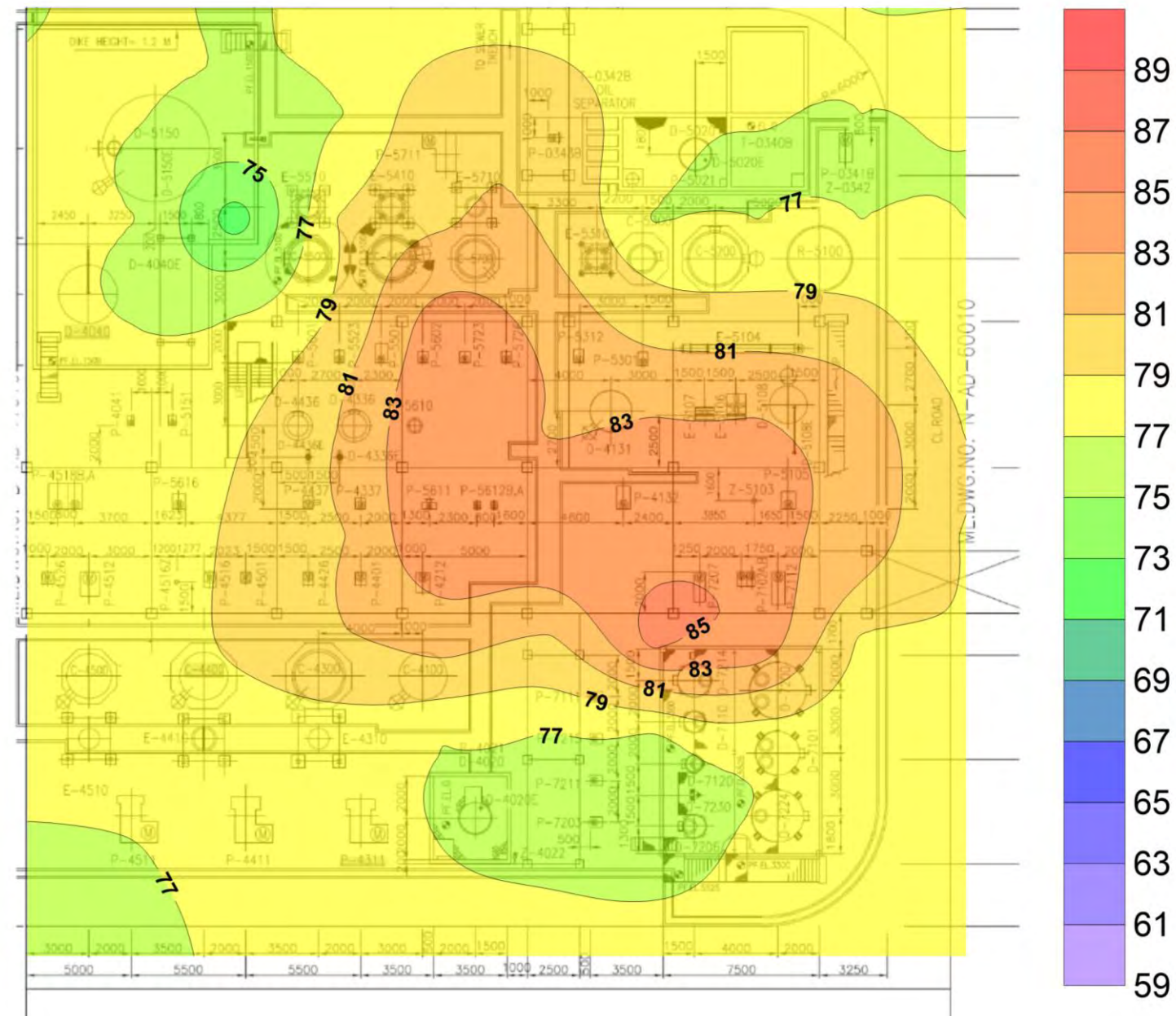
Noise Contour Map

THAI MMA Co., Ltd.

Reference Number : Lot 2432084-1

Measurement Date : Apr 29, 2024

#4000-#5000 MMA Recovery, Esterification Inhibitor Unit M1 FL.1



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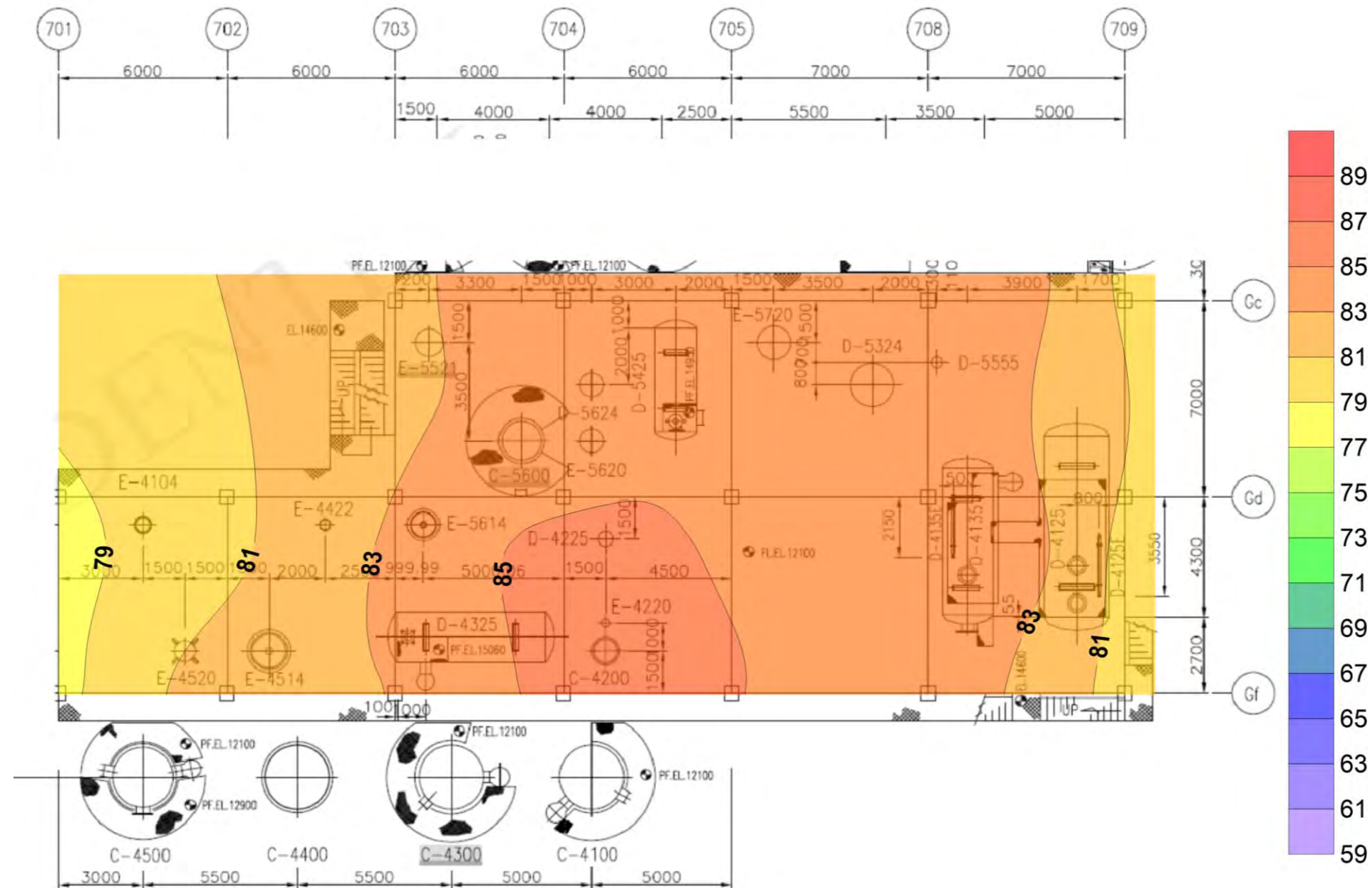
Noise Contour Map

THAI MMA Co., Ltd.

Reference Number : Lot 2432084-1

Measurement Date : Apr 29, 2024

#4000-#5000 MMA Recovery, Esterification Inhibitor Unit M1 FL.3



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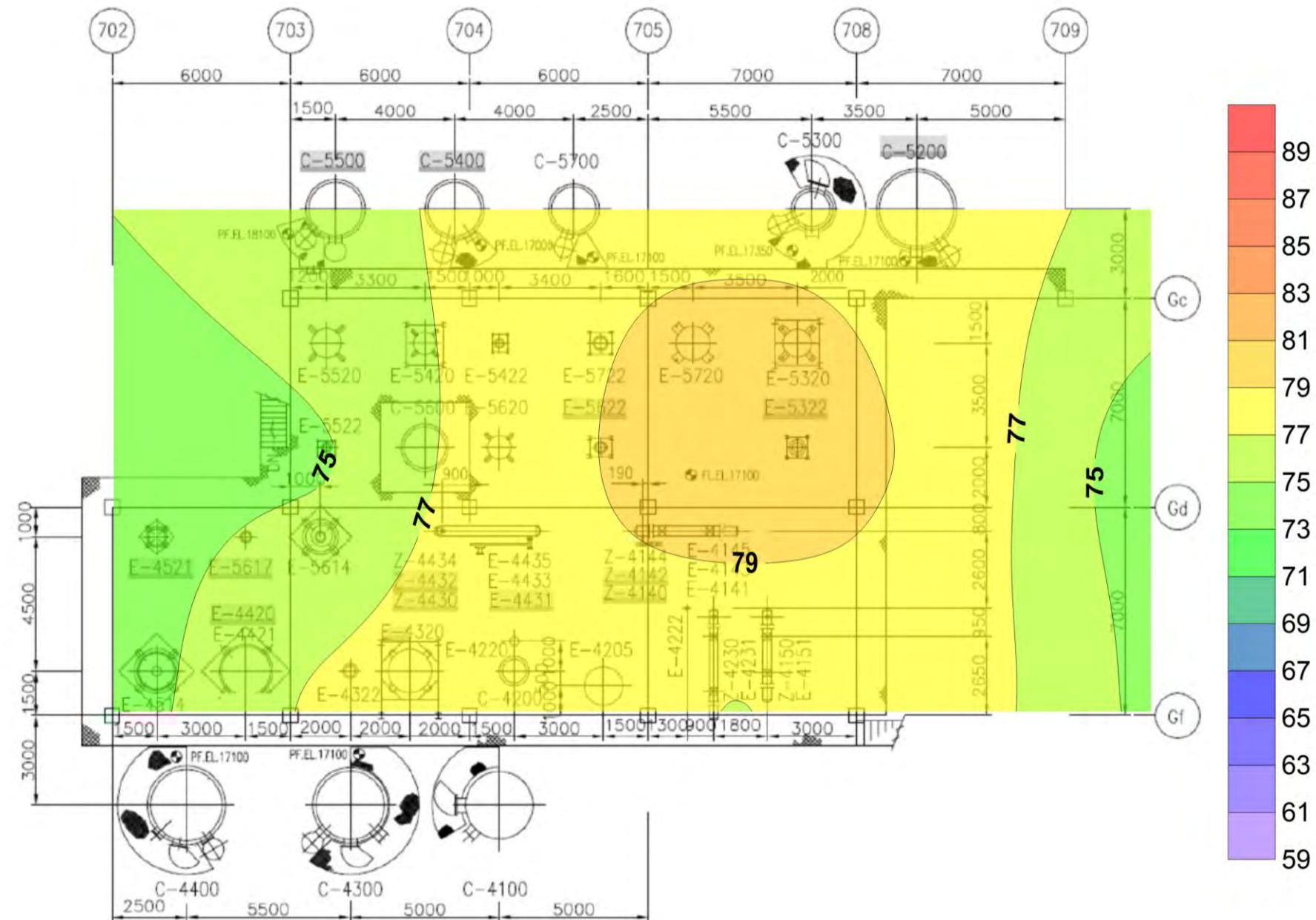
Noise Contour Map

THAI MMA Co., Ltd.

Reference Number : Lot 2432084-1

Measurement Date : Apr 29, 2024

#4000-#5000 MMA Recovery, Esterification Inhibitor Unit M1 FL.4



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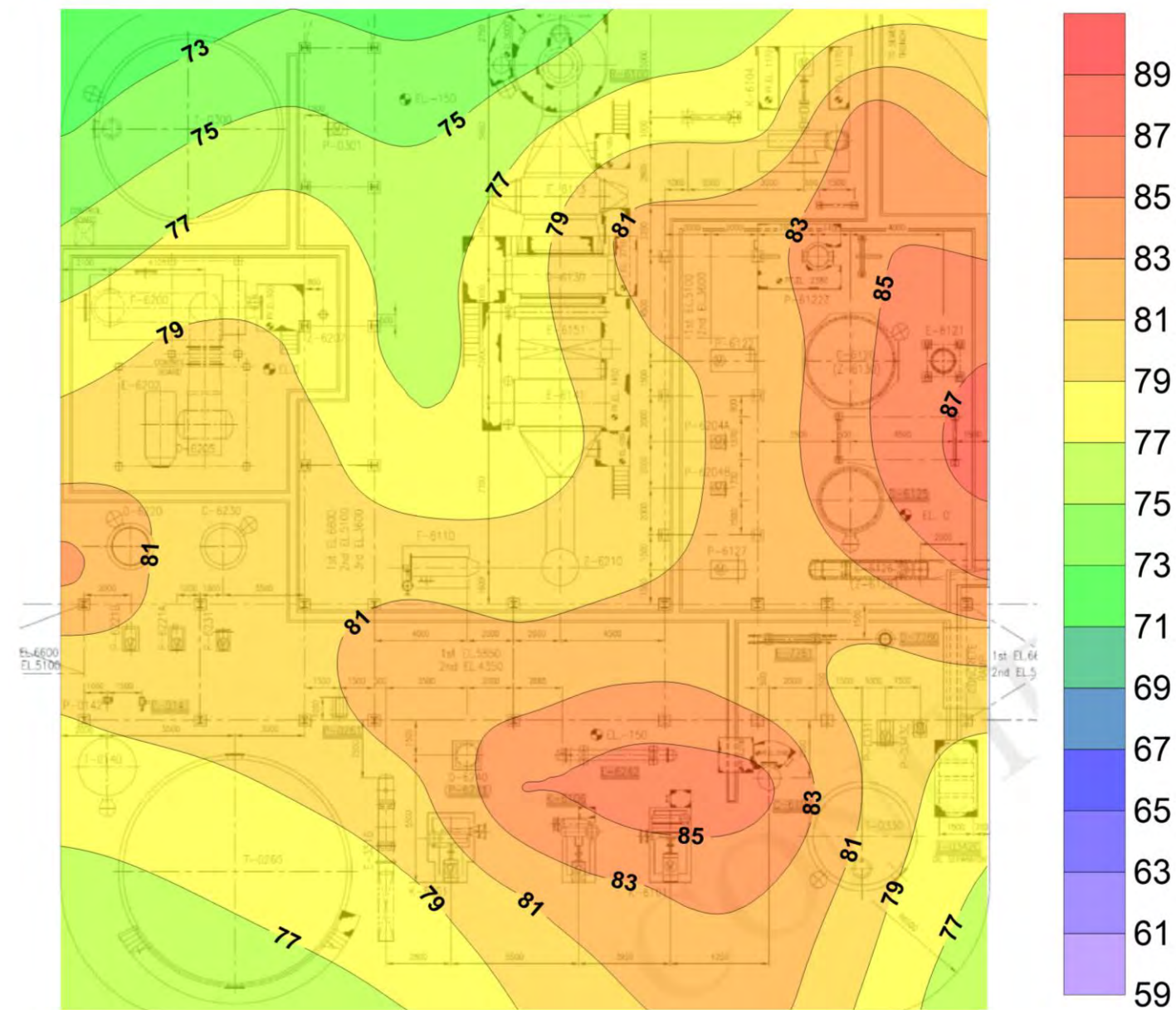
Noise Contour Map

THAI MMA Co., Ltd.

#6000 Waste and Disposal M1

Reference Number : Lot 2432084-1

Measurement Date : Apr 29, 2024



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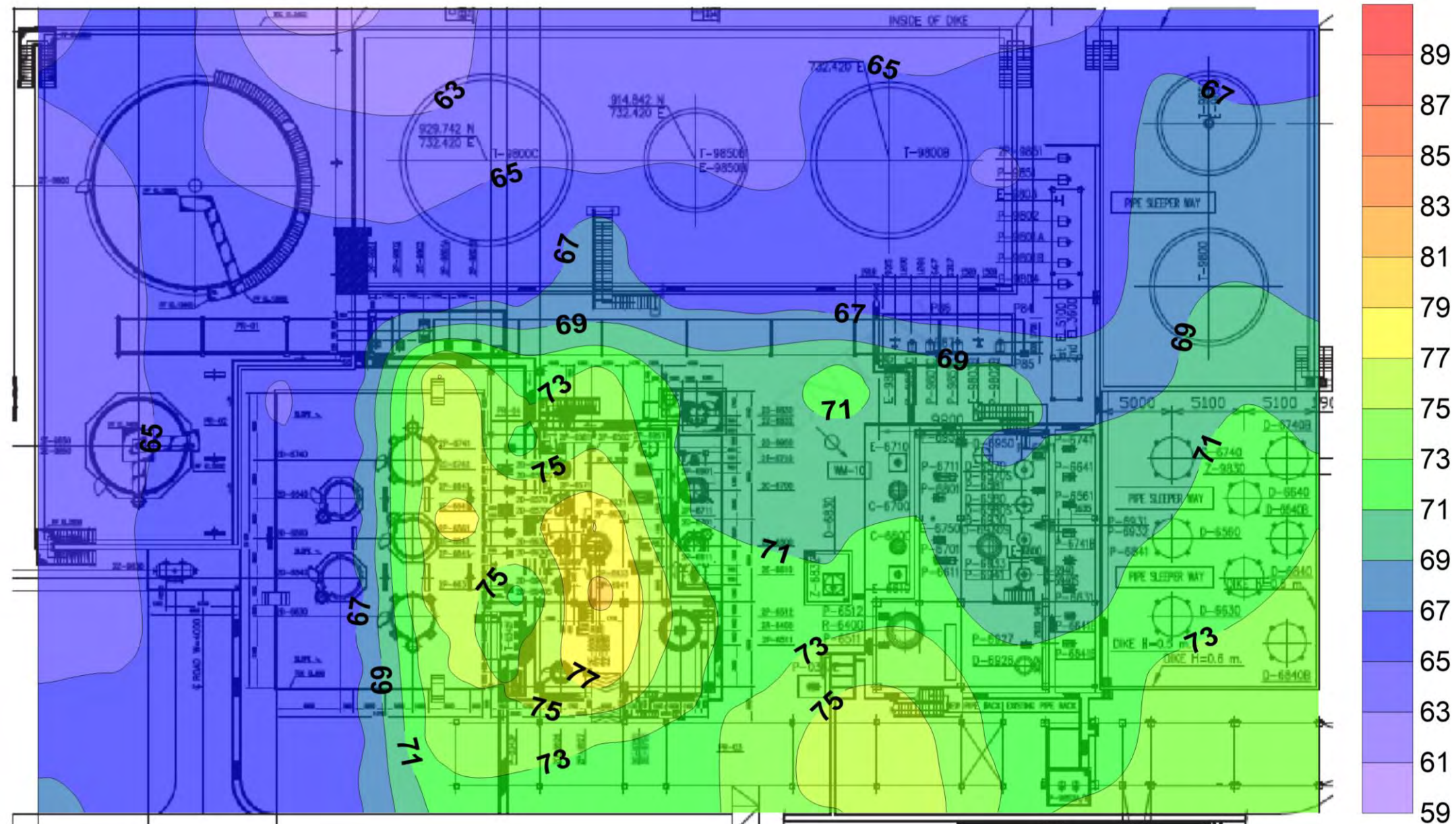
Noise Contour Map

THAI MMA Co., Ltd.

BMA#1,2 Unit M1

Reference Number : Lot 2432084-1

Measurement Date : Apr 29, 2024



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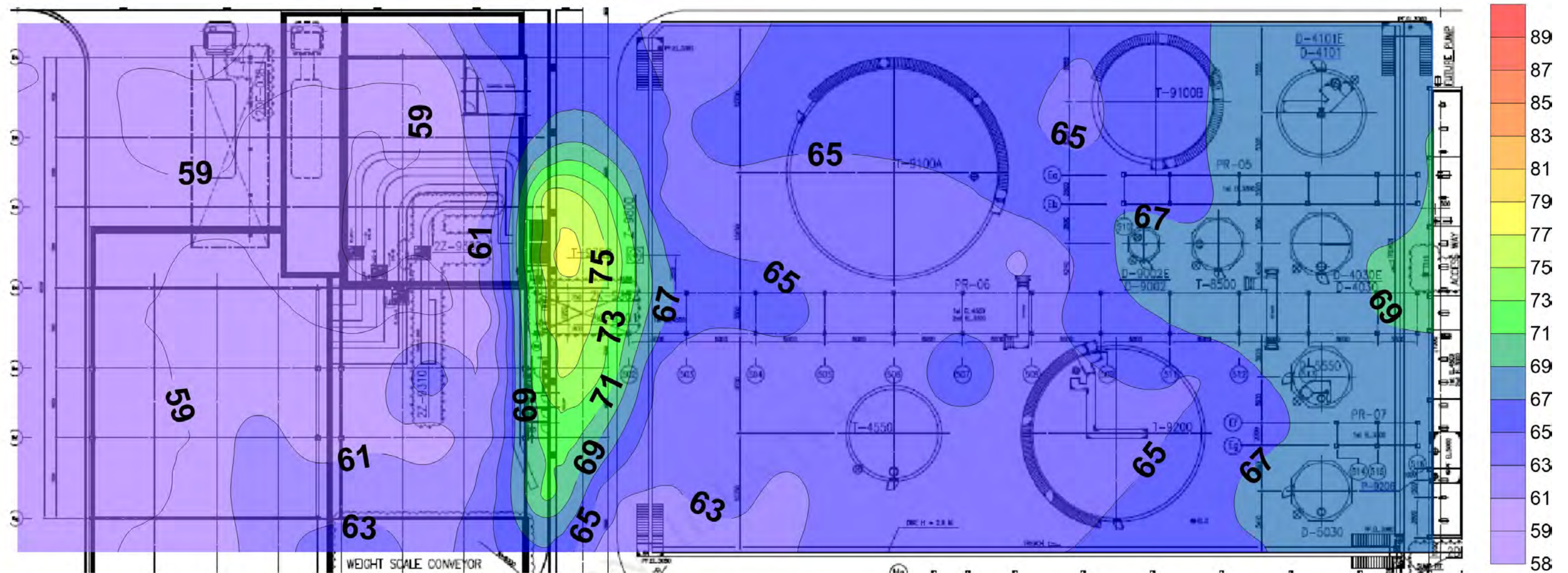
Noise Contour Map

THAI MMA Co., Ltd.

Tank and Product Loading

Reference Number : Lot 2432084-1

Measurement Date : Apr 29, 2024



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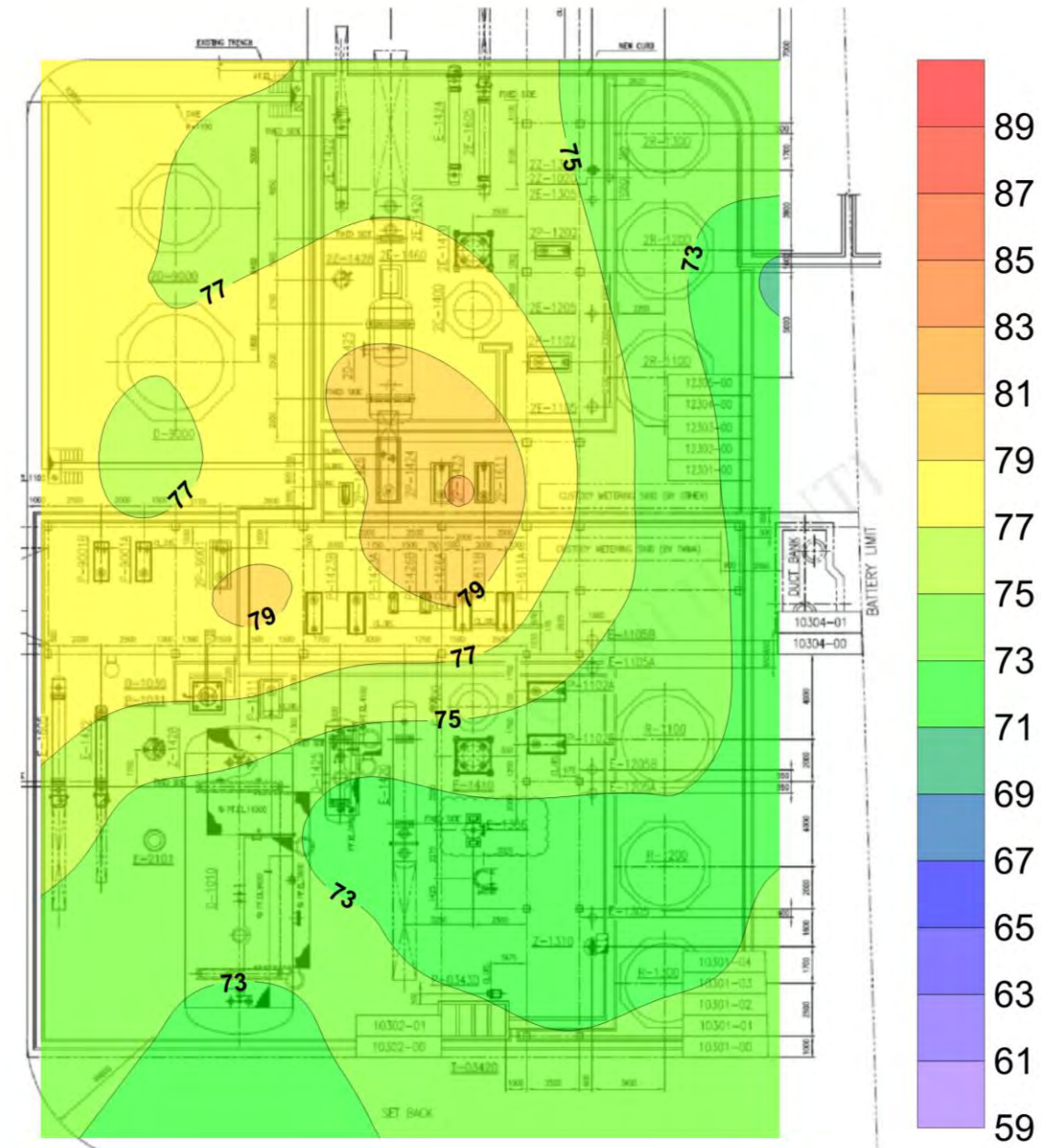
Noise Contour Map

THAI MMA Co., Ltd.

TBA M1 #1000 Unit

Reference Number : Lot 2432084-1

Measurement Date : Apr 29, 2024



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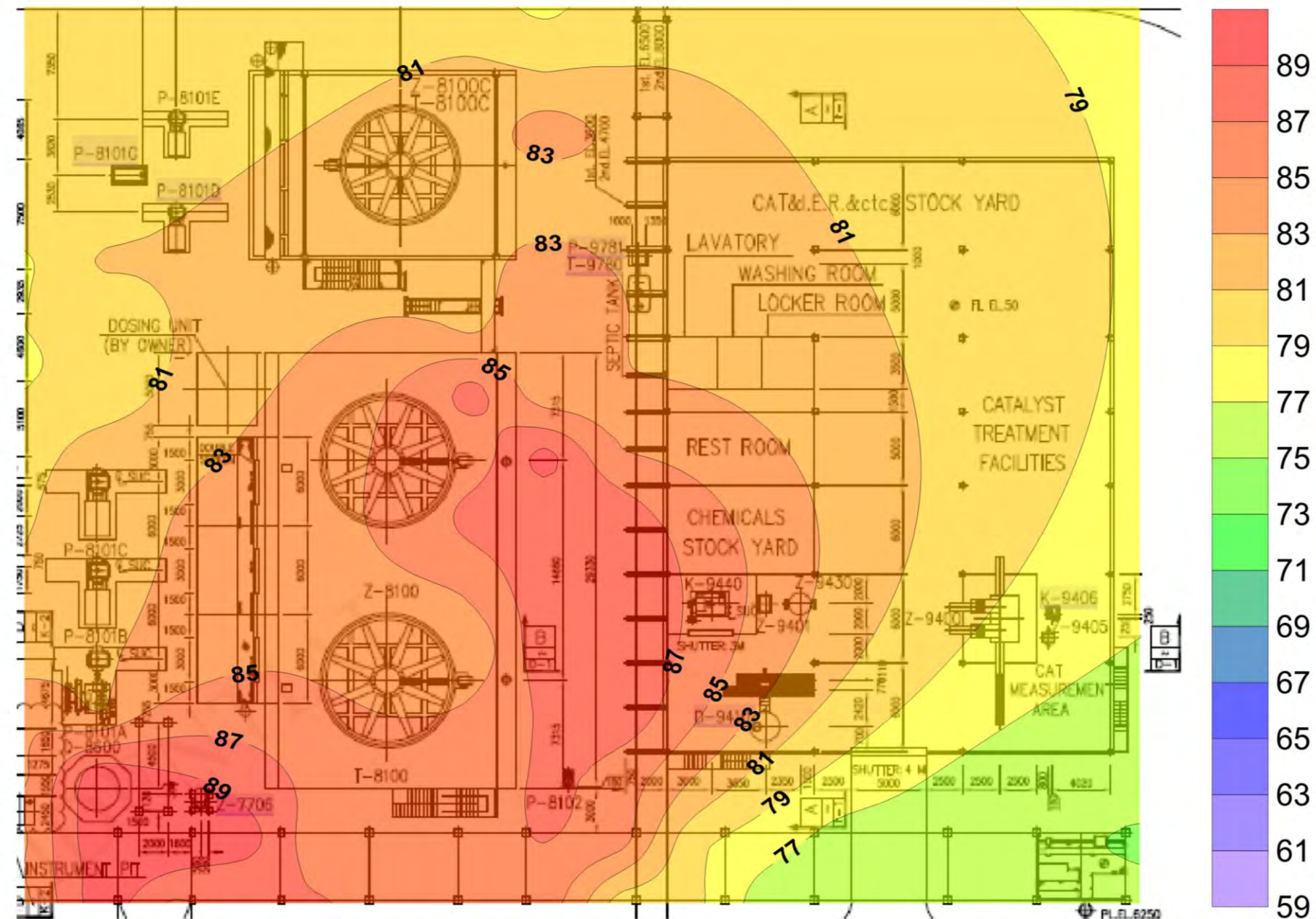
Noise Contour Map

THAI MMA Co., Ltd.

UT1 Cooling Tower M1

Reference Number : Lot 2432084-1

Measurement Date : Apr 29, 2024



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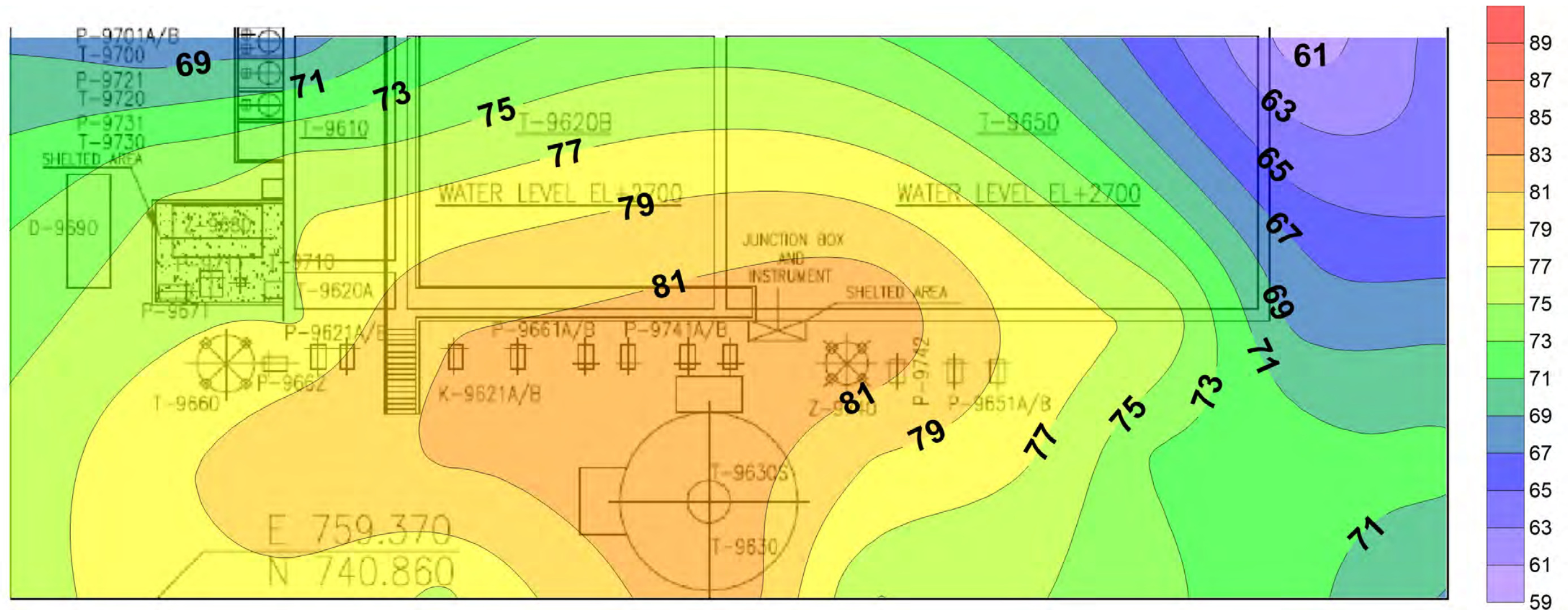
Noise Contour Map

THAI MMA Co., Ltd.

UT1 Waste Water M1

Reference Number : Lot 2432084-1

Measurement Date : Apr 29, 2024



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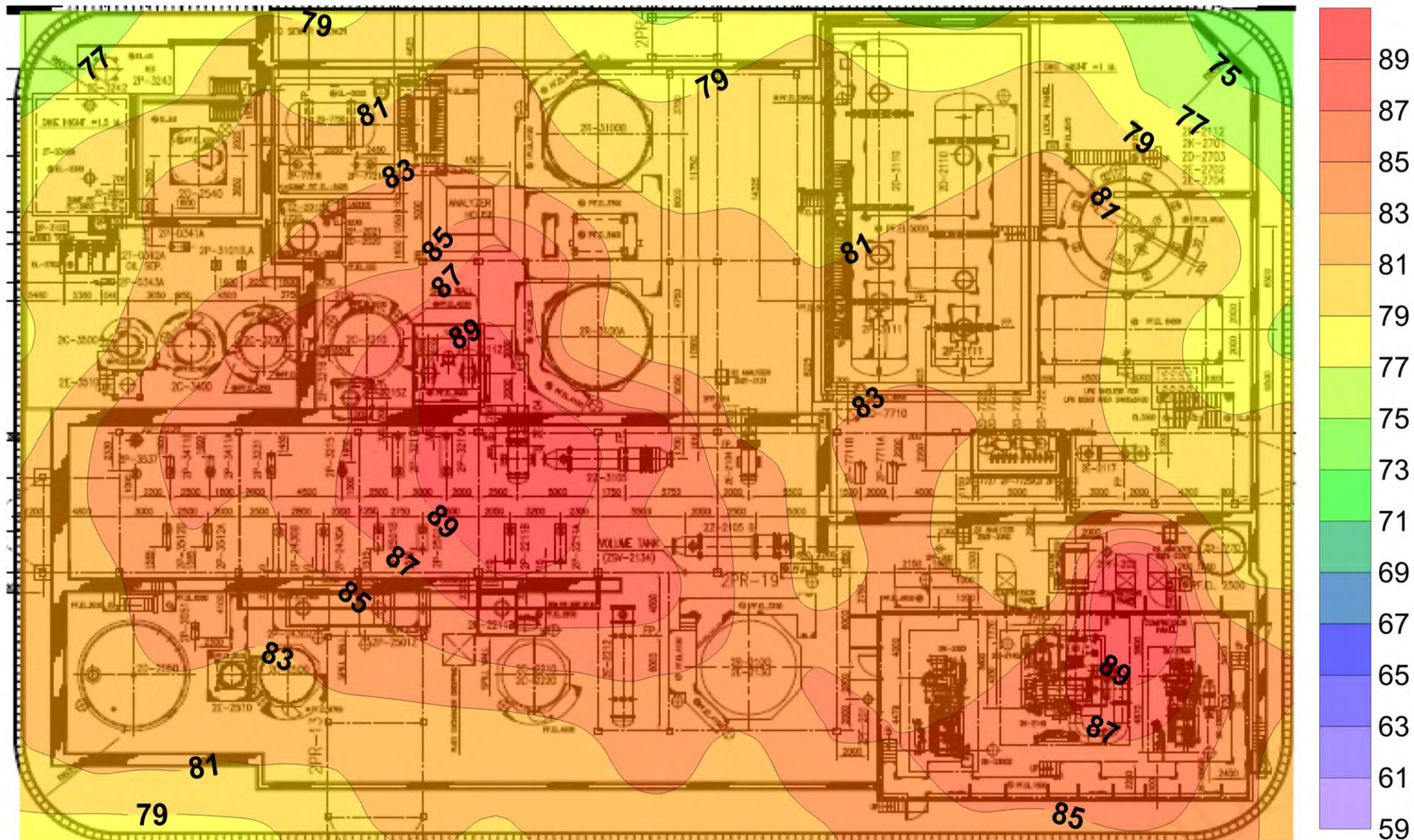
Noise Contour Map

THAI MMA Co., Ltd.

Reference Number : Lot 2432088-1

Measurement Date : Apr 30, 2024

#2000-#3000 Oxidation Unit M2 FL.1



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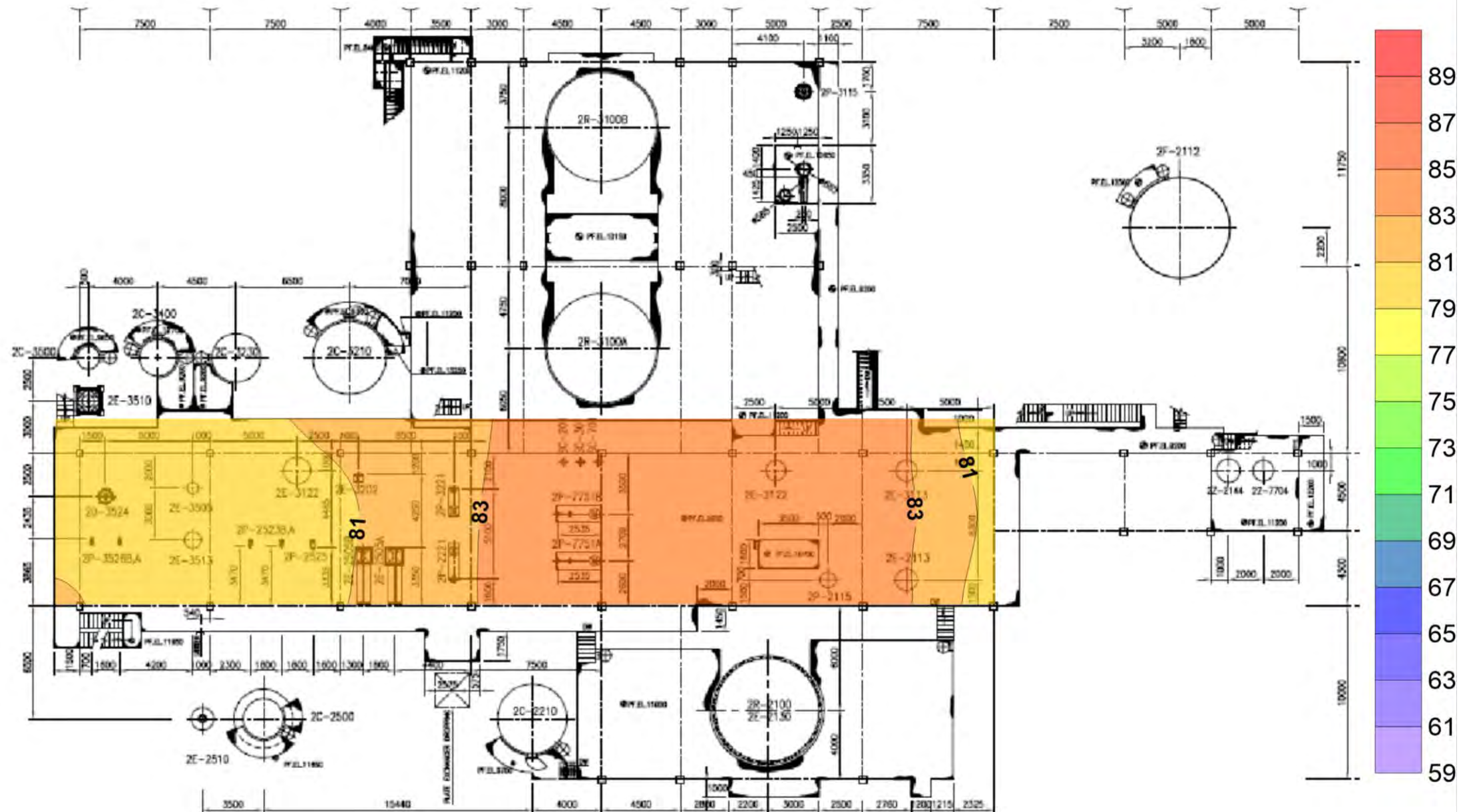
Noise Contour Map

THAI MMA Co., Ltd.

Reference Number : Lot 2432088-1

Measurement Date : Apr 30, 2024

#2000-#3000 Oxidation Unit M2 FL.2



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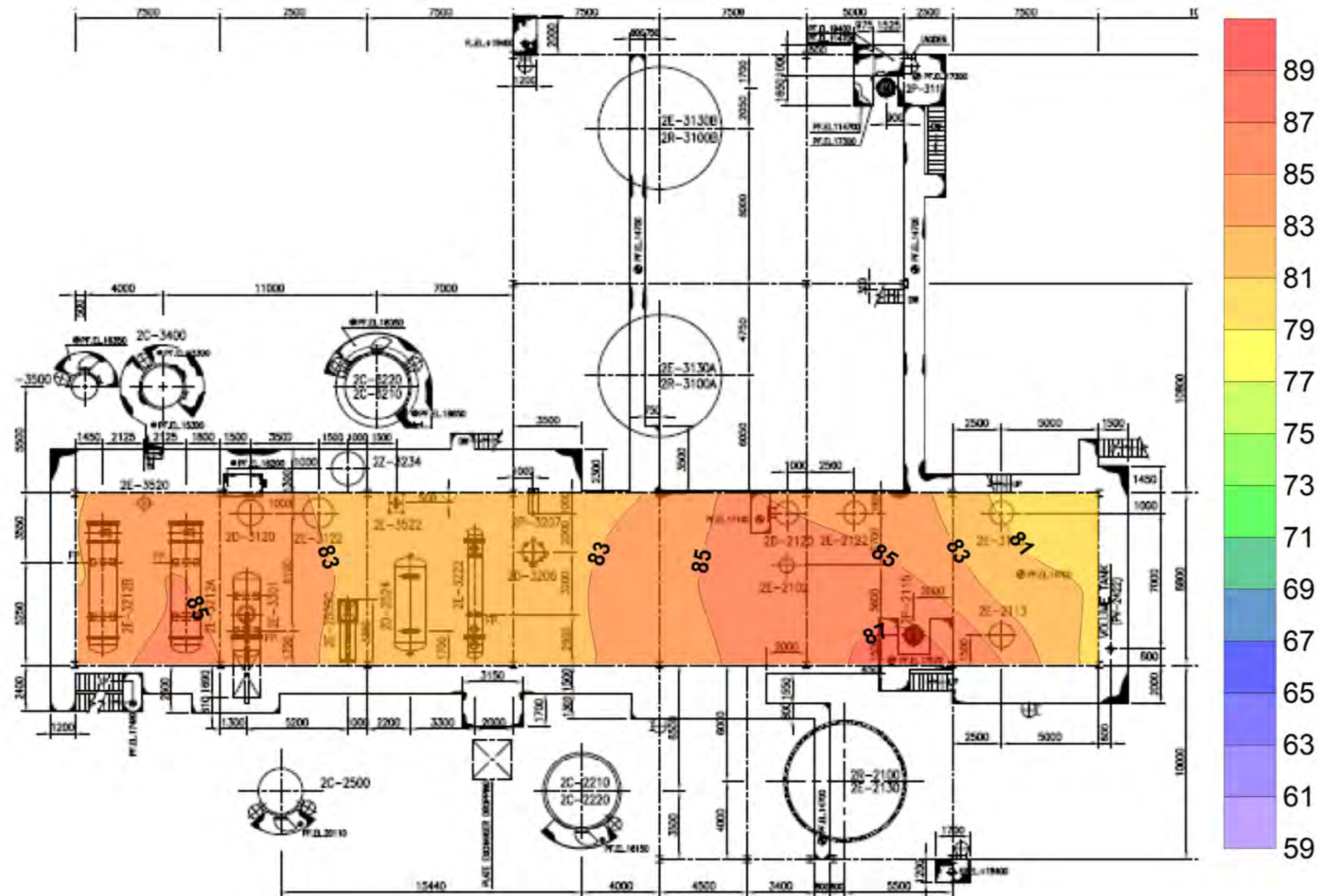
Noise Contour Map

THAI MMA Co., Ltd.

#2000-#3000 Oxidation Unit M2 FL.3

Reference Number : Lot 2432088-1

Measurement Date : Apr 30, 2024



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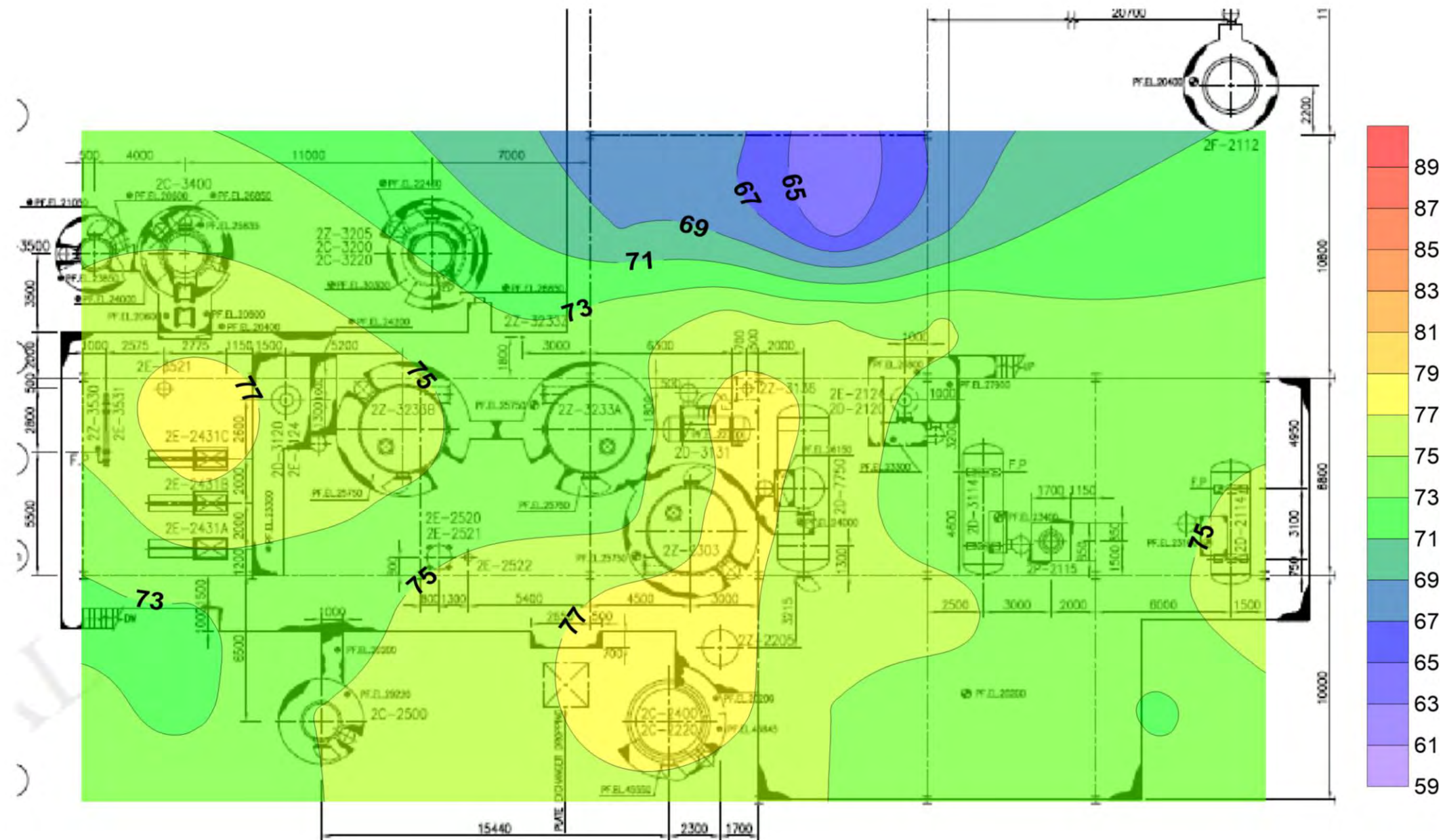
Noise Contour Map

THAI MMA Co., Ltd.

Reference Number : Lot 2432088-1

Measurement Date : Apr 30, 2024

#2000-#3000 Oxidation Unit M2 FL.4



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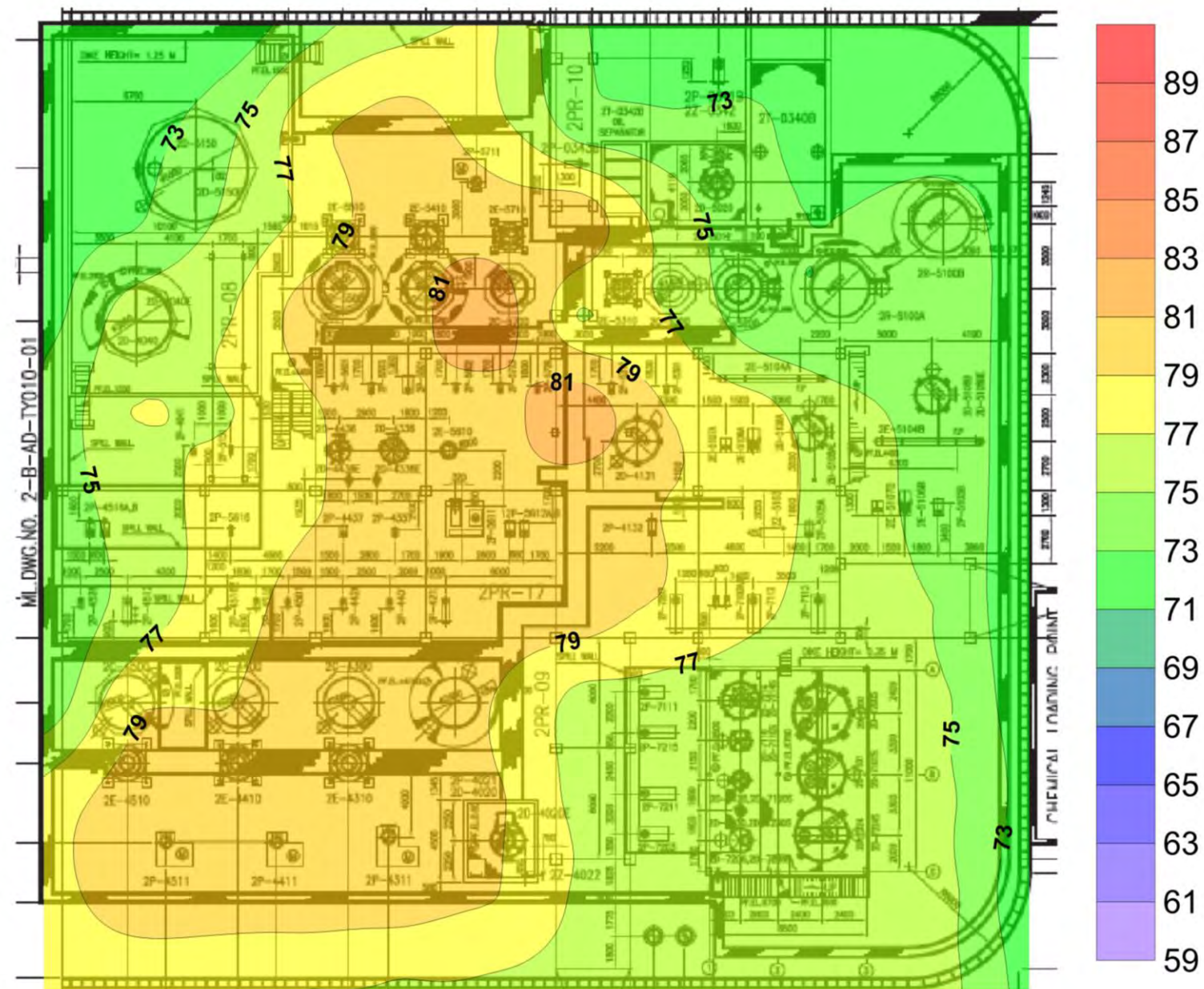
Noise Contour Map

THAI MMA Co., Ltd.

Reference Number : Lot 2432088-1

Measurement Date : Apr 30, 2024

#4000-#5000 MMA Recovery, Esterification Inhibitor Unit M2 FL.1



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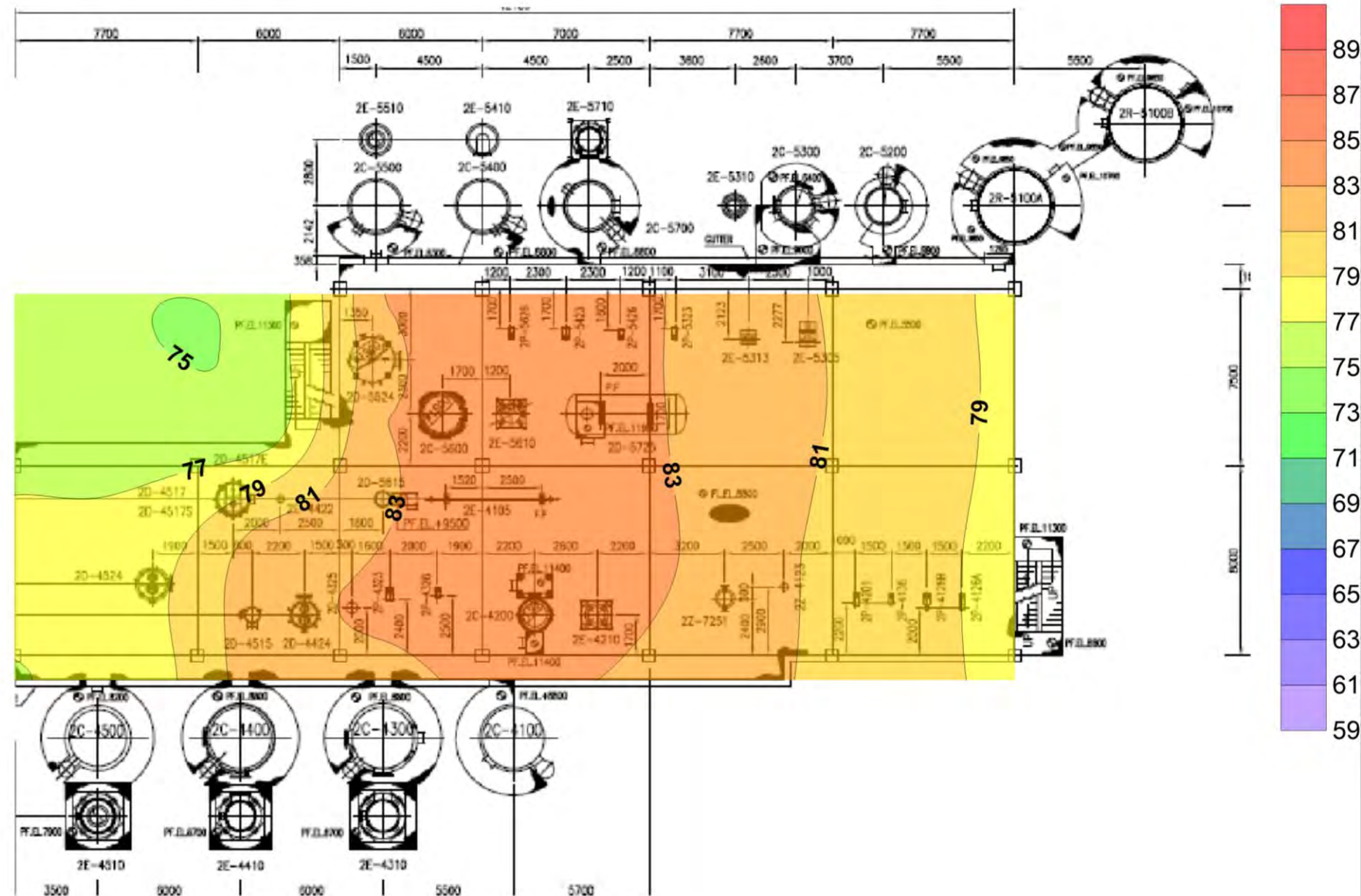
Noise Contour Map

THAI MMA Co., Ltd.

Reference Number : Lot 2432088-1

Measurement Date : Apr 30, 2024

#4000-#5000 MMA Recovery, Esterification Inhibitor Unit M2 FL.2



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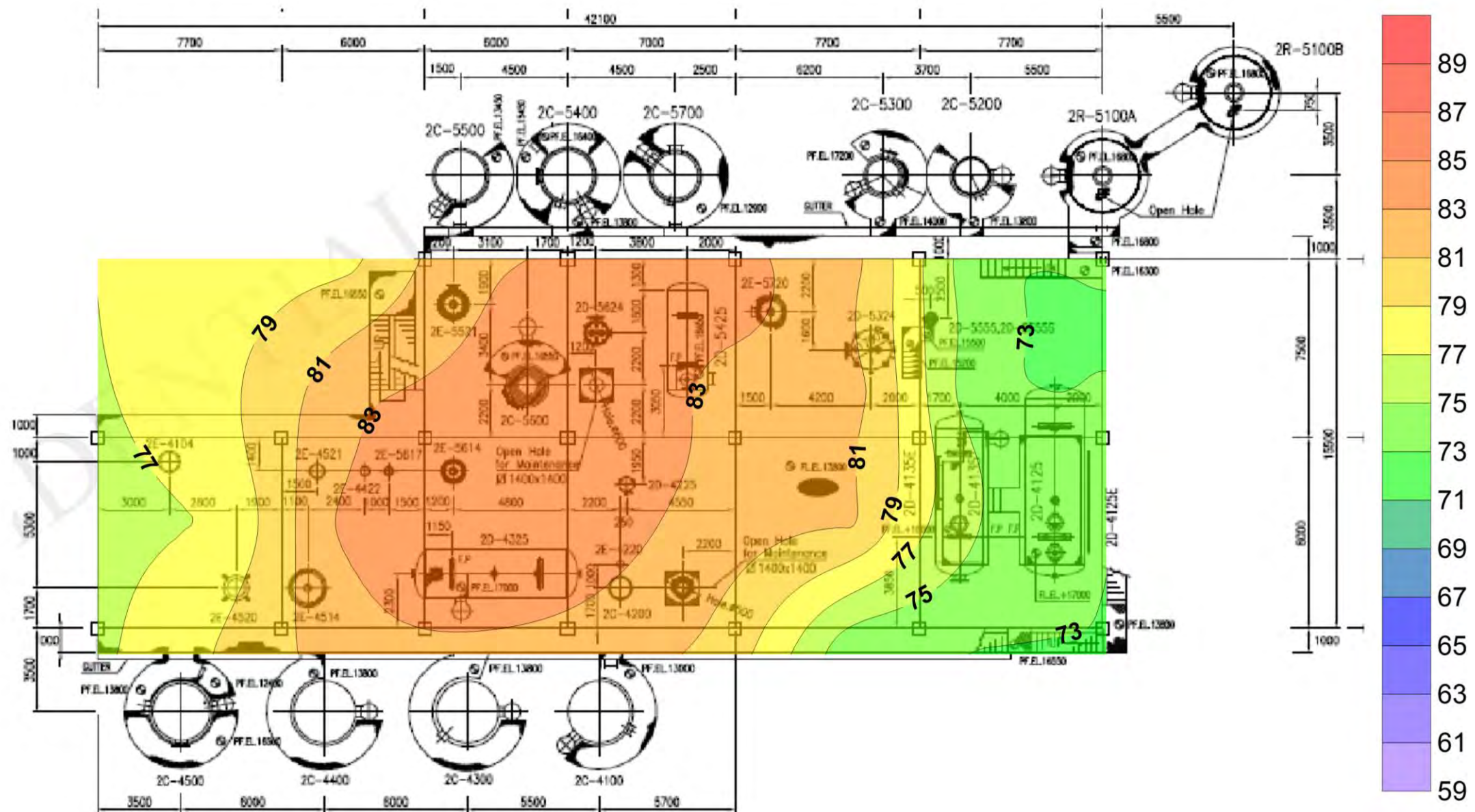
Noise Contour Map

THAI MMA Co., Ltd.

Reference Number : Lot 2432088-1

Measurement Date : Apr 30, 2024

#4000-#5000 MMA Recovery, Esterification Inhibitor Unit M2 FL.3



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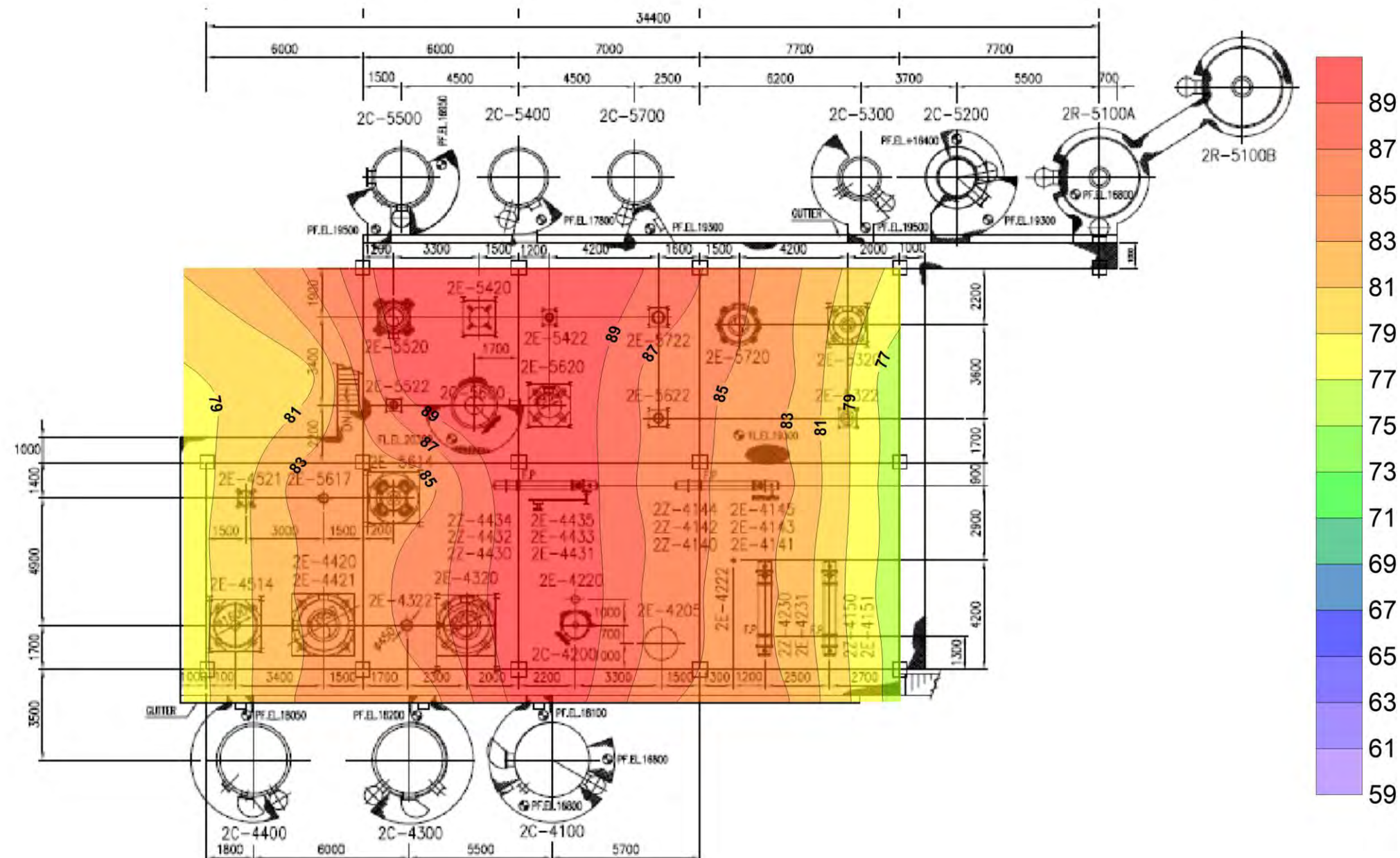
Noise Contour Map

THAI MMA Co., Ltd.

Reference Number : Lot 2432088-1

Measurement Date : Apr 30, 2024

#4000-#5000 MMA Recovery, Esterification Inhibitor Unit M2 FL.4



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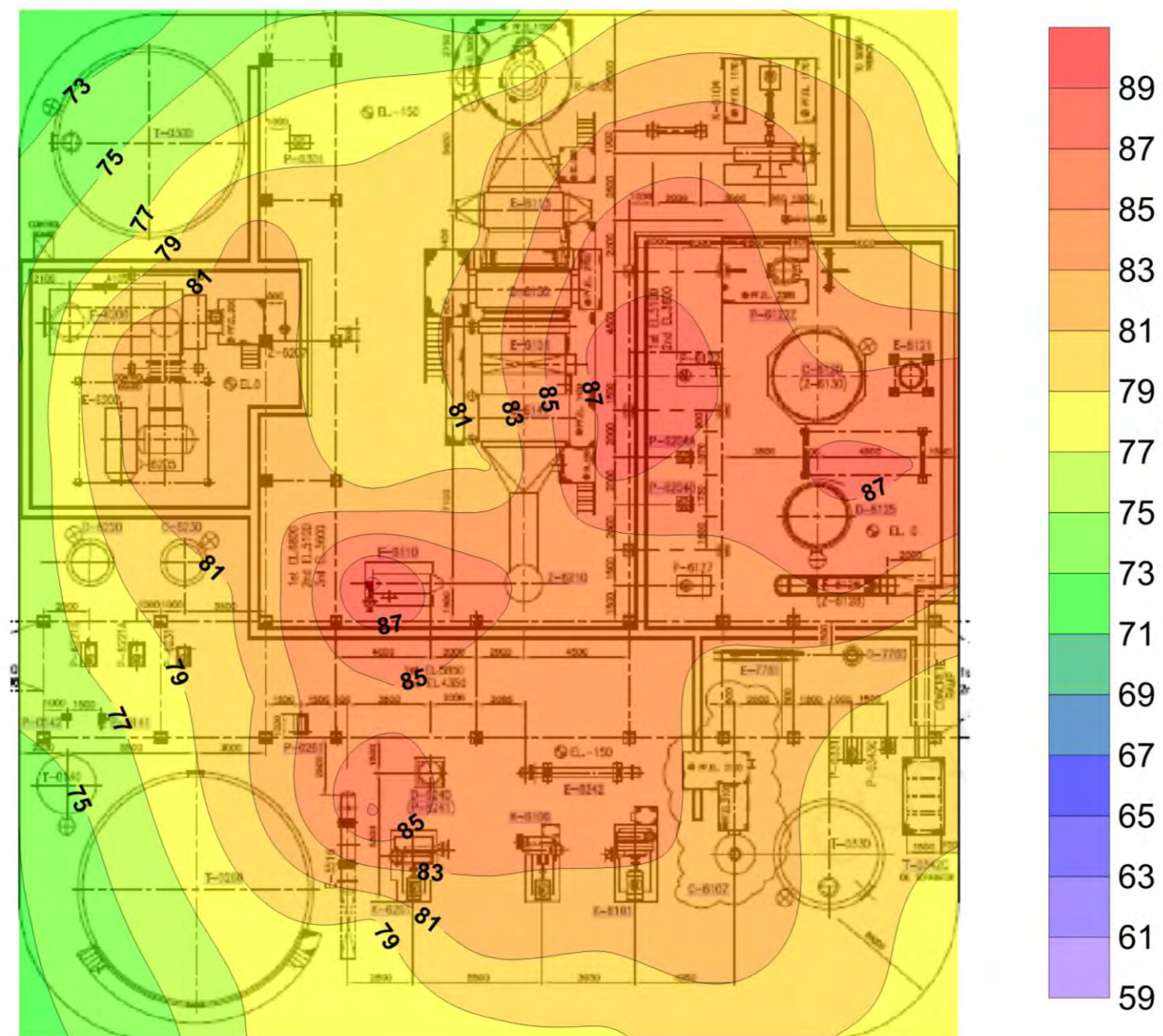
Noise Contour Map

THAI MMA Co., Ltd.

#6000 Waste and Disposal M2

Reference Number : Lot 2432088-1

Measurement Date : Apr 30, 2024



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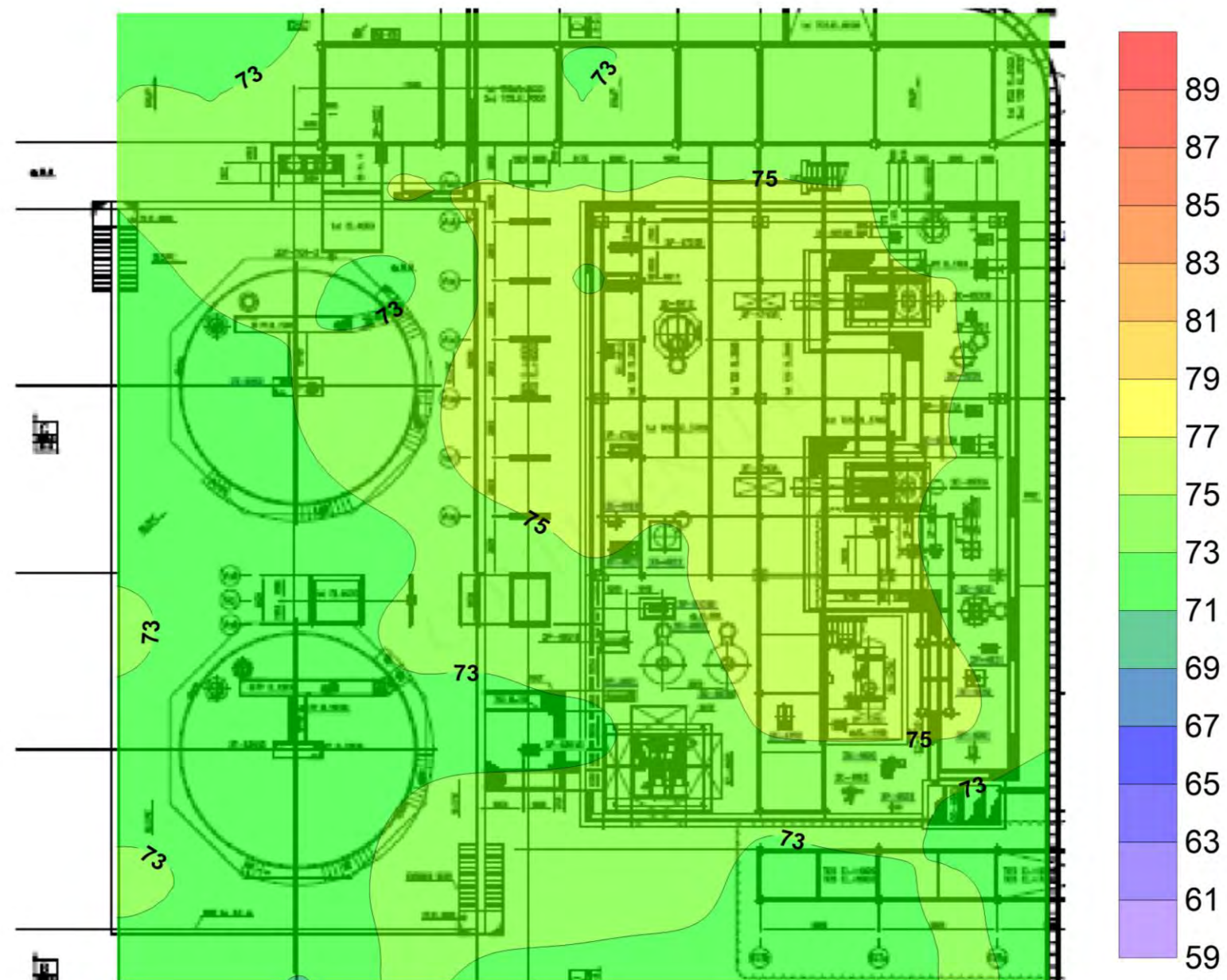
Noise Contour Map

THAI MMA Co., Ltd.

MAA Unit M2

Reference Number : Lot 2432088-1

Measurement Date : Apr 30, 2024



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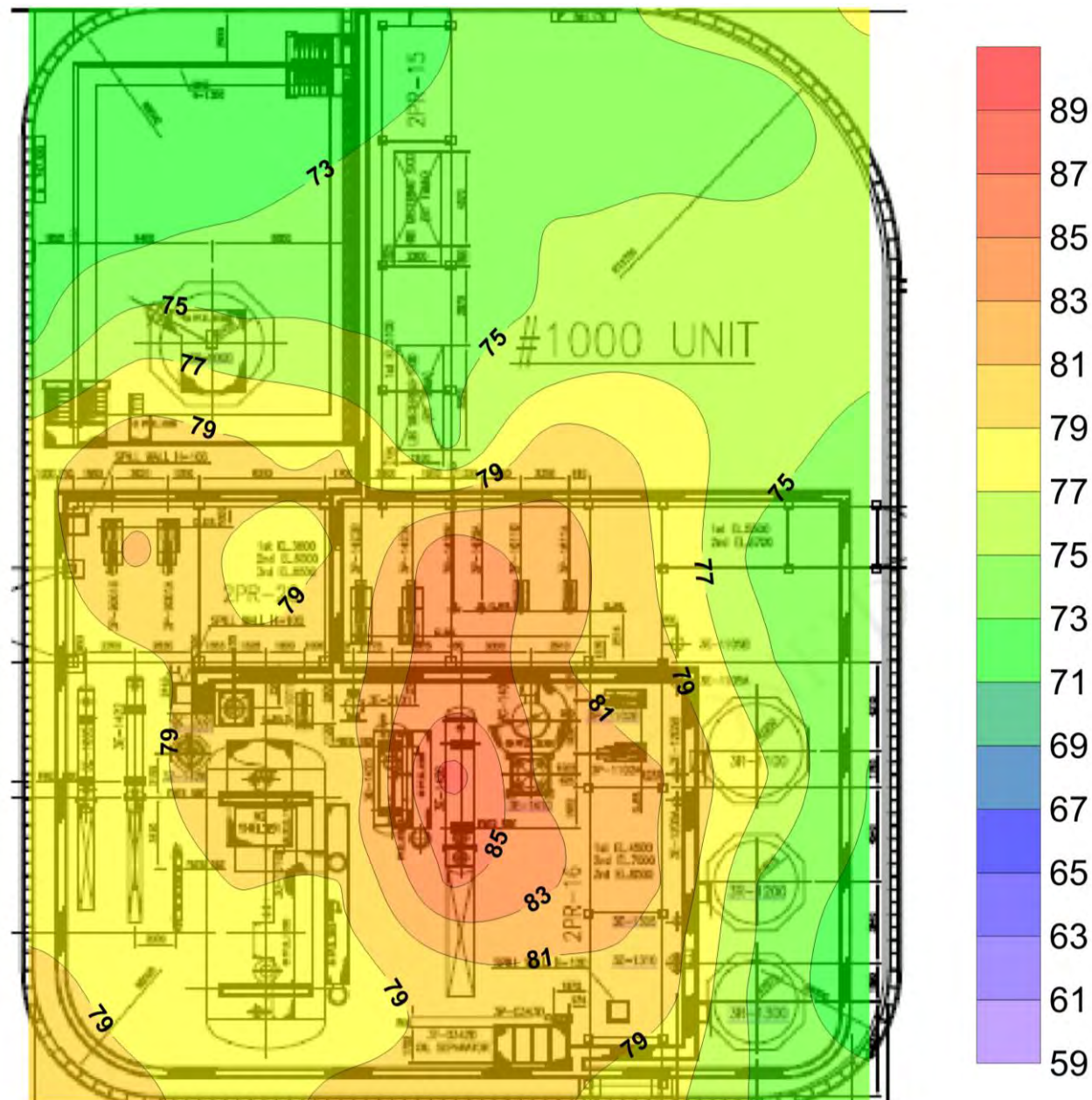
Noise Contour Map

THAI MMA Co., Ltd.

TBA M2 #1000 Unit

Reference Number : Lot 2432088-1

Measurement Date : Apr 30, 2024



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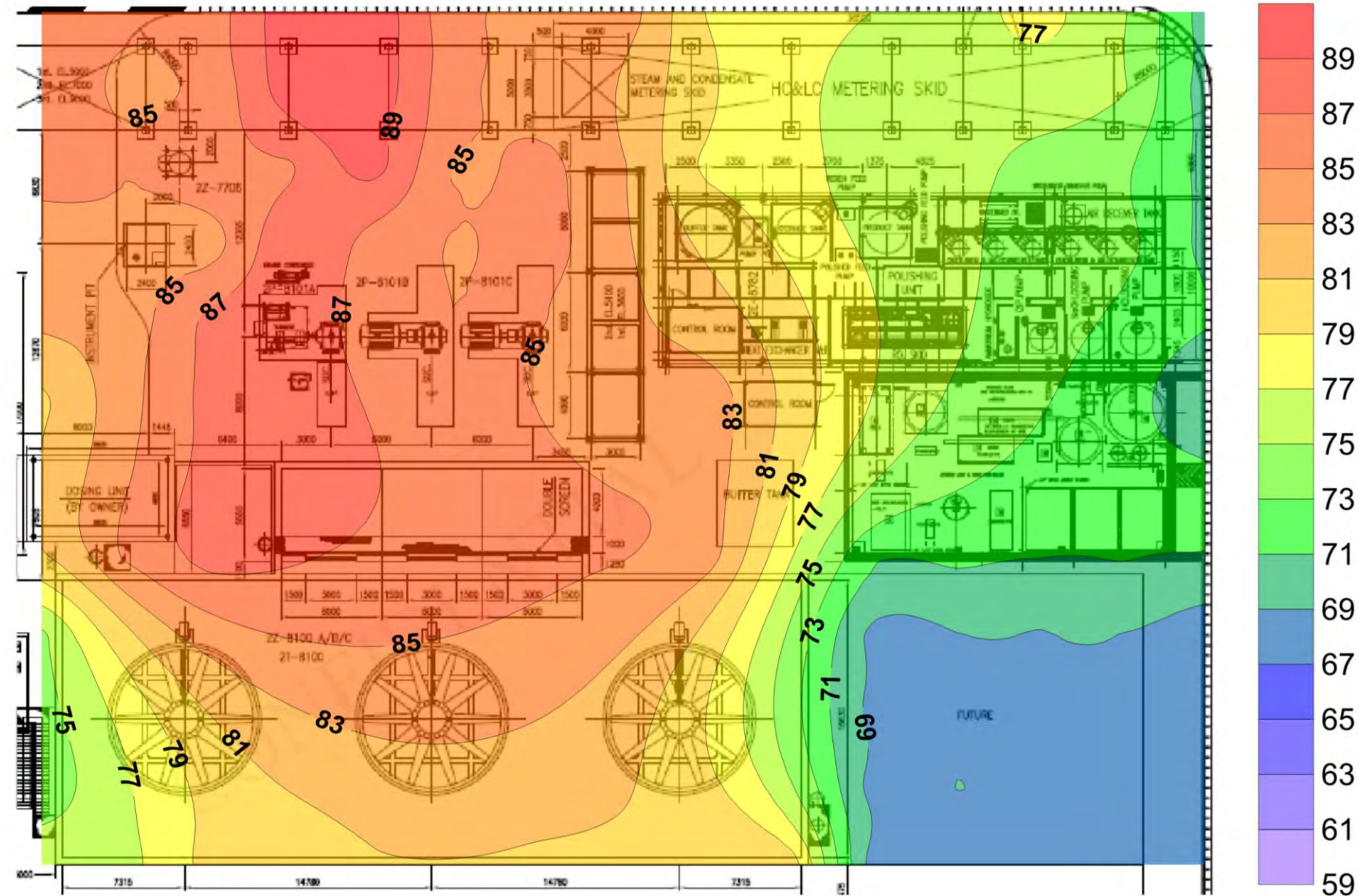
Noise Contour Map

THAI MMA Co., Ltd.

UT1 Cooling Tower M2

Reference Number : Lot 2432088-1

Measurement Date : Apr 30, 2024



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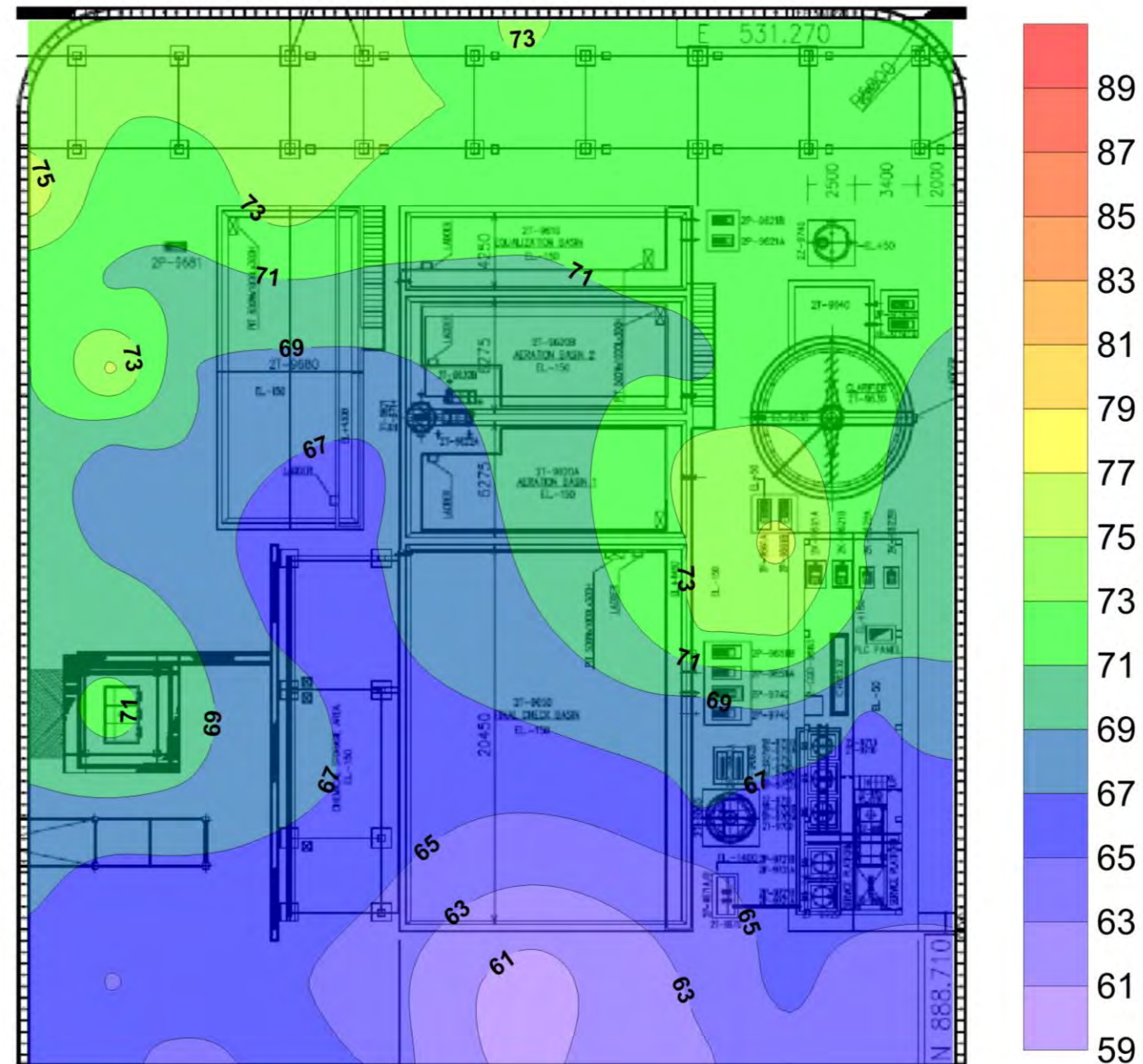
Noise Contour Map

THAI MMA Co., Ltd.

UT1 Waste Water M2

Reference Number : Lot 2432088-1

Measurement Date : Apr 30, 2024



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ภาคผนวก ค-8

ใบรับรองผลการตรวจวัดคุณภาพอากาศในสถานประกอบการ



Analysis / Test Report

TESTING
No.0009

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2479685

Date Received : Aug 15, 2024
Date Reported : Aug 23, 2024
Report Number : 3052821-1

Page 1 of 5

Sample Number 2479685-1
Sampled Date Aug 13, 2024
Sample Description Air Quality
Location Production Loading
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
Air Testing									
Total Hydrocarbon as Methane *	08:30 AM - 10:30 AM	ppm	-	1.0	5.0	No Standard	Total Hydrocarbon Analyzer	-	Rayong

Guideline :

Sampled By : Chanon Booncheun

Remark :

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

Orawan R.

Orawan Rakyong
Scientist (3)

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Analysis / Test Report

TESTING
No.0009

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2479685

Date Received : Aug 15, 2024
Date Reported : Aug 23, 2024
Report Number : 3052821-1

Page 2 of 5

Sample Number : 2479685-2
Sampled Date : Aug 13, 2024
Sample Description : Air Quality
Location : โรงงาน MMA 1 @ 4/5000
Date Analysis Commenced : Aug 16, 2024
Condition of Sample : Drawn into three sorbent tubes, refrigerated
Barometric Pressure : 759 mmHg
Atmospheric Temperature : 30.0 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Methanol *	09:00 AM - 11:00 AM	ppm	-	0.10	<0.10	200	NIOSH (1994), 2000	ACGIH	Bangkok
Methyl Methacrylate *	09:00 AM - 11:00 AM	ppm	-	0.5	<0.5	100	NIOSH (1994), 2537	MOL	Bangkok
Toluene	09:00 AM - 11:00 AM	ppm	-	0.05	<0.05	200	In - house method : STM 04-032 based on NIOSH Manual of Analytical Methods, 4th ed., NMAM, method 1501, issue 3, 2003 (Include sampling)	MOL	Bangkok

Guideline :

ACGIH : The American Conference of Governmental Industrial Hygiene, The 6th edition of the Documentation of the Threshold Limit Values and Biological Exposure Indices (2024).

MOL : Announcement of the Department of Labour Protection and Welfare on Threshold Limit Values of Hazardous Chemical Substances Dated August 3, B.E. 2560 (2017)

Sampled By : Chanon Booncheun

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Analysis / Test Report

TESTING
No.0009

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2479685

Date Received : Aug 15, 2024
Date Reported : Aug 23, 2024
Report Number : 3052821-1

Page 3 of 5

Sample Number 2479685-3
Sampled Date Aug 13, 2024
Sample Description Air Quality
Location โรงงาน MMA 2 @ 4/5000
Date Analysis Commenced Aug 16, 2024
Condition of Sample Drawn into three sorbent tubes, refrigerated
Barometric Pressure 759 mmHg
Atmospheric Temperature 30.0 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Methanol *	09:00 AM - 11:00 AM	ppm	-	0.10	<0.10	200	NIOSH (1994), 2000	ACGIH	Bangkok
Methyl Methacrylate *	09:00 AM - 11:00 AM	ppm	-	0.5	<0.5	100	NIOSH (1994), 2537	MOL	Bangkok
Toluene	09:00 AM - 11:00 AM	ppm	-	0.05	<0.05	200	In - house method : STM 04-032 based on NIOSH Manual of Analytical Methods, 4th ed., NMAM, method 1501, issue 3, 2003 (Include sampling)	MOL	Bangkok

Guideline :

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Analysis / Test Report

TESTING
No.0009

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2479685

Date Received : Aug 15, 2024
Date Reported : Aug 23, 2024
Report Number : 3052821-1

Page 4 of 5

Sample Number 2479685-4
Sampled Date Aug 13, 2024
Sample Description Air Quality
Location โรงงาน MMA 1 @ 2/3000
Date Analysis Commenced Aug 16, 2024
Condition of Sample Drawn into one sorbent tube, refrigerated
Barometric Pressure 759 mmHg
Atmospheric Temperature 30.0 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Acrylic acid *	01:00 PM - 03:00 PM	ppm	-	0.10	<0.10	2	Based on OSHA, 28	MOL	Bangkok

Guideline :

MOL : Announcement of the Department of Labour Protection and Welfare on Threshold Limit Values of Hazardous Chemical Substances Dated August 3, B.E. 2560 (2017)

Sampled By : Chanon Booncheun

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No.0009

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271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 2479685

Date Received : Aug 15, 2024
Date Reported : Aug 23, 2024
Report Number : 3052821-1

Page 5 of 5

Sample Number 2479685-5
Sampled Date Aug 13, 2024
Sample Description Air Quality
Location โรงงาน MMA 2 @ 2/3000
Date Analysis Commenced Aug 16, 2024
Condition of Sample Drawn into one sorbent tube, refrigerated
Barometric Pressure 759 mmHg
Atmospheric Temperature 30.0 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Acrylic acid *	01:00 PM - 03:00 PM	ppm	-	0.10	<0.10	2	Based on OSHA, 28	MOL	Bangkok

Guideline :

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24116831

Date Received : Nov 07, 2024
Date Reported : Nov 18, 2024
Report Number : 3134519-1

Page 1 of 5

Sample Number 24116831-1
Sampled Date Nov 07, 2024
Sample Description Air Quality
Location Production Loading
Date Analysis Commenced Nov 09, 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
Air Testing									
Total Hydrocarbon as Methane *	09:20 AM - 11:20 AM	ppm	-	1.0	4.8	No Standard	Total Hydrocarbon Analyzer	-	Rayong

Guideline :

Sampled By : Tarin Octjinda

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24116831

Date Received : Nov 07, 2024
Date Reported : Nov 18, 2024
Report Number : 3134519-1

Page 2 of 5

Sample Number 24116831-2
Sampled Date Nov 07, 2024
Sample Description Air Quality
Location โรงงาน MMA 1 @ 4/5000
Date Analysis Commenced Nov 08, 2024
Condition of Sample Drawn into four sorbent tubes, refrigerated
Barometric Pressure 755 mmHg
Atmospheric Temperature 30.2 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Methanol *	09:50 AM - 11:50 AM	ppm	-	0.10	<0.10	200	NIOSH (1994), 2000	ACGIH	Bangkok
Methyl Methacrylate *	09:50 AM - 11:50 AM	ppm	-	0.5	<0.5	100	NIOSH (1994), 2537	MOL	Bangkok
Toluene	09:50 AM - 11:50 AM	ppm	-	0.05	<0.05	200	In - house method : STM 04-032 based on NIOSH Manual of Analytical Methods, 4th ed., NMAM, method 1501, issue 3, 2003 (Include sampling)	MOL	Bangkok

Guideline :

ACGIH : The American Conference of Governmental Industrial Hygiene, The 6th edition of the Documentation of the Threshold Limit Values and Biological Exposure Indices (2024).

MOL : Announcement of the Department of Labour Protection and Welfare on Threshold Limit Values of Hazardous Chemical Substances Dated August 3, B.E. 2560 (2017)

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Analysis / Test Report

TESTING
No.0042

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24116831

Date Received : Nov 07, 2024
Date Reported : Nov 18, 2024
Report Number : 3134519-1

Page 3 of 5

Sample Number 24116831-3
Sampled Date Nov 07, 2024
Sample Description Air Quality
Location โรงงาน MMA 2 @ 4/5000
Date Analysis Commenced Nov 08, 2024
Condition of Sample Drawn into four sorbent tubes, refrigerated
Barometric Pressure 755 mmHg
Atmospheric Temperature 30.2 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Methanol *	10:35 AM - 12:35 PM	ppm	-	0.10	<0.10	200	NIOSH (1994), 2000	ACGIH	Bangkok
Methyl Methacrylate *	10:35 AM - 12:35 PM	ppm	-	0.5	1.0	100	NIOSH (1994), 2537	MOL	Bangkok
Toluene	10:35 AM - 12:35 PM	ppm	-	0.05	<0.05	200	In - house method : STM 04-032 based on NIOSH Manual of Analytical Methods, 4th ed., NMAM, method 1501, issue 3, 2003 (Include sampling)	MOL	Bangkok

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No.0042

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271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24116831

Date Received : Nov 07, 2024
Date Reported : Nov 18, 2024
Report Number : 3134519-1

Page 4 of 5

Sample Number 24116831-4
Sampled Date Nov 07, 2024
Sample Description Air Quality
Location โรงงาน MMA 1 @ 2/3000
Date Analysis Commenced Nov 08, 2024
Condition of Sample Drawn into one sorbent tube, refrigerated
Barometric Pressure 755 mmHg
Atmospheric Temperature 30.2 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Acrylic acid *	10:10 AM - 12:10 PM	ppm	-	0.10	<0.10	2	Based on OSHA, 28	MOL	Bangkok

Guideline :

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Analysis / Test Report

TESTING
No.0042

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271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Lot ID: 24116831

Date Received : Nov 07, 2024

Date Reported : Nov 18, 2024

Report Number : 3134519-1

Page 5 of 5

Sample Number 24116831-5
Sampled Date Nov 07, 2024
Sample Description Air Quality
Location โรงงาน MMA 2 @ 2/3000
Date Analysis Commenced Nov 08, 2024
Condition of Sample Drawn into one sorbent tube, refrigerated
Barometric Pressure 755 mmHg
Atmospheric Temperature 30.2 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Acrylic acid *	10:25 AM - 12:25 PM	ppm	-	0.10	<0.10	2	Based on OSHA, 28	MOL	Bangkok

Guideline :

MOL : Announcement of the Department of Labour Protection and Welfare on Threshold Limit Values of Hazardous Chemical Substances Dated August 3, B.E. 2560 (2017)

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ภาคผนวก ค-9

ใบรับรองผลการตรวจวิเคราะห์น้ำใต้ดิน



Analysis / Test Report

TESTING

No.0009

Lot ID: 2460101

Date Received : Aug 09, 2024

Date Reported : Aug 17, 2024

Report Number : 3004567-1

Client : THAI MMA Co., Ltd.

271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150

P/O : PMM-23-13

Project Name : Environmental Monitoring

Project Location : MMA Site 3

Page 1 of 4

Sample Number	2460101-1
Sampled Date	Aug 09, 2024 10:20 AM
Sample Description	Groundwater
Location	WM#01 บริเวณอาคาร Product Loading
Date Analysis Commenced	Aug 10, 2024
Condition of Sample	Contained in four glass bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Organic Compounds							
Butanol *	mg/L	-	10	<10	240	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6200 B	Bangkok
Methanol *	mg/L	-	0.01	<0.01	60	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6200 B	Bangkok
Volatile Organics Compounds							
Acetone *	mg/L	0.001	0.01	Not Detected	230	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6200 B	Bangkok
Toluene	mg/L	0.00004	0.0005	Not Detected	5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6200 B	Bangkok

Guideline : Notification of the Ministry of Industry B.E. 2559 (2016) on Soil and Groundwater Contamination Criteria, Monitoring of Soil and Groundwater Quality, Report Submission and Report Preparation of Soil and Groundwater Quality, and Proposal Report of Soil and Groundwater Controlling and Reduction Measures

Sampling By : Thanasoun Namakunna ทะเบียนเลขที่ ว-204-จ-0101

Remark :

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Technical Management

Nant Somb

Nanthawadee Somboon

Specialist 2

ทะเบียนเลขที่ ว-204-จ-0010

Approved by

Kanok Korn Anek

Kanokkorn Anek

Assistant General Manager

ทะเบียนเลขที่ ว-204-ค-0004

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Analysis / Test Report

TESTING

No.0009

Lot ID: 2460101

Date Received : Aug 09, 2024

Date Reported : Aug 17, 2024

Report Number : 3004567-1

Client : THAI MMA Co., Ltd.
271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150
P/O : PMM-23-13
Project Name : Environmental Monitoring
Project Location : MMA Site 3

Page 2 of 4

Sample Number : 2460101-2
Sampled Date : Aug 09, 2024 11:00 AM
Sample Description : Groundwater
Location : WM#02 บริเวณ Unit#1000 ติดกับรั้ว ROC
Date Analysis Commenced : Aug 10, 2024
Condition of Sample : Contained in four glass bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Organic Compounds							
Butanol *	mg/L	-	10	<10	240	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6200 B	Bangkok
Methanol *	mg/L	-	0.01	<0.01	60	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6200 B	Bangkok
Volatile Organics Compounds							
Acetone *	mg/L	0.001	0.01	Not Detected	230	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6200 B	Bangkok
Toluene	mg/L	0.00004	0.0005	Not Detected	5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6200 B	Bangkok

Guideline : Notification of the Ministry of Industry B.E. 2559 (2016) on Soil and Groundwater Contamination Criteria, Monitoring of Soil and Groundwater Quality, Report Submission and Report Preparation of Soil and Groundwater Quality, and Proposal Report of Soil and Groundwater Controlling and Reduction Measures

Sampling By : Thanasoun Namakunna ทะเบียนเลขที่ ว-204-จ-0101

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

Nant Somb

Nanthawadee Somboon
Specialist 2
ทะเบียนเลขที่ ว-204-จ-0010

Approved by

Kanok Anek

Kanokkorn Anek
Assistant General Manager
ทะเบียนเลขที่ ว-204-ค-0004

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Analysis / Test Report

TESTING

No.0009

Lot ID: 2460101

Date Received : Aug 09, 2024

Date Reported : Aug 17, 2024

Report Number : 3004567-1

Client : THAI MMA Co., Ltd.

271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150

P/O : PMM-23-13

Project Name : Environmental Monitoring

Project Location : MMA Site 3

Page 3 of 4

Sample Number	2460101-3
Sampled Date	Aug 09, 2024 12:30 PM
Sample Description	Groundwater
Location	WM#03 บริเวณหน้าอาคารเทคนิค
Date Analysis Commenced	Aug 10, 2024
Condition of Sample	Contained in four glass bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Organic Compounds							
Butanol *	mg/L	-	10	<10	240	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6200 B	Bangkok
Methanol *	mg/L	-	0.01	<0.01	60	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6200 B	Bangkok
Volatile Organics Compounds							
Acetone *	mg/L	0.001	0.01	Not Detected	230	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6200 B	Bangkok
Toluene	mg/L	0.00004	0.0005	Not Detected	5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6200 B	Bangkok

Guideline : Notification of the Ministry of Industry B.E. 2559 (2016) on Soil and Groundwater Contamination Criteria, Monitoring of Soil and Groundwater Quality, Report Submission and Report Preparation of Soil and Groundwater Quality, and Proposal Report of Soil and Groundwater Controlling and Reduction Measures

Sampling By : Thanasoun Namakunna ทะเบียนเลขที่ ว-204-จ-0101

Remark :

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Technical Management

Nant Somb

Nanthawadee Somboon

Specialist 2

ทะเบียนเลขที่ ว-204-จ-0010

Approved by

Kanok Korn Anek

Kanokkorn Anek

Assistant General Manager

ทะเบียนเลขที่ ว-204-ค-0004

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Analysis / Test Report

TESTING

No.0009

Lot ID: 2460101

Date Received : Aug 09, 2024

Date Reported : Aug 17, 2024

Report Number : 3004567-1

Client : THAI MMA Co., Ltd.

271, Sukhumvit Road, T. Map Ta Phut, A. Muang, Rayong Thailand 21150

P/O : PMM-23-13

Project Name : Environmental Monitoring

Project Location : MMA Site 3

Page 4 of 4

Sample Number	2460101-4
Sampled Date	Aug 09, 2024 11:30 AM
Sample Description	Groundwater
Location	WM#04 บริเวณ Unit#1000 ติดกับรั้ว ROC
Date Analysis Commenced	Aug 10, 2024
Condition of Sample	Contained in four glass bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Organic Compounds							
Butanol *	mg/L	-	10	<10	240	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6200 B	Bangkok
Methanol *	mg/L	-	0.01	<0.01	60	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6200 B	Bangkok
Volatile Organics Compounds							
Acetone *	mg/L	0.001	0.01	Not Detected	230	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6200 B	Bangkok
Toluene	mg/L	0.00004	0.0005	Not Detected	5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 6200 B	Bangkok

Guideline : Notification of the Ministry of Industry B.E. 2559 (2016) on Soil and Groundwater Contamination Criteria, Monitoring of Soil and Groundwater Quality, Report Submission and Report Preparation of Soil and Groundwater Quality, and Proposal Report of Soil and Groundwater Controlling and Reduction Measures

Sampling By : Thanasoun Namakunna ทะเบียนเลขที่ ว-204-จ-0101

Remark :

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Technical Management

Nant Somb

Nanthawadee Somboon

Specialist 2

ทะเบียนเลขที่ ว-204-จ-0010

Approved by

Kanok Korn Anek

Kanokkorn Anek

Assistant General Manager

ทะเบียนเลขที่ ว-204-ค-0004

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