

ภาคผนวก ค

ใบรับรองผลการตรวจวิเคราะห์คุณภาพสิ่งแวดล้อม

ภาคผนวก ค-1

คุณภาพอากาศในบรรยากาศ



Analysis / Test Report



TESTING
No.0042

Lot ID: 2487305

Date Received : Sep 25, 2024
Date Reported : Oct 01, 2024
Report Number: 3068810-1

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Page 1 of 1

Sample Description	Air Quality				
Location	จังหวัดระยอง (จังหวัดระยอง) (GPS 47P 0729824, 1403308)				
Date Analysis Commenced	Sep 27, 2024				
Condition of Sample	Drawn into one glass filter paper (8x10 inch) placed in plastic bag and one quartz filter paper (8x10 inch) placed in plastic bag				

Sample Number	Sampled Date	Total Suspended Particulate (mg/m3)	Particulate Matter (PM-10) (mg/m3)	Barometric Pressure (mm Hg)	Atmospheric Temperature (°C)
2487305-1	Sep 18 - Sep 19, 2024	0.027	0.020	754	29
2487305-2	Sep 19 - Sep 20, 2024	0.019	0.013	754	29
2487305-3	Sep 20 - Sep 21, 2024	0.020	0.013	754	29
2487305-4	Sep 21 - Sep 22, 2024	0.026	0.019	754	29
2487305-5	Sep 22 - Sep 23, 2024	0.026	0.020	754	28
2487305-6	Sep 23 - Sep 24, 2024	0.023	0.019	754	28
2487305-7	Sep 24 - Sep 25, 2024	0.024	0.015	754	28
Guideline		0.33	0.12	-	-

Reference Method

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

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

Sampled By : Apichart Willars

Remark :

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

Approved by

Thanita K.

Thanita Kulsurirwong
Scientist (1)

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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19550-21 / EMAIL

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Analysis / Test Report



TESTING
No.0042

Lot ID: 2487305

Date Received : Sep 25, 2024
Date Reported : Oct 01, 2024
Report Number: 3068810-2

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Page 1 of 1

Sample Description	Air Quality				
Location	จังหวัดระยอง (จังหวัดระยอง) (GPS 47P 0730810, 1407459)				
Date Analysis Commenced	Sep 27, 2024				
Condition of Sample	Drawn into one glass filter paper (8x10 inch) placed in plastic bag and one quartz filter paper (8x10 inch) placed in plastic bag				

Sample Number	Sampled Date	Total Suspended Particulate (mg/m3)	Particulate Matter (PM-10) (mg/m3)	Barometric Pressure (mm Hg)	Atmospheric Temperature (°C)
2487305-8	Sep 18 - Sep 19, 2024	0.033	0.023	754	29
2487305-9	Sep 19 - Sep 20, 2024	0.034	0.019	754	29
2487305-10	Sep 20 - Sep 21, 2024	0.043	0.020	754	29
2487305-11	Sep 21 - Sep 22, 2024	0.055	0.027	754	29
2487305-12	Sep 22 - Sep 23, 2024	0.040	0.022	754	28
2487305-13	Sep 23 - Sep 24, 2024	0.043	0.025	754	28
2487305-14	Sep 24 - Sep 25, 2024	0.037	0.021	754	28
Guideline		0.33	0.12	-	-

Reference Method

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

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

Sampled By : Apichart Willars

Remark :

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

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Thanita K.

Thanita Kulsurirwong
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Analysis / Test Report



TESTING
No.0042

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 2487305
Date Received : Sep 25, 2024
Date Reported : Oct 01, 2024
Report Number: 3068810-3

Page 1 of 1

Sample Description	Air Quality
Location	รพ.ศต.รณ.รณ.รณ. (รพ.รณ.รณ.รณ.) (GPS 47P 0735186, 1405871)
Date Analysis Commenced	Sep 27, 2024
Condition of Sample	Drawn into one glass filter paper (8910 inch) placed in plastic bag and one quartz filter paper (8910 Inch) placed in plastic bag

Sample Number	Sampled Date	Total Suspended Particulate (mg/m3)	Particulate Matter (PM-10) (mg/m3)	Barometric Pressure (mm Hg)	Atmospheric Temperature (°C)
2487305-15	Sep 18 - Sep 19, 2024	0.046	0.028	754	2°
2487305-16	Sep 19 - Sep 20, 2024	0.051	0.028	754	2°
2487305-17	Sep 20 - Sep 21, 2024	0.051	0.022	754	2°
2487305-18	Sep 21 - Sep 22, 2024	0.071	0.025	754	2°
2487305-19	Sep 22 - Sep 23, 2024	0.061	0.023	754	28
2487305-20	Sep 23 - Sep 24, 2024	0.050	0.023	754	28
2487305-21	Sep 24 - Sep 25, 2024	0.048	0.022	754	28
Guideline		0.33	0.12	-	-

Reference Method

Total Suspended Particulate : US EPA 40 CFR Part 50 Appendix 9
Particulate Matter (PM-10) : US EPA 40 CFR Part 50 Appendix J

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

Sampled By : Apichart Wilars

Remark :

- 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 : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 2487305
Date Received : Sep 25, 2024
Date Reported : Oct 01, 2024
Report Number: 3068810-4

Page 1 of 1

Sample Description	Air Quality
Location	รพ.ศต.รณ.รณ.รณ. (รพ.รณ.รณ.รณ.) (GPS 47P 0736048, 1402090)
Date Analysis Commenced	Sep 27, 2024
Condition of Sample	Drawn into one glass filter paper (8x10 inch) placed in plastic bag and one quartz filter paper (8x10 inch) placed in plastic bag

Sample Number	Sampled Date	Total Suspended Particulate (mg/m3)	Particulate Matter (PM-10) (mg/m3)	Barometric Pressure (mm Hg)	Atmospheric Temperature (°C)
2487305-22	Sep 18 - Sep 19, 2024	0.029	0.023	754	29
2487305-23	Sep 19 - Sep 20, 2024	0.011	0.007	754	29
2487305-24	Sep 20 - Sep 21, 2024	0.018	0.009	754	29
2487305-25	Sep 21 - Sep 22, 2024	0.022	0.018	754	29
2487305-26	Sep 22 - Sep 23, 2024	0.020	0.016	754	28
2487305-27	Sep 23 - Sep 24, 2024	0.017	0.014	754	28
2487305-28	Sep 24 - Sep 25, 2024	0.015	0.013	754	28
Guideline		0.33	0.12	-	-

Reference Method

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

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

Sampled By : Apichart Wilars

Remark :

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

Approved by

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Thanita Kulsuriwong
Scientist (4)

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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.

11, I-S Road, Map Ta Phut, Muang, Rayong Thailand 21150

P/O : 3100014325

Project Name :

Project Location :

Lot ID: 2487003

Date Received : Sep 26, 2024

Date Reported : Oct 02, 2024

Report Number: 3069594-1

Page 1 of 1

Sample Description	Air Quality						
Location	วัดหนองพนาพัตินารวม (หนองนาพัตินารวม) (GPS 47P 0729824, 1403308)						
Parameter	Nitrogen dioxide (ppm)						
Measurement Date	Sep 18, 2024 - Sep 25, 2024						
Measurement by	Apichart Wilars						
Time	2487003-1 Sep 18, 2024	2487003-2 Sep 19, 2024	2487003-3 Sep 20, 2024	2487003-4 Sep 21, 2024	2487003-5 Sep 22, 2024	2487003-6 Sep 23, 2024	2487003-7 Sep 24, 2024
03:00 PM - 04:00 PM	0.0185	0.0054	0.0111	0.0136	0.0043	0.0058	0.0051
04:00 PM - 05:00 PM	0.0164	0.0044	0.0142	0.0146	0.0063	0.0073	0.0063
05:00 PM - 06:00 PM	0.0127	0.0036	0.0147	0.0039	0.0082	0.0035	0.0064
06:00 PM - 07:00 PM	0.0072	0.0028	0.0031	0.0050	0.0121	0.0041	0.0058
07:00 PM - 08:00 PM	0.0065	0.0047	0.0029	0.0048	0.0046	0.0042	0.0054
08:00 PM - 09:00 PM	0.0058	0.0052	0.0028	0.0043	0.0021	0.0036	0.0056
09:00 PM - 10:00 PM	0.0050	0.0051	0.0020	0.0037	0.0023	0.0017	0.0052
10:00 PM - 11:00 PM	0.0048	0.0063	0.0019	0.0040	0.0044	0.0023	0.0064
11:00 PM - 12:00 AM	0.0047	0.0032	0.0020	0.0036	0.0049	0.0030	0.0057
12:00 AM - 01:00 AM	0.0065	0.0005	0.0018	0.0029	0.0082	0.0038	0.0057
01:00 AM - 02:00 AM	0.0064	0.0089	0.0031	0.0072	0.0060	0.0035	0.0047
02:00 AM - 03:00 AM	0.0066	0.0058	0.0034	0.0065	0.0057	0.0039	0.0042
03:00 AM - 04:00 AM	0.0026	0.0061	0.0051	0.0061	0.0202	0.0039	0.0042
04:00 AM - 05:00 AM	0.0020	0.0051	0.0060	0.0051	0.0144	0.0036	0.0039
05:00 AM - 06:00 AM	0.0017	0.0050	0.0064	0.0052	0.0113	0.0032	0.0034
06:00 AM - 07:00 AM	0.0009	0.0106	0.0058	0.0060	0.0077	0.0032	0.0028
07:00 AM - 08:00 AM	0.0029	0.0029	0.0061	0.0046	0.0052	0.0031	0.0029
08:00 AM - 09:00 AM	0.0043	0.0014	0.0036	0.0018	0.0053	0.0034	0.0025
09:00 AM - 10:00 AM	0.0039	0.0007	0.0065	0.0016	0.0037	0.0047	0.0026
10:00 AM - 11:00 AM	0.0035	0.0005	0.0081	0.0016	0.0033	0.0092	0.0022
11:00 AM - 12:00 PM	0.0106	0.0006	0.0069	0.0039	0.0036	0.0258	0.0027
12:00 PM - 01:00 PM	0.0122	0.0015	0.0081	0.0030	0.0038	0.0026	0.0099
01:00 PM - 02:00 PM	0.0093	0.0042	0.0108	0.0015	0.0072	0.0046	0.0190
02:00 PM - 03:00 PM	0.0063	0.0094	0.0097	0.0026	0.0080	0.0063	0.0170
Average	0.0067	0.0043	0.0061	0.0049	0.0068	0.0050	0.0058
1hr - Maximum	0.0185	0.0106	0.0147	0.0146	0.0202	0.0258	0.0190
Standard 1hr - Average	0.170	0.170	0.170	0.170	0.170	0.170	0.170

Standard : Notification of the National Environment Board No. 33, 2009 (B.E. 2552).

Reference Method : US EPA Method Part 50 App. F (Chemiluminescence)

Approved by

Orawan R.

Orawan Rakyong
Scientist (3)

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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.

11, I-S Road, Map Ta Phut, Muang, Rayong Thailand 21150

P/O : 3100014325

Project Name :

Project Location :

Lot ID: 2487003

Date Received : Sep 26, 2024

Date Reported : Oct 02, 2024

Report Number: 3129469-1

Page 1 of 1

Sample Description	Air Quality						
Location	วัดนาบขลุ่ย (หนองนาบขลุ่ย) (GPS 49P 0930710, 1409458)						
Parameter	Nitrogen dioxide (ppm)						
Measurement Date	Sep 17, 2024 - Sep 25, 2024						
Measurement by	Apichart Wilars						
Time	2479003-7 Sep 17, 2024	2479003-8 Sep 18, 2024	2479003-10 Sep 20, 2024	2479003-11 Sep 21, 2024	2479003-12 Sep 22, 2024	2479003-13 Sep 23, 2024	2479003-14 Sep 24, 2024
03:00 PM - 04:00 PM	0.0018	0.0050	0.0029	0.0017	0.0047	0.0025	0.0051
04:00 PM - 05:00 PM	0.0011	0.0020	0.0017	0.0021	0.0043	0.0037	0.0053
05:00 PM - 06:00 PM	0.0021	0.0017	0.0018	0.0017	0.0050	0.0047	0.0046
06:00 PM - 07:00 PM	0.0019	0.0035	0.0026	0.0015	0.0039	0.0097	0.0045
07:00 PM - 08:00 PM	0.0015	0.0034	0.0025	0.0016	0.0034	0.0108	0.0049
08:00 PM - 09:00 PM	0.0016	0.0049	0.0030	0.0018	0.0030	0.0094	0.0067
09:00 PM - 10:00 PM	0.0020	0.0040	0.0035	0.0017	0.0025	0.0060	0.0073
10:00 PM - 11:00 PM	0.0023	0.0031	0.0042	0.0039	0.0017	0.0060	0.0111
11:00 PM - 12:00 AM	0.0013	0.0070	0.0038	0.0036	0.0015	0.0077	0.0078
12:00 AM - 01:00 AM	0.0015	0.0118	0.0092	0.0034	0.0025	0.0196	0.0033
01:00 AM - 02:00 AM	0.0024	0.0098	0.0074	0.0026	0.0025	0.0193	0.0044
02:00 AM - 03:00 AM	0.0017	0.0067	0.0093	0.0040	0.0027	0.0147	0.0024
03:00 AM - 04:00 AM	0.0011	0.0031	0.0066	0.0028	0.0022	0.0190	0.0021
04:00 AM - 05:00 AM	0.0019	0.0041	0.0059	0.0014	0.0024	0.0147	0.0020
05:00 AM - 06:00 AM	0.0011	0.0038	0.0026	0.0013	0.0063	0.0132	0.0016
06:00 AM - 07:00 AM	0.0021	0.0039	0.0023	0.0015	0.0075	0.0117	0.0019
07:00 AM - 08:00 AM	0.0021	0.0040	0.0029	0.0010	0.0095	0.0078	0.0014
08:00 AM - 09:00 AM	0.0011	0.0044	0.0031	0.0009	0.0078	0.0044	0.0014
09:00 AM - 10:00 AM	0.0007	0.0051	0.0028	0.0008	0.0056	0.0044	0.0018
10:00 AM - 11:00 AM	0.0007	0.0048	0.0026	0.0006	0.0031	0.0054	0.0025
11:00 AM - 12:00 PM	0.0045	0.0056	0.0022	0.0008	0.0025	0.0047	0.0031
12:00 PM - 01:00 PM	0.0016	0.0053	0.0028	0.0023	0.0021	0.0044	0.0024
01:00 PM - 02:00 PM	0.0017	0.0051	0.0029	0.0036	0.0027	0.0047	0.0028
02:00 PM - 03:00 PM	0.0019	0.0054	0.0026	0.0041	0.0022	0.0054	0.0035
Average	0.0019	0.0048	0.0039	0.0021	0.0037	0.0076	0.0040
1hr - Maximum	0.0045	0.0118	0.0074	0.0041	0.0078	0.0196	0.0111
Standard 1hr - Average	0.190	0.190	0.190	0.190	0.190	0.190	0.190

Standard : Notification of the National Environment Board No. 33, 2008 (B.E. 2552).

Reference Method : US EPA Method Part 50 App. F (Chemiluminescence)

Approved by

Orawan R.

Orawan Rakyong
Scientist (3)

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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.

11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150

P/O : 3100014325

Project Name :

Project Location :

Lot ID: 2487003

Date Received : Sep 26, 2024

Date Reported : Oct 02, 2024

Report Number: 3127488-1

Page 1 of 1

Sample Description	Air Quality						
Location	รพ.สต.บางตาพร (ทต.บางตาพร) (GPS 47P 0735186, 1405871)						
Parameter	Nitrogen dioxide (ppm)						
Measurement Date	Sep 18, 2024 - Sep 25, 2024						
Measurement by	Apichart Wilars						
Time	2487003-15 Sep 18, 2024	2487003-16 Sep 19, 2024	2487003-17 Sep 20, 2024	2487003-18 Sep 21, 2024	2487003-19 Sep 22, 2024	2487003-20 Sep 23, 2024	2487003-21 Sep 24, 2024
03:00 PM - 04:00 PM	0.0062	0.0031	0.0220	0.0132	0.0122	0.0005	0.0023
04:00 PM - 05:00 PM	0.0048	0.0114	0.0154	0.0141	0.0147	0.0020	0.0016
05:00 PM - 06:00 PM	0.0138	0.0069	0.0148	0.0147	0.0151	0.0135	0.0022
06:00 PM - 07:00 PM	0.0251	0.0125	0.0257	0.0085	0.0159	0.0112	0.0022
07:00 PM - 08:00 PM	0.0227	0.0126	0.0070	0.0086	0.0260	0.0080	0.0011
08:00 PM - 09:00 PM	0.0241	0.0151	0.0123	0.0052	0.0258	0.0094	0.0032
09:00 PM - 10:00 PM	0.0069	0.0070	0.0252	0.0055	0.0269	0.0127	0.0077
10:00 PM - 11:00 PM	0.0018	0.0057	0.0039	0.0069	0.0115	0.0100	0.0079
11:00 PM - 12:00 AM	0.0018	0.0047	0.0285	0.0058	0.0136	0.0051	0.0257
12:00 AM - 01:00 AM	0.0021	0.0028	0.0172	0.0045	0.0100	0.0194	0.0372
01:00 AM - 02:00 AM	0.0261	0.0016	0.0172	0.0043	0.0170	0.0184	0.0372
02:00 AM - 03:00 AM	0.0072	0.0037	0.0054	0.0046	0.0171	0.0123	0.0123
03:00 AM - 04:00 AM	0.0045	0.0044	0.0045	0.0042	0.0164	0.0174	0.0184
04:00 AM - 05:00 AM	0.0082	0.0055	0.0050	0.0064	0.0203	0.0124	0.0234
05:00 AM - 06:00 AM	0.0217	0.0057	0.0096	0.0103	0.0222	0.0162	0.0270
06:00 AM - 07:00 AM	0.0269	0.0071	0.0098	0.0121	0.0119	0.0302	0.0092
07:00 AM - 08:00 AM	0.0098	0.0104	0.0096	0.0069	0.0084	0.0420	0.0124
08:00 AM - 09:00 AM	0.0066	0.0073	0.0088	0.0125	0.0127	0.0271	0.0112
09:00 AM - 10:00 AM	0.0039	0.0084	0.0210	0.0027	0.0029	0.0084	0.0133
10:00 AM - 11:00 AM	0.0043	0.0088	0.0134	0.0017	0.0027	0.0055	0.0019
11:00 AM - 12:00 PM	0.0033	0.0127	0.0058	0.0016	0.0035	0.0020	0.0021
12:00 PM - 01:00 PM	0.0020	0.0099	0.0083	0.0026	0.0016	0.0034	0.0005
01:00 PM - 02:00 PM	0.0023	0.0077	0.0106	0.0065	0.0005	0.0057	0.0017
02:00 PM - 03:00 PM	0.0028	0.0084	0.0107	0.0054	<0.0001	0.0010	0.0013
Average	0.0100	0.0076	0.0130	0.0070	0.0129	0.0122	0.0110
1hr - Maximum	0.0269	0.0151	0.0285	0.0147	0.0269	0.0420	0.0372
Standard 1hr - Average	0.170	0.170	0.170	0.170	0.170	0.170	0.170

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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Orawan R.

Orawan Rakyoung
Scientist (3)

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19550-21/ENAL

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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.

11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150

P/O : 3100014325

Project Name :

Project Location :

Lot ID: 2487003

Date Received : Sep 26, 2024

Date Reported : Oct 02, 2024

Report bu f Qer: 31294Nm1

Page 1 of 1

Sample Description	Air) uality						
Location	วัดตากวนคลองสาราม วน.บางตาพร 8 GPS 49P 093604N 14020mD						
Parameter	Nitrogen dioxide 7ppf 8						
Measurement Date	Sep 1N, 2024 - Sep 25, 2024						
Measurement by	Apichart Wilars						
Tif e	24N8003-22 Sep 1N, 2024	24N8003-23 Sep 1m 2024	24N8003-24 Sep 20, 2024	24N8003-25 Sep 21, 2024	24N8003-26 Sep 22, 2024	24N8003-29 Sep 23, 2024	24N8003-2N Sep 24, 2024
03:00 PM - 04:00 PM	0.0033	0.006N	0.0065	0.003N	0.0033	0.0050	0.0064
04:00 PM - 05:00 PM	0.004m	0.0040	0.0044	0.004m	0.004N	0.0043	0.0052
05:00 PM - 06:00 PM	0.0044	0.0040	0.0043	0.0044	0.0030	0.004N	0.004m
06:00 PM - 09:00 PM	0.0045	0.0040	0.0035	0.0033	0.003m	0.0059	0.0052
09:00 PM - 0N:00 PM	0.003N	0.0039	0.002N	0.0034	0.0041	0.0099	0.0054
0N:00 PM - 0m00 PM	0.0045	0.005N	0.0032	0.0033	0.0055	0.0106	0.0063
0m00 PM - 10:00 PM	0.0043	0.0045	0.0035	0.0035	0.0050	0.0106	0.005m
10:00 PM - 11:00 PM	0.0092	0.0042	0.0041	0.0043	0.006m	0.0105	0.00N1
11:00 PM - 12:00 AM	0.00N3	0.0056	0.0050	0.0049	0.0091	0.0092	0.00mN
12:00 AM - 01:00 AM	0.00m8	0.0100	0.0054	0.006m	0.0062	0.009m	0.00m8
01:00 AM - 02:00 AM	0.009N	0.0155	0.0052	0.0050	0.0052	0.0102	0.0092
02:00 AM - 03:00 AM	0.0066	0.011N	0.0053	0.0051	0.0040	0.0125	0.005N
03:00 AM - 04:00 AM	0.0066	0.0063	0.005N	0.003N	0.0053	0.011N	0.0060
04:00 AM - 05:00 AM	0.00ND	0.004N	0.0063	0.0036	0.005N	0.011N	0.003N
05:00 AM - 06:00 AM	0.0050	0.0042	0.0066	0.0039	0.0059	0.010N	0.0035
06:00 AM - 09:00 AM	0.00m8	0.0044	0.0063	0.0039	0.004m	0.00m6	0.0040
09:00 AM - 0N:00 AM	0.004N	0.004m	0.005N	0.0029	0.0040	0.00N3	0.003m
0N:00 AM - 0m00 AM	0.00Nm	0.004m	0.0055	0.0025	0.0040	0.0099	0.0032
0m00 AM - 10:00 AM	0.00mN	0.0044	0.0045	0.0025	0.0044	0.0094	0.0026
10:00 AM - 11:00 AM	0.00N6	0.0046	0.0036	0.0023	0.0050	0.0090	0.0022
11:00 AM - 12:00 PM	0.00NN	0.0042	0.0039	0.0025	0.004N	0.0069	0.0035
12:00 PM - 01:00 PM	0.0104	0.0095	0.0033	0.002m	0.004m	0.006N	0.0050
01:00 PM - 02:00 PM	0.012N	0.00N1	0.002N	0.0030	0.004m	0.0090	0.0062
02:00 PM - 03:00 PM	0.0122	0.0090	0.0023	0.0033	0.0052	0.0066	0.0069
Average	0.0093	0.0060	0.0046	0.0039	0.004m	0.00N6	0.0054
1hr - Maxif uf	0.012N	0.0155	0.0066	0.006m	0.0091	0.0125	0.00mN
Standard 1hr - Average	0.190	0.190	0.190	0.190	0.190	0.190	0.190

Standard : bot(ication of the National Environ' ent Board bo. 33, 200m7B.E. 2552B

Re(erence Method : US EPA Method Part 50 App. F 7Chef lluf' inescence8

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Approved by

Orawan R.

Orawan Rakyoung
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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 2487030
Date Received : Sep 26, 2024
Date Reported : Oct 02, 2024
Report Number: 3069626-1

Page 1 of 1

Sample Description	Air Quality							
Location	วัดหนองพยอมพิทักษ์ธรรม (ท.ม.บางตาพูด) (GPS 47P 0729824, 1403308)							
Parameter	Sulfur Dioxide (ppm)							
Measurement Date	Sep 18, 2024 - Sep 25, 2024							
Measurement by	Apichart Wilars							
Time	2487303-1 Sep 18, 2024	2487303-2 Sep 19, 2024	2487303-3 Sep 20, 2024	2487303-4 Sep 21, 2024	2487303-5 Sep 22, 2024	2487303-6 Sep 23, 2024	2487303-7 Sep 24, 2024	
03:00 PM - 04:00 PM	0.0087	0.0084	0.0086	0.0084	0.0083	0.0083	0.0083	
04:00 PM - 05:00 PM	0.0087	0.0084	0.0083	0.0083	0.0083	0.0083	0.0084	
05:00 PM - 06:00 PM	0.0087	0.0084	0.0082	0.0084	0.0083	0.0083	0.0083	
06:00 PM - 07:00 PM	0.0086	0.0085	0.0080	0.0084	0.0084	0.0083	0.0084	
07:00 PM - 08:00 PM	0.0086	0.0085	0.0082	0.0084	0.0084	0.0084	0.0083	
08:00 PM - 09:00 PM	0.0087	0.0085	0.0084	0.0084	0.0084	0.0084	0.0084	
09:00 PM - 10:00 PM	0.0087	0.0085	0.0084	0.0084	0.0084	0.0085	0.0084	
10:00 PM - 11:00 PM	0.0086	0.0085	0.0084	0.0084	0.0085	0.0085	0.0084	
11:00 PM - 12:00 AM	0.0086	0.0085	0.0084	0.0084	0.0085	0.0085	0.0084	
12:00 AM - 01:00 AM	0.0086	0.0085	0.0084	0.0084	0.0085	0.0084	0.0084	
01:00 AM - 02:00 AM	0.0086	0.0085	0.0085	0.0084	0.0085	0.0085	0.0084	
02:00 AM - 03:00 AM	0.0086	0.0085	0.0085	0.0084	0.0085	0.0084	0.0084	
03:00 AM - 04:00 AM	0.0086	0.0085	0.0085	0.0084	0.0085	0.0084	0.0084	
04:00 AM - 05:00 AM	0.0086	0.0085	0.0085	0.0085	0.0085	0.0084	0.0084	
05:00 AM - 06:00 AM	0.0086	0.0085	0.0085	0.0084	0.0085	0.0084	0.0085	
06:00 AM - 07:00 AM	0.0086	0.0084	0.0085	0.0084	0.0085	0.0084	0.0085	
07:00 AM - 08:00 AM	0.0086	0.0085	0.0085	0.0084	0.0084	0.0084	0.0084	
08:00 AM - 09:00 AM	0.0085	0.0085	0.0085	0.0084	0.0084	0.0084	0.0085	
09:00 AM - 10:00 AM	0.0086	0.0085	0.0085	0.0083	0.0085	0.0084	0.0086	
10:00 AM - 11:00 AM	0.0086	0.0085	0.0085	0.0083	0.0084	0.0083	0.0086	
11:00 AM - 12:00 PM	0.0085	0.0085	0.0084	0.0083	0.0084	0.0083	0.0084	
12:00 PM - 01:00 PM	0.0085	0.0086	0.0084	0.0083	0.0084	0.0083	0.0082	
01:00 PM - 02:00 PM	0.0085	0.0087	0.0084	0.0083	0.0083	0.0083	0.0082	
02:00 PM - 03:00 PM	0.0085	0.0087	0.0083	0.0083	0.0083	0.0083	0.0082	
Average	0.0086	0.0085	0.0084	0.0084	0.0084	0.0084	0.0084	
1hr - Maximum	0.0087	0.0087	0.0086	0.0085	0.0085	0.0085	0.0086	
Standard 1hr - Average	0.3	0.3	0.3	0.3	0.3	0.3	0.3	
Standard 24 hrs - Average	0.12	0.12	0.12	0.12	0.12	0.12	0.12	
Standard	: Notification of the National Environment Board No.10, 1995 (B.E.2538), No. 21, 2001 (B.E.2544) and No.24, 2004 (B.E.2547).							
Reference Method	: US EPA Method Part 53 and 58							

Approved by

Orawan R.

Orawan Rakyoung
Scientist (3)

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S:\Report\Air SOxNOx.rpt (3:59PM)



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 2487030
Date Received : Sep 26, 2024
Date Reported : Oct 02, 2024
Report number: 31294N1-1

Page 1 of 1

Sample Description	Air Quality							
Location	วัดบางตาพูด (ท.ม.บางตาพูด) GPS 49P 0930810, 140945N7							
Parameter	Sulfur Dioxide (ppb)							
Measurement Date	Sep 18, 2024 - Sep 25, 2024							
Measurement by	Apichart Wilars							
Tib e	2489303-8 Sep 18, 2024	2489303-N Sep 19, 2024	2489303-10 Sep 20, 2024	2489303-11 Sep 21, 2024	2489303-12 Sep 22, 2024	2489303-13 Sep 23, 2024	2489303-14 Sep 24, 2024	
03:00 PM - 04:00 PM	0.0064	0.0064	0.0058	0.005N	0.0085	0.00NN	0.0053	
04:00 PM - 05:00 PM	0.0089	0.0063	0.0062	0.0062	0.0068	0.0115	0.0053	
05:00 PM - 06:00 PM	0.0081	0.0066	0.005N	0.0063	0.005N	0.006N	0.0052	
06:00 PM - 09:00 PM	0.0069	0.0066	0.0055	0.0058	0.0059	0.0062	0.0053	
09:00 PM - 08:00 PM	0.0061	0.0062	0.0052	0.0059	0.0059	0.0060	0.0053	
08:00 PM - 0N:00 PM	0.0056	0.005N	0.0052	0.0056	0.0059	0.005N	0.0053	
0N:00 PM - 10:00 PM	0.0054	0.0060	0.0053	0.0058	0.0055	0.0059	0.0053	
10:00 PM - 11:00 PM	0.0055	0.0061	0.0053	0.0055	0.0062	0.0058	0.0053	
11:00 PM - 12:00 AM	0.0055	0.005N	0.0052	0.0054	0.0058	0.0056	0.0066	
12:00 AM - 01:00 AM	0.0054	0.0059	0.0054	0.0053	0.0055	0.0055	0.0093	
01:00 AM - 02:00 AM	0.0054	0.0055	0.0054	0.0054	0.0054	0.0054	0.0058	
02:00 AM - 03:00 AM	0.0056	0.0059	0.0055	0.0055	0.0054	0.0053	0.0058	
03:00 AM - 04:00 AM	0.0055	0.0056	0.0056	0.0055	0.0053	0.0053	0.0061	
04:00 AM - 05:00 AM	0.0055	0.0055	0.0053	0.0054	0.0054	0.0054	0.0059	
05:00 AM - 06:00 AM	0.0054	0.0054	0.0053	0.0054	0.0054	0.0053	0.0056	
06:00 AM - 09:00 AM	0.0053	0.0054	0.0053	0.0054	0.0054	0.0053	0.0056	
09:00 AM - 08:00 AM	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.005N	
08:00 AM - 0N:00 AM	0.0053	0.0053	0.0053	0.0053	0.0053	0.0052	0.0060	
0N:00 AM - 10:00 AM	0.0053	0.0052	0.0053	0.0053	0.0054	0.0053	0.005N	
10:00 AM - 11:00 AM	0.0053	0.0053	0.0053	0.0053	0.0053	0.0054	0.0058	
11:00 AM - 12:00 PM	0.0053	0.0053	0.0053	0.0053	0.0053	0.0055	0.0056	
12:00 PM - 01:00 PM	0.0052	0.0053	0.0053	0.0053	0.0054	0.0056	0.0055	
01:00 PM - 02:00 PM	0.0059	0.0054	0.0056	0.0059	0.0054	0.0055	0.0059	
02:00 PM - 03:00 PM	0.0062	0.0054	0.0060	0.0068	0.0061	0.0054	0.0063	
Average	0.0058	0.0059	0.0054	0.0056	0.0059	0.0060	0.0059	
1hr - Maximum	0.0089	0.0066	0.0062	0.0068	0.0085	0.0115	0.0093	
Standard 1hr - Average	0.3	0.3	0.3	0.3	0.3	0.3	0.3	
Standard 24 hrs - Average	0.12	0.12	0.12	0.12	0.12	0.12	0.12	
Standard	: Notification of the National Environment Board No.10, 1995 (B.E.2538), No. 21, 2001 (B.E.2544) and No.24, 2004 (B.E.2547).							
Reference Method	: US EPA Method Part 53 and 58							

Approved by

Orawan R.

Orawan Rakyoung
Scientist (3)

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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.

11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150

P/O : 3100014325

Project Name :

Project Location :

Lot ID: 2487030

Date Received : Sep 26, 2024

Date Reported : Oct 02, 2024

Report number: 31294NB-1

Page 1 of 1

Sample Description		Air (quality)						
Location		รพ.สต.บ้านตาพุด (ถนน.ตาพุด7)GPS 49P 0935186, 14058917						
Parameter		Sulphur Dioxide (ppb) 7						
Measurement Date		Sep 18, 2024 - Sep 25, 2024						
Measurement by		Apichart Wilars						
Time		2489303-15 Sep 18, 2024	2489303-16 Sep 19, 2024	2489303-19 Sep 20, 2024	2489303-18 Sep 21, 2024	2489303-1N Sep 22, 2024	2489303-20 Sep 23, 2024	2489303-21 Sep 24, 2024
03:00 PM - 04:00 PM		0.0060	0.0112	0.0113	0.0114	0.0118	0.0114	0.0113
04:00 PM - 05:00 PM		0.0094	0.0113	0.0115	0.0119	0.0119	0.0113	0.0115
05:00 PM - 06:00 PM		0.0082	0.0111	0.0114	0.0114	0.0116	0.0112	0.0115
06:00 PM - 09:00 PM		0.00N0	0.0113	0.0115	0.0115	0.0115	0.0113	0.0113
09:00 PM - 08:00 PM		0.00N6	0.0115	0.0116	0.0119	0.0116	0.0113	0.0116
08:00 PM - 0N:00 PM		0.00N6	0.0114	0.0114	0.0116	0.0114	0.0115	0.0114
0N:00 PM - 10:00 PM		0.00N8	0.0115	0.0116	0.0116	0.0112	0.0114	0.0116
10:00 PM - 11:00 PM		0.0100	0.0115	0.0116	0.0116	0.0115	0.0116	0.0116
11:00 PM - 12:00 AM		0.0100	0.0112	0.0114	0.0113	0.0114	0.0114	0.0116
12:00 AM - 01:00 AM		0.0104	0.0114	0.0114	0.0115	0.0114	0.0113	0.0111
01:00 AM - 02:00 AM		0.0106	0.0113	0.0116	0.0119	0.0119	0.0119	0.0119
02:00 AM - 03:00 AM		0.0103	0.0113	0.0115	0.0116	0.0113	0.0112	0.0112
03:00 AM - 04:00 AM		0.0106	0.0113	0.0116	0.0114	0.0114	0.0115	0.0114
04:00 AM - 05:00 AM		0.010N	0.0116	0.0116	0.0116	0.0115	0.0114	0.0119
05:00 AM - 06:00 AM		0.0108	0.0115	0.0119	0.0115	0.0113	0.0115	0.0113
06:00 AM - 09:00 AM		0.0110	0.0114	0.0115	0.0116	0.0108	0.0113	0.0114
09:00 AM - 08:00 AM		0.0111	0.0115	0.0118	0.0116	0.0113	0.0113	0.0114
08:00 AM - 0N:00 AM		0.0108	0.0114	0.0116	0.0115	0.0113	0.0115	0.0114
0N:00 AM - 10:00 AM		0.0110	0.0114	0.0116	0.0116	0.0113	0.0115	0.0114
10:00 AM - 11:00 AM		0.0108	0.0115	0.0115	0.0115	0.0113	0.0115	0.0115
11:00 AM - 12:00 PM		0.0113	0.0114	0.0116	0.0115	0.0116	0.0113	0.0114
12:00 PM - 01:00 PM		0.0111	0.0115	0.0115	0.0116	0.0119	0.0115	0.0114
01:00 PM - 02:00 PM		0.0115	0.0116	0.0116	0.0116	0.0114	0.0115	0.0116
02:00 PM - 03:00 PM		0.0113	0.0114	0.0115	0.0114	0.0114	0.0110	0.0118
Average		0.0101	0.0114	0.0115	0.0115	0.0115	0.0114	0.0115
1hr - Max/Min		0.0115	0.0116	0.0118	0.0119	0.0118	0.0119	0.0118
Standard 1hr - Average		0.3	0.3	0.3	0.3	0.3	0.3	0.3
Standard 24 hrs - Average		0.12	0.12	0.12	0.12	0.12	0.12	0.12
Standard		: method of the national Environmental Board no.10, 1NN5)B.E.25387, no. 21, 2001)B.E.25447 and no.24, 2004)B.E.25497.						
Reference Method		: US EPA Method Part 53 and 58						

Results apply to the sub-plots as stated, unless the sub-plot was conducted by ALS. No part of this report is to be reproduced in any form without written consent of the laboratory. ALS Laboratory Group (Thailand) strongly recs b ends that this report is not reproduced except in Q&A.

Approved by

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S:\Report\Air SOx\NOx.rpt (4:01PM)



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.

11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150

P/O : 3100014325

Project Name :

Project Location :

Lot ID: 2487030

Date Received : Sep 26, 2024

Date Reported : Oct 02, 2024

Report number: 31294NB-1

Page 1 of 1

Sample Description		Air (quality)						
Location		วัดตาพุด (ถนน.ตาพุด7)GPS 49P 0936048, 14020N07						
Parameter		Sulphur Dioxide (ppb) 7						
Measurement Date		Sep 18, 2024 - Sep 25, 2024						
Measurement by		Apichart Wilars						
Time		2489303-22 Sep 18, 2024	2489303-23 Sep 19, 2024	2489303-24 Sep 20, 2024	2489303-25 Sep 21, 2024	2489303-26 Sep 22, 2024	2489303-29 Sep 23, 2024	2489303-28 Sep 24, 2024
03:00 PM - 04:00 PM		0.0039	0.0033	0.0039	0.0033	0.0035	0.0048	0.0041
04:00 PM - 05:00 PM		0.0035	0.0038	0.0040	0.0030	0.0041	0.0042	0.0043
05:00 PM - 06:00 PM		0.0034	0.0039	0.000N	0.0031	0.0048	0.0041	0.0043
06:00 PM - 09:00 PM		0.0034	0.0034	0.0013	0.0033	0.0048	0.0038	0.0044
09:00 PM - 08:00 PM		0.0038	0.0031	0.0022	0.0038	0.0044	0.0038	0.0042
08:00 PM - 0N:00 PM		0.0038	0.003N	0.0025	0.0039	0.0045	0.0041	0.0042
0N:00 PM - 10:00 PM		0.0039	0.0034	0.0029	0.0032	0.0045	0.003N	0.0044
10:00 PM - 11:00 PM		0.0036	0.0034	0.0028	0.0031	0.0048	0.0041	0.0044
11:00 PM - 12:00 AM		0.0039	0.0034	0.002N	0.0032	0.0049	0.0041	0.0043
12:00 AM - 01:00 AM		0.0036	0.0033	0.002N	0.0035	0.0045	0.0040	0.0043
01:00 AM - 02:00 AM		0.0038	0.0034	0.0030	0.0038	0.0044	0.0042	0.0042
02:00 AM - 03:00 AM		0.0038	0.0034	0.002N	0.0036	0.0044	0.0040	0.0043
03:00 AM - 04:00 AM		0.003N	0.0033	0.0030	0.0034	0.0042	0.0042	0.0043
04:00 AM - 05:00 AM		0.0039	0.0032	0.0030	0.0036	0.0043	0.0043	0.0043
05:00 AM - 06:00 AM		0.0039	0.0033	0.0033	0.0036	0.0046	0.0042	0.0044
06:00 AM - 09:00 AM		0.0040	0.0036	0.0033	0.003N	0.004N	0.0041	0.0045
09:00 AM - 08:00 AM		0.003N	0.0035	0.0035	0.0038	0.0050	0.0040	0.0046
08:00 AM - 0N:00 AM		0.0039	0.0039	0.0033	0.0036	0.0048	0.0038	0.0046
0N:00 AM - 10:00 AM		0.0036	0.0033	0.0035	0.0038	0.0051	0.0041	0.0049
10:00 AM - 11:00 AM		0.0035	0.0034	0.0035	0.0038	0.0048	0.0041	0.0048
11:00 AM - 12:00 PM		0.003N	0.0034	0.003N	0.0039	0.0048	0.0041	0.0049
12:00 PM - 01:00 PM		0.0040	0.0035	0.0039	0.0039	0.004N	0.0042	0.0048
01:00 PM - 02:00 PM		0.0039	0.0035	0.0034	0.0035	0.004N	0.0041	0.0049
02:00 PM - 03:00 PM		0.0036	0.0039	0.0036	0.0036	0.0049	0.0041	0.0046
Average		0.0039	0.0035	0.0030	0.0035	0.0046	0.0041	0.0044
1hr - Max/Min		0.0040	0.003N	0.0040	0.003N	0.0051	0.0048	0.0048
Standard 1hr - Average		0.3	0.3	0.3	0.3	0.3	0.3	0.3
Standard 24 hrs - Average		0.12	0.12	0.12	0.12	0.12	0.12	0.12
Standard		: method of the national Environmental Board no.10, 1NN5)B.E.25387, no. 21, 2001)B.E.25447 and no.24, 2004)B.E.25497.						
Reference Method		: US EPA Method Part 53 and 58						

Results apply to the sub-plots as stated, unless the sub-plot was conducted by ALS. No part of this report is to be reproduced in any form without written consent of the laboratory. ALS Laboratory Group (Thailand) strongly recs b ends that this report is not reproduced except in Q&A.

Approved by

Orawan R.

Orawan Rak Yong
Scientist J37

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19550-21V EMAIL

S:\Report\Air SOx\NOx.rpt (4:06PM)



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150

Lot ID: 2487304
Date Received :Sep 25, 2024
Date Reported :Sep 28, 2024
Report Number :3069623-1

P/O : 3100014325
Project Name :
Project Location :

Page 1 of 2

Sample Number : 2487304-1 to 7
Parameter : Wind Speed / Wind Direction
Location : รัดหนองพยับโกศลธาราม (ทอ. มาบตาพุด) (GPS 47P 0729824, 1403308)
Sampling Date : Sep 18 - Sep 25, 2024
Sampling by : Apichart Willars

Time	Sep 18 - Sep 19, 2024			Sep 19 - Sep 20, 2024			Sep 20 - Sep 21, 2024			Sep 21 - Sep 22, 2024			Sep 22 - Sep 23, 2024			Sep 23 - Sep 24, 2024			Sep 24 - Sep 25, 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)	
03:00 PM - 04:00 PM	2.6	285.0	WNW	1.6	262.0	W	3.0	289.0	WNW	0.5	256.0	WSW	2.5	328.0	NNW	1.9	244.0	WSW	1.6	298.0	WNW
04:00 PM - 05:00 PM	2.7	344.0	NNW	1.9	280.0	W	3.8	314.0	NW	2.4	265.0	W	1.2	289.0	WNW	1.7	249.0	WSW	1.0	236.0	SW
05:00 PM - 06:00 PM	0.9	63.0	ENE	1.3	292.0	WNW	1.9	292.0	WNW	2.3	304.0	NW	3.6	283.0	WNW	3.0	259.0	W	1.0	260.0	W
06:00 PM - 07:00 PM	2.4	62.0	ENE	1.1	273.0	W	2.9	280.0	W	3.4	262.0	W	2.8	264.0	W	3.6	297.0	WNW	0.9	203.0	SSW
07:00 PM - 08:00 PM	1.6	53.0	NE	1.1	298.0	WNW	2.3	296.0	WNW	1.2	274.0	W	2.7	256.0	WSW	2.5	246.0	WSW	0.0	-	-
08:00 PM - 09:00 PM	1.8	307.0	NW	0.0	-	-	0.0	-	-	1.4	284.0	WNW	2.1	302.0	WNW	0.0	-	-	0.0	-	-
09:00 PM - 10:00 PM	0.0	-	-	0.0	-	-	3.7	312.0	NW	2.6	263.0	W	3.8	291.0	WNW	2.1	269.0	W	0.4	160.0	SSE
10:00 PM - 11:00 PM	1.1	326.0	NW	0.0	-	-	0.9	290.0	WNW	3.7	259.0	W	3.0	312.0	NW	0.7	266.0	W	0.4	62.0	ENE
11:00 PM - 12:00 AM	0.0	-	-	1.1	312.0	NW	0.0	-	-	1.2	251.0	WSW	0.0	-	-	1.6	270.0	W	0.5	65.0	ENE
12:00 AM - 01:00 AM	0.0	-	-	0.0	-	-	2.1	59.0	ENE	1.6	268.0	W	0.0	-	-	1.5	288.0	WNW	0.8	65.0	ENE
01:00 AM - 02:00 AM	2.8	357.0	N	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	1.2	288.0	WNW	0.4	65.0	ENE
02:00 AM - 03:00 AM	0.1	-	-	0.0	-	-	0.0	-	-	0.0	-	-	0.0	-	-	1.1	288.0	WNW	1.1	30.0	NNE
03:00 AM - 04:00 AM	0.9	322.0	NW	0.0	-	-	2.3	235.0	SW	0.0	-	-	0.0	-	-	1.2	329.0	NNW	1.3	71.0	ENE
04:00 AM - 05:00 AM	1.7	322.0	NW	0.0	-	-	1.7	305.0	NW	0.0	-	-	0.0	-	-	1.4	111.0	ESE	0.9	0.0	N
05:00 AM - 06:00 AM	1.2	323.0	NW	0.7	328.0	NNW	0.0	-	-	0.4	264.0	W	0.0	-	-	0.0	-	-	1.5	0.0	N
06:00 AM - 07:00 AM	1.5	312.0	NW	2.1	281.0	W	0.7	319.0	NW	0.5	272.0	W	0.0	-	-	0.6	268.0	W	1.0	1.0	N
07:00 AM - 08:00 AM	0.2	-	-	0.0	-	-	0.4	264.0	W	2.8	250.0	WSW	0.0	-	-	0.0	-	-	1.3	181.0	S
08:00 AM - 09:00 AM	1.5	25.0	NNE	0.9	275.0	W	1.9	253.0	WSW	0.4	222.0	SW	0.0	-	-	0.2	-	-	1.0	208.0	SSW
09:00 AM - 10:00 AM	0.0	-	-	0.9	312.0	NW	1.4	283.0	WNW	0.6	254.0	WSW	1.6	265.0	W	1.8	274.0	W	1.2	297.0	WNW
10:00 AM - 11:00 AM	1.5	300.0	WNW	1.3	267.0	W	0.0	-	-	2.3	273.0	W	1.4	267.0	W	1.5	261.0	W	0.6	207.0	SSW
11:00 AM - 12:00 PM	0.0	-	-	1.1	235.0	SW	1.1	269.0	W	1.0	225.0	SW	2.9	242.0	WSW	1.4	290.0	WNW	0.8	205.0	SSW
12:00 PM - 01:00 PM	1.0	289.0	WNW	2.7	258.0	WSW	2.6	280.0	W	2.5	215.0	SW	2.9	259.0	W	2.2	267.0	W	0.7	170.0	W
01:00 PM - 02:00 PM	2.1	337.0	NNW	2.7	355.0	N	3.5	343.0	NNW	3.5	292.0	WNW	2.0	280.0	W	1.0	275.0	W	0.4	10.0	N
02:00 PM - 03:00 PM	0.7	217.0	SW	2.6	324.0	NW	2.8	288.0	WNW	3.3	304.0	NW	1.7	242.0	WSW	1.7	259.0	W	0.4	303.0	WNW

Reference Method : Cup Anemometer & Anodized Aluminium Vane Method

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Approved by

Sarayuth Jitranont
Assistant General Manager

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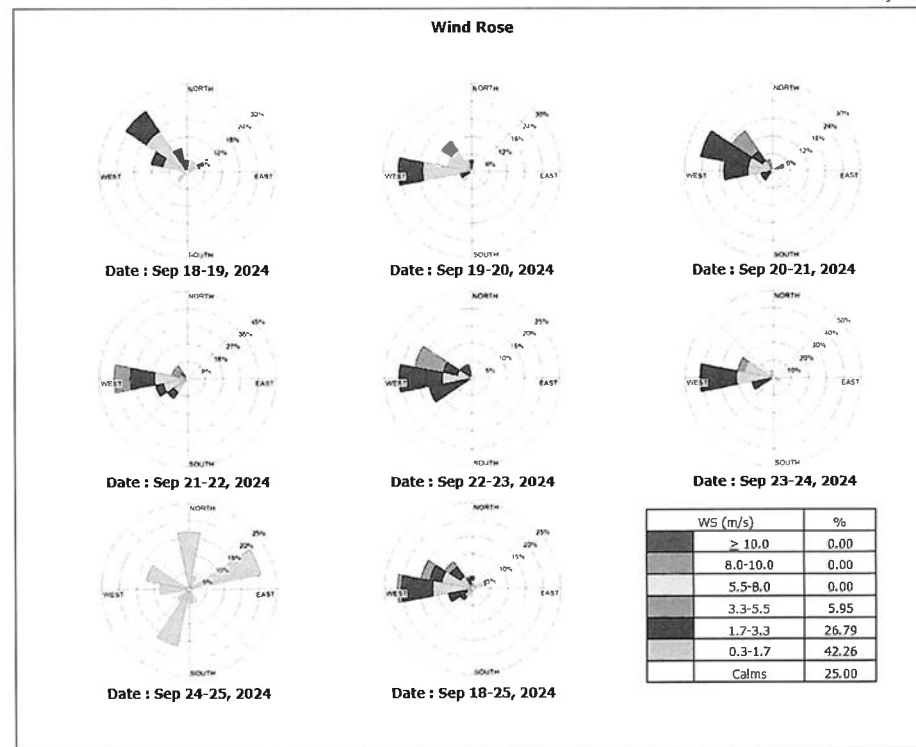
Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150

Lot ID: 2487304
Date Received :Sep 25, 2024
Date Reported :Sep 28, 2024
Report Number :3069623-1

P/O : 3100014325
Project Name :
Project Location :

Page 2 of 2



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Approved by

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ภาคผนวก ค-2

คุณภาพอากาศจากแหล่งกำเนิด



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 2487712
Date Received : Sep 24, 2024
Date Reported : Jan 14, 2025
Report Number: 3129754-1 Rev. No.1

TESTING
No.0042

Page 1 of 2

Sample Number 2487712-1
Sampled Date Sep 23, 2024
Sample Description Emission from Stationary Source
Location ปล่อย CTG No.1
Date Analysis Commenced Sep 24, 2024
Condition of Sample Extracted into one filter paper placed in plastic petri dish, one plastic bottle and one filter paper placed in plastic cassette

Stack Description									
Ambient Pressure	756	mmHg	Diameter	3.00	m	Oxygen	13.4	%	
Ambient Temperature	31.9	°C	Shape	Circle		Carbon Dioxide	4.4	%	
Type of Process	Combustion		Stack Temperature	141	°C	Gas Velocity	20.3	m/s	
Type of Fuel	Natural Gas		Moisture	9.89	%	Flow Rate (Actual O2)	332567	Nm3/hr	

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result at 7 % O ₂	Result at 13.4 % O ₂	Guideline (1)	Guideline (2)	Method	Testing Location
Air Testing										
Total Suspended Particulate	11:50 AM - 12:32 PM	mg/m3	-	0.5	<0.5	<0.5	15	20	United States Environmental Protection Agency, EPA Method 5	Rayong

Guideline :
Guideline (1) Environmental Impact Assessment Report of Glow SPP 2 Co., Ltd. (Replacement Project)
Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2023 (B.E. 2566) on Emission Standard from Power Plants.



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 2487712
Date Received : Sep 24, 2024
Date Reported : Jan 14, 2025
Report Number: 3129754-1 Rev. No.1

TESTING
No.0042

Page 2 of 2

Sample Number 2487712-1
Sampled Date Sep 23, 2024
Sample Description Emission from Stationary Source
Location ปล่อย CTG No.1
Date Analysis Commenced Sep 24, 2024
Condition of Sample Extracted into one filter paper placed in plastic petri dish, one plastic bottle and one filter paper placed in plastic cassette

Stack Description									
Ambient Pressure	756	mmHg	Diameter	3.00	m	Oxygen	13.4	%	
Ambient Temperature	31.9	°C	Shape	Circle		Carbon Dioxide	4.4	%	
Type of Process	Combustion		Stack Temperature	141	°C	Gas Velocity	20.3	m/s	
Type of Fuel	Natural Gas		Moisture	9.89	%	Flow Rate (Actual O2)	332567	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 - 12:32 PM	g/s	-	-	<0.046	1.01	-	Calculated	Rayong

Guideline :
Guideline (1) Environmental Impact Assessment Report of Glow SPP 2 Co., Ltd. (Replacement Project)
Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2023 (B.E. 2566) on Emission Standard from Power Plants.

Note:
This Analysis test report is issued to supersede report No.3129754-1, Date Reported : Oct 08, 2024 due to revise guideline/specification

Sampling By : Sittipan Sanachiw ทะเบียนเลขที่ 3-323-ก-0009

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 3-323-ก-0029

Approved by

Dej Changchon
Dej Changchon
Senior Manager
ทะเบียนเลขที่ 3-323-ก-0001

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S:\Reports_Air Stack_O2_2GL.rpt (2:48PM)

Technical Management

Thanita K.
Thanita Kulsuriwong
Scientist (4)
ทะเบียนเลขที่ 3-323-ก-0029

Approved by

Dej Changchon
Dej Changchon
Senior Manager
ทะเบียนเลขที่ 3-323-ก-0001

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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 2487712
Date Received : Sep 24, 2024
Date Reported : Oct 08, 2024
Report Number: 3129755-1

Page 1 of 2

Sample Number 2487712-2
Sampled Date Sep 23, 2024
Sample Description Emission from Stationary Source
Location 11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
Date Analysis Commenced Sep 25, 2024
Condition of Sample Extracted into one filter paper placed in plastic cassette

Stack Description

Ambient Pressure	756	mmHg	Diameter	3.00	m	Oxygen	13.4	%
Ambient Temperature	31.9	°C	Shape	Circle		Carbon Dioxide	4.4	%
Type of Process	Combustion		Stack Temperature	140	°C	Gas Velocity	20.8	m/s
Type of Fuel	Natural Gas		Moisture	14.02	%	Flow Rate (Actual O2)	325660	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result at 7 % O ₂	Result at 13.4 % O ₂	Method	Testing Location
Air Testing								
PM 2.5	12:50 PM - 01:50 PM	mg/m3	-	0.5	<0.5	<0.5	United States Environmental Protection Agency, EPA Method 201A	Rayong
PM10	02:00 PM - 03:00 PM	mg/m3	-	0.5	<0.5	<0.5	United States Environmental Protection Agency, EPA Method 201A	Rayong

Approved by

Thanita K.

Thanita Kulsuriwong
Scientist (4)

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S:\Reports_Air Stack_O2_NoGL.rpt (11:10AM)



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 2487712
Date Received : Sep 24, 2024
Date Reported : Oct 08, 2024
Report Number: 3129755-1

Page 2 of 2

Sample Number 2487712-2
Sampled Date Sep 23, 2024
Sample Description Emission from Stationary Source
Location 11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
Date Analysis Commenced Sep 25, 2024
Condition of Sample Extracted into one filter paper placed in plastic cassette

Stack Description

Ambient Pressure	756	mmHg	Diameter	3.00	m	Oxygen	13.4	%
Ambient Temperature	31.9	°C	Shape	Circle		Carbon Dioxide	4.4	%
Type of Process	Combustion		Stack Temperature	140	°C	Gas Velocity	20.8	m/s
Type of Fuel	Natural Gas		Moisture	14.02	%	Flow Rate (Actual O2)	325660	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Method	Testing Location
Air Testing							
PM 2.5	12:50 PM - 01:50 PM	g/s	-	-	<0.045	Calculated	Rayong
PM10	02:00 PM - 03:00 PM	g/s	-	-	<0.045	Calculated	Rayong

Sampling By : Sittipan Sanachiw

Remark :

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

Approved by

Thanita K.

Thanita Kulsuriwong
Scientist (4)

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S:\Reports_Air Stack_O2_NoGL.rpt (11:10AM)



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 2487722
Date Received : Sep 23, 2024
Date Reported : Sep 25, 2024
Report Number : 3069773-1

Page 1 of 1

Sample Number 2487722-1
Sample Description Emission from Stationary Source
Location โรงงาน CTG No.1
Measurement Date Sep 23, 2024

Stack Description

Ambient Temperature	31.9 °C	Diameter	3.00 m	Oxygen	13.35 %
Ambient Pressure	755.8 mmHg	Shape	Circle	Carbon dioxide	4.43 %
Type of Process	Combustion	Stack Temperature	141 °C	Gas Velocity	20.27 m/s
Type of Fuel	Natural Gas	Moisture	9.90 %	Flow Rate	332129 Nm3/hr

Run No.	Sampling Time	Oxygen (%)	Carbon Dioxide (%)	Oxides of Nitrogen (ppm)		Sulfur Dioxide (ppm)	
				at Actual O ₂	at 7% O ₂	at Actual O ₂	at 7% O ₂
1	11:50 AM - 12:10 PM	13.33	4.44	16.23	29.81	0.05	0.09
2	12:11 PM - 12:31 PM	13.35	4.42	16.33	30.07	0.05	0.09
3	12:32 PM - 12:52 PM	13.36	4.43	16.31	30.04	0.05	0.09
Average (ppm)		13.35	4.43	16.29	29.98	0.05	0.09
Guideline ^{1/} (ppm)				-	50	-	1.2
Guideline ^{2/} (ppm)				-	80	-	15
Result (mg/Nm ³)				30.65	56.40	0.13	0.23
Emission Rate at Actual O ₂ (g/s)				2.8274		0.0116	
Guideline ^{1/} (g/s)				6.32		0.21	
Method				US EPA Method 7E		US EPA Method 6C	

Sampled By : Sathaporn Thakarn

Guideline : ^{1/}Environmental Impact Assessment Report of Glow SPP 2 Co., Ltd. (Replacement Project)
^{2/}Notification of the Ministry of Natural Resources and Environment, 2023 (B.E. 2566) on Emission Standard from Power Plants.

Technical Management

Wichan Chonharat
Manager
ทะเบียนเลขที่ ร-204-ก-0006

Approved by

Sarayuth Jitranont
Assistant General Manager
ทะเบียนเลขที่ ร-204-ก-0003

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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :



TESTING
No.0042

Lot ID: 2487718
Date Received : Sep 24, 2024
Date Reported : Jan 14, 2025
Report number: 312975N-1 Rev. mo.1

Page 1 of 2

Sample Number 24E771E-1
Sampled Date Sep 24, 2024
Sample Description xb lssion 8ob Stationary Source
Location โรงงาน CTG no.2
Date Analysis Commenced Sep 25, 2024
Condition of Sample Drawn into one filter paper placed in plastic petri dish, one plastic bottle and one filter paper placed in plastic cassette

Stack Description

Ambient Pressure	757 b b 6g	Diameter	3.00 b	%Oxygen	14.5 k
Ambient Temperature	31.8 °C	Shape	Circle	Carbon Dioxide	3.8 k
Type of Process	Combustion	Stack Temperature	130 °C	Gas Velocity	1E.4 b/s
Type of Fuel	Natural Gas	Moisture	E.33 k	Flow Rate (Actual %)	31NB50 mb 3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result at 7 % O ₂ at 14.5 % O ₂		Guideline (1)	Guideline (2)	Method	Testing Location
Air Testing										
Total Suspended Particulate	12:20 PM - 01:00 PM	b g/b 3	-	0.5	<0.5	<0.5	15	20	United States Environmental Protection Agency, xPA Method 5	Rayong

Guideline :

Guideline (1) Environmental Impact Assessment Report of Glow SPP 2 Co., Ltd. (Replacement Project)
Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2023 (B.E. 2566) on Emission Standard from Power Plants.

Technical Management

Thanita Kulsiwong
Scientist (4)
ทะเบียนเลขที่ ร-323-ก-0029

Approved by

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ร-323-ก-0001

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S:\Reports_Air Stack_O2_2GL.rpt (2:41PM)



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 2487718
Date Received : Sep 24, 2024
Date Reported : Jan 14, 2025
Report number: 312975N-1 Rev. no.1



TESTING
No.0042

Page 2 of 2

Sample Number 24E771E-1
Sampled Date Sep 24, 2024
Sample Description xb emission from Stationary Source
Location 11/5 CTG no.2
Date Analysis Commenced Sep 25, 2024
Condition of Sample Drawn into one filter paper placed in plastic petri dish, one plastic bottle and one filter paper placed in plastic cassette

Stack Description

Ambient Pressure	757	mmHg	Diameter	3.00	m	%Oxygen	14.5	%
Ambient Temperature	31.8	°C	Shape	Circle		Carbon Dioxide	3.8	%
Type of Process	Combustion		Stack Temperature	130	°C	Gas Velocity	18.4	m/s
Type of Fuel	Natural Gas		Moisture	13.98	%	Flow Rate (Actual)	30021	Nm³/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline (1)	Guideline (2)	Method	Testing Location
Air Testing									
Total Suspended Particulate	12:20 PM - 01:00 PM	g/s	-	-	<0.044	1.01	-	Calculated	Rayong

Guideline :

Guideline (1) Environmental Impact Assessment Report of Glow SPP 2 Co., Ltd. (Replacement Project)
Guideline (2) Notification of the Ministry of Natural Resources and Environment, 2023 (B.E. 2567) on emission Standard from Power Plants.

Note:

This Analysis test report is issued to supersede report no.312975N-1, Date Reported : Oct 04, 2024 due to revise guideline/specification

Sampling By : Sittiporn Sanachit 312975N-1-323-3-0009

Reference:

- LOR : Limit of Detection
- "<" : Lower than LOR (Limit of Quantitation) / LOR (Limit of Reporting)
- Analyte(s) not included in scope of Accreditation ISO/IEC 17025.

Technical Management

Thanita K.

Thanita Kulsriwong
Scientist (4)
ทะเบียนเลขที่ 312975N-1-323-3-0029

Approved by

D. Chanchon

Dej Chanchon
Senior Manager
ทะเบียนเลขที่ 312975N-1-323-3-0001

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S:\Reports_Air Stack_O2_2GL.rpt (2:41PM)



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 2487718
Date Received : Sep 24, 2024
Date Reported : Oct 08, 2024
Report Number: 3129757-1

Page 1 of 2

Sample Number 2487718-2
Sampled Date Sep 24, 2024
Sample Description Emission from Stationary Source
Location 11/5 CTG No.2
Date Analysis Commenced Sep 25, 2024
Condition of Sample Drawn into one filter paper placed in plastic cassette

Stack Description

Ambient Pressure	757	mmHg	Diameter	3.00	m	%Oxygen	14.5	%
Ambient Temperature	31.8	°C	Shape	Circle		Carbon Dioxide	3.8	%
Type of Process	Combustion		Stack Temperature	130	°C	Gas Velocity	18.4	m/s
Type of Fuel	Natural Gas		Moisture	13.98	%	Flow Rate (Actual)	30021	Nm³/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result at 7 %O ₂	Result at 14.5 % O ₂	Method	Testing Location
Air Testing								
PM 2.5	01:20 PM - 02:20 PM	mg/m3	-	0.5	<0.5	<0.5	United States Environmental Protection Agency, EPA Method 201A	Rayong
PM10	02:30 PM - 03:30 PM	mg/m3	-	0.5	<0.5	<0.5	United States Environmental Protection Agency, EPA Method 201A	Rayong

Approved by

Thanita K.

Thanita Kulsriwong
Scientist (4)

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S:\Reports_Air Stack_O2_NoGL.rpt (11:14AM)



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 2487718
Date Received : Sep 24, 2024
Date Reported : Oct 08, 2024
Report Number: 3129757-1

Sample Number 2487718-2
Sampled Date Sep 24, 2024
Sample Description Emission from Stationary Source
Location โรงกลั่น CTG No.2
Date Analysis Commenced Sep 25, 2024
Condition of Sample Drawn into one filter paper placed in plastic cassette

Stack Description							
Ambient Pressure	757	mmHg	Diameter	3.00	m	Oxygen	14.5 F
Ambient Temperature	31.8	°C	Shape	Circle		Carbon Dioxide	3.8 F
Type of Process	Combustion		Stack Temperature	130	°C	Gas Velocity	18.0 m/s
Type of Fuel	Natural Gas		Moisture	13.98	F	Flow Rate (Actual O2)	30021V Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Method	Testing Location
Air Testing							
PM 2.5	01:20 PM - 02:20 PM	g/s	-	-	<0.042	Calculated	Rayong
PM10	02:30 PM - 03:30 PM	g/s	-	-	<0.042	Calculated	Rayong

Sampling By : Sittipon Sanachiw

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

Approved by

Thanita K.
Thanita Kulsuriwong
Scientist (4)

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S:\Reports\Air Stack_O2_NoGL.rpt (11:14AM)



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 2487725
Date Received : Sep 24, 2024
Date Reported : Sep 25, 2024
Report Number : 3069774-1

Page 1 of 1

Sample Number 2487725-1
Sample Description Emission from Stationary Source
Location โรงกลั่น CTG No.2
Measurement Date Sep 24, 2024

Stack Description							
Ambient Temperature	31.8	°C	Diameter	3.00	m	Oxygen	14.47 %
Ambient Pressure	757.1	mmHg	Shape	Circle		Carbon dioxide	3.78 %
Type of Process	Combustion		Stack Temperature	130	°C	Gas Velocity	18.40 m/s
Type of Fuel	Natural Gas		Moisture	8.33	%	Flow Rate	315954 Nm3/hr

Run No.	Sampling Time	Oxygen (%)	Carbon Dioxide (%)	Oxides of Nitrogen (ppm)		Sulfur Dioxide (ppm)	
				at Actual O ₂	at 7% O ₂	at Actual O ₂	at 7% O ₂
1	12:20 PM - 12:40 PM	14.45	3.79	15.13	32.61	0.03	0.07
2	12:41 PM - 01:01 PM	14.46	3.78	15.27	33.02	0.03	0.06
3	01:02 PM - 01:22 PM	14.50	3.76	15.20	33.02	0.03	0.07
Average (ppm)				14.47	3.78	15.20	32.87
Guideline ^{1/} (ppm)				-	50	-	1.2
Guideline ^{2/} (ppm)				-	80	-	15
Result (mg/Nm ³)				28.59	61.84	0.08	0.18
Emission Rate at Actual O ₂ (g/s)				2.5096		0.0074	
Guideline ^{1/} (g/s)				6.32		0.21	
Method				US EPA Method 7E		US EPA Method 6C	

Sampled By : Sathaporn Thakarn

Guideline : ^{1/}Environmental Impact Assessment Report of Glow SPP 2 Co., Ltd. (Replacement Project)
^{2/}Notification of the Ministry of Natural Resources and Environment, 2023 (B.E. 2566) on Emission Standard from Power Plants.

Technical Management

Wichan Choonharat
Wichan Choonharat
Manager
ทะเบียนเลขที่ ว-204-ค-0006

Approved by

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

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ภาคผนวก ค-3

ระดับเสียงทั่วไป



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :



TESTING
No.0042

Lot ID: 2487663
Date Received : Sep 25, 2024
Date Reported : Oct 01, 2024
Report Number: 3125983-1

Page 1 of 1

Sample Number	2487663-1		
Parameter	Noise (Leq 24 hrs.)		
Location	บริเวณรั้วโรงรถด้านหลังตึกเจียงเหอ (GPS 47P 0732057, 1402526)		
Measurement Date	Sep 18 - Sep 19, 2024		
Measurement by	Apichart Wilars		
Sound Level meter	Serial No. 623387		
Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	67.3	85.0	64.8
03:00 PM - 04:00 PM	67.5	76.7	65.6
04:00 PM - 05:00 PM	68.3	73.1	65.9
05:00 PM - 06:00 PM	66.6	71.6	65.7
06:00 PM - 07:00 PM	66.1	69.8	65.7
07:00 PM - 08:00 PM	66.6	75.4	66.2
08:00 PM - 09:00 PM	66.7	79.7	66.0
09:00 PM - 10:00 PM	68.0	74.5	66.3
10:00 PM - 11:00 PM	70.3	79.8	69.4
11:00 PM - 12:00 AM	66.5	68.6	66.1
12:00 AM - 01:00 AM	66.4	69.4	66.1
01:00 AM - 02:00 AM	68.0	73.3	66.3
02:00 AM - 03:00 AM	66.4	70.7	65.7
03:00 AM - 04:00 AM	66.2	69.1	65.7
04:00 AM - 05:00 AM	66.4	69.9	65.9
05:00 AM - 06:00 AM	66.2	69.8	65.7
06:00 AM - 07:00 AM	65.8	68.8	65.3
07:00 AM - 08:00 AM	65.9	69.9	65.3
08:00 AM - 09:00 AM	67.6	75.1	65.2
09:00 AM - 10:00 AM	65.6	71.0	64.9
10:00 AM - 11:00 AM	66.1	83.7	65.0
11:00 AM - 12:00 PM	65.7	68.6	65.1
12:00 PM - 01:00 PM	66.6	84.7	65.4
01:00 PM - 02:00 PM	65.9	69.7	63.7
Leq Average 24 hrs. (dB(A))	66.9		
Lmax (dB(A))		85.0	
L90 (dB(A))			65.7
Ldn (dB(A))	73.5		
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 Salamteh
Section Head

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S:\Reports_Air Noise\ppt (1:18PM)



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :



TESTING
No.0042

Lot ID: 2487663
Date Received : Sep 25, 2024
Date Reported : Oct 01, 2024
Report Number: 3125984-1

Page 1 of 1

Sample Number	2487663-2		
Parameter	Noise (Leq 24 hrs.)		
Location	บริเวณรั้วโรงรถด้านหลังตึกเจียงเหอ (GPS 47P 0732057, 1402526)		
Measurement Date	Sep 19 - Sep 20, 2024		
Measurement by	Apichart Wilars		
Sound Level meter	Serial No. 623387		
Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	66.5	84.5	65.6
03:00 PM - 04:00 PM	67.1	74.0	65.7
04:00 PM - 05:00 PM	68.2	73.2	66.0
05:00 PM - 06:00 PM	66.1	69.3	65.6
06:00 PM - 07:00 PM	67.0	72.1	65.7
07:00 PM - 08:00 PM	66.3	83.1	65.7
08:00 PM - 09:00 PM	66.9	80.2	66.1
09:00 PM - 10:00 PM	68.1	74.3	65.9
10:00 PM - 11:00 PM	66.7	69.7	66.0
11:00 PM - 12:00 AM	66.5	69.5	66.0
12:00 AM - 01:00 AM	67.1	71.7	66.1
01:00 AM - 02:00 AM	66.3	68.9	65.9
02:00 AM - 03:00 AM	66.1	68.9	65.5
03:00 AM - 04:00 AM	66.1	68.8	65.7
04:00 AM - 05:00 AM	65.8	69.0	65.2
05:00 AM - 06:00 AM	65.4	67.7	64.9
06:00 AM - 07:00 AM	65.2	68.3	64.7
07:00 AM - 08:00 AM	65.2	68.1	64.7
08:00 AM - 09:00 AM	66.5	74.9	64.7
09:00 AM - 10:00 AM	65.2	71.4	64.7
10:00 AM - 11:00 AM	65.6	80.2	64.6
11:00 AM - 12:00 PM	65.9	84.1	65.1
12:00 PM - 01:00 PM	66.3	84.0	64.0
01:00 PM - 02:00 PM	67.8	71.1	66.0
Leq Average 24 hrs. (dB(A))	66.5		
Lmax (dB(A))		84.5	
L90 (dB(A))			65.6
Ldn (dB(A))	72.7		
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 Salamteh
Section Head

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S:\Reports_Air Noise\ppt (1:21PM)



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :



TESTING
No.0042

Lot ID: 2487663
Date Received : Sep 25, 2024
Date Reported : Oct 01, 2024
Report Number: 3125985-1

Page 1 of 1

Sample Number 2487663-3
Parameter Noise (Leq 24 hrs.)
Location บริเวณโรงโม่หินโครงการด้านทิศตะวันตกเฉียงเหนือ (GPS 47P 0732057, 1402526)
Measurement Date Sep 20 - Sep 21, 2024
Measurement by Apichart Willars
Sound Level meter Serial No. 623387

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	66.2	74.9	65.7
03:00 PM - 04:00 PM	66.9	71.2	65.5
04:00 PM - 05:00 PM	65.8	87.0	65.3
05:00 PM - 06:00 PM	66.2	82.9	65.6
06:00 PM - 07:00 PM	66.5	78.7	65.5
07:00 PM - 08:00 PM	66.7	71.4	65.8
08:00 PM - 09:00 PM	66.5	79.7	65.8
09:00 PM - 10:00 PM	67.2	72.6	66.0
10:00 PM - 11:00 PM	66.1	68.5	65.7
11:00 PM - 12:00 AM	66.4	68.6	66.0
12:00 AM - 01:00 AM	66.7	70.8	66.0
01:00 AM - 02:00 AM	66.3	69.3	65.8
02:00 AM - 03:00 AM	66.1	68.8	65.6
03:00 AM - 04:00 AM	66.1	68.8	65.5
04:00 AM - 05:00 AM	66.0	71.5	65.4
05:00 AM - 06:00 AM	65.8	68.4	65.2
06:00 AM - 07:00 AM	65.8	68.3	65.3
07:00 AM - 08:00 AM	65.8	73.8	65.3
08:00 AM - 09:00 AM	68.0	82.9	65.1
09:00 AM - 10:00 AM	65.6	74.3	65.0
10:00 AM - 11:00 AM	65.9	80.1	64.9
11:00 AM - 12:00 PM	66.0	83.2	65.4
12:00 PM - 01:00 PM	66.6	81.4	62.9
01:00 PM - 02:00 PM	67.9	72.8	65.7

Leq Average 24 hrs. (dB(A)) 66.4
Lmax (dB(A)) 87.0
L90 (dB(A)) 65.5
Ldn (dB(A)) 72.6
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

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S:\Reports_Air Noise\rpt (1:30PM)



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :



TESTING
No.0042

Lot ID: 2487663
Date Received : Sep 25, 2024
Date Reported : Oct 01, 2024
Report number: 312598N-1

Page 1 of 1

Sample Number 2486NNQ-4
Parameter noise (Leq 24 hrs.)
Location บริเวณโรงโม่หินโครงการด้านทิศตะวันตกเฉียงเหนือ (GPS 46P 0632056, 140252N)
Measurement Date Sep 21 - Sep 22, 2024
Measurement by Apichart Willars
Sound Level meter Serial no. N23386

Time	Leq (dB(A))	Lb ax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	NN.2	NN.1	N5.6
03:00 PM - 04:00 PM	N6.4	65.6	N5.8
04:00 PM - 05:00 PM	NN.3	66.1	N5.6
05:00 PM - 06:00 PM	NN.9	65.8	N5.9
06:00 PM - 07:00 PM	NN.5	66.3	N5.6
07:00 PM - 08:00 PM	NN.8	60.9	NN.1
08:00 PM - 09:00 PM	NN.9	69.9	NN.3
09:00 PM - 10:00 PM	N6.3	62.6	NN.2
10:00 PM - 11:00 PM	NN.5	68.5	NN.1
11:00 PM - 12:00 AM	NN.5	69.4	NN.0
12:00 AM - 01:00 AM	NN.9	68.6	NN.2
01:00 AM - 02:00 AM	N6.2	61.9	NN.2
02:00 AM - 03:00 AM	NN.6	68.6	NN.3
03:00 AM - 04:00 AM	NN.9	68.9	NN.2
04:00 AM - 05:00 AM	NN.5	68.5	NN.1
05:00 AM - 06:00 AM	NN.3	68.5	NN.0
06:00 AM - 07:00 AM	NN.4	68.9	NN.0
07:00 AM - 08:00 AM	N6.3	65.0	NN.0
08:00 AM - 09:00 AM	N6.9	64.5	NN.0
09:00 AM - 10:00 AM	NN.4	61.1	NN.0
10:00 AM - 11:00 AM	N6.2	63.2	NN.2
11:00 AM - 12:00 PM	NN.9	83.9	NN.3
12:00 PM - 01:00 PM	N6.3	65.1	NN.2
01:00 PM - 02:00 PM	N6.4	69.9	NN.3

Leq Average 24 hrs. (dB(A)) N6.0
Lb ax (dB(A)) NN.1
L90 (dB(A)) NN.1
Ldn (dB(A)) 63.1
Standard (dB(A)) 60 115
Reference Method : ISO199N-1 and 199N-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 16025.

Technical Management

Chontichak
Chonticha Subongkoch
Scientist (3)

Approved by

Supot S
Supot Salamteh
Section Head

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S:\Reports_Air Noise\rpt (1:31PM)



Analysis / Test Report



TESTING
No.0042

Client : Glow SPP 2 Co., Ltd.

11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150

P/O : 3100014325

Project Name :

Project Location :

Lot ID: 2487663

Date Received : Sep 25, 2024

Date Reported : Oct 01, 2024

Report number: 3125988-1

Page 1 of 1

Sample Number	248N663-5
Parameter	Noise (Leq 24 hrs.)
Location	บริเวณรั้วโครงการด้านทิศตะวันตกเฉียงเหนือ (GPS 4NP 0N3205N, 1402526)
Measurement Date	Sep 22 - Sep 23, 2024
Measurement by	Apichart Willars
Sound Level meter	Serial no. 62338N

Time	Leq (dB(A))	Lb ax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	6N.9	N4.2	66.N
03:00 PM - 04:00 PM	6N.8	N5.2	66.N
04:00 PM - 05:00 PM	66.8	N4.1	65.8
05:00 PM - 06:00 PM	66.9	N3.8	66.0
06:00 PM - 07:00 PM	6N.0	N2.0	66.1
07:00 PM - 08:00 PM	6N.8	N4.5	66.8
08:00 PM - 09:00 PM	68.2	N6.2	66.N
09:00 PM - 10:00 PM	N0.6	N9.5	6N.8
10:00 PM - 11:00 PM	66.9	N0.9	65.9
11:00 PM - 12:00 AM	66.8	N0.5	65.8
12:00 AM - 01:00 AM	66.N	N3.9	65.8
01:00 AM - 02:00 AM	66.N	N0.3	65.8
02:00 AM - 03:00 AM	66.9	N0.N	65.9
03:00 AM - 04:00 AM	6N.0	N0.8	66.0
04:00 AM - 05:00 AM	6N.0	N0.6	66.0
05:00 AM - 06:00 AM	6N.1	N4.8	66.2
06:00 AM - 07:00 AM	66.8	N4.N	65.9
07:00 AM - 08:00 AM	66.8	N3.2	65.9
08:00 AM - 09:00 AM	6N.0	84.4	65.9
09:00 AM - 10:00 AM	66.3	84.8	65.3
10:00 AM - 11:00 AM	66.1	NN.N	65.0
11:00 AM - 12:00 PM	66.5	N8.0	65.1
12:00 PM - 01:00 PM	65.9	N4.9	64.8
01:00 PM - 02:00 PM	66.4	83.1	65.1

Leq Average 24 hrs. (dB(A))

6N.2

Lb ax (dB(A))

84.8

L90 (dB(A))

65.9

Ldn (dB(A))

N3.4

Standard (dB(A))

N0

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

Supt S

Supot Salabteh
Section Head

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S:\Reports\Air Noise.rpt (1:31PM)



Analysis / Test Report



TESTING
No.0042

Client : Glow SPP 2 Co., Ltd.

11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150

P/O : 3100014325

Project Name :

Project Location :

Lot ID: 2487663

Date Received : Sep 25, 2024

Date Reported : Oct 01, 2024

Report Number: 3125988-1

Page 1 of 1

Sample Number	2487663-6
Parameter	Noise (Leq 24 hrs.)
Location	บริเวณรั้วโครงการด้านทิศตะวันตกเฉียงเหนือ (GPS 47P 0732057, 1402526)
Measurement Date	Sep 23 - Sep 24, 2024
Measurement by	Apichart Willars
Sound Level meter	Serial No. 623387

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	66.3	78.5	65.2
03:00 PM - 04:00 PM	66.5	72.8	65.4
04:00 PM - 05:00 PM	67.0	76.5	66.1
05:00 PM - 06:00 PM	66.9	71.3	66.0
06:00 PM - 07:00 PM	67.2	70.5	66.4
07:00 PM - 08:00 PM	67.4	71.2	66.5
08:00 PM - 09:00 PM	67.4	74.1	66.6
09:00 PM - 10:00 PM	67.5	74.6	66.6
10:00 PM - 11:00 PM	67.6	71.5	66.7
11:00 PM - 12:00 AM	67.5	71.6	66.5
12:00 AM - 01:00 AM	67.1	71.4	66.1
01:00 AM - 02:00 AM	66.8	71.4	65.8
02:00 AM - 03:00 AM	66.5	69.6	65.7
03:00 AM - 04:00 AM	66.5	69.4	65.9
04:00 AM - 05:00 AM	66.6	70.1	66.0
05:00 AM - 06:00 AM	66.6	71.7	66.0
06:00 AM - 07:00 AM	66.7	71.5	65.9
07:00 AM - 08:00 AM	66.5	70.9	65.8
08:00 AM - 09:00 AM	66.6	77.7	65.8
09:00 AM - 10:00 AM	66.9	82.6	66.2
10:00 AM - 11:00 AM	66.6	79.0	65.5
11:00 AM - 12:00 PM	66.9	90.8	63.4
12:00 PM - 01:00 PM	64.0	75.1	63.1
01:00 PM - 02:00 PM	66.7	82.6	64.2

Leq Average 24 hrs. (dB(A))

66.8

Lmax (dB(A))

90.8

L90 (dB(A))

65.9

Ldn (dB(A))

73.3

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

Supt S

Supot Salameh
Section Head

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S:\Reports\Air Noise.rpt (1:32PM)



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.

11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150

P/O : 3100014325

Project Name :

Project Location :



TESTING
No.0042

Lot ID: 2487663

Date Received : Sep 25, 2024

Date Reported : Oct 01, 2024

Report Number: 3125989-1

Page 1 of 1

Sample Number 2487663-7
Parameter Noise (Leq 24 hrs.)
Location บริเวณรั้วโครงการด้านทิศตะวันตกเฉียงเหนือ (GPS 47P 0732057, 1402526)
Measurement Date Sep 24 - Sep 25, 2024
Measurement by Apichart Wilars
Sound Level meter Serial No. 623387

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	66.4	75.4	65.6
03:00 PM - 04:00 PM	66.7	78.1	65.8
04:00 PM - 05:00 PM	67.2	75.3	66.3
05:00 PM - 06:00 PM	67.4	77.1	66.5
06:00 PM - 07:00 PM	67.2	71.2	66.4
07:00 PM - 08:00 PM	67.2	70.6	66.4
08:00 PM - 09:00 PM	67.2	71.2	66.5
09:00 PM - 10:00 PM	67.2	70.5	66.4
10:00 PM - 11:00 PM	79.7	94.5	67.4
11:00 PM - 12:00 AM	66.9	87.5	64.8
12:00 AM - 01:00 AM	67.1	71.2	66.3
01:00 AM - 02:00 AM	67.5	71.3	66.8
02:00 AM - 03:00 AM	67.8	71.6	66.9
03:00 AM - 04:00 AM	68.0	71.5	67.1
04:00 AM - 05:00 AM	67.7	71.7	66.9
05:00 AM - 06:00 AM	67.7	70.6	67.1
06:00 AM - 07:00 AM	67.8	74.9	67.0
07:00 AM - 08:00 AM	67.1	81.9	66.4
08:00 AM - 09:00 AM	66.7	74.2	65.9
09:00 AM - 10:00 AM	66.9	72.9	66.1
10:00 AM - 11:00 AM	67.0	71.4	66.2
11:00 AM - 12:00 PM	67.2	81.5	66.0
12:00 PM - 01:00 PM	66.8	70.9	65.7
01:00 PM - 02:00 PM	67.2	96.3	65.9

Leq Average 24 hrs. (dB(A))

69.5

Lmax (dB(A))

96.3

L90 (dB(A))

66.4

Ldn (dB(A))

77.9

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 Salameh
Section Head

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S:\Reports_Air Noise.rpt (1.34PM)



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.

11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150

P/O : 3100014325

Project Name :

Project Location :



TESTING
No.0042

Lot ID: 2487663

Date Received : Sep 25, 2024

Date Reported : Oct 01, 2024

Report Number: 3125990-1

Page 1 of 1

Sample Number 24f7663-f
Parameter Noise (Leq 24 hrs.)
Location บริเวณรั้วโครงการด้านทิศตะวันตก (GPS 47P 0732249, 1402523)
Measurement Date Sep 1f - Sep 19, 2024
Measurement by Apichart Wilars
Sound Level meter Serial No. 900074

Time	Leq (dB(A))	LNax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	67.7	f 3.2	67.1
03:00 PM - 04:00 PM	67.7	77.7	67.3
04:00 PM - 05:00 PM	67.0	f 4.1	67.5
05:00 PM - 06:00 PM	67.6	70.2	67.1
06:00 PM - 07:00 PM	67.7	f 4.2	67.4
07:00 PM - 08:00 PM	67.6	77.6	67.3
08:00 PM - 09:00 PM	67.0	f 4.4	67.3
09:00 PM - 10:00 PM	69.0	f 6.4	67.7
10:00 PM - 11:00 PM	71.2	f 5.6	70.2
11:00 PM - 12:00 AM	69.7	72.5	67.7
12:00 AM - 01:00 AM	67.9	f 3.5	67.4
01:00 AM - 02:00 AM	67.9	77.6	67.4
02:00 AM - 03:00 AM	67.7	f 3.0	67.3
03:00 AM - 04:00 AM	67.7	77.7	67.1
04:00 AM - 05:00 AM	67.7	f 3.3	67.2
05:00 AM - 06:00 AM	67.5	71.6	67.1
06:00 AM - 07:00 AM	67.4	f 4.2	67.9
07:00 AM - 08:00 AM	67.2	77.7	67.7
08:00 AM - 09:00 AM	67.3	f 3.9	67.7
09:00 AM - 10:00 AM	67.3	f 4.2	67.7
10:00 AM - 11:00 AM	67.2	f 1.5	67.7
11:00 AM - 12:00 PM	67.2	70.7	67.7
12:00 PM - 01:00 PM	67.2	f 4.7	67.6
01:00 PM - 02:00 PM	67.0	f 4.7	67.4

Leq Average 24 hrs. (dB(A))

67.5

LNax (dB(A))

f 6.4

L90 (dB(A))

67.7

Ldn (dB(A))

75.4

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 Salameh
Section Head

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S:\Reports_Air Noise.rpt (1.34PM)



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :



TESTING
No.0042

Lot ID: 2487663
Date Received : Sep 25, 2024
Date Reported : Oct 01, 2024
Report Number: 3125991-1

Page 1 of 1

Sample Number : 24f7663-9
Parameter : 8oise (Leq 24 hrs.)
Location : บริเวณรั้วโรงงาน อ.สัตหีบ จ.ชลบุรี (GPS 47P 0732249, 1402523)
Measurement Date : Sep 19 - Sep 20, 2024
Measurement by : Apichart Wilars
Sound Level meter : Serial 8.o. 900074

TIN e	Leq (dB(A))	LN ax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	67.9	f5.3	67.3
03:00 PM - 04:00 PM	6f.0	f4.3	67.4
04:00 PM - 05:00 PM	6f.1	77.7	67.6
05:00 PM - 06:00 PM	6f.2	70.7	67.6
06:00 PM - 07:00 PM	6f.2	f4.2	67.6
07:00 PM - 0f:00 PM	6f.0	70.4	67.4
0f:00 PM - 09:00 PM	6f.0	f4.2	67.5
09:00 PM - 10:00 PM	6f.0	f4.5	67.5
10:00 PM - 11:00 PM	6f.0	77.9	67.5
11:00 PM - 12:00 AM	6f.0	70.7	67.4
12:00 AM - 01:00 AM	6f.2	f4.3	67.5
01:00 AM - 02:00 AM	6f.1	f3.6	67.5
02:00 AM - 03:00 AM	6f.2	79.6	67.6
03:00 AM - 04:00 AM	6f.2	f4.4	67.6
04:00 AM - 05:00 AM	6f.2	71.3	67.7
05:00 AM - 06:00 AM	6f.3	71.5	67.6
06:00 AM - 07:00 AM	6f.3	f3.f	67.5
07:00 AM - 0f:00 AM	67.7	f4.0	67.1
0f:00 AM - 09:00 AM	67.9	f3.0	67.1
09:00 AM - 10:00 AM	67.6	79.7	66.9
10:00 AM - 11:00 AM	67.3	f4.7	66.6
11:00 AM - 12:00 PM	67.3	74.4	66.7
12:00 PM - 01:00 PM	67.4	f3.9	66.6
01:00 PM - 02:00 PM	67.4	f4.5	66.7

Leq Average 24 hrs. (dB(A)) : 67.9
LN ax (dB(A)) : f5.3
L90 (dB(A)) : 67.5
Ldn (dB(A)) : 74.5

Standard (dB(A)) : 70

Reference Method : ISO1996-1 and 1996-2

Standard : 1. บรรดาองค์ประกอบของเสียงรบกวน (ตามข้อกำหนดของ ISO 1996-1 และ ISO 1996-2) ที่ใช้ในการวัดเสียงรบกวน
2. บรรดาองค์ประกอบของเสียงรบกวน (ตามข้อกำหนดของ ISO 1996-1 และ ISO 1996-2) ที่ใช้ในการวัดเสียงรบกวน

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

Technical Management

Chontichak
Chonticha Sumngkoch
Scientist (3)

Approved by

Supot SalaNteh
Section Head

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S:\Reports_Air Noise.rpt (1:34PM)



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :



TESTING
No.0042

Lot ID: 2487663
Date Received : Sep 25, 2024
Date Reported : Oct 01, 2024
Report Number: 3125992-1

Page 1 of 1

Sample Number : 24f7663-10
Parameter : 8oise (Leq 24 hrs.)
Location : บริเวณรั้วโรงงาน อ.สัตหีบ จ.ชลบุรี (GPS 47P 0732249, 1402523)
Measurement Date : Sep 20 - Sep 21, 2024
Measurement by : Apichart Wilars
Sound Level meter : Serial 8.o. 900074

TIN e	Leq (dB(A))	LN ax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	67.5	79.0	66.9
03:00 PM - 04:00 PM	67.9	f3.f	67.2
04:00 PM - 05:00 PM	6f.1	f3.2	67.3
05:00 PM - 06:00 PM	6f.1	72.9	67.4
06:00 PM - 07:00 PM	6f.2	72.1	67.4
07:00 PM - 0f:00 PM	6f.3	f5.2	67.4
0f:00 PM - 09:00 PM	6f.4	72.5	67.6
09:00 PM - 10:00 PM	6f.5	f3.2	67.7
10:00 PM - 11:00 PM	6f.7	77.3	67.9
11:00 PM - 12:00 AM	6f.7	f4.3	67.9
12:00 AM - 01:00 AM	6f.7	72.3	6f.0
01:00 AM - 02:00 AM	6f.7	f5.5	67.9
02:00 AM - 03:00 AM	6f.f	f3.f	6f.0
03:00 AM - 04:00 AM	6f.7	73.1	67.9
04:00 AM - 05:00 AM	6f.6	f3.9	67.9
05:00 AM - 06:00 AM	6f.7	79.0	6f.0
06:00 AM - 07:00 AM	6f.7	73.f	67.9
07:00 AM - 0f:00 AM	6f.5	f3.4	67.7
0f:00 AM - 09:00 AM	67.9	f4.7	67.2
09:00 AM - 10:00 AM	67.f	f4.0	67.2
10:00 AM - 11:00 AM	67.7	79.0	67.0
11:00 AM - 12:00 PM	67.3	f6.1	66.5
12:00 PM - 01:00 PM	67.2	7f.7	66.6
01:00 PM - 02:00 PM	67.6	f3.0	66.9

Leq Average 24 hrs. (dB(A)) : 6f.2
LN ax (dB(A)) : f6.1
L90 (dB(A)) : 67.4
Ldn (dB(A)) : 75.0

Standard (dB(A)) : 70

Reference Method : ISO1996-1 and 1996-2

Standard : 1. บรรดาองค์ประกอบของเสียงรบกวน (ตามข้อกำหนดของ ISO 1996-1 และ ISO 1996-2) ที่ใช้ในการวัดเสียงรบกวน
2. บรรดาองค์ประกอบของเสียงรบกวน (ตามข้อกำหนดของ ISO 1996-1 และ ISO 1996-2) ที่ใช้ในการวัดเสียงรบกวน

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

Technical Management

Chontichak
Chonticha Sumngkoch
Scientist (3)

Approved by

Supot SalaNteh
Section Head

ADDRESS 616/10 Moo 5 T. Maenam Khu A. Pluakdaeng Rayong 21140 Thailand | PHONE +66 0 3304 8555 | FAX +66 0 3304 8556
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S:\Reports_Air Noise.rpt (1:34PM)



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.

11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150

P/O : 3100014325

Project Name :

Project Location :



TESTING
No.0042

Lot ID: 2487663

Date Received : Sep 25, 2024

Date Reported : Oct 01, 2024

Report Number: 3125993-1

Page 1 of 1

Sample Number 24f 7663-11
Parameter Noise (Leq 24 hrs.)
Location บริเวณรั้วโครงการ "บึงละหาน" ๑ (GPS 47P 0732249, 1402523)
Measurement Date Sep 21 - Sep 22, 2024
Measurement by Apichart Willars
Sound Level meter Serial No. 900074

Time	Leq (dB(A))	LNax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	67.f	73.9	67.0
03:00 PM - 04:00 PM	67.2	73.6	67.1
04:00 PM - 05:00 PM	67.3	74.1	67.4
05:00 PM - 06:00 PM	67.3	74.5	67.4
06:00 PM - 07:00 PM	67.4	77.9	67.5
07:00 PM - 08:00 PM	67.3	72.0	67.5
08:00 PM - 09:00 PM	67.6	74.3	67.7
09:00 PM - 10:00 PM	67.5	74.0	67.6
10:00 PM - 11:00 PM	67.7	70.9	67.f
11:00 PM - 12:00 AM	67.f	75.1	67.9
12:00 AM - 01:00 AM	67.5	77.5	67.f
01:00 AM - 02:00 AM	67.4	72.0	67.7
02:00 AM - 03:00 AM	67.4	74.1	67.6
03:00 AM - 04:00 AM	67.5	71.1	67.f
04:00 AM - 05:00 AM	67.4	74.7	67.7
05:00 AM - 06:00 AM	67.5	79.7	67.7
06:00 AM - 07:00 AM	67.5	74.3	67.7
07:00 AM - 08:00 AM	67.3	70.4	67.6
08:00 AM - 09:00 AM	67.7	71.5	67.0
09:00 AM - 10:00 AM	67.4	73.4	66.7
10:00 AM - 11:00 AM	67.6	76.3	66.f
11:00 AM - 12:00 PM	69.0	73.5	66.f
12:00 PM - 01:00 PM	67.6	70.0	66.7
01:00 PM - 02:00 PM	67.6	72.5	66.7
Leq Average 24 hrs. (dB(A))	67.3		
LNax (dB(A))		76.3	
L90 (dB(A))			67.5
Ldn (dB(A))	74.9		
Standard (dB(A))	70	115	

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ยึดตามมาตรฐานวิธีวัดเสียง 5 dB A ปกติและแบบพิเศษ (ก. 2540) ใช้การแปลผล "ค่า" ของ เครื่องมือ วัดเสียง
2. ยึดตามมาตรฐานวิธีวัดเสียง 5 dB A ปกติและแบบพิเศษ (ก. 2540) ใช้การแปลผล "ค่า" ของ เครื่องมือ วัดเสียง

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

Technical Management

Chontichak

Chonticha Sumngkoch
Scientist (3)

Approved by

Supot S.

Supot Salan teh
Section Head

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S:\Reports\Air Noise.rpt (1:35PM)



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.

11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150

P/O : 3100014325

Project Name :

Project Location :



TESTING
No.0042

Lot ID: 2487663

Date Received : Sep 25, 2024

Date Reported : Oct 01, 2024

Report Number: 3125994-1

Page 1 of 1

Sample Number 24f 7663-12
Parameter Noise (Leq 24 hrs.)
Location บริเวณรั้วโครงการ "บึงละหาน" ๑ (GPS 47P 0732249, 1402523)
Measurement Date Sep 22 - Sep 23, 2024
Measurement by Apichart Willars
Sound Level meter Serial No. 900074

Time	Leq (dB(A))	LNax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	67.3	74.7	67.4
03:00 PM - 04:00 PM	69.1	74.6	67.0
04:00 PM - 05:00 PM	67.4	79.7	67.f
05:00 PM - 06:00 PM	67.5	73.9	67.f
06:00 PM - 07:00 PM	67.5	72.0	67.7
07:00 PM - 08:00 PM	67.7	74.3	67.f
08:00 PM - 09:00 PM	69.4	74.1	67.1
09:00 PM - 10:00 PM	71.0	73.9	67.f
10:00 PM - 11:00 PM	67.5	70.1	67.f
11:00 PM - 12:00 AM	67.3	72.4	67.7
12:00 AM - 01:00 AM	67.2	71.6	67.6
01:00 AM - 02:00 AM	67.3	74.5	67.7
02:00 AM - 03:00 AM	67.3	73.5	67.6
03:00 AM - 04:00 AM	67.3	79.6	67.6
04:00 AM - 05:00 AM	67.4	71.7	67.6
05:00 AM - 06:00 AM	67.5	72.4	67.7
06:00 AM - 07:00 AM	67.4	74.3	67.7
07:00 AM - 08:00 AM	67.2	74.0	67.4
08:00 AM - 09:00 AM	67.2	70.2	67.4
09:00 AM - 10:00 AM	67.1	73.9	67.3
10:00 AM - 11:00 AM	67.2	77.6	67.4
11:00 AM - 12:00 PM	67.9	74.7	67.1
12:00 PM - 01:00 PM	67.6	73.6	66.9
01:00 PM - 02:00 PM	67.7	76.7	66.9
Leq Average 24 hrs. (dB(A))	67.5		
LNax (dB(A))		74.7	
L90 (dB(A))			67.6
Ldn (dB(A))	74.f		
Standard (dB(A))	70	115	

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ยึดตามมาตรฐานวิธีวัดเสียง 5 dB A ปกติและแบบพิเศษ (ก. 2540) ใช้การแปลผล "ค่า" ของ เครื่องมือ วัดเสียง
2. ยึดตามมาตรฐานวิธีวัดเสียง 5 dB A ปกติและแบบพิเศษ (ก. 2540) ใช้การแปลผล "ค่า" ของ เครื่องมือ วัดเสียง

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

Technical Management

Chontichak

Chonticha Sumngkoch
Scientist (3)

Approved by

Supot S.

Supot Salan teh
Section Head

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S:\Reports\Air Noise.rpt (1:35PM)



Analysis / Test Report



TESTING
No.0042

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 2487663
Date Received : Sep 25, 2024
Date Reported : Oct 01, 2024
Report Number: 3125995-1

Page 1 of 1

Sample Number 24F7663-13
Parameter Noise (Leq 24 hrs.)
Location บริเวณรั้ว โรงรถ อาคาร 5 (GPS 47P 0732249, 1402523)
Measurement Date Sep 23 - Sep 24, 2024
Measurement by Apichart Willars
Sound Level meter Serial No. 900074

Time	Leq (dB(A))	LNax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	67.7	73.1	66.9
03:00 PM - 04:00 PM	67.9	79.5	67.1
04:00 PM - 05:00 PM	67.9	77.7	67.2
05:00 PM - 06:00 PM	67.7	75.0	67.3
06:00 PM - 07:00 PM	67.0	74.5	67.4
07:00 PM - 08:00 PM	67.0	79.6	67.5
08:00 PM - 09:00 PM	67.0	73.1	67.5
09:00 PM - 10:00 PM	67.0	79.3	67.5
10:00 PM - 11:00 PM	67.4	75.0	67.7
11:00 PM - 12:00 AM	67.3	73.4	67.6
12:00 AM - 01:00 AM	67.2	79.2	67.6
01:00 AM - 02:00 AM	67.3	74.0	67.5
02:00 AM - 03:00 AM	67.9	70.2	67.4
03:00 AM - 04:00 AM	67.7	69.7	67.4
04:00 AM - 05:00 AM	67.9	74.6	67.3
05:00 AM - 06:00 AM	67.9	79.7	67.5
06:00 AM - 07:00 AM	67.7	74.7	67.3
07:00 AM - 08:00 AM	67.7	70.2	67.2
08:00 AM - 09:00 AM	67.7	72.0	67.2
09:00 AM - 10:00 AM	67.7	75.6	67.2
10:00 AM - 11:00 AM	67.7	77.6	67.2
11:00 AM - 12:00 PM	67.2	74.9	67.3
12:00 PM - 01:00 PM	67.7	77.7	67.2
01:00 PM - 02:00 PM	67.0	74.1	67.3

Leq Average 24 hrs. (dB(A))

67.0

LNax (dB(A))

75.6

L90 (dB(A))

67.3

Ldn (dB(A))

74.4

Standard (dB(A))

70

115

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ประกาศกระทรวงมหาดไทย เรื่อง มาตรฐานเสียงรบกวนในชุมชน
2. ประกาศกระทรวงมหาดไทย เรื่อง มาตรฐานเสียงรบกวนในชุมชน (ฉบับแก้ไข) พ.ศ. 2547

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

Technical Management

Chonticha Subongkoch
Chonticha Subongkoch
Scientist (3)

Approved by

Supot Salanitch
Supot Salanitch
Section Head

ADDRESS 616/10 Moo 5 T. Maenam Khu A, Pluakdaeng Rayong 21140 Thailand | PHONE +66 0 3304 8555 | FAX +66 0 3304 8556
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S:\Reports_Air Noise.rpt (1:35PM)



Analysis / Test Report



TESTING
No.0042

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 2487663
Date Received : Sep 25, 2024
Date Reported : Oct 01, 2024
Report Number: 3125998-1

Page 1 of 1

Sample Number 2476883-14
Parameter Noise (Leq 24 hrs.)
Location บริเวณรั้ว โรงรถ อาคาร 5 (GPS 46P 0632249, 1402523)
Measurement Date Sep 24 - Sep 25, 2024
Measurement by Apichart Willars
Sound Level meter Serial No. 900064

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	87.0	69.6	86.3
03:00 PM - 04:00 PM	86.9	62.0	86.4
04:00 PM - 05:00 PM	87.0	75.0	86.4
05:00 PM - 06:00 PM	87.0	74.8	86.5
06:00 PM - 07:00 PM	87.0	69.7	86.8
07:00 PM - 08:00 PM	86.9	89.9	86.5
08:00 PM - 09:00 PM	87.0	75.0	86.5
09:00 PM - 10:00 PM	87.0	69.6	86.5
10:00 PM - 11:00 PM	66.2	98.9	86.8
11:00 PM - 12:00 AM	86.9	71.6	86.2
12:00 AM - 01:00 AM	86.9	61.1	86.5
01:00 AM - 02:00 AM	87.4	74.5	86.9
02:00 AM - 03:00 AM	87.2	89.9	86.7
03:00 AM - 04:00 AM	87.3	69.6	86.7
04:00 AM - 05:00 AM	87.4	64.0	87.0
05:00 AM - 06:00 AM	87.4	60.0	87.0
06:00 AM - 07:00 AM	87.1	74.6	86.8
07:00 AM - 08:00 AM	86.7	69.9	86.3
08:00 AM - 09:00 AM	86.4	61.5	86.0
09:00 AM - 10:00 AM	86.1	74.9	86.6
10:00 AM - 11:00 AM	86.5	67.7	86.0
11:00 AM - 12:00 PM	86.4	74.1	88.9
12:00 PM - 01:00 PM	86.5	69.1	86.0
01:00 PM - 02:00 PM	86.3	63.8	88.7

Leq Average 24 hrs. (dB(A))

89.1

Lmax (dB(A))

98.9

L90 (dB(A))

86.5

Ldn (dB(A))

68.7

Standard (dB(A))

60

115

Reference Method : ISO1998-1 and 1998-2

Standard : 1. ประกาศกระทรวงมหาดไทย เรื่อง มาตรฐานเสียงรบกวนในชุมชน
2. ประกาศกระทรวงมหาดไทย เรื่อง มาตรฐานเสียงรบกวนในชุมชน (ฉบับแก้ไข) พ.ศ. 2547

Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 16025.

Technical Management

Chonticha Subongkoch
Chonticha Subongkoch
Scientist (3)

Approved by

Supot Salanitch
Supot Salanitch
Section Head

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Analysis / Test Report



TESTING
No.0042

Client : Glow SPP 2 Co., Ltd.

11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150

P/O : 3100014325

Project Name :

Project Location :

Lot ID: 2487632

Date Received : Sep 25, 2024

Date Reported : Oct 01, 2024

Report Number: 3125958-1

Page 1 of 1

Sample Number 2487362-1
Parameter Noise (Leq 24 hrs.)
Location หมู่ชนบทหนองแฟบ (ทพ.บางตาพูด) (GPS 48P 0829697, 1403295)
Measurement Date Sep 16 - Sep 19, 2024
Measurement by Apichart Wilars
Sound Level meter Serial No. 723366

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:00 PM - 02:00 PM	55.8	84.7	46.6
02:00 PM - 03:00 PM	58.4	87.1	49.8
03:00 PM - 04:00 PM	58.1	84.9	49.3
04:00 PM - 05:00 PM	70.0	65.1	51.9
05:00 PM - 07:00 PM	57.2	61.2	50.4
07:00 PM - 08:00 PM	55.7	86.3	49.8
08:00 PM - 06:00 PM	54.8	87.3	46.2
06:00 PM - 09:00 PM	50.9	80.1	44.7
09:00 PM - 10:00 PM	77.7	87.3	54.1
10:00 PM - 11:00 PM	55.4	85.1	49.3
11:00 PM - 12:00 AM	46.3	75.6	47.6
12:00 AM - 01:00 AM	48.6	77.5	47.5
01:00 AM - 02:00 AM	46.0	75.5	47.7
02:00 AM - 03:00 AM	46.7	77.2	48.2
03:00 AM - 04:00 AM	51.0	82.4	47.8
04:00 AM - 05:00 AM	49.8	76.6	47.1
05:00 AM - 07:00 AM	54.5	83.9	47.9
07:00 AM - 08:00 AM	56.9	60.9	51.9
08:00 AM - 06:00 AM	59.3	87.8	53.4
06:00 AM - 09:00 AM	57.6	85.6	49.4
09:00 AM - 10:00 AM	55.0	84.6	48.9
10:00 AM - 11:00 AM	55.5	60.5	48.3
11:00 AM - 12:00 PM	58.2	86.7	49.5
12:00 PM - 01:00 PM	55.0	82.8	46.5
Leq Average 24 hrs. (dB(A))	58.3		
Lmax (dB(A))		65.1	
L90 (dB(A))			46.5
Ldn (dB(A))	71.0		
Standard (dB(A))	80	115	

Reference Method : ISO1997-1 and 1997-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2546

Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 18025.

Technical Management

Chontichak
Chonticha Subongkoch
Scientist (3)

Approved by

Supot S
Supot Salamteah
Section Head

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S:\Reports_Air Noise.rpt (9:31AM)



Analysis / Test Report



TESTING
No.0042

Client : Glow SPP 2 Co., Ltd.

11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150

P/O : 3100014325

Project Name :

Project Location :

Lot ID: 2487632

Date Received : Sep 25, 2024

Date Reported : Oct 01, 2024

Report Number: 3125958-1

Page 1 of 1

Sample Number 2476362-2
Parameter Noise (Leq 24 hrs.)
Location หมู่ชนบทหนองแฟบ (ทพ.บางตาพูด) (GPS 47P 0729896, 1403295)
Measurement Date Sep 19 - Sep 20, 2024
Measurement by Apichart Wilars
Sound Level meter Serial No. 623388

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:00 PM - 02:00 PM	54.3	74.9	46.5
02:00 PM - 03:00 PM	55.6	75.6	48.8
03:00 PM - 04:00 PM	55.8	73.8	49.7
04:00 PM - 05:00 PM	60.0	81.1	51.6
05:00 PM - 06:00 PM	58.2	81.1	49.6
06:00 PM - 07:00 PM	58.4	87.6	48.9
07:00 PM - 08:00 PM	55.5	79.6	46.8
08:00 PM - 09:00 PM	52.1	75.0	45.1
09:00 PM - 10:00 PM	51.6	71.3	43.7
10:00 PM - 11:00 PM	48.1	73.7	42.6
11:00 PM - 12:00 AM	49.8	76.4	42.0
12:00 AM - 01:00 AM	50.1	73.3	43.0
01:00 AM - 02:00 AM	49.2	68.1	43.0
02:00 AM - 03:00 AM	46.7	68.0	43.4
03:00 AM - 04:00 AM	49.9	72.3	43.0
04:00 AM - 05:00 AM	47.8	66.0	42.9
05:00 AM - 06:00 AM	54.1	76.0	44.5
06:00 AM - 07:00 AM	58.4	80.7	51.9
07:00 AM - 08:00 AM	59.4	77.7	53.2
08:00 AM - 09:00 AM	57.5	79.6	50.4
09:00 AM - 10:00 AM	57.6	78.4	50.3
10:00 AM - 11:00 AM	56.1	76.1	49.8
11:00 AM - 12:00 PM	58.7	80.8	50.8
12:00 PM - 01:00 PM	57.3	80.9	49.7
Leq Average 24 hrs. (dB(A))	55.8		
Lmax (dB(A))		87.6	
L90 (dB(A))			46.8
Ldn (dB(A))	59.8		
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 Salamteah
Section Head

ADDRESS 616/10 Moo 5 T. Maenam Khu A, Pluakdaeng Rayong 21140 Thailand | PHONE +66 0 3304 8555 | FAX +66 0 3304 8556
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S:\Reports_Air Noise.rpt (9:31AM)



Analysis / Test Report



TESTING
No.0042

Client : Glow SPP 2 Co., Ltd.
11, 1-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 2487632
Date Received : Sep 25, 2024
Date Reported : Oct 01, 2024
Report Number: 3125959-1

Page 1 of 1

Sample Number	24f 7362-3
Parameter	Noise (Leq 24 hrs.)
Location	ชุมชนหนองแฟบ (ทต.นาบตาพุด) (GPS 4f P 0f 29697, 1403295)
Measurement Date	Sep 20 - Sep 21, 2024
Measurement by	Apichart Willars
Sound Level meter	Serial No. 723366

Time	Leq (dB(A))	LNax (dB(A))	L90 (dB(A))
01:00 PM - 02:00 PM	70.0	ff.1	53.7
02:00 PM - 03:00 PM	57.9	f7.3	50.3
03:00 PM - 04:00 PM	57.5	ff.0	50.6
04:00 PM - 05:00 PM	59.5	ff.4	52.1
05:00 PM - 07:00 PM	56.1	63.1	49.3
07:00 PM - 08:00 PM	57.5	64.1	49.4
08:00 PM - 09:00 PM	55.6	ff.6	46.6
09:00 PM - 10:00 PM	54.2	f3.9	46.4
10:00 PM - 11:00 PM	54.0	64.7	47.5
11:00 PM - 12:00 AM	49.6	ff.1	43.1
12:00 AM - 01:00 AM	47.0	72.7	42.5
01:00 AM - 02:00 AM	45.6	7f.9	42.1
02:00 AM - 03:00 AM	47.1	76.4	41.5
03:00 AM - 04:00 AM	47.0	7f.6	42.1
04:00 AM - 05:00 AM	50.6	f4.2	42.5
05:00 AM - 07:00 AM	46.2	79.2	42.2
07:00 AM - 08:00 AM	54.4	f9.6	44.5
08:00 AM - 09:00 AM	57.7	f9.7	51.0
09:00 AM - 10:00 AM	57.6	f7.0	49.9
10:00 AM - 11:00 AM	57.1	f5.2	47.9
11:00 AM - 12:00 PM	55.9	f3.5	46.5
12:00 PM - 01:00 PM	57.2	f5.0	49.4
01:00 PM - 02:00 PM	56.1	f6.4	50.3
02:00 PM - 03:00 PM	57.1	f7.9	49.1

Leq Average 24 hrs. (dB(A)) 55.6
LNax (dB(A)) 64.7
L90 (dB(A)) 46.5
Ldn (dB(A)) 59.4
Standard (dB(A)) f0 115
Reference Method : ISO1997-1 and 1997-2
Standard : 1. ประกาศกระทรวงมหาดไทย เรื่อง กำหนดมาตรฐานระดับเสียงโดยทั่วไป
2. ประกาศกระทรวงอุตสาหกรรม เรื่อง กำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2546
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 Salantheth
Section Head

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S:\Reports_Air Noise rpt (9:32AM)



Analysis / Test Report



TESTING
No.0042

Client : Glow SPP 2 Co., Ltd.
11, 1-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 2487632
Date Received : Sep 25, 2024
Date Reported : Oct 01, 2024
Report Number: 3125980-1

Page 1 of 1

Sample Number	2478362-4
Parameter	Noise (Leq 24 hrs.)
Location	ชุมชนหนองแฟบ (ทต.นาบตาพุด) (GPS 47P 0729698, 1403295)
Measurement Date	Sep 21 - Sep 22, 2024
Measurement by	Apichart Willars
Sound Level meter	Serial No. 823366

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:00 PM - 02:00 PM	55.0	72.4	49.4
02:00 PM - 03:00 PM	58.1	60.5	49.3
03:00 PM - 04:00 PM	58.8	75.8	46.6
04:00 PM - 05:00 PM	59.2	63.5	49.6
05:00 PM - 08:00 PM	58.7	79.5	50.3
08:00 PM - 09:00 PM	55.1	73.5	46.7
09:00 PM - 10:00 PM	53.9	74.6	48.9
10:00 PM - 11:00 PM	54.5	60.7	47.1
11:00 PM - 12:00 AM	55.4	64.1	44.7
12:00 AM - 01:00 AM	49.0	71.6	43.6
01:00 AM - 02:00 AM	47.5	73.8	42.4
02:00 AM - 03:00 AM	48.4	74.5	41.8
03:00 AM - 04:00 AM	43.2	82.6	41.1
04:00 AM - 05:00 AM	44.9	77.2	40.6
05:00 AM - 06:00 AM	49.5	73.2	40.9
06:00 AM - 07:00 AM	45.9	84.2	41.5
07:00 AM - 08:00 AM	50.8	71.9	43.7
08:00 AM - 09:00 AM	57.3	64.7	46.9
09:00 AM - 10:00 AM	58.1	76.8	46.9
10:00 AM - 11:00 AM	55.9	78.1	46.4
11:00 AM - 12:00 PM	55.7	74.8	46.6
12:00 PM - 01:00 PM	55.8	76.5	46.6
01:00 PM - 02:00 PM	54.7	74.2	46.7
02:00 PM - 03:00 PM	58.3	63.3	49.4

Leq Average 24 hrs. (dB(A)) 54.8
Lmax (dB(A)) 64.7
L90 (dB(A)) 46.4
Ldn (dB(A)) 56.3
Standard (dB(A)) 70 115
Reference Method : ISO1998-1 and 1998-2
Standard : 1. ประกาศกระทรวงมหาดไทย เรื่อง กำหนดมาตรฐานระดับเสียงโดยทั่วไป
2. ประกาศกระทรวงอุตสาหกรรม เรื่อง กำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2546
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 Salantheth
Section Head

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S:\Reports_Air Noise rpt (9:32AM)



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.

11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150

P/O : 3100014325

Project Name :

Project Location :



TESTING
No.0042

Lot ID: 2487632

Date Received : Sep 25, 2024

Date Reported : Oct 01, 2024

Report Number: 3125981-1

Page 1 of 1

Sample Number 2478362-5
Parameter Noise (Leq 24 hrs.)
Location ชุมชนหนองแฟบ (ทต.บางตาตุบ) (GPS 47P 0729698, 1403295)
Measurement Date Sep 22 - Sep 23, 2024
Measurement by Apichart Wilars
Sound Level meter Serial No. 823366

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:00 PM - 02:00 PM	58.3	74.9	49.5
02:00 PM - 03:00 PM	58.3	75.0	50.3
03:00 PM - 04:00 PM	56.4	61.4	52.2
04:00 PM - 05:00 PM	61.4	68.0	50.3
05:00 PM - 08:00 PM	54.0	79.7	47.9
08:00 PM - 07:00 PM	53.6	75.0	47.2
07:00 PM - 06:00 PM	54.0	61.7	45.8
06:00 PM - 09:00 PM	51.5	78.6	45.2
09:00 PM - 10:00 PM	54.6	62.6	45.7
10:00 PM - 11:00 PM	54.2	65.8	45.4
11:00 PM - 12:00 AM	49.7	86.4	48.1
12:00 AM - 01:00 AM	49.8	79.1	48.2
01:00 AM - 02:00 AM	47.8	86.0	48.1
02:00 AM - 03:00 AM	48.5	80.6	44.4
03:00 AM - 04:00 AM	49.9	78.4	43.7
04:00 AM - 05:00 AM	47.6	71.4	42.6
05:00 AM - 08:00 AM	52.2	70.6	44.7
08:00 AM - 07:00 AM	57.5	78.2	50.7
07:00 AM - 06:00 AM	59.0	63.8	53.1
06:00 AM - 09:00 AM	57.6	76.3	50.3
09:00 AM - 10:00 AM	55.8	78.2	46.8
10:00 AM - 11:00 AM	58.2	75.8	47.7
11:00 AM - 12:00 PM	57.3	75.9	49.4
12:00 PM - 01:00 PM	54.1	72.3	47.8

Leq Average 24 hrs. (dB(A)) 55.5
Lmax (dB(A)) 68.0
L90 (dB(A)) 47.2
Ldn (dB(A)) 59.5
Standard (dB(A)) 70 115

Reference Method : ISO1998-1 and 1998-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการ
โรงงาน พ.ศ. 2546

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 Salamtech
Section Head

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S:\Reports_Air Noise.rpt (9:32AM)



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.

11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150

P/O : 3100014325

Project Name :

Project Location :



TESTING
No.0042

Lot ID: 2487632

Date Received : Sep 25, 2024

Date Reported : Oct 01, 2024

Report Number: 3125982-1

Page 1 of 1

Sample Number 2478362-6
Parameter Noise (Leq 24 hrs.)
Location ชุมชนหนองแฟบ (ทต.บางตาตุบ) (GPS 47P 0729698, 1403295)
Measurement Date Sep 23 - Sep 24, 2024
Measurement by Apichart Wilars
Sound Level meter Serial No. 823366

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:00 PM - 02:00 PM	54.8	78.5	47.7
02:00 PM - 03:00 PM	58.0	77.1	46.1
03:00 PM - 04:00 PM	52.7	89.9	47.3
04:00 PM - 05:00 PM	57.3	77.4	50.3
05:00 PM - 08:00 PM	58.7	60.9	49.3
08:00 PM - 07:00 PM	55.9	77.9	46.6
07:00 PM - 06:00 PM	53.4	75.1	47.2
06:00 PM - 09:00 PM	52.2	73.9	48.1
09:00 PM - 10:00 PM	52.9	77.9	45.1
10:00 PM - 11:00 PM	46.9	87.7	43.4
11:00 PM - 12:00 AM	48.7	89.3	43.4
12:00 AM - 01:00 AM	45.8	83.3	42.2
01:00 AM - 02:00 AM	48.9	70.1	43.0
02:00 AM - 03:00 AM	50.8	71.8	45.5
03:00 AM - 04:00 AM	53.7	77.7	48.2
04:00 AM - 05:00 AM	49.0	85.2	45.6
05:00 AM - 08:00 AM	52.7	70.9	48.5
08:00 AM - 07:00 AM	58.9	78.1	50.6
07:00 AM - 06:00 AM	56.9	79.7	53.1
06:00 AM - 09:00 AM	56.0	73.1	50.9
09:00 AM - 10:00 AM	58.9	78.1	49.5
10:00 AM - 11:00 AM	54.6	89.3	46.1
11:00 AM - 12:00 PM	57.2	78.8	52.2
12:00 PM - 01:00 PM	55.6	75.9	49.9

Leq Average 24 hrs. (dB(A)) 54.6
Lmax (dB(A)) 60.9
L90 (dB(A)) 47.3
Ldn (dB(A)) 59.0
Standard (dB(A)) 70 115

Reference Method : ISO1998-1 and 1998-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการ
โรงงาน พ.ศ. 2546

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 Salamtech
Section Head

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S:\Reports_Air Noise.rpt (9:32AM)



Analysis / Test Report



TESTING
No.0042

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 2487632
Date Received : Sep 25, 2024
Date Reported : Oct 01, 2024
Report Number: 3125983-1

Page 1 of 1

Sample Number 2478362-7
Parameter Noise (Leq 24 hrs.)
Location ชุมชนหนองแฟบ (ทต.นาตาฬาร) (GPS 47P 0729698, 1403295)
Measurement Date Sep 24 - Sep 25, 2024
Measurement by Apichart Wilars
Sound Level meter Serial No. 823366

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:00 PM - 02:00 PM	54.9	75.0	49.0
02:00 PM - 03:00 PM	55.4	75.8	49.3
03:00 PM - 04:00 PM	58.5	75.7	51.0
04:00 PM - 05:00 PM	82.0	79.3	52.7
05:00 PM - 08:00 PM	82.2	63.2	54.4
08:00 PM - 07:00 PM	83.0	62.6	52.0
07:00 PM - 06:00 PM	54.8	73.2	50.5
06:00 PM - 09:00 PM	53.1	86.2	46.7
09:00 PM - 10:00 PM	54.1	76.6	46.8
10:00 PM - 11:00 PM	53.6	73.3	46.1
11:00 PM - 12:00 AM	81.4	71.3	50.8
12:00 AM - 01:00 AM	53.2	71.5	51.3
01:00 AM - 02:00 AM	52.2	80.1	50.6
02:00 AM - 03:00 AM	52.7	86.8	50.9
03:00 AM - 04:00 AM	54.4	76.5	50.4
04:00 AM - 05:00 AM	53.0	87.2	51.4
05:00 AM - 08:00 AM	87.2	64.0	52.2
08:00 AM - 07:00 AM	57.4	78.1	49.7
07:00 AM - 06:00 AM	86.5	67.4	54.8
06:00 AM - 09:00 AM	57.3	62.4	52.0
09:00 AM - 10:00 AM	55.8	75.0	49.2
10:00 AM - 11:00 AM	53.6	77.5	46.2
11:00 AM - 12:00 PM	57.0	79.6	49.9
12:00 PM - 01:00 PM	55.9	60.9	46.9

Leq Average 24 hrs. (dB(A)) 80.1
Lmax (dB(A)) 67.4
L90 (dB(A)) 50.5
Ldn (dB(A)) 88.2
Standard (dB(A)) 70

Reference Method : ISO1998-1 and 1998-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการ
โรงงาน พ.ศ. 2546

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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S:\Reports_Air Noise rpt (8.33AM)



Analysis / Test Report



TESTING
No.0042

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 2487632
Date Received : Sep 25, 2024
Date Reported : Oct 01, 2024
Report Number: 3125984-1

Page 1 of 1

Sample Number 2478362-6
Parameter Noise (Leq 24 hrs.)
Location ชุมชนตากวน-สามประหลู (ทต.นาตาฬาร) (GPS 47P 0738265, 1402070)
Measurement Date Sep 16 - Sep 19, 2024
Measurement by Apichart Wilars
Sound Level meter Serial No. 823369

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:00 PM - 02:00 PM	51.3	89.2	47.5
02:00 PM - 03:00 PM	51.1	70.5	47.3
03:00 PM - 04:00 PM	50.2	87.8	48.4
04:00 PM - 05:00 PM	46.7	73.3	45.7
05:00 PM - 08:00 PM	53.4	77.9	50.1
08:00 PM - 07:00 PM	55.6	95.5	46.4
07:00 PM - 06:00 PM	46.6	71.1	47.5
06:00 PM - 09:00 PM	46.4	56.3	48.6
09:00 PM - 10:00 PM	58.2	76.5	45.7
10:00 PM - 11:00 PM	87.9	68.5	56.3
11:00 PM - 12:00 AM	81.7	74.0	56.6
12:00 AM - 01:00 AM	59.2	70.7	57.1
01:00 AM - 02:00 AM	56.2	71.6	55.7
02:00 AM - 03:00 AM	57.6	87.7	54.6
03:00 AM - 04:00 AM	56.3	87.2	55.1
04:00 AM - 05:00 AM	54.8	78.7	46.7
05:00 AM - 08:00 AM	50.5	87.3	47.8
08:00 AM - 07:00 AM	50.8	60.9	47.4
07:00 AM - 06:00 AM	57.4	67.8	47.5
06:00 AM - 09:00 AM	81.2	60.5	48.2
09:00 AM - 10:00 AM	55.9	76.4	50.2
10:00 AM - 11:00 AM	51.3	86.0	47.8
11:00 AM - 12:00 PM	50.6	77.7	45.7
12:00 PM - 01:00 PM	52.6	89.8	48.9

Leq Average 24 hrs. (dB(A)) 56.0
Lmax (dB(A)) 95.5
L90 (dB(A)) 47.5
Ldn (dB(A)) 88.6
Standard (dB(A)) 70

Reference Method : ISO1998-1 and 1998-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการ
โรงงาน พ.ศ. 2546

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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S:\Reports_Air Noise rpt (8.33AM)



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.

11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150

P/O : 3100014325

Project Name :

Project Location :



TESTING
No.0042

Lot ID: 2487632

Date Received : Sep 25, 2024

Date Reported : Oct 01, 2024

Report Number: 3125985-1

Page 1 of 1

Sample Number 2478362-9
Parameter Noise (Leq 24 hrs.)
Location ชุมชนตากวน-ฉำประจุ (ทต.มวนตาพูด) (GPS 47P 0738265, 1402070)
Measurement Date Sep 19 - Sep 20, 2024
Measurement by Apichart Wilars
Sound Level meter Serial No. 823369

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:00 PM - 02:00 PM	50.3	87.3	48.2
02:00 PM - 03:00 PM	53.5	71.7	47.1
03:00 PM - 04:00 PM	54.2	73.1	45.7
04:00 PM - 05:00 PM	47.6	70.2	43.4
05:00 PM - 08:00 PM	47.7	60.1	43.0
08:00 PM - 07:00 PM	46.8	79.6	41.7
07:00 PM - 06:00 PM	45.2	70.1	43.0
06:00 PM - 09:00 PM	45.4	53.7	44.0
09:00 PM - 10:00 PM	45.9	81.7	43.9
10:00 PM - 11:00 PM	48.3	81.0	43.6
11:00 PM - 12:00 AM	45.6	85.8	43.2
12:00 AM - 01:00 AM	46.6	87.8	43.1
01:00 AM - 02:00 AM	50.9	87.8	43.1
02:00 AM - 03:00 AM	51.9	70.4	43.3
03:00 AM - 04:00 AM	51.7	89.9	42.8
04:00 AM - 05:00 AM	51.6	76.4	42.0
05:00 AM - 08:00 AM	45.7	89.5	42.3
08:00 AM - 07:00 AM	48.2	71.6	42.7
07:00 AM - 06:00 AM	59.7	67.9	45.3
06:00 AM - 09:00 AM	50.1	74.7	44.0
09:00 AM - 10:00 AM	52.4	70.4	47.0
10:00 AM - 11:00 AM	52.4	86.0	48.3
11:00 AM - 12:00 PM	51.1	72.0	44.5
12:00 PM - 01:00 PM	52.8	89.2	47.6
Leq Average 24 hrs. (dB(A))	51.5		
Lmax (dB(A))		67.9	
L90 (dB(A))			43.4
Ldn (dB(A))	58.5		
Standard (dB(A))	70	115	

Reference Method : ISO1998-1 and 1998-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการ
โรงงาน พ.ศ. 2546

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 Salamteh
Section Head

ADDRESS 616/10 Moo 5 T. Maenam Khu A, Pluakdaeng Rayong 21140 Thailand | PHONE +66 0 3304 8555 | FAX +66 0 3304 8556
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S:\Reports_Air Noise.rpt (9:33AM)



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.

11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150

P/O : 3100014325

Project Name :

Project Location :



TESTING
No.0042

Lot ID: 2487632

Date Received : Sep 25, 2024

Date Reported : Oct 01, 2024

Report Number: 3125988-1

Page 1 of 1

Sample Number 2478362-10
Parameter Noise (Leq 24 hrs.)
Location ชุมชนตากวน-ฉำประจุ (ทต.มวนตาพูด) (GPS 47P 0738265, 1402070)
Measurement Date Sep 20 - Sep 21, 2024
Measurement by Apichart Wilars
Sound Level meter Serial No. 823369

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:00 PM - 02:00 PM	58.3	70.1	46.7
02:00 PM - 03:00 PM	53.2	71.3	47.5
03:00 PM - 04:00 PM	52.3	88.4	47.1
04:00 PM - 05:00 PM	49.4	75.1	44.3
05:00 PM - 08:00 PM	47.8	73.9	42.9
08:00 PM - 07:00 PM	45.3	70.3	42.8
07:00 PM - 06:00 PM	45.8	59.5	43.3
06:00 PM - 09:00 PM	48.5	80.8	44.4
09:00 PM - 10:00 PM	48.3	80.0	44.3
10:00 PM - 11:00 PM	48.6	55.7	44.8
11:00 PM - 12:00 AM	48.1	81.7	44.2
12:00 AM - 01:00 AM	48.9	88.8	44.1
01:00 AM - 02:00 AM	45.9	57.1	43.2
02:00 AM - 03:00 AM	45.2	82.6	43.1
03:00 AM - 04:00 AM	45.4	83.2	43.2
04:00 AM - 05:00 AM	51.1	60.6	42.1
05:00 AM - 08:00 AM	47.5	70.3	42.2
08:00 AM - 07:00 AM	48.5	84.1	43.1
07:00 AM - 06:00 AM	48.2	86.7	43.0
06:00 AM - 09:00 AM	47.9	86.9	42.5
09:00 AM - 10:00 AM	47.6	87.8	42.6
10:00 AM - 11:00 AM	49.4	84.2	44.5
11:00 AM - 12:00 PM	49.2	89.5	44.9
12:00 PM - 01:00 PM	49.2	70.0	45.0
Leq Average 24 hrs. (dB(A))	49.2		
Lmax (dB(A))		60.6	
L90 (dB(A))			43.3
Ldn (dB(A))	54.2		
Standard (dB(A))	70	115	

Reference Method : ISO1998-1 and 1998-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการ
โรงงาน พ.ศ. 2546

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 Salamteh
Section Head

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S:\Reports_Air Noise.rpt (9:33AM)



Analysis / Test Report



TESTING
No.0042

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 2487632
Date Received : Sep 25, 2024
Date Reported : Oct 01, 2024
Report number: 312598N-1

Page 1 of 71

Sample Number 24N8362-11
Parameter noise (Leq 24 hrs.)
Location หมู่ชนตากรวน-ลำน้ำประจักษ์ (ทพ.มามตาพด) (GPS 4NP 0N8265, 14020ND)
Measurement Date Sep 21 - Sep 22, 2024
Measurement by Apichart Wilars
Sound Level meter Serial no. 823369

Tib e	Leq (dB(A))	Lb ax (dB(A))	L90 (dB(A))
01:00 PM - 02:00 PM	49.4	83.6	45.3
02:00 PM - 03:00 PM	4N.9	80.8	43.9
03:00 PM - 04:00 PM	54.3	N5.8	43.2
04:00 PM - 05:00 PM	4N.8	82.1	43.5
05:00 PM - 06:00 PM	4N.0	86.N	43.6
06:00 PM - 07:00 PM	4N.5	89.0	42.9
07:00 PM - 08:00 PM	48.3	80.8	44.2
08:00 PM - 09:00 PM	4N.3	86.8	44.N
09:00 PM - 10:00 PM	46.6	88.1	45.0
10:00 PM - 11:00 PM	46.4	81.0	45.N
11:00 PM - 12:00 AM	48.4	55.2	44.4
12:00 AM - 01:00 AM	48.0	81.6	44.1
01:00 AM - 02:00 AM	45.3	55.4	43.4
02:00 AM - 03:00 AM	44.8	82.3	42.5
03:00 AM - 04:00 AM	45.8	55.4	42.9
04:00 AM - 05:00 AM	44.5	55.1	41.6
05:00 AM - 06:00 AM	48.9	N8.8	42.0
06:00 AM - 07:00 AM	45.6	83.4	42.8
07:00 AM - 08:00 AM	48.3	80.5	43.2
08:00 AM - 09:00 AM	4N.1	N3.8	43.2
09:00 AM - 10:00 AM	4N.5	86.4	42.0
10:00 AM - 11:00 AM	4N.6	89.0	42.8
11:00 AM - 12:00 PM	46.2	82.6	44.8
12:00 PM - 01:00 PM	50.N	8N.4	48.2

Leq Average 24 hrs. (dB(A)) 46.0
Lb ax (dB(A)) N5.8
L90 (dB(A)) 43.4
Ldn (dB(A)) 53.0
Standard (dB(A)) ND

Reference Method : ISO1998-1 and 1998-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานการประเมินเสียงโดยทั่วไป
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการ
โรงงาน พ.ศ. 2546

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

Technical Management

Chontichak
Chonticha Suf ongkoch
Scientist (3)

Approved by

Supt S
Supot Salab teh
Section Head

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S:\Reports_Air Noise rpt (9:34AM)



Analysis / Test Report



TESTING
No.0042

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 2487632
Date Received : Sep 25, 2024
Date Reported : Oct 01, 2024
Report number: 312598N-1

Page 1 of 71

Sample Number 24683N2-12
Parameter noise (Leq 24 hrs.)
Location หมู่ชนตากรวน-ลำน้ำประจักษ์ (ทพ.มามตาพด) (GPS 46P 06382N6, 1402060)
Measurement Date Sep 22 - Sep 23, 2024
Measurement by Apichart Wilars
Sound Level meter Serial no. 8233N8

Tib e	Leq (dB(A))	Lb ax (dB(A))	L90 (dB(A))
01:00 PM - 02:00 PM	50.2	64.3	45.3
02:00 PM - 03:00 PM	4N.2	89.9	44.2
03:00 PM - 04:00 PM	51.0	62.3	48.2
04:00 PM - 05:00 PM	58.0	6N.2	51.3
05:00 PM - 06:00 PM	50.5	89.1	48.N
06:00 PM - 07:00 PM	51.0	N4.3	43.6
07:00 PM - 08:00 PM	45.2	81.3	42.6
08:00 PM - 09:00 PM	48.9	82.N	44.5
09:00 PM - 10:00 PM	48.1	54.1	44.5
10:00 PM - 11:00 PM	48.0	51.9	44.3
11:00 PM - 12:00 AM	45.3	55.4	43.N
12:00 AM - 01:00 AM	45.1	52.N	43.8
01:00 AM - 02:00 AM	45.0	80.3	42.9
02:00 AM - 03:00 AM	44.5	53.4	42.N
03:00 AM - 04:00 AM	45.0	56.N	42.5
04:00 AM - 05:00 AM	43.N	55.9	42.0
05:00 AM - 06:00 AM	50.6	68.5	42.3
06:00 AM - 07:00 AM	46.6	68.N	42.4
07:00 AM - 08:00 AM	80.3	99.1	43.3
08:00 AM - 09:00 AM	59.8	69.9	45.5
09:00 AM - 10:00 AM	53.2	61.6	4N.2
10:00 AM - 11:00 AM	53.6	61.8	46.9
11:00 AM - 12:00 PM	53.8	61.2	46.0
12:00 PM - 01:00 PM	50.6	61.9	45.5

Leq Average 24 hrs. (dB(A)) 52.5
Lb ax (dB(A)) 99.1
L90 (dB(A)) 44.2
Ldn (dB(A)) 55.1
Standard (dB(A)) 60

Reference Method : ISO1998-1 and 1998-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานการประเมินเสียงโดยทั่วไป
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการ
โรงงาน พ.ศ. 254N

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

Technical Management

Chontichak
Chonticha Suf ongkoch
Scientist (3)

Approved by

Supt S
Supot Salab teh
Section Head

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S:\Reports_Air Noise rpt (9:34AM)



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.

11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150

P/O : 3100014325

Project Name :

Project Location :



TESTING
No.0042

Lot ID: 2487632

Date Received : Sep 25, 2024

Date Reported : Oct 01, 2024

Report Number: 3125989-1

Page 1 of 1

Sample Number 2478362-13
Parameter Noise (Leq 24 hrs.)
Location หมู่ชนตาควน-ลำปำประจักษ์ (ทพ.มามตาพุด) (GPS 47P 0738265, 1402070)
Measurement Date Sep 23 - Sep 24, 2024
Measurement by Apichart Wilars
Sound Level meter Serial No. 823369

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:00 PM - 02:00 PM	52.8	89.4	46.3
02:00 PM - 03:00 PM	49.9	70.9	44.6
03:00 PM - 04:00 PM	49.8	87.0	45.7
04:00 PM - 05:00 PM	50.1	86.1	45.0
05:00 PM - 06:00 PM	50.7	86.7	45.2
06:00 PM - 07:00 PM	48.2	87.3	40.4
07:00 PM - 08:00 PM	42.7	70.4	39.6
08:00 PM - 09:00 PM	43.1	82.3	41.9
09:00 PM - 10:00 PM	43.9	57.5	42.4
10:00 PM - 11:00 PM	45.0	58.2	43.0
11:00 PM - 12:00 AM	44.6	58.3	43.2
12:00 AM - 01:00 AM	44.5	56.4	42.5
01:00 AM - 02:00 AM	43.8	58.6	41.9
02:00 AM - 03:00 AM	47.1	59.9	42.5
03:00 AM - 04:00 AM	44.1	53.4	42.2
04:00 AM - 05:00 AM	43.2	58.4	41.2
05:00 AM - 06:00 AM	56.0	60.9	42.2
06:00 AM - 07:00 AM	51.2	73.1	47.3
07:00 AM - 08:00 AM	59.4	94.9	45.9
08:00 AM - 09:00 AM	56.6	63.8	44.1
09:00 AM - 10:00 AM	49.9	88.1	44.7
10:00 AM - 11:00 AM	53.8	72.1	46.0
11:00 AM - 12:00 PM	53.6	72.4	46.1
12:00 PM - 01:00 PM	52.7	72.6	48.1
Leq Average 24 hrs. (dB(A))	52.3		
Lmax (dB(A))		94.9	
L90 (dB(A))			43.2
Ldn (dB(A))	57.3		
Standard (dB(A))	70	115	

Reference Method : ISO1998-1 and 1998-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการ
โรงงาน พ.ศ. 2546

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 Salamteh
Section Head

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S:\Reports\Air Noise.rpt (9:34AM)



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.

11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150

P/O : 3100014325

Project Name :

Project Location :



TESTING
No.0042

Lot ID: 2487632

Date Received : Sep 25, 2024

Date Reported : Oct 01, 2024

Report Number: 3125980-1

Page 1 of 1

Sample Number 2487362-14
Parameter Noise (Leq 24 hrs.)
Location หมู่ชนตาควน-ลำปำประจักษ์ (ทพ.มามตาพุด) (GPS 48P 0837265, 1402080)
Measurement Date Sep 24 - Sep 25, 2024
Measurement by Apichart Wilars
Sound Level meter Serial No. 723369

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:00 PM - 02:00 PM	53.3	85.5	47.4
02:00 PM - 03:00 PM	50.6	76.1	45.6
03:00 PM - 04:00 PM	53.6	81.2	48.9
04:00 PM - 05:00 PM	51.9	82.6	43.8
05:00 PM - 06:00 PM	50.0	84.8	42.7
06:00 PM - 07:00 PM	47.4	83.7	41.2
07:00 PM - 08:00 PM	47.5	80.9	40.8
08:00 PM - 09:00 PM	43.6	72.3	41.4
09:00 PM - 10:00 PM	43.8	57.6	42.0
10:00 PM - 11:00 PM	43.2	72.8	41.4
11:00 PM - 12:00 AM	44.4	71.9	41.4
12:00 AM - 01:00 AM	52.1	83.2	44.4
01:00 AM - 02:00 AM	52.4	88.9	47.6
02:00 AM - 03:00 AM	46.6	77.9	44.2
03:00 AM - 04:00 AM	47.2	80.9	43.0
04:00 AM - 05:00 AM	51.8	87.9	41.6
05:00 AM - 06:00 AM	48.7	81.2	42.6
06:00 AM - 07:00 AM	50.9	87.4	44.3
07:00 AM - 08:00 AM	55.4	89.9	45.8
08:00 AM - 09:00 AM	50.4	77.3	45.8
09:00 AM - 10:00 AM	46.2	78.1	42.3
10:00 AM - 11:00 AM	53.0	87.4	44.3
11:00 AM - 12:00 PM	70.5	66.2	42.7
12:00 PM - 01:00 PM	53.8	81.7	48.9
Leq Average 24 hrs. (dB(A))	52.1		
Lmax (dB(A))		66.2	
L90 (dB(A))			43.0
Ldn (dB(A))	57.8		
Standard (dB(A))	80	115	

Reference Method : ISO1997-1 and 1997-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการ
โรงงาน พ.ศ. 2546

Remark : The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 18025.

Technical Management

Chontichak
Chonticha Subongkoch
Scientist (3)

Approved by

Supot Salamteh
Section Head

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ภาคผนวก ค-4

คุณภาพน้ำ

บ่อพักน้ำทิ้งแห่งที่ 1



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O :
Project Name :
Project Location :



TESTING
No.0042

Lot ID: 2478231
Date Received : Jul 17, 2024
Date Reported : Jul 26, 2024
Report Number : 3049520-1 C6

Page 1 of 1

Sample Number	2478231-1
Sampled Date	Jul 17, 2024 2:00 PM
Sample Description	Wastewater
Location	บ่อพักน้ำทิ้งเขตที่ 1
Date Analysis Commenced	Jul 17, 2024
Condition of Sample	Contained in one amber glass bottle and four 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	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	<25	≤750	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Oil & Grease *	mg/L	-	1	2	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	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
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	≤200	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

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

Sampling By : Paramet Sattayakun ทะเบียนเลขที่ ร-323-จ-9476 , Thanasoun Namakunna ทะเบียนเลขที่ ร-204-จ-0101

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 ร-323-จ-9446

Approved by

D. Chuan

Dej Changchon
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Senior Manager
ทะเบียนเลขที่ ร-323-จ-9442

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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O :
Project Name :
Project Location :



TESTING
No.0042

Lot ID: 2487001
Date Received : Aug 14, 2024
Date Reported : Aug 22, 2024
Report Number : 3089061-1 C6

Page 1 of 1

Sample Number	2487001-1
Sampled Date	Aug 14, 2024 10:00 AM
Sample Description	Wastewater
Location	บ่อพักน้ำทิ้งเขตที่ 1
Date Analysis Commenced	Aug 14, 2024
Condition of Sample	Contained in one amber glass bottle and four 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	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	<25	≤750	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Oil & Grease *	mg/L	-	1	2	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C		-	-	8.1	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	≤200	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

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

Sampling By : Chainusorn Lertnanthakunchai ทะเบียนเลขที่ ร-323-จ-0041 , Pattarapol Sawangjaitam ทะเบียนเลขที่ ร-204-จ-0002

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 ร-323-จ-0028

Approved by

D. Chuan

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ร-323-จ-0001

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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :



TESTING
No.0042
Lot ID: 2498300
Date Received : Sep 11, 2024
Date Reported : Oct 21, 2024
Report Number : 3114231-1 C6

Sample Number 2498300-1
Sampled Date Sep 11, 2024 10:27 AM
Sample Description Wastewater
Location ปลอพักน้ำทิ้งเหมืองที่ 1
Date Analysis Commenced Sep 11, 2024
Condition of Sample Contained in one amber glass bottle and four 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	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	<25	≤750	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Oil & Grease *	mg/L	-	1	1	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Rayong
pH at 25 degree C	-	-	-	8.1	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	≤200	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

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

Sampling By : Wanlop Hunchalaoow ทะเบียนเลขที่ ๖-323-๖-0038 , Pattarapol Sawangjaitam ทะเบียนเลขที่ ๖-204-๖-0002

Remark :

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Technical Management

Photchana S.

Photchana Seeda
Scientist (4)
ทะเบียนเลขที่ ๖-323-๖-0028

Approved by

D. Chansu.

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ๖-323-๖-0001

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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :



TESTING
No.0042
Lot ID: 24105320
Date Received : Oct 09, 2024
Date Reported : Oct 17, 2024
Report Number : 3140275-1 C6

Sample Number 24105320-1
Sampled Date Oct 09, 2024 1:50 PM
Sample Description Wastewater
Location ปลอพักน้ำทิ้งเหมืองที่ 1
Date Analysis Commenced Oct 09, 2024
Condition of Sample Contained in one amber glass bottle and four 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	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	26	≤750	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 5220 D	Rayong
Oil & Grease *	mg/L	-	1	1	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C	-	-	-	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
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	≤200	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

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

Sampling By : Amonwich Wongsachal ทะเบียนเลขที่ ๖-323-๖-0040 , Pattarapol Sawangjaitam ทะเบียนเลขที่ ๖-204-๖-0002

Remark :

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Technical Management

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Photchana Seeda
Scientist (4)
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Approved by

D. Chansu.

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ๖-323-๖-0001

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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location:



TESTING
No.0042
Lot ID: 24121523
Date Received : Nov 13, 2024
Date Reported : Nov 26, 2024
Report Number : 3171728-1 C6

Page 1 of 1

Sample Number	24121523-1						
Sampled Date	Nov 13, 2024 10:50 AM						
Sample Description	Wastewater						
Location	บ่อกักน้ำทิ้งแปลงที่ 1						
Date Analysis Commenced	Nov 13, 2024						
Condition of Sample	Contained in one amber glass bottle and four 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	≤500	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	74	≤750	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 5220 D	Rayong
Oil & Grease *	mg/L	-	1	1	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C		-	-	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
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	9	≤200	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

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

Sampling By : Chainusorn Lertnanthakunchai ทะเบียนเลขที่ ๖-323-๖-0041

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Technical Management

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Photchana Seeda
Scientist (4)
ทะเบียนเลขที่ ๖-323-๖-0028

Approved by

D. Changchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ๖-323-๖-0001

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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location:



TESTING
No.0042
Lot ID: 24128789
Date Received : Dec 11, 2024
Date Reported : Dec 19, 2024
Report Number : 3196358-1 C6

Page 1 of 1

Sample Number	24128789-1						
Sampled Date	Dec 11, 2024 10:25 AM						
Sample Description	Wastewater						
Location	บ่อกักน้ำทิ้งแปลงที่ 1						
Date Analysis Commenced	Dec 11, 2024						
Condition of Sample	Contained in one amber glass bottle and four 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	17.2	≤500	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	82	≤750	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5220 D	Rayong
Oil & Grease *	mg/L	-	1	<1	≤10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 B	Rayong
pH at 25 degree C		-	-	8.5	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	16	≤200	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

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

Sampling By : Chainusorn Lertnanthakunchai ทะเบียนเลขที่ ๖-323-๖-0041, Pattarapol Sawangjaitam ทะเบียนเลขที่ ๖-204-๖-0002

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Technical Management

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Photchana Seeda
Scientist (4)
ทะเบียนเลขที่ ๖-323-๖-0028

Approved by

D. Changchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ๖-323-๖-0001

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บริเวณจุดระบายน้ำทิ้งจาก Oil Separator



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150

P/O :
Project Name :
Project Location :



TESTING
No.0042

Lot ID: 2498301
Date Received : Sep 11, 2024
Date Reported : Oct 21, 2024
Report Number : 3092680-1 Rev. No.1_C6

Page 1 of 1

Sample Number	2498301-1						
Sampled Date	Sep 11, 2024 10:20 AM						
Sample Description	Wastewater						
Location	บริเวณจุดระบายน้ำทิ้ง จาก oil Separator						
Date Analysis Commenced	Sep 11, 2024						
Condition of Sample	Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Water Testing								
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤20	≤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	<25	≤120	≤120	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Oil & Grease *	mg/L	-	1	<1	≤5	≤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	-	-	-	7.8	5.5-9.0	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	≤50	≤50	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Guideline (1) : 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).
Guideline (2) : Notification of the Ministry of Natural Resources and Environment B.E. 2565 : The standard for controlling the discharge of wastewater from an electric power plant.

Note : This Analysis test report is reissued to supersede report No.3092680-2, Date Reported : Sep 18, 2024 due to revise guideline/specification

Sampling By : Wanlop Hunchainaow ทะเบียนเลขที่ ร-323-จ-0038 , Pattarapol Sawangjaitam ทะเบียนเลขที่ ร-204-จ-0002

Remark :

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Technical Management

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Photchana Seeda
Scientist (4)
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Approved by

D. Changchon

Dej Changchon
Senior Manager
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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150

P/O :
Project Name :
Project Location :



TESTING
No.0042

Lot ID: 24105330
Date Received : Oct 09, 2024
Date Reported : Oct 21, 2024
Report Number : 3108253-1_C6

Page 1 of 1

Sample Number	24105330-1						
Sampled Date	Oct 09, 2024 2:00 PM						
Sample Description	Wastewater						
Location	บริเวณจุดระบายน้ำทิ้ง จาก oil Separator						
Date Analysis Commenced	Oct 09, 2024						
Condition of Sample	Contained in one amber glass bottle and four plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Water Testing								
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤20	≤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	<25	≤120	≤120	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 5220 D	Rayong
Oil & Grease *	mg/L	-	1	1	≤5	≤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	-	-	-	7.9	5.5-9.0	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	≤50	≤50	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Guideline : Guideline (1) : 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).
Guideline (2) : Notification of the Ministry of Natural Resources and Environment B.E. 2565 : The standard for controlling the discharge of wastewater from an electric power plant.

Sampling By : Amonwich Wongsachal ทะเบียนเลขที่ ร-323-จ-0040 , Pattarapol Sawangjaitam ทะเบียนเลขที่ ร-204-จ-0002

Remark :

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Technical Management

Photchana S.

Photchana Seeda
Scientist (4)
ทะเบียนเลขที่ ร-323-จ-0028

Approved by

D. Changchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ร-323-ก-0001

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S:\Manual\RPT\Glow Group\C6_Apr 19550 21\AL_2GL.rpt (1:10AM)

ภาคผนวก ค-5

ระดับความร้อนบริเวณพื้นที่โครงการ



Analysis / Test Report

Client: Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 24109095
Date Received : Sep 26, 2024
Date Reported : Oct 02, 2024
Report Number: 3117273-1

Page 2 of 2

Sample Number	24109095-2				
Parameter	Heat Stress (Sampling Time : 10.30 AM - 12.30 PM)				
Measurement Date	Sep 23, 2024				
Measurement by	Nattapon Jhengwareewong				
Location	ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ผู้ปฏิบัติงาน : - แผนก : -)				
Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
CTG-71 (Analyzer)	120	30.2	27.8	36.9	33.6
Average (WBGT)		30.2			
Guideline WBGT (°C)		34.0			

Reference Method : Wet Bulb Globe Temperature

Guideline:

- 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)
- Ministerial Regulation on Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in relation to Heat, Light and Noise, B.E. 2559

Technical Management


Supot Salamteh
Section Head

Approved by


Wichan Choonharat
Assistant Manager

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Analysis / Test Report

Client: Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 2487760
Date Received : Sep 09, 2024
Date Reported : Sep 13, 2024
Report Number: 3071730-1

Page 2 of 2

Sample Number	2487760-2				
Parameter	Heat Stress (Sampling Time : 09.30 AM - 11.30 AM)				
Measurement Date	Sep 06, 2024				
Measurement by	Amnat Wongsakhen				
Location	ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ผู้ปฏิบัติงาน : - แผนก : -)				
Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
CTG-72 Block1 #Sampling2	120	31.0	28.5	37.4	35.9
Average (WBGT)		31.0			
Guideline WBGT (°C)		34.0			

Reference Method : Wet Bulb Globe Temperature

Guideline:

- 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)
- Ministerial Regulation on Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in relation to Heat, Light and Noise, B.E. 2559

Technical Management


Supot Salamteh
Section Head

Approved by


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P/O : 3100014325

Project Name :

Project Location :

Lot ID: 24109095

Date Received : Sep 26, 2024

Date Reported : Oct 02, 2024

Report Number: 3117273-1

Page 1 of 2

Sample Number 24109095-1
Parameter Heat Stress (Sampling Time : 10.30 AM - 12.30 PM)
Measurement Date Sep 23, 2024
Measurement by Natthapon Jhengwareewong
Location ปฏิบัติงาน 1 พื้นที่ (ข้อ-บวมสกล ฝุ่นปฏิบัติงาน : - แผลบ : -)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
CTG-71 (หน้าเครื่อง Lube oil after cooler)	120	29.8	27.4	35.7	34.3
Average (WBGT)		29.8			
Guideline WBGT (°C)		34.0			

Reference Method : Wet Bulb Globe Temperature

Guideline:

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. Ministerial Regulation on Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in relation to Heat, Light and Noise, B.E.2559

Technical Management

Supot Salamteh
Section Head

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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.

11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150

P/O : 3100014325

Project Name :

Project Location :

Lot ID: 2487760

Date Received : Sep 09, 2024

Date Reported : Sep 13, 2024

Report Number: 3071730-1

Page 1 of 2

Sample Number 2487760-1
Parameter Heat Stress (Sampling Time : 09.30 AM - 11.30 AM)
Measurement Date Sep 06, 2024
Measurement by Amnat Wongsakhen
Location ปฏิบัติงาน 1 พื้นที่ (ข้อ-บวมสกล ฝุ่นปฏิบัติงาน : - แผลบ : -)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
CTG-72 หน้าเครื่อง Lube Oil Cooler	120	30.3	27.9	36.3	34.9
Average (WBGT)		30.3			
Guideline WBGT (°C)		34.0			

Reference Method : Wet Bulb Globe Temperature

Guideline:

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. Ministerial Regulation on Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in relation to Heat, Light and Noise, B.E.2559

Technical Management

Supot Salamteh
Section Head

Approved by

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Assistant Manager

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ภาคผนวก ค-6

แสงสว่างบริเวณพื้นที่โครงการ



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150

P/O :

Project Name :

Project Location:

Lot ID: 2487765 (1)

Date Received : Sep 08, 2024

Date Reported : Sep 11, 2024

Report Number: 2487765 (1)-1

Page 1 of 1

Glow SPP 2 Co., Ltd.										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux)		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average	
1	Area : อาคาร CCB : 2nd Floor : ห้อง Electric	2487765 (1)-1	6-Sep-24	Day time	1	514	551	100	200	Pass
		2487765 (1)-2	6-Sep-24	Day time	2	519				
		2487765 (1)-3	6-Sep-24	Day time	3	561				
		2487765 (1)-4	6-Sep-24	Day time	4	533				
		2487765 (1)-5	6-Sep-24	Day time	5	544				
		2487765 (1)-6	6-Sep-24	Day time	6	581				
		2487765 (1)-7	6-Sep-24	Day time	7	542				
		2487765 (1)-8	6-Sep-24	Day time	8	526				
		2487765 (1)-9	6-Sep-24	Day time	9	522				
		2487765 (1)-10	6-Sep-24	Day time	10	519				
		2487765 (1)-11	6-Sep-24	Day time	11	682				
		2487765 (1)-12	6-Sep-24	Day time	12	664				
		2487765 (1)-13	6-Sep-24	Day time	13	513				
		2487765 (1)-14	6-Sep-24	Day time	14	638				
		2487765 (1)-15	6-Sep-24	Day time	15	621				
		2487765 (1)-16	6-Sep-24	Day time	16	633				
		2487765 (1)-17	6-Sep-24	Day time	17	526				
		2487765 (1)-18	6-Sep-24	Day time	18	512				

Measurement by : Amnat Wongsakhen

Guideline : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

Supot S.
Supot Salamteh
Section Head

Approved by

Wichan Choonharat
Wichan Choonharat
Assistant Manager

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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150

P/O :

Project Name :

Project Location:

Lot ID: 2487765 (2)

Date Received : Sep 08, 2024

Date Reported : Sep 11, 2024

Report Number: 2487765 (2)-1

Page 1 of 2

Glow SPP 2 Co., Ltd.										
Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux)		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average	
1	Spot : อาคาร CCB : 3rd Floor : Engineering : ห้องควบคุม	2487765 (2)-1	6-Sep-24	Day time	1	1,354	-	400-500	-	Pass
		2487765 (2)-2	6-Sep-24	Day time	2	1,384	-	300	-	
		2487765 (2)-3	6-Sep-24	Day time	3	1,512	-	200	-	
2	Area : อาคาร CCB : 3rd Floor : Engineering : ห้องควบคุม	2487765 (2)-4	6-Sep-24	Day time	1	1,213	1226	100	200	Pass
		2487765 (2)-5	6-Sep-24	Day time	2	1,258				
		2487765 (2)-6	6-Sep-24	Day time	3	1,236				
		2487765 (2)-7	6-Sep-24	Day time	4	1,198				
3	Area : อาคาร CCB : 3rd Floor : Engineering : ห้อง Electrical Room	2487765 (2)-8	6-Sep-24	Day time	1	1,181	1210	100	200	Pass
		2487765 (2)-9	6-Sep-24	Day time	2	655				
		2487765 (2)-10	6-Sep-24	Day time	3	997				
		2487765 (2)-11	6-Sep-24	Day time	4	953				
		2487765 (2)-12	6-Sep-24	Day time	5	1,241				
		2487765 (2)-13	6-Sep-24	Day time	6	1,027				
		2487765 (2)-14	6-Sep-24	Day time	7	1,409				
		2487765 (2)-15	6-Sep-24	Day time	8	1,570				
		2487765 (2)-16	6-Sep-24	Day time	9	1,825				
		2487765 (2)-17	6-Sep-24	Day time	10	1,041				
		2487765 (2)-18	6-Sep-24	Day time	11	1,220				
		2487765 (2)-19	6-Sep-24	Day time	12	1,395				
4	Area : อาคาร CCB : 3rd Floor : Engineering : Battery Room	2487765 (2)-20	6-Sep-24	Day time	1	1,141	1258	100	200	Pass
		2487765 (2)-21	6-Sep-24	Day time	2	1,283				
		2487765 (2)-22	6-Sep-24	Day time	3	1,373				
		2487765 (2)-23	6-Sep-24	Day time	4	1,318				
		2487765 (2)-24	6-Sep-24	Day time	5	1,071				
		2487765 (2)-25	6-Sep-24	Day time	6	1,138				
		2487765 (2)-26	6-Sep-24	Day time	7	1,355				
		2487765 (2)-27	6-Sep-24	Day time	8	1,418				
		2487765 (2)-28	6-Sep-24	Day time	9	1,351				
		2487765 (2)-29	6-Sep-24	Day time	10	1,127				
5	Area : อาคาร CCB : 3rd Floor : Engineering : ห้องนำไฟฟ้า	2487765 (2)-30	6-Sep-24	Day time	1	715	846	50	100	Pass
		2487765 (2)-31	6-Sep-24	Day time	2	976				
6	Area : อาคาร CCB : 3rd Floor : Engineering : ห้องนำยาสูบ	2487765 (2)-32	6-Sep-24	Day time	1	1,991	1718	50	100	Pass
		2487765 (2)-33	6-Sep-24	Day time	2	1,446				

Measurement by : Amnat Wongsakhen

Technical Management

Supot S.
Supot Salamteh
Section Head

Approved by

Wichan Choonharat
Wichan Choonharat
Assistant Manager

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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O :
Project Name :
Project Location:

Lot ID: 2487765 (2)

Date Received : Sep 08, 2024
Date Reported : Sep 11, 2024
Report Number: 2487765 (2)-1

Page 2 of 2

Glow SPP 2 Co., Ltd.

Lay out No.	Location	Reference Number	Date	Time	No.	Illuminance (Lux)		Guideline Limit		Comment
						Spot	Average	Spot/Min	Average	

Guideline : Notification of Department of Labour Protection and Welfare, B.E.2560 (2017) dated November 27, B.E.2560 (2017), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management


Supot Salamteh
Section Head

Approved by


Wichan Choonharat
Assistant Manager

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ภาคผนวก ค-7

ระดับเสียงบริเวณพื้นที่โครงการ



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 24109100
Date Received : Sep 26, 2024
Date Reported : Oct 02, 2024
Report Number: 3127096-1

Page 1 of 1

Sample Number	24109100-1			
Parameter	Noise (Leq 8 hrs.)			
Location	บริเวณพื้นที่เครื่องผลิตไฟฟ้าแบบกังหันก๊าซ CTG-71 (หน้า Generator)			
Measurement Date	Sep 23, 2024			
Measurement by	Natthapon Jhengwareewong			
	Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
	10:37 AM - 11:37 AM	78.8	81.1	78.2
	11:37 AM - 12:37 PM	78.6	81.4	78.1
	12:37 PM - 01:37 PM	78.6	81.2	78.0
	01:37 PM - 02:37 PM	78.6	81.2	78.1
	02:37 PM - 03:37 PM	79.0	81.9	78.2
	03:37 PM - 04:37 PM	79.9	82.3	78.7
	04:37 PM - 05:37 PM	80.2	83.1	79.2
	05:37 PM - 06:37 PM	80.0	82.6	79.3
	Leq Average 8 hrs. (dB(A))	79.3		
	Lmax (dB(A))		83.1	
	Standard (dB(A))	90	140	
	Reference Method : ISO1996-1 and 1996-2			
	Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรฐานการคุ้มครองความปลอดภัย ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๕๖			

Technical Management

Chontichak
Chonticha Subongkoch
Scientist (3)

Approved by

Supot Salamteh
Section Head

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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 24138826
Date Received : Dec 12, 2024
Date Reported : Dec 14, 2024
Report Number: 3193655-1

Page 1 of 1

Sample Number	24138826-1		
Parameter	Noise (Leq 8 hrs.)		
Location	บริเวณพื้นที่เครื่องผลิตไฟฟ้าแบบกังหันก๊าซ CTG-71 (หน้า Generator)		
Measurement Date	Dec 10, 2024		
Measurement by	Prasannit Kueanpet		
Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:32 AM - 11:32 AM	85.4	91.3	85.0
11:32 AM - 12:32 PM	85.2	86.4	84.8
12:32 PM - 01:32 PM	85.3	86.7	84.9
01:32 PM - 02:32 PM	86.0	88.2	85.2
02:32 PM - 03:32 PM	86.8	87.9	86.3
03:32 PM - 04:32 PM	86.9	88.1	86.5
04:32 PM - 05:32 PM	87.1	88.2	86.7
05:32 PM - 06:32 PM	86.7	88.6	86.4
Leq Average 8 hrs. (dB(A))	86.2		
Lmax (dB(A))		91.3	
Standard (dB(A))	90	140	
Reference Method	: ISO1996-1 and 1996-2		
Standard	: ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรฐานการคุ้มครองความปลอดภัย ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๕๖		

Technical Management

Chontichak
Chonticha Subongkoch
Scientist (3)

Approved by

Supot Salamteh
Section Head

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S:\Reports\Air Noise rpt (1:34PM)



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.

11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150

P/O : 3100014325

Project Name :

Project Location :

Lot ID: 24109100

Date Received : Sep 26, 2024

Date Reported : Oct 02, 2024

Report Number: 3127097-1

Page 1 of 1

Sample Number 24109100-2
Parameter Noise (Leq 8 hrs.)
Location บริเวณพื้นที่เครื่องผลิตไฟฟ้าแบบกังหันก๊าซ CTG-71 (Analyzer)
Measurement Date Sep 23, 2024
Measurement by Natthapon Jhengwareewong

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:55 AM - 11:55 AM	84.5	85.3	84.4
11:55 AM - 12:55 PM	84.5	85.7	84.4
12:55 PM - 01:55 PM	84.5	85.6	84.3
01:55 PM - 02:55 PM	84.5	85.5	84.4
02:55 PM - 03:55 PM	84.6	85.1	84.5
03:55 PM - 04:55 PM	84.8	85.4	84.6
04:55 PM - 05:55 PM	84.9	86.0	84.7
05:55 PM - 06:55 PM	85.0	85.8	84.8

Leq Average 8 hrs. (dB(A))

84.7

Lmax (dB(A))

86.0

Standard (dB(A))

90

140

Reference Method : ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรฐานการคุ้มครองความปลอดภัย
ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๔๖

Technical Management

Chontichak
Chonticha Subongkoch
Scientist (3)

Approved by

Supot S
Supot Salamteh
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S:\Reports_Air Noise.rpt (10:11AM)



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.

11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150

P/O : 3100014325

Project Name :

Project Location :

Lot ID: 24138826

Date Received : Dec 12, 2024

Date Reported : Dec 14, 2024

Report Number: 3193656-1

Page 1 of 1

Sample Number 24138826-2
Parameter Noise (Leq 8 hrs.)
Location บริเวณพื้นที่เครื่องผลิตไฟฟ้าแบบกังหันก๊าซ CTG-71 (Analyzer)
Measurement Date Dec 10, 2024
Measurement by Prasanmit Kueanpet

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:46 AM - 11:46 AM	83.2	84.7	83.0
11:46 AM - 12:46 PM	83.3	84.0	83.1
12:46 PM - 01:46 PM	83.2	84.1	83.1
01:46 PM - 02:46 PM	83.2	83.9	83.0
02:46 PM - 03:46 PM	83.4	83.9	83.2
03:46 PM - 04:46 PM	83.3	83.8	83.2
04:46 PM - 05:46 PM	83.2	83.7	83.1
05:46 PM - 06:46 PM	83.3	84.1	83.1

Leq Average 8 hrs. (dB(A))

83.3

Lmax (dB(A))

84.7

Standard (dB(A))

90

140

Reference Method : ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรฐานการคุ้มครองความปลอดภัย
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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 2487766
Date Received : Sep 07, 2024
Date Reported : Sep 12, 2024
Report Number: 3109138-1

Page 1 of 1

Sample Number	2487766-1		
Parameter	Noise (Leq 8 hrs.)		
Location	บริเวณพื้นที่เครื่องผลิตไฟฟ้าแบบกังหันก๊าซ CTG-72 (หน้า Gas Turbine)		
Measurement Date	Sep 06, 2024		
Measurement by	Amnat Wongsakhen		
Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
09:00 AM - 10:00 AM	79.9	81.1	79.8
10:00 AM - 11:00 AM	79.9	80.5	79.8
11:00 AM - 12:00 PM	80.0	81.4	79.9
12:00 PM - 01:00 PM	79.9	81.3	79.8
01:00 PM - 02:00 PM	80.0	86.0	79.8
02:00 PM - 03:00 PM	73.3	83.9	65.7
03:00 PM - 04:00 PM	68.0	82.3	65.5
04:00 PM - 05:00 PM	67.0	74.2	65.7
Leq Average 8 hrs. (dB(A))	78.2		
Lmax (dB(A))		86.0	
Standard (dB(A))	90	140	
Reference Method : ISO1996-1 and 1996-2			
Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรฐานการคุ้มครองความปลอดภัย ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๔๖			

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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 24122663
Date Received : Nov 04, 2024
Date Reported : Nov 08, 2024
Report Number: 3160182-1

Page 1 of 1

Sample Number	24122663-1		
Parameter	Noise (Leq 8 hrs.)		
Location	บริเวณพื้นที่เครื่องผลิตไฟฟ้าแบบกังหันก๊าซ CTG-72 (หน้า Gas Turbine)		
Measurement Date	Nov 04, 2024		
Measurement by	Nattakarn Vonginyoo		
Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
09:29 AM - 10:29 AM	81.6	87.1	81.1
10:29 AM - 11:29 AM	81.4	83.6	80.9
11:29 AM - 12:29 PM	81.3	86.9	80.9
12:29 PM - 01:29 PM	81.3	83.7	81.0
01:29 PM - 02:29 PM	81.7	87.2	81.1
02:29 PM - 03:29 PM	82.2	87.3	81.3
03:29 PM - 04:29 PM	81.5	84.1	81.0
04:29 PM - 05:29 PM	81.7	84.0	81.2
Leq Average 8 hrs. (dB(A))	81.6		
Lmax (dB(A))		87.3	
Standard (dB(A))	90	140	
Reference Method : ISO1996-1 and 1996-2			
Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรฐานการคุ้มครองความปลอดภัย ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๔๖			

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Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 2487766
Date Received : Sep 07, 2024
Date Reported : Sep 12, 2024
Report Number: 3109139-1

Page 1 of 1

Sample Number 2487766-2
Parameter Noise (Leq 8 hrs.)
Location บริเวณพื้นที่เครื่องผลิตไฟฟ้าแบบกังหันก๊าซ CTG-72 Block 1 #Sampling 2
Measurement Date Sep 06, 2024
Measurement by Amnat Wongsakhen

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
09:00 AM - 10:00 AM	78.1	79.3	77.7
10:00 AM - 11:00 AM	78.0	84.4	77.6
11:00 AM - 12:00 PM	78.2	84.9	77.8
12:00 PM - 01:00 PM	78.7	80.2	78.2
01:00 PM - 02:00 PM	79.0	82.4	78.2
02:00 PM - 03:00 PM	79.3	91.9	75.4
03:00 PM - 04:00 PM	76.8	91.3	75.4
04:00 PM - 05:00 PM	78.8	91.6	75.5

Leq Average 8 hrs. (dB(A))

78.4

Lmax (dB(A))

91.9

Standard (dB(A))

90

140

Reference Method : ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรฐานการคุ้มครองความปลอดภัย
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11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 24122663
Date Received : Nov 04, 2024
Date Reported : Nov 08, 2024
Report Number: 3160183-1

Page 1 of 1

Sample Number 24122663-2
Parameter Noise (Leq 8 hrs.)
Location บริเวณพื้นที่เครื่องผลิตไฟฟ้าแบบกังหันก๊าซ CTG-72 Block 1 #Sampling 2
Measurement Date Nov 04, 2024
Measurement by Nattakarn Vonginyoo

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
09:37 AM - 10:37 AM	83.9	102.1	83.3
10:37 AM - 11:37 AM	83.9	97.6	83.3
11:37 AM - 12:37 PM	83.5	102.0	83.1
12:37 PM - 01:37 PM	83.5	97.5	83.0
01:37 PM - 02:37 PM	83.8	102.0	83.2
02:37 PM - 03:37 PM	84.6	102.1	84.1
03:37 PM - 04:37 PM	84.3	97.7	83.8
04:37 PM - 05:37 PM	84.5	85.8	84.1

Leq Average 8 hrs. (dB(A))

84.0

Lmax (dB(A))

102.1

Standard (dB(A))

90

140

Reference Method : ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรฐานการคุ้มครองความปลอดภัย
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11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 24109097
Date Received : Sep 26, 2024
Date Reported : Oct 02, 2024
Report Number: 3127094-1

Page 1 of 1

Sample Number 2410(07-1)
Parameter Noise dLe8 12 hrs.)
Location บริเวณพื้นที่เครื่องผลิตไฟฟ้าแบบกังหันก๊าซ CTG-71 (หน่วย Generator)
Measurement Date Sep 23, 2024
Measurement by Natthapon Jhengwareewong

Time	Le8 (dB(A))	Lmax (dB(A))	L(0) (dB(A))
10:37 AM - 11:37 AM	79.9	91.1	79.2
11:37 AM - 12:37 PM	79.6	91.4	79.1
12:37 PM - 01:37 PM	79.6	91.2	79.0
01:37 PM - 02:37 PM	79.6	91.2	79.1
02:37 PM - 03:37 PM	7(0	91(79.2
03:37 PM - 04:37 PM	7(.	92.3	79.7
04:37 PM - 05:37 PM	90.2	93.1	7(.
05:37 PM - 06:37 PM	90.0	92.6	7(.
06:37 PM - 07:37 PM	90.4	92.3	7(.
07:37 PM - 08:37 PM	7(.	91(7(.
08:37 PM - 09:37 PM	90.1	92.0	7(.
09:37 PM - 10:37 PM	7(.	92.0	7(.

Le8 Average 12 hrs. (dB(A)) 7(. Lmax (dB(A)) 93.1 | Standard (dB(A)) 97 | Reference Method : ISO1((6-1 and 1((6-2 | Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๔๖ |

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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 24138821
Date Received : Dec 12, 2024
Date Reported : Dec 14, 2024
Report number: 319362N-1

Page 1 of 1

Sample Number 2413((21-1)
Parameter noise dLe 12 hrs.7
Location บริเวณพื้นที่เครื่องผลิตไฟฟ้าแบบกังหันก๊าซ CTG-N1 (หน่วย Generator)
Measurement Date Dec 10, 2024
Measurement by Prasanth Kueanpet

Time	Le (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:32 AM - 11:32 AM	(5.4	91.3	(5.0
11:32 AM - 12:32 PM	(5.2	(6.4	(4(
12:32 PM - 01:32 PM	(5.3	(6.N	(4.9
01:32 PM - 02:32 PM	(6.0	(.	(5.2
02:32 PM - 03:32 PM	(6((N.9	(6.3
03:32 PM - 04:32 PM	(6.9	(.	(6.5
04:32 PM - 05:32 PM	(N.1	(.	(6.N
05:32 PM - 06:32 PM	(6.N	(.	(6.4
06:32 PM - 07:32 PM	(6.4	(N.5	(6.1
07:32 PM - 08:32 PM	(6.2	(N.3	(6.0
08:32 PM - 09:32 PM	(6.1	(N.2	(5(
09:32 PM - 10:32 PM	(6.4	(N.5	(6.2

Le Average 12 hrs. (dB(A)) (6.3 Lmax (dB(A)) 91.3 | Standard (dB(A)) (N | Reference Method : ISO1996-1 and 1996-2 | Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๔๖ |

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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.

11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150

P/O : 3100014325

Project Name :

Project Location :

Lot ID: 24109097

Date Received : Sep 26, 2024

Date Reported : Oct 02, 2024

Report Number: 3127095-1

Page 1 of 1

Sample Number 2410(0(7-2
Parameter Noise Leq 12 hrs.)
Location บริเวณพื้นที่เครื่องผลิตไฟฟ้าแบบกังหันก๊าซ CTG-71 (Analyzer)
Measurement Date Sep 23, 2024
Measurement by Natthapon Jilengwareewong

Time	Leq (dB(A))	Lmax (dB(A))	L(0 (dB(A))
10:55 AM - 11:55 AM	94.5	95.3	94.4
11:55 AM - 12:55 PM	94.5	95.7	94.4
12:55 PM - 01:55 PM	94.5	95.6	94.3
01:55 PM - 02:55 PM	94.5	95.5	94.4
02:55 PM - 03:55 PM	94.6	95.1	94.5
03:55 PM - 04:55 PM	94.9	95.4	94.6
04:55 PM - 05:55 PM	94.7	96.0	94.7
05:55 PM - 06:55 PM	95.0	95.9	94.9
06:55 PM - 07:55 PM	95.0	95.9	94.9
07:55 PM - 08:55 PM	95.0	96.1	94.9
08:55 PM - 09:55 PM	95.2	96.1	94.7
09:55 PM - 10:55 PM	95.2	96.1	94.7

Leq Average 12 hrs. (dB(A))

94.9

Lmax (dB(A))

96.1

Standard (dB(A))

97

140

Reference Method : ISO1(6-1 and 1(6-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย

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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.

11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150

P/O : 3100014325

Project Name :

Project Location :

Lot ID: 24138821

Date Received : Dec 12, 2024

Date Reported : Dec 14, 2024

Report number: 319362N-1

Page 1 of 1

Sample Number 2413N21-2
Parameter noise (Leq 12 hrs.)
Location บริเวณพื้นที่เครื่องผลิตไฟฟ้าแบบกังหันก๊าซ CTG-71 (Analyzer)
Measurement Date Dec 10, 2024
Measurement by Prasanth Kueanpet

Time	Leq (dB(A))	Lb ax (dB(A))	L90 (dB(A))
10:46 AM - 11:46 AM	N3.2	N4.7	N3.0
11:46 AM - 12:46 PM	N3.3	N4.0	N3.1
12:46 PM - 01:46 PM	N3.2	N4.1	N3.1
01:46 PM - 02:46 PM	N3.2	N3.9	N3.0
02:46 PM - 03:46 PM	N3.4	N3.9	N3.2
03:46 PM - 04:46 PM	N3.3	N3.8	N3.2
04:46 PM - 05:46 PM	N3.2	N3.7	N3.1
05:46 PM - 06:46 PM	N3.3	N4.1	N3.1
06:46 PM - 07:46 PM	N3.3	N4.2	N3.1
07:46 PM - 08:46 PM	N3.2	N3.9	N3.0
08:46 PM - 09:46 PM	N3.0	91.2	N2.8
09:46 PM - 10:46 PM	N3.2	91.4	N3.0

Leq Average 12 hrs. (dB(A))

N3.2

Lb ax (dB(A))

91.4

Standard (dB(A))

N7

140

Reference Method : ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย

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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 2487774
Date Received : Sep 07, 2024
Date Reported : Sep 12, 2024
Report Number: 3109180-1

Page 1 of 1

Sample Number	2467774-1		
Parameter	Noise (Leq 12 hrs.)		
Location	บริเวณพื้นที่เครื่องผลิตไฟฟ้าแบบกังหันก๊าซ CTG-72 (หน้า Gas Turbine)		
Measurement Date	Sep 08, 2024		
Measurement by	Amnat Wongsakhen		
Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
09:00 AM - 10:00 AM	79.9	61.1	79.6
10:00 AM - 11:00 AM	79.9	60.5	79.6
11:00 AM - 12:00 PM	60.0	61.4	79.9
12:00 PM - 01:00 PM	79.9	61.3	79.6
01:00 PM - 02:00 PM	60.0	68.0	79.6
02:00 PM - 03:00 PM	73.3	63.9	85.7
03:00 PM - 04:00 PM	86.0	62.3	85.5
04:00 PM - 05:00 PM	87.0	74.2	85.7
05:00 PM - 06:00 PM	79.1	93.7	86.9
06:00 PM - 07:00 PM	62.6	65.6	61.2
07:00 PM - 08:00 PM	72.3	79.3	89.0
08:00 PM - 09:00 PM	71.0	76.7	86.3
Leq Average 12 hrs. (dB(A))	76.4		
Lmax (dB(A))		93.7	
Standard (dB(A))	67	140	
Reference Method	: ISO1998-1 and 1998-2		
Standard	: ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๔๖		

Technical Management

Chontichak
Chonticha Subongkoch
Scientist (3)

Approved by

Supot S
Supot Salanteh
Section Head

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S:\Reports_L\Air Noise rpt (11:45AM)



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 24122662
Date Received : Nov 04, 2024
Date Reported : Nov 08, 2024
Report Number: 31601mi-1

Page 1 of 1

Sample Number	24122662-1		
Parameter	Noise (Le) 12 hrs.7		
Location	บริเวณพื้นที่เครื่องผลิตไฟฟ้าแบบกังหันก๊าซ CTG-๗๒ หน้า Gas Turbine7		
Measurement Date	Nov 04, 2024		
Measurement by	Nattakam Vonginyoo		
Time	Le) dB(A)77	Lb ax dB(A)77	L90 dB(A)77
09:29 AM - 10:29 AM	81.6	8m1	81.1
10:29 AM - 11:29 AM	81.4	83.6	80.9
11:29 AM - 12:29 PM	81.3	86.9	80.9
12:29 PM - 01:29 PM	81.3	83.m	81.0
01:29 PM - 02:29 PM	81.m	8m2	81.1
02:29 PM - 03:29 PM	82.2	8m3	81.3
03:29 PM - 04:29 PM	81.5	84.1	81.0
04:29 PM - 05:29 PM	81.m	84.0	81.2
05:29 PM - 06:29 PM	82.2	86.9	81.5
06:29 PM - 0m29 PM	82.3	8m0	81.6
0m29 PM - 08:29 PM	82.2	84.8	81.m
08:29 PM - 09:29 PM	81.4	83.m	80.9
Le) Average 12 hrs. dB(A)77	81.m		
Lb ax dB(A)77		8m3	
Standard dB(A)77	8m	140	
Reference Method	: ISO1996-1 and 1996-2		
Standard	: ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๔๖		

Technical Management

Chontichak
Chonticha Subongkoch
Scientist q37

Approved by

Supot S
Supot Salab teh
Section Head

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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 2487774
Date Received : Sep 07, 2024
Date Reported : Sep 12, 2024
Report number: 31091NL-1

Page 1 of 1

Sample Number	2467774-2
Parameter	Noise (Leq 12 hrs.)
Location	บริเวณพื้นที่เครื่องผลิตไฟฟ้าแบบกังหันก๊าซ CTG-72 Block 1 #Sub pling 2
Measurement Date	Sep 04, 2024
Measurement by	Ab nat Wongsakhen

Tib e	Leq (dB(A))	Lb ax (dB(A))	L90 (dB(A))
09:00 AM - 10:00 AM	76.1	79.3	77.7
10:00 AM - 11:00 AM	76.0	64.4	77.1
11:00 AM - 12:00 PM	76.2	64.9	77.6
12:00 PM - 01:00 PM	76.7	60.2	76.2
01:00 PM - 02:00 PM	79.0	62.4	76.2
02:00 PM - 03:00 PM	79.3	91.9	75.4
03:00 PM - 04:00 PM	79.6	91.3	75.4
04:00 PM - 05:00 PM	76.6	91.1	75.5
05:00 PM - 06:00 PM	62.7	64.3	61.9
06:00 PM - 07:00 PM	63.7	66.0	60.3
07:00 PM - 08:00 PM	60.4	65.5	77.6
08:00 PM - 09:00 PM	76.6	64.6	77.0
Leq Average 12 hrs. (dB(A))			
79.9			
Lb ax (dB(A))			
91.9			
Standard (dB(A))			
67			
Reference Method : ISO199N-1 and 199N-2			
Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย			
ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๔๖			



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 24122662
Date Received : Nov 04, 2024
Date Reported : Nov 08, 2024
Report Number: 31601n6-1

Page 1 of 1

Sample Number	24122662-2
Parameter	Noise (Leq) 12 hrs.7
Location	บริเวณพื้นที่เครื่องผลิตไฟฟ้าแบบกังหันก๊าซ CTG-72 Block 1 #Sub pling 2
Measurement Date	Nov 04, 2024
Measurement by	Nattakarn Vonginyoo

Tib e	Leq (dB(A))	Lb ax (dB(A))	L90 (dB(A))
09:30 AM - 10:30 AM	83.9	102.1	83.3
10:30 AM - 11:30 AM	83.9	9m6	83.3
11:30 AM - 12:30 PM	83.5	102.0	83.1
12:30 PM - 01:30 PM	83.5	9m5	83.0
01:30 PM - 02:30 PM	83.8	102.0	83.2
02:30 PM - 03:30 PM	84.6	102.1	84.1
03:30 PM - 04:30 PM	84.3	9m8	83.8
04:30 PM - 05:30 PM	84.5	85.8	84.1
05:30 PM - 06:30 PM	85.0	102.0	84.4
06:30 PM - 07:30 PM	85.2	102.2	84.6
07:30 PM - 08:30 PM	84.6	102.8	84.0
08:30 PM - 09:30 PM	84.3	98.3	83.8
Leq Average 12 hrs. (dB(A))			
84.3			
Lb ax (dB(A))			
102.8			
Standard (dB(A))			
8m			
Reference Method : ISO1996-1 and 1996-2			
Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย			
ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๔๖			

Technical Management

Chontichak
Chonticha Suf ongkoch
Scientist (3)

Approved by

Supot Salab teh
Section Head

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Technical Management

Chontichak
Chonticha Suf ongkoch
Scientist 37

Approved by

Supot Salab teh
Section Head

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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :

Lot ID: 2487782

Date Received : Sep 07, 2024

Date Reported : Sep 12, 2024

Report Number : 3069929-1

Page 1 of 1

Sample Number 2487782-1
Sampled Date Sep 06, 2024
Sample Description Noise Dose
Location พนักงานส่วนการผลิต SPP 2R
Personal Sampling คุณวัชร ทอประเสริฐ
Date Analysis Commenced Sep 10, 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)	07:30 AM - 07:30 PM	%	-	1	81.3	No Standard	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong
Noise Dose (8 hrs.)	07:30 AM - 07:30 PM	%	-	1	77.6	No Standard	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong
TWA (12 hrs.) (Calculated from Lavg)	07:30 AM - 07:30 PM	dB(A)	-	-	82.1	83*	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Rayong
TWA (8 hrs.)	07:30 AM - 07:30 PM	dB(A)	-	-	83.9	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 : Amnat Wongsakhen

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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ภาคผนวก ค-8

คุณภาพน้ำ ดำเนินการตรวจวัดเพิ่มเติมตามประกาศกระทรวง
ทรัพยากรธรรมชาติและสิ่งแวดล้อม เรื่อง กำหนดมาตรฐานควบคุมการ
ระบายน้ำทิ้งจากโรงงานผลิตพลังงานไฟฟ้า พ.ศ.2565)

บ่อพักน้ำทิ้งแห่งที่ 1



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O :
Project Name :
Project Location :



TESTING
No.0042
Lot ID: 2478231
Date Received : Jul 17, 2024
Date Reported : Aug 06, 2024
Report Number : 3049520-1

Page 1 of 1

Sample Number	2478231-1						
Sampled Date	Jul 17, 2024 2:00 PM						
Sample Description	Wastewater						
Location	บ่อบำบัดน้ำทิ้งแห่งที่ 1						
Date Analysis Commenced	Jul 17, 2024						
Condition of Sample	Contained in one amber glass bottle and four 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	<25	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Oil & Grease *	mg/L	-	1	2	≤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
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	162	≤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 : Notification of the Ministry of Natural Resources and Environment B.E.2565 (2022) : Wastewater from Power Plants (Natural Gas)

Sampling By : Paramet Sattayakun ทะเบียนเลขที่ ว-323-ก-9476 , Thanasoun Namakunna ทะเบียนเลขที่ ว-204-ก-0101

Remark :
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- "<" : 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-ก-9446

Approved by

D. Chanchon

Dej Chanchon
Senior Manager

ทะเบียนเลขที่ ว-323-ก-9442

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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O :
Project Name :
Project Location :



TESTING
No.0009
Lot ID: 2478231
Date Received : Jul 17, 2024
Date Reported : Aug 06, 2024
Report Number : 3049520-2

Page 1 of 1

Sample Number	2478231-1						
Sampled Date	Jul 17, 2024 2:00 PM						
Sample Description	Wastewater						
Location	บ่อบำบัดน้ำทิ้งแห่งที่ 1						
Date Analysis Commenced	Jul 18, 2024						
Condition of Sample	Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Iron	mg/L	0.003	0.005	0.10	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing							
Nitrate as N *	mg/L	0.015	0.05	1.78	≤10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO3 (E)	Rayong

Guideline : Notification of the Ministry of Natural Resources and Environment B.E.2565 (2022) : Wastewater from Power Plants (Natural Gas)

Sampling By : Paramet Sattayakun , Thanasoun Namakunna

Remark :
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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O :
Project Name :
Project Location :



TESTING
No.0042
Lot ID: 2487001
Date Received : Aug 14, 2024
Date Reported : Aug 21, 2024
Report Number : 3089061-1

Page 1 of 1

Sample Number	2487001-1						
Sampled Date	Aug 14, 2024 10:00 AM						
Sample Description	Wastewater						
Location	ปล่อยน้ำทิ้งโรงไฟฟ้า 1						
Date Analysis Commenced	Aug 14, 2024						
Condition of Sample	Contained in one amber glass bottle and four 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	<25	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Oil & Grease *	mg/L	-	1	2	≤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		-	-	8.1	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	364	≤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 : Notification of the Ministry of Natural Resources and Environment B.E.2565 (2022) : Wastewater from Power Plants (Natural Gas)

Sampling By : Chainusorn Lertnanthakunchai พระปิ่นเกล้าฯ 323-3-0041 , Pattarapol Sawangjaitam พระปิ่นเกล้าฯ 204-3-0002

Remark :
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Technical Management

Photchana S.

Photchana Seeda
Scientist (4)
พระปิ่นเกล้าฯ 323-3-0028

Approved by

D. Changchon

Dej Changchon
Senior Manager
พระปิ่นเกล้าฯ 323-3-0001

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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O :
Project Name :
Project Location :



TESTING
No.0009
Lot ID: 2487001
Date Received : Aug 14, 2024
Date Reported : Aug 21, 2024
Report Number : 3089061-2

Page 1 of 1

Sample Number	2487001-1						
Sampled Date	Aug 14, 2024 10:00 AM						
Sample Description	Wastewater						
Location	ปล่อยน้ำทิ้งโรงไฟฟ้า 1						
Date Analysis Commenced	Aug 14, 2024						
Condition of Sample	Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Iron	mg/L	0.003	0.005	0.13	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing							
Nitrate as N *	mg/L	0.015	0.05	4.62	≤10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO3 (E)	Rayong

Guideline : Notification of the Ministry of Natural Resources and Environment B.E.2565 (2022) : Wastewater from Power Plants (Natural Gas)

Sampling By : Chainusorn Lertnanthakunchai , Pattarapol Sawangjaitam

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.

Approved by

Sawitree N.

Sawitree Noisangiam
Manager

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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 410001D425
Project Name :
Project Location :



TESTING
No.0042

Lot ID: 2498300
cate Revei3ed : Sep 11, 202D
cate Reported : Sep 18, 202D
Report 9 u6 Ner : 411D241-1

Page 1 of 1

Sample Number	2D68400-1
Sampled Date	Sep 11, 202D 10:2F AM
Sample Description	7 astewater
Location	พื้ปลูกต้นพืชแห่งที่ 1
Date Analysis Commenced	Sep 11, 202D
Condition of Sample	Contained in one a6 Ner glass Bottle and four plastiv Bottles, sa6 ple vontainers vo6 ply to pretreat6 ent - preser3ation standards WMP(A, HSUPAE

Analyte	Unit	LOD	LOQ (LOQ)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
) Bc W days at 20 cegree CE	6 g/L	-	2.0	F 2.0	≤20	Standard Methods for the UQa6 Ination on7 ater and 7 astewater. AP(A, A7 7 A x 7 U8, 24rd ed., 201f, part 5210), part D500 - B G	Rayong
CBc	6 g/L	1.5	25	F 25	≤120	Standard Methods for the UQa6 Ination on7 ater and 7 astewater. AP(A, A7 7 A x 7 U8, 24rd ed., 201f, part 5220 c	Rayong
Blil x Grease <	6 g/L	-	1	1	≤5	Standard Methods for the UQa6 Ination on7 ater and 7 astewater. AP(A, A7 7 A x 7 U8, 24rd ed., 201f, part 5520)	Rayong
p(at 25 degree C	-	-	-	8.1	5.5-b.0	Standard Methods for the UQa6 Ination on7 ater and 7 astewater. AP(A, A7 7 A x 7 U8, 24rd ed., 201f, part D500 - (WYE	Rayong
Total c issol3ed Solids c ried at 180 degree C	6 g/L	-	5	1*2	≤4000	Standard Methods for the UQa6 Ination on7 ater and 7 astewater. AP(A, A7 7 A x 7 U8, 24rd ed., 201f, part 2500 C	Rayong
Total Kjeldahl Nitrogen as 9	6 g/L	-	1.0	F 1.0	≤100	Standard Methods for the UQa6 Ination on7 ater and 7 astewater. AP(A, A7 7 A x 7 U8, 24rd ed., 201f, part D500-9 org WYE, part 9 (4 W E	Rayong
Total Suspended Solids c ried at 104-105 degree C	6 g/L	-	5	F 5	≤50	Standard Methods for the UQa6 Ination on7 ater and 7 astewater. AP(A, A7 7 A x 7 U8, 24rd ed., 201f, part 2500 c	Rayong

Guideline : 9 otivation onthe Ministry on8atural Resourves and Un3iron6 ent).U.25*5 W022E: 7 astewater mo6 Power Plants Watural GasE

Sampling By : 7 anlop (unvhaihaow ทรบเบบเบบที่ 7-424-7-0048 , Pattarapol Sawangjaita6 ทรบเบบเบบที่ 7-20D-7-0002

Ref ark :

- LBC : L6 it om etevion
- "F" : Lower than L6 Q W6 it onQuantitationE/ L6 R W6 it onReportingE
- Analyte6 E6 arked < is/are not included in scope omkwreditation ISB/IUC 1F025.
- The laboratory has been asepted as an avredited laboratory vo6 plying with the ISB/IUC 1F025.

Technical Management

Photchanas.

Photvhana Seeda
Svientist WOE
ทรบเบบเบบที่ 7-424-7-0028

Approved by

D. Khun.

c ej Changvhon
Senior Manager
ทรบเบบเบบที่ 7-424-7-0001

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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 410001D425
Project Name :
Project Location :



TESTING
No.0009

Lot ID: 2498300
cate Revei3ed : Sep 11, 202D
cate Reported : Sep 18, 202D
Report 9 u6 Ner : 411D241-2

Page 1 of 1

Sample Number	2D68400-1
Sampled Date	Sep 11, 202D 10:2F AM
Sample Description	7 astewater
Location	พื้ปลูกต้นพืชแห่งที่ 1
Date Analysis Commenced	Sep 12, 202D
Condition of Sample	Contained in one a6 Ner glass Bottle and four plastiv Bottles, sa6 ple vontainers vo6 ply to pretreat6 ent - preser3ation standards WMP(A, HSUPAE

Analyte	Unit	LOD	LOQ (LOQ)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Iron	6 g/L	0.004	0.005	0.05	k 1.0	Standard Methods for the UQa6 Ination on7 ater and 7 astewater. AP(A, A7 7 A x 7 U8, 24rd ed., 201f, part 4125 F, 4040 B	FangBo8
Water Testing							
9 ltrate as 9 *	6 g/L	0.015	0.05	2.10	k 10	Standard Methods for the UQa6 Ination on7 ater and 7 astewater. AP(A, A7 7 A x 7 U8, 24rd ed., 201f, part D500-9 O4 UE	Rayong

Guideline : 9 otivation onthe Ministry on8atural Resourves and Un3iron6 ent F.U.25s5 2022E: 7 astewater mo6 Power Plants 9atural GasE

Sampling By : 7 anlop (unvhaihaow , Pattarapol Sawangjaita6

Ref ark :

- LBC : L6 it om etevion
- "F" : Lower than LOQ L6 it onQuantitationE/ LOQ L6 it onReportingE
- Analyte6 E6 arked * is/are not included in scope omkwreditation ISO/IUC 1F025.
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Approved by

Sawitree N.

Sawitree 9oisangla6
Manager



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 4100010425
Project Name :
Project Location :



TESTING
No.0042
Lot ID: 24105320
Date Received : c vt 03, 2020
Date Reported : c vt 16, 2020
Report number : 41002N5-1

Page 1 of 1

Sample Number	2D105420-1						
Sampled Date	c vt 03, 2020 1:50 PM						
Sample Description	Wastewater						
Location	บ่อกักน้ำทิ้งเหมืองที่ 1						
Date Analysis Commenced	c vt 03, 2020						
Condition of Sample	Contained in one amber glass bottle and four plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Bic 8 (5 days at 20 degree C)	b g/L	-	2.0	F2.0	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 20th ed., 2024, part 5210 B, part D500 - c G	Rayong
Cc 8	b g/L	1.5	25	2<	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 20th ed., 2024, part 5220 B	Rayong
c l l x Grease *	b g/L	-	1	1	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 20th ed., 2024, part 5520 B	Rayong
pH at 25 degree C	-	-	-	6.2	5.5-3.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 20th ed., 2024, part D500 - H (B)	Rayong
Total Dissolved Solids filtered at 160 degree C	b g/L	-	5	226	≤4000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 20th ed., 2024, part 2500 C	Rayong
Total Kjeldahl nitrogen as N	b g/L	-	1.0	25.N	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 20th ed., 2024, part D500-morg (C), part mH4 (B)	Rayong
Total Suspended Solids filtered at 104-105 degree C	b g/L	-	5	F5	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 20th ed., 2024, part 2500 B	Rayong

Guideline : Notification of the Ministry of Natural Resources and Environment B.E.25-5 (2022) : Wastewater from Power Plants (natural Gas)

Sampling By : Amonwih Wongsachai ทะเบียนเลขที่ ๖-424-๖-0000, Pattarapol Sawangjaitam ทะเบียนเลขที่ ๖-20D-๖-0002

Remark :
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Technical Management

Photchanas.

Photbhana Seeda
Scientist (D)
ทะเบียนเลขที่ ๖-424-๖-0026

Approved by

D. Chuan.

8๕ Changwhon
Senior Manager
ทะเบียนเลขที่ ๖-424-๖-0001

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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :



TESTING
No.0009
Lot ID: 24105320
Date Received : Oct 09, 2024
Date Reported : Oct 18, 2024
Report Number : 3140275-2

Page 1 of 1

Sample Number	24105320-1						
Sampled Date	Oct 09, 2024 1:50 PM						
Sample Description	Wastewater						
Location	บ่อกักน้ำทิ้งเหมืองที่ 1						
Date Analysis Commenced	Oct 09, 2024						
Condition of Sample	Contained in one amber glass bottle and four plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Iron	mg/L	0.003	0.005	0.33	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Water Testing							
Nitrate as N *	mg/L	0.015	0.05	1.99	≤10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-NO3 (E)	Rayong

Guideline : Notification of the Ministry of Natural Resources and Environment B.E.2565 (2022) : Wastewater from Power Plants (Natural Gas)

Sampling By : Amonwih Wongsachai , Pattarapol Sawangjaitam

Remark :
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Approved by

Savitree N.

Savitree Naisangiam
Manager

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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 4100010425
Project Name :
Project Location :



TESTING
No.0042
Lot ID: 24121523
3 ate ReBived : c ov 14, 202D
3 ate Reported : c ov 20, 202D
Report c uN mer : 4191926-1

Page 1 of 1

Sample Number	2D121524-1
Sampled Date	c ov 14, 202D 10:50 AM
Sample Description	f astewater
Location	บ่อกักน้ำทิ้งแ่งฟ้ 1
Date Analysis Commenced	c ov 14, 202D
Condition of Sample	Contained in one a nN er glass bottle and four plastiB bottles. SaN ple B ontainers B oN ply to pretreatN ent - preservation standards. 7APWA / (5HPAU

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
E) 3 75 days at 20 3 egree CU	Ng/L	-	2.0	&2.0	≤20	Standard Methods for the HbN ination obf ater and f astewater. APWA, Af f A O f Hx, 2Dth ed., 2024, part 5210 E, part D500 -) G	Rayong
C) 3	Ng/L	1.5	25	9D	≤120	Standard Methods for the HbN ination obf ater and f astewater. APWA, Af f A O f Hx, 2Dth ed., 2024, part 5220 3	Rayong
) il O Grease F	Ng/L	-	1	1	≤5	Standard Methods for the HbN ination obf ater and f astewater. APWA, Af f A O f Hx, 2Dth ed., 2024, part 5520 E	Rayong
pWat 25 degree C	-	-	-	6.D	5.5<-0	Standard Methods for the HbN ination obf ater and f astewater. APWA, Af f A O f Hx, 2Dth ed., 2024, part D500 - W 7EU	Rayong
Total 3 issolved Solids 3 ried at 160 degree C	Ng/L	-	5	2*D	≤4000	Standard Methods for the HbN ination obf ater and f astewater. APWA, Af f A O f Hx, 2Dth ed., 2024, part D500-C org 7CU part c WA 73U	Rayong
Total Kjeldahl c itrogen as c	Ng/L	-	1.0	91.9	≤100	Standard Methods for the HbN ination obf ater and f astewater. APWA, Af f A O f Hx, 2Dth ed., 2024, part D500-C org 7CU part c WA 73U	Rayong
Total Suspended Solids 3 ried at 104-105 degree C	Ng/L	-	5	<	≤50	Standard Methods for the HbN ination obf ater and f astewater. APWA, Af f A O f Hx, 2Dth ed., 2024, part 2500 3	Rayong

Guideline : c otibBation obthe Ministry obc atural Resources and HvironNent E.H25*5 72022U: f astewater troN Power Plants 7: atural GasU

Sampling By : Chainusorn Lertnanthakunthai โทร 09-424-4-0001

ReN ark :

- LJ 3 : UN it ob 3 eteBtion
- "B" : Lower than LJ Q 7UN it ob Quantitation/ LJ R 7UN it ob ReportingU
- Analyte 7UNarked F is/are not included in scope ob ABReditation IS) /IHC 19025.
- The laboratory has been accepted as an accredited laboratory B oN plying with the IS) /IHC 19025.

Technical Management

Photchana S.

Photthana Seeda
SBientist 7DU
โทร 09-424-4-0026

Approved by

D. Khun

3ej Changhohn
Senior Manager
โทร 09-424-4-0001

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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :



TESTING
No.0009
Lot ID: 24121523
Date Received : Nov 13, 2024
Date Reported : Nov 20, 2024
Report Number : 3171728-2

Page 1 of 1

Sample Number	24121523-1
Sampled Date	Nov 13, 2024 10:50 AM
Sample Description	Wastewater
Location	บ่อกักน้ำทิ้งแ่งฟ้ 1
Date Analysis Commenced	Nov 13, 2024
Condition of Sample	Contained in one amber glass bottle and four plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Iron	mg/L	0.003	0.005	0.40	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B, 3030 F	Bangkok
Water Testing							
Nitrate as N *	mg/L	0.015	0.05	3.78	≤10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-NO3 (E)	Rayong

Guideline : Notification of the Ministry of Natural Resources and Environment B.E.2565 (2022) : Wastewater from Power Plants (Natural Gas)

Sampling By : Chainusorn Lertnanthakunthai

Remark :

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- "c" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 410001D425
Project Name :
Project Location :



TESTING
No.0042
Lot ID: 24128789
cate Revealed : c ev 11, 202D
cate Reported : c ev 18, 202D
Report Number : 4196458-1

Page 1 of 1

Sample Number	2D128789-1						
Sampled Date	c ev 11, 202D 10:25 AM						
Sample Description	Wastewater						
Location	ปล่อยน้ำทิ้งแ่งที่ 1						
Date Analysis Commenced	c ev 11, 202D						
Condition of Sample	Contained in one amber glass bottle and four plastiv bottles, sample vontainers vompoly to pretreatment - preser3ation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOc (5 days at 20 c egree C)	mg/L	-	2.0	17.2	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 2Dth ed., 2024, part 5210 B, part D500 - O G	Rayong
COc	mg/L	1.5	25	82	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 2Dth ed., 2024, part 5220 c	Rayong
Oil & Grease <	mg/L	-	1	*1	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 2Dth ed., 2024, part 5520 B	Rayong
pH at 25 degree C		-	-	8.5	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 2Dth ed., 2024, part D500 - H (B)	Rayong
Total c issol3ed Solids c ried at 180 degree C	mg/L	-	5	508	≤4000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 2Dth ed., 2024, part 2500 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	79.5	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 2Dth ed., 2024, part D500-Norg (C), part NH4 (c)	Rayong
Total Suspended Solids c ried at 104-105 degree C	mg/L	-	5	16	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 2Dth ed., 2024, part 2500 c	Rayong

Guideline : Notification of the Ministry of Natural Resoures and En3ironment B.E.2565 (2022) : Wastewater from Power Plants (Natural Gas)

Sampling By : Chainusorn Lertnanthakunvhai ทะเบียนเลขที่ ๖-424-๖-00D1 , Pattarapol Sawangjaitam ทะเบียนเลขที่ ๖-20D-๖-0002

Remark :

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Technical Management

Photchana S.

Photvhana Seeda
Svientist (D)
ทะเบียนเลขที่ ๖-424-๖-0028

Approved by

D. Chanvorn

c ej Changvhorn
Senior Manager
ทะเบียนเลขที่ ๖-424-๖-00D1

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Analysis / Test Report

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P/O : 410001D425
Project Name :
Project Location :



TESTING
No.0009
Lot ID: 24128789
cate Revealed : c ev 11, 202D
cate Reported : c ev 18, 202D
Report Number : 4196458-2

Page 1 of 1

Sample Number	2D128789-1						
Sampled Date	c ev 11, 202D 10:25 AM						
Sample Description	Wastewater						
Location	ปล่อยน้ำทิ้งแ่งที่ 1						
Date Analysis Commenced	c ev 11, 202D						
Condition of Sample	Contained in one amber glass bottle and four plastiv bottles, sample vontainers vompoly to pretreatment - preser3ation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Iron	mg/L	0.004	0.005	0.09	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 2Dth ed., 2024, part 4125 B,4040 F	Bangkok
Water Testing							
Nitrate as N *	mg/L	0.015	0.05	4.62	≤10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 2Dth ed., 2024, part D500-NO4 (E)	Rayong

Guideline : Notification of the Ministry of Natural Resources and En3ironment B.E.2565 (2022) : Wastewater from Power Plants (Natural Gas)

Sampling By : Chainusorn Lertnanthakunvhai , Pattarapol Sawangjaitam

Remark :

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บริเวณจุดระบายน้ำทิ้งจาก Oil Separator



Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :



TESTING
No.0042

Lot ID: 2498301
Date Received : Sep 11, 2024
Date Reported : Oct 18, 2024
Report Number : 3092680-1 Rev. No.1

Page 1 of 2

Sample Number	2498301-1						
Sampled Date	Sep 11, 2024 10:20 AM						
Sample Description	Wastewater						
Location	บริเวณจุดระบายน้ำทิ้ง จาก oil Separator						
Date Analysis Commenced	Sep 11, 2024						
Condition of Sample	Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method
Water Testing							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤20	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G
COD	mg/L	1.5	25	<25	≤120	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D
Oil & Grease *	mg/L	-	1	<1	≤5	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B
pH at 25 degree C	-	-	-	7.8	5.5-9.0	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	188	≤3000	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	<1.0	≤100	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	≤50	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D

Guideline : Guideline (1) : 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).
Guideline (2) : Notification of the Ministry of Natural Resources and Environment B.E. 2565 : The standard for controlling the discharge of wastewater from an electric power plant.

Note : This Analysis test report is reissued to supersede report No.3092680-2, Date Reported : Sep 18, 2024 due to revise guideline/specification

Sampling By : Wanlop Hunchainaow ทะเบียนเลขที่ ร-323-ร-0038 , Pattarapol Sawangjaitam ทะเบียนเลขที่ ร-204-ร-0002

Remark :

Technical Management

Photchana S.

Photchana Seeda
Scientist (4)

ทะเบียนเลขที่ ร-323-ร-0028

Approved by

D. Chanchon

Dej Changchon
Senior Manager

ทะเบียนเลขที่ ร-323-ร-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 : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :



TESTING
No.0042

Lot ID: 2498301
Date Received : Sep 11, 2024
Date Reported : Oct 18, 2024
Report Number : 3092680-1 Rev. No.1

Page 2 of 2

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

Technical Management

Photchana S.

Photchana Seeda
Scientist (4)
ทะเบียนเลขที่ ร-323-ร-0028

Approved by

D. Chanchon

Dej Changchon
Senior Manager
ทะเบียนเลขที่ ร-323-ร-0001

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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :



TESTING
No.0009
Lot ID: 2498301
Date Received : Sep 11, 2024
Date Reported : Oct 18, 2024
Report Number : 3092680-2 Rev. No.1

Sample Number	2498301-1							Page 1 of 1
Sampled Date	Sep 11, 2024 10:20 AM							
Sample Description	Wastewater							
Location	บริเวณจุดระบายน้ำทิ้ง จาก oil Separator							
Date Analysis Commenced	Sep 12, 2024							
Condition of Sample	Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)							

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Metals Testing								
Iron	mg/L	0.003	0.005	0.15	No Standard	≤1.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing								
Nitrate as N *	mg/L	0.015	0.05	2.00	No Standard	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO3 (E)	Rayong

Guideline : Guideline (1) : 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).
Guideline (2) : Notification of the Ministry of Natural Resources and Environment B.E. 2565 : The standard for controlling the discharge of wastewater from an electric power plant.

Note : This Analysis test report is reissued to supersede report No.3092680-2, Date Reported : Sep 18, 2024 due to revise guideline/specification

Sampling By : Wanlop Hunchainaw , Pattarapol Sawangjaitam

Remark :
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Approved by

Sawitree N.

Sawitree Nisangiam
Manager

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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :



TESTING
No.0042
Lot ID: 24105330
Date Received : Oct 09, 2024
Date Reported : Oct 18, 2024
Report Number : 3108253-1

Sample Number	24105330-1							Page 1 of 2
Sampled Date	Oct 09, 2024 2:00 PM							
Sample Description	Wastewater							
Location	บริเวณจุดระบายน้ำทิ้ง จาก oil Separator							
Date Analysis Commenced	Oct 09, 2024							
Condition of Sample	Contained in one amber glass bottle and four plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)							

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Water Testing								
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤20	≤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	<25	≤120	≤120	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 5220 D	Rayong
Oil & Grease *	mg/L	-	1	1	≤5	≤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		-	-	7.9	5.5-9.0	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	276	≤3000	≤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	≤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	<5	≤50	≤50	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Guideline : Guideline (1) : 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).
Guideline (2) : Notification of the Ministry of Natural Resources and Environment B.E. 2565 : The standard for controlling the discharge of wastewater from an electric power plant.

Sampling By : Amonwich Wongsachai ทะเบียนเลขที่ 7-323-3-0040 , Pattarapol Sawangjaitam ทะเบียนเลขที่ 7-204-3-0002

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

Technical Management

Photchana S.

Photchana Seeda
Scientist (4)
ทะเบียนเลขที่ 7-323-3-0028

Approved by

D. Chanchon

Dej Chanchon
Senior Manager
ทะเบียนเลขที่ 7-323-3-0001

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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :



TESTING
No.0042
Lot ID: 24105330
Date Received : Oct 09, 2024
Date Reported : Oct 18, 2024
Report Number : 3108253-1

Page 2 of 2

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Analysis / Test Report

Client : Glow SPP 2 Co., Ltd.
11, I-5 Road, Map Ta Phut, Muang, Rayong Thailand 21150
P/O : 3100014325
Project Name :
Project Location :



TESTING
No.0009
Lot ID: 24105330
Date Received : Oct 09, 2024
Date Reported : Oct 18, 2024
Report Number : 3108253-2

Page 1 of 1

Sample Number	24105330-1						
Sample Date	Oct 09, 2024 2:00 PM						
Sample Description	Wastewater						
Location	บริเวณจุดระแนงน้ำทิ้ง จาก oil Separator						
Date Analysis Commenced	Oct 09, 2024						
Condition of Sample	Contained in one amber glass bottle and four plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Metals Testing								
Iron	mg/L	0.003	0.005	0.07	No Standard	≤1.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B, 3030 F	Bangkok
Water Testing								
Nitrate as N *	mg/L	0.015	0.05	2.56	No Standard	≤10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500-NO3 (E)	Rayong

Guideline : Guideline (1) : 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).
Guideline (2) : Notification of the Ministry of Natural Resources and Environment B.E. 2565 : The standard for controlling the discharge of wastewater from an electric power plant.

Sampling By : Amonwich Wongsachai , Pattarapol Sawangjalam

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-ก-0028

Approved by

D. Changchon

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

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Approved by

Sawitree N.

Sawitree Nolsangiam
Manager

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เอกสารการสอบเทียบเครื่องมือตรวจวิเคราะห์



รายการเครื่องมือที่ใช้ในการวิเคราะห์ / ทดสอบ

Sample Name	Parameter	Equipment Name	ID No.	Calibrated Date	Next Cal	Freq. Calibrate (Month)
Ambient	Particulate Matter (PM-10)	High Volume	RVG-F50094	-	-	On-site Calibration
Ambient	Particulate Matter (PM-10)	High Volume	RVG-F50095	-	-	On-site Calibration
Ambient	Particulate Matter (PM-10)	High Volume	RVG-F50096	-	-	On-site Calibration
Ambient	Particulate Matter (PM-10)	High Volume	RVG-F50097	-	-	On-site Calibration
Ambient	Particulate Matter (PM-10)	Digital Balance	RVG-F50098	22-Feb-24	22-Feb-25	12
Ambient	Total Suspended Particulate	High Volume	RVG-F50099	-	-	On-site Calibration
Ambient	Total Suspended Particulate	High Volume	RVG-F50100	-	-	On-site Calibration
Ambient	Total Suspended Particulate	High Volume	RVG-F50101	-	-	On-site Calibration
Ambient	Total Suspended Particulate	High Volume	RVG-F50102	-	-	On-site Calibration
Ambient	Total Suspended Particulate	Digital Balance	RVG-F50103	22-Feb-24	22-Feb-25	12
Ambient	Nitrogen Dioxide	NO _x Analyzer	RVG-F50104	3-Jul-24	3-Jan-25	6
Ambient	Nitrogen Dioxide	NO _x Analyzer	RVG-F50105	3-Jul-24	3-Jan-25	6
Ambient	Nitrogen Dioxide	NO _x Analyzer	RVG-F50106	3-Jul-24	3-Jan-25	6
Ambient	Nitrogen Dioxide	NO _x Analyzer	RVG-F50107	3-Jul-24	3-Jan-25	6
Ambient	Sulfur Dioxide	SO ₂ Analyzer	RVG-F50108	3-Jul-24	3-Jan-25	6
Ambient	Sulfur Dioxide	SO ₂ Analyzer	RVG-F50109	3-Jul-24	3-Jan-25	6
Ambient	Sulfur Dioxide	SO ₂ Analyzer	RVG-F50110	3-Jul-24	3-Jan-25	6
Ambient	Sulfur Dioxide	SO ₂ Analyzer	RVG-F50111	3-Jul-24	3-Jan-25	6
Ambient	Wind Speed / Wind Direction	Wind Speed / Wind Direction	RVG-F50112	21-Aug-24	28-Feb-25	18
Stack	Total Suspended Particulate	Console Control Unit	RVG-F50113	10-Jul-24	10-Jan-25	6
Stack	Total Suspended Particulate	Filter Tube	RVG-F50114	10-Jul-24	10-Jan-25	6
Stack	Total Suspended Particulate	Digital Balance	RVG-F50115	22-Feb-24	22-Feb-25	12
Stack	PM10	Console Control Unit	RVG-F50116	10-Jul-24	10-Jan-25	6
Stack	PM10	Filter Tube	RVG-F50117	10-Jul-24	10-Jan-25	6
Stack	PM10	Digital Balance	RVG-F50118	22-Feb-24	22-Feb-25	12
Stack	PM2.5	Console Control Unit	RVG-F50119	10-Jul-24	10-Jan-25	6
Stack	PM2.5	Filter Tube	RVG-F50120	10-Jul-24	10-Jan-25	6
Stack	PM2.5	Digital Balance	RVG-F50121	22-Feb-24	22-Feb-25	12
Stack (CEMU)	Quality of Station	Analyzer / System Calibration, Stand	-	-	-	-
Stack (CEMU)	Sulfur Dioxide	Analyzer / System Calibration, Stand	-	-	-	-
Stack (CEMU)	Flow Rate & Temperature	Flow Rate & Temperature Data	-	-	-	-
Stack	Flow Rate & Temperature	Console Control Unit	RVG-F50122	10-Jul-24	10-Jan-25	6
Stack	Flow Rate & Temperature	Console Control Unit	RVG-F50123	10-Jul-24	10-Jan-25	6
Stack	Flow Rate & Temperature	Filter Tube	RVG-F50124	10-Jul-24	10-Jan-25	6
Stack	Flow Rate & Temperature	Filter Tube	RVG-F50125	10-Jul-24	10-Jan-25	6
Stack	Flow Rate & Temperature	Flow rate Analyzer	RVG-F50126	22-Feb-24	21-Feb-25	12
Stack	Flow Rate & Temperature	Flow rate Analyzer	RVG-F50127	22-Feb-24	21-Feb-25	12
Noise	Leq 24 hrs	Sound Calibrator	RVG-F50128	21-Jan-24	21-Jan-25	12
Noise	Leq 24 hrs	Sound Level Meter	RVG-F50129	21-Jan-24	21-Jan-25	12
Noise	Leq 24 hrs	Sound Level Meter	RVG-F50130	21-Jan-24	21-Jan-25	12
Noise	Leq 24 hrs	Sound Level Meter	RVG-F50131	21-Jan-24	21-Jan-25	12
Noise	Leq 24 hrs	Sound Level Meter	RVG-F50132	21-Jan-24	21-Feb-25	12
Noise	Leq 24 hrs	Sound Level Meter	RVG-F50133	21-Jan-24	21-Feb-25	12
Heat	Heat Stress	Heat Stress Monitor	RVG-F50134	21-Jan-24	21-Jan-25	12
Heat	Heat Stress	Heat Stress Monitor	RVG-F50135	21-Jan-24	21-Jan-25	12
Heat	Heat Stress	Heat Stress Monitor	RVG-F50136	21-Jan-24	21-Jan-25	12
Heat	Heat Stress	Heat Stress Monitor	RVG-F50137	21-Jan-24	21-Jan-25	12
Illuminance	Illuminance	Lux Meter	RVG-F50138	14-Mar-24	13-Mar-25	12

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รายการเครื่องมือที่ใช้ในการวิเคราะห์ / ทดสอบ

Sample Name	Parameter	Equipment Name	ID No.	Calibrated Date	Next Cal	Freq. Calibrate (Month)
Noise	Leq 8 hrs & Leq 12 hrs	Sound Calibrator	RVG-F50139	21-Jan-24	21-Jan-25	12
Noise	Leq 8 hrs & Leq 12 hrs	Sound Level Meter	RVG-F50140	21-Jan-24	21-Jan-25	12
Noise	Leq 8 hrs & Leq 12 hrs	Sound Level Meter	RVG-F50141	21-Jan-24	21-Jan-25	12
Noise	Leq 8 hrs & Leq 12 hrs	Sound Level Meter	RVG-F50142	21-Jan-24	21-Feb-25	12
Noise	Leq 8 hrs & Leq 12 hrs	Sound Level Meter	RVG-F50143	21-Jan-24	21-Feb-25	12
Noise	Leq 8 hrs & Leq 12 hrs	Sound Level Meter	RVG-F50144	21-Jan-24	21-Feb-25	12
Noise	Leq 8 hrs & Leq 12 hrs	Sound Level Meter	RVG-F50145	21-Jan-24	21-Feb-25	12
Noise	Leq 8 hrs & Leq 12 hrs	Sound Level Meter	RVG-F50146	21-Jan-24	21-Feb-25	12
Noise	Leq 8 hrs & Leq 12 hrs	Sound Level Meter	RVG-F50147	21-Jan-24	21-Feb-25	12
Noise	Leq 8 hrs & Leq 12 hrs	Sound Level Meter	RVG-F50148	21-Jan-24	21-Feb-25	12
Noise	Leq 8 hrs & Leq 12 hrs	Sound Level Meter	RVG-F50149	21-Jan-24	21-Feb-25	12
Noise	Noise Contour	Sound Calibrator	RVG-F50150	21-Jan-24	21-Jan-25	12
Noise	Noise Contour	Sound Level Meter	RVG-F50151	21-Jan-24	21-Jan-25	12
Noise	Noise Contour	Sound Level Meter	RVG-F50152	21-Jan-24	21-Jan-25	12
Noise	Noise Contour	Sound Level Meter	RVG-F50153	21-Jan-24	21-Jan-25	12
Noise	Noise Contour	Sound Level Meter	RVG-F50154	21-Jan-24	21-Jan-25	12
Noise	Noise Contour	Sound Level Meter	RVG-F50155	21-Jan-24	21-Jan-25	12
RayonLab	Water 24 °C	DO Meter	RVG-F50156	21-Feb-24	21-Feb-25	12
RayonLab	SCD	DO meter with Sensor	RVG-F50157	21-Feb-24	21-Feb-25	12
RayonLab	SCD	Refractometer	RVG-F50158	21-Feb-24	21-Feb-25	12
RayonLab	SCD	Burette	RVG-F50159	21-Feb-24	21-Feb-25	12
RayonLab	SCD	Spectrophotometer	RVG-F50160	21-Feb-24	21-Feb-25	12
RayonLab	Total Suspended Solids	Electronic Balance	RVG-F50161	21-Feb-24	21-Feb-25	12
RayonLab	Total Suspended Solids	Hot Air Oven	RVG-F50162	21-Feb-24	21-Feb-25	12
RayonLab	Oil & Grease	Electronic Balance	RVG-F50163	21-Feb-24	21-Feb-25	12
RayonLab	Oil & Grease	Hot Air Oven	RVG-F50164	21-Feb-24	21-Feb-25	12
RayonLab	Oil & Grease	Water Bath	RVG-F50165	21-Feb-24	21-Feb-25	12

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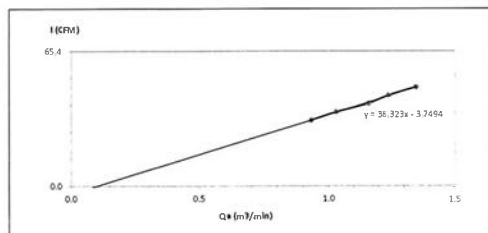
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High Volume Air Sampler Calibration Worksheet

Project Site:	Glow SP2 Co., Ltd.	Barometric Pressure (mm Hg):	754.2
Calibrate Location:	ถนนบึงบอน/ถนนพหลโยธิน (บึงบอน)	Temperature (°C):	31.6
Calibrate Date:	18-Sep-24	High Volume ID:	RYG-F50294
Calibration Sheet No.:	C-180924-RYG-F50294	High Volume Model:	TE-5009X
Calibrator ID:	RYG-F50286	High Volume S/N:	5591
Calibrator Model:	TE-5028A	Calibrator Slope:	0.92987
Calibrator S/N:	1543	Calibrator Intercept:	-0.01578

Test No.	Delta H ₂ O (inch)	Q _a (m ³ /min)	I: Chart (CFM)	Linear Regression
1	1.8	0.933	32	Slope: 39.3230
2	2.2	1.029	36	Intercept: -3.7494
3	2.8	1.159	40	Correlation Coefficient: 0.9900
4	3.2	1.238	44	
5	3.8	1.348	48	



Calibrated by: 
(Mr. Apichart Wilans)
Field Scientist(1)

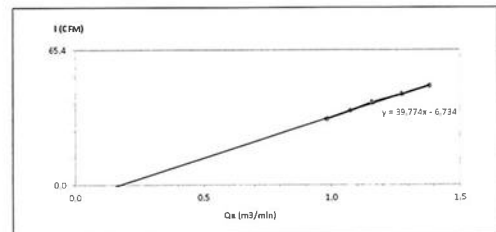
Approved by: 
(Mr. Noppong Juntarupun)
Enviro Field Coordinator Scientist (3)



High Volume Air Sampler Calibration Worksheet

Project Site:	Glow SP2 Co., Ltd.	Barometric Pressure (mm Hg):	754.2
Calibrate Location:	ถนนบึงบอน/ถนนพหลโยธิน (บึงบอน)	Temperature (°C):	31.6
Calibrate Date:	18-Sep-24	High Volume ID:	RYG-F50400
Calibration Sheet No.:	C-180924-RYG-F50400	High Volume Model:	TE-5009X
Calibrator ID:	RYG-F50286	High Volume S/N:	5591
Calibrator Model:	TE-5028A	Calibrator Slope:	0.92987
Calibrator S/N:	1543	Calibrator Intercept:	-0.01578

Test No.	Delta H ₂ O (inch)	Q _a (m ³ /min)	I: Chart (CFM)	Linear Regression
1	2.0	0.982	32	Slope: 39.7743
2	2.4	1.075	36	Intercept: -6.7340
3	2.8	1.159	40	Correlation Coefficient: 0.9902
4	3.4	1.276	44	
5	4.0	1.383	48	



Calibrated by: 
(Mr. Apichart Wilans)
Field Scientist(1)

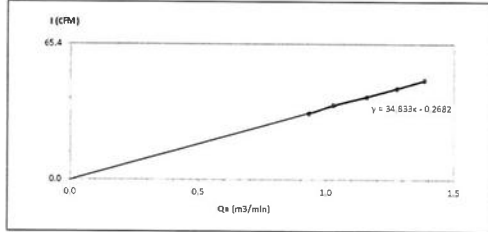
Approved by: 
(Mr. Noppong Juntarupun)
Enviro Field Coordinator Scientist (3)



High Volume Air Sampler Calibration Worksheet

Project Site : Glow SPP 2 Co., Ltd. Barometric Pressure (mm Hg) : 754.2
 Calibrate Location : TH. 68, หมู่ 10 (บ้านใหม่) (บ้านใหม่) Temperature (°C) : 31.6
 Calibrate Date : 18-Sep-24 High Volume ID : RYG_F50665
 Calibration Sheet No. : C-180924-RYG_F50665 High Volume Model : TE-5009X
 Calibrator ID : RYG_F50206 High Volume S/N : 6264
 Calibrator Model : TE-5028A Calibrator Slope : 0.92987
 Calibrator S/N : 1543 Calibrator Intercept : -0.01578

Test No.	Delta H ₂ O (inch)	Qa (m³/min)	I: Chart (CFM)	Linear Regression
1	1.8	0.933	32	Slope: 34.8328
2	2.2	1.029	36	Intercept: -0.2692
3	2.9	1.159	40	Correlation Coefficient: 0.9991
4	3.4	1.276	44	
5	4.0	1.383	48	



Calibrated by : [Signature]
 (Mr. Apichart Wilars)
 Field Scientist (1)

Approved by : [Signature]
 (Mr. Noppung Juntarupan)
 Enviro Field Coordinator Scientist (2)

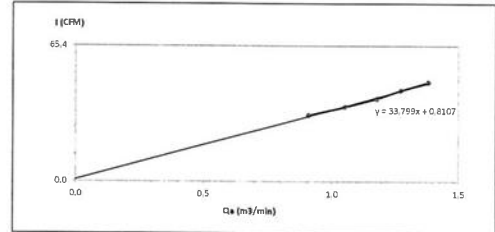
FORM NO. F 06-074 REVISION NO. 2 ISSUE DATE: 20/11/23



High Volume Air Sampler Calibration Worksheet

Project Site : Glow SPP 2 Co., Ltd. Barometric Pressure (mm Hg) : 754.2
 Calibrate Location : TH. 68, หมู่ 10 (บ้านใหม่) (บ้านใหม่) Temperature (°C) : 31.6
 Calibrate Date : 18-Sep-24 High Volume ID : RYG_F50189
 Calibration Sheet No. : C-180924-RYG_F50189 High Volume Model : TE-5009X
 Calibrator ID : RYG_F50206 High Volume S/N : 4797
 Calibrator Model : TE-5028A Calibrator Slope : 0.92987
 Calibrator S/N : 1543 Calibrator Intercept : -0.01578

Test No.	Delta H ₂ O (inch)	Qa (m³/min)	I: Chart (CFM)	Linear Regression
1	1.7	0.997	32	Slope: 33.7990
2	2.3	1.052	36	Intercept: 0.0107
3	2.9	1.180	40	Correlation Coefficient: 0.9965
4	3.4	1.276	44	
5	4.0	1.363	48	



Calibrated by : [Signature]
 (Mr. Apichart Wilars)
 Field Scientist (1)

Approved by : [Signature]
 (Mr. Noppung Juntarupan)
 Enviro Field Coordinator Scientist (2)

FORM NO. F 06-074 REVISION NO. 2 ISSUE DATE: 20/11/23

Sartorius (Thailand) Co., Ltd.
 129 Rama 9 Road, Huaywang, Huaywang, Bangkok 10310
 Tel: +66 2643 8391-6, e-mail: service.thailand@sartorius.com



NSC-TS1-1517025
 CALIBRATION 0426

SARTORIUS

Certificate of Calibration

Model Number : LA130S-F Certificate No. : 24BCI0068
 Description : Analytical Balance Issued Date : Friday, February 23, 2024
 Serial Number : 25408664 Reference No. : 229186
 ID No. : RYG_EN0001
 Manufacturer : Sartorius Page No. : 1 of 2

Customer Name : ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)
616/10 Moo 5 T.Maenam Khu. A.Piua Daeng, Rayong 21140, Thailand.

Calibrated Place : ALS Laboratory Group (Thailand) Co., Ltd. (Balance Room)
616/10 Moo 5 T.Maenam Khu. A.Piua Daeng, Rayong 21140, Thailand.

Calibrated By : Mr. Chonchai Inthana Calibration Procedure No. : This calibration was conducted by
Using in-house calibration procedure number (WI-003)
Based on UKAS LAB 14 : 2019

Metrological data : Ambient Conditions:
 Capacity : 150 g Readability : 0.0001 g Temperature : 23.6 °C ± 5.0 °C
 Humidity : 54.0 % RH ± 10.0 % RH
 Pressure : 1013.25 hPa ± 0.1 hPa

Reasons for calibration ☐ New Installation ☐ Service / Repair ☒ Re-calibration / Maintenance ☐ Equipment Condition: ☒ Good Operate ☐ Fair

Measurement Method **UKAS Publication Ref: Lab 14**
 The measurement uncertainty stated is the expanded uncertainty which is obtained from the standard uncertainty multiplied by the coverage factor (k=2) to provide a level of confidence of approximately 95%. It is determined in accordance with the Guide to Expression of Uncertainty in Measurement (GUM). The calibration certificate documents the traceability to National Standards, which realise the unit of measurement according to the International Standard System of Units (SI). Report of Tolerance came from list of Sartorius Metrological Specifications.

Traceability:

Model Number	Description	Traceability	Certificate No.	Due Date
YCS011-522-00	Sartorius weight set 1mg - 5000g E2 YCS011-522-00	TCS	M2308197S	23-Aug-2025
MHB-382SD	Humidity/Balometer/Temp. Lutron MHB-382SD	DKSH	C19231845	23-Aug-2024

This certificate relate and apply this equipment only.
 This certificate may not be reproduced other than in full except with the prior written approval of the Verification Operation Division Sartorius (Thailand) Co., Ltd.

Mr. Chonchai Inthana (Technical Manager)



SOP FM 33 03 February 2022

Sartorius (Thailand) Co., Ltd.

129 Rama 9 Road, Huaywang, Huaywang, Bangkok 10310
 Tel: +66 2643 8391-6 Fax: +66 2643 8397, e-mail: service.thailand@sartorius.com

SARTORIUS

Certificate of Calibration

Model Number : LA130S-F Certificate No. : 24BCI0068
 Description : Analytical Balance Issued Date : Friday, February 23, 2024
 Serial Number : 25408664 Reference No. : 229186
 ID No. : RYG_EN0001
 Manufacturer : Sartorius Page No. : 2 of 2

Calibration Results : Without Adjustment

Repeatability	Eccentricity (Off-center loading error)
The reproducibility is the ability of a weighing instrument to display nearly identical readings under constant test conditions when the same load within a measurement range is placed repeatedly on the weighing pan in the same manner. The standard deviation is used to express reproducibility quantitatively.	The off-center loading error is yielded by the difference between the resultant of the load, i.e. 1/3 or 1/6 of maximum capacity, placed in the middle of the weighing pan and between each of four additional measurement points (positions defined according to OIML R76).
Nominal Value : (Low Load) 10 g Tolerance 0.0001 g	Nominal value : <u>50</u> g Tolerance <u>0.0004</u> g
Nominal Value : (High Load) 100 g Tolerance 0.0001 g	Difference 1 2 -0.0001 3 0.0001 4 0.0002 5 0.0000 6
Standard Deviation 0.00005 0.00008	

Linearity

The linearity, also called linearity error, describes the deviation of the characteristic curve of a weighing instrument from the linear slope.

Tolerance 0.0002 g	Nominal Value (g)	Conventional Mass Value (g)	Displayed Value (g)	Deviation (g)	Uncertainty (g)
	0.01	0.0100	0.0100	0.0000	0.00020
	0.05	0.0500	0.0500	0.0000	0.00022
	0.1	0.1000	0.1000	0.0000	0.00022
	0.5	0.5000	0.5000	0.0000	0.00021
	1	1.0000	1.0000	0.0000	0.00021
	2	2.0000	2.0000	0.0000	0.00021
	5	5.0000	5.0000	0.0000	0.00021
	10	10.0000	10.0001	0.0001	0.00024
	20	20.0000	20.0001	0.0001	0.00022
	100	100.0000	99.9999	-0.0001	0.00024

End of Report.

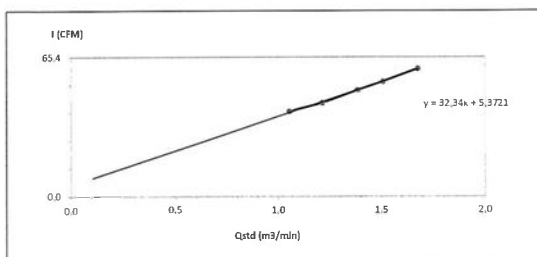
SOP FM 33 03 February 2022



High Volume Air Sampler Calibration Worksheet

Project Site :	Glow SPP 2 Co., Ltd.	Barometric Pressure (mm Hg) :	754.2
Calibrate Location :	โรงงานผลิตพลาสติก (หนองปรือ)	Temperature (°C) :	31.6
Calibrate Date :	18-Sep-24	High Volume ID :	RYG_FS0394
Calibration Sheet No. :	C-180924-RYG_FS0394	High Volume Model :	TE-5170D
Calibrator ID :	RYG_FS0206	High Volume S/N :	5690
Calibrator Model :	TE-5028A	Calibrator Slope :	1.49469
Calibrator S/N :	1543	Calibrator Intercept :	-0.02523

Test No.	Delta H ₂ O (Inch)	Q _{std} (m ³ /min)	I : Chart (CFM)	Linear Regression
1	2.4	1.0534	40	Slope : 32.3398 Intercept : 5.3721 Correlation Coefficient : 0.9983
2	3.2	1.2124	44	
3	4.2	1.3853	50	
4	5.0	1.5092	54	
5	6.2	1.6777	60	



Calibrated by :

(Mr. Apichart Wilars)
Field Scientist(1)

Approved by :

(Mr. Noppong Juntarupan)
Enviro Field Coordinator Scientist (3)

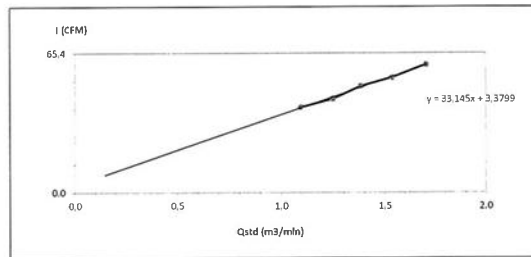
FORM NO.: F 06-073 REVISION NO.:2 ISSUE DATE: 20/11/23



High Volume Air Sampler Calibration Worksheet

Project Site :	Glow SPP 2 Co., Ltd.	Barometric Pressure (mm Hg) :	754.2
Calibrate Location :	โรงงานผลิตพลาสติก (หนองปรือ)	Temperature (°C) :	31.6
Calibrate Date :	18-Sep-24	High Volume ID :	RYG_FS0662
Calibration Sheet No. :	C-180924-RYG_FS0662	High Volume Model :	TE-5009X
Calibrator ID :	RYG_FS0206	High Volume S/N :	6259
Calibrator Model :	TE-5028A	Calibrator Slope :	1.48469
Calibrator S/N :	1543	Calibrator Intercept :	-0.02523

Test No.	Delta H ₂ O (Inch)	Q _{std} (m ³ /min)	I : Chart (CFM)	Linear Regression
1	2.6	1.0953	40	Slope : 33.1453 Intercept : 3.3799 Correlation Coefficient : 0.9973
2	3.4	1.2489	44	
3	4.2	1.3853	50	
4	5.2	1.5386	54	
5	6.4	1.7042	60	



Calibrated by :

(Mr. Apichart Wilars)
Field Scientist(1)

Approved by :

(Mr. Noppong Juntarupan)
Enviro Field Coordinator Scientist (3)

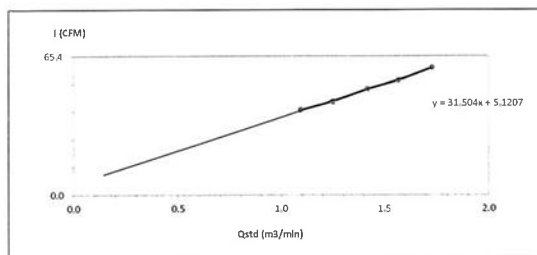
FORM NO.: F 06-073 REVISION NO.:2 ISSUE DATE: 20/11/23



High Volume Air Sampler Calibration Worksheet

Project Site :	Glow SPP 2 Co., Ltd.	Barometric Pressure (mm Hg) :	754.2
Calibrate Location :	โรงงานผลิตพลาสติก (หนองปรือ)	Temperature (°C) :	31.6
Calibrate Date :	18-Sep-24	High Volume ID :	RYG_FS0661
Calibration Sheet No. :	C-180924-RYG_FS0661	High Volume Model :	TE-5009X
Calibrator ID :	RYG_FS0206	High Volume S/N :	6258
Calibrator Model :	TE-5028A	Calibrator Slope :	1.48469
Calibrator S/N :	1543	Calibrator Intercept :	-0.02523

Test No.	Delta H ₂ O (Inch)	Q _{std} (m ³ /min)	I : Chart (CFM)	Linear Regression
1	2.6	1.0953	40	Slope : 31.5045 Intercept : 5.1207 Correlation Coefficient : 0.9984
2	3.4	1.2489	44	
3	4.4	1.4173	50	
4	5.4	1.5674	54	
5	6.6	1.7302	60	



Calibrated by :

(Mr. Apichart Wilars)
Field Scientist(1)

Approved by :

(Mr. Noppong Juntarupan)
Enviro Field Coordinator Scientist (3)

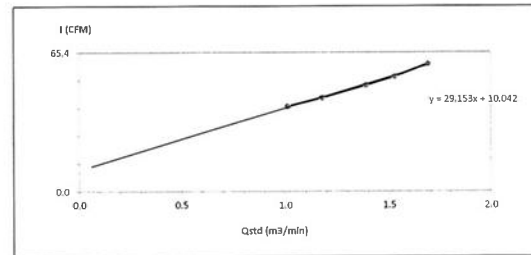
FORM NO.: F 06-073 REVISION NO.:2 ISSUE DATE: 20/11/23



High Volume Air Sampler Calibration Worksheet

Project Site :	Glow SPP 2 Co., Ltd.	Barometric Pressure (mm Hg) :	754.2
Calibrate Location :	โรงงานผลิตพลาสติก (หนองปรือ)	Temperature (°C) :	31.6
Calibrate Date :	18-Sep-24	High Volume ID :	RYG_FS0664
Calibration Sheet No. :	C-180924-RYG_FS0664	High Volume Model :	TE-5009X
Calibrator ID :	RYG_FS0206	High Volume S/N :	6261
Calibrator Model :	TE-5028A	Calibrator Slope :	1.48469
Calibrator S/N :	1543	Calibrator Intercept :	-0.02523

Test No.	Delta H ₂ O (Inch)	Q _{std} (m ³ /min)	I : Chart (CFM)	Linear Regression
1	2.2	1.0096	40	Slope : 29.1530 Intercept : 10.0419 Correlation Coefficient : 0.9976
2	3.0	1.1747	44	
3	4.2	1.3853	50	
4	5.1	1.5240	54	
5	6.3	1.6910	60	



Calibrated by :

(Mr. Apichart Wilars)
Field Scientist(1)

Approved by :

(Mr. Noppong Juntarupan)
Enviro Field Coordinator Scientist (3)

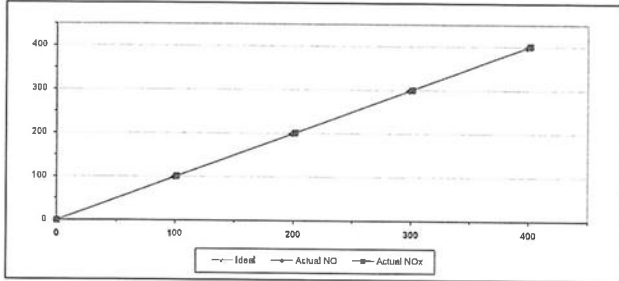
FORM NO.: F 06-073 REVISION NO.:2 ISSUE DATE: 20/11/23



MULTIPOINT CALIBRATION REPORT

Calibration Date	3-Jul-24	Equipment Name	NOx Analyzer
Manufacturer	HORIBA	Model	APNA-370
Serial No.	UBAOEAGK	Equipment ID	RYG_FS0551
Calibrator Manufacturer	Teledyne API	Model	700
Serial No.	847		
Std. Gas Concentration (PPM)	55.88	Cylinder No.	GN0027222
Cylinder Pressure (psi)	1800	Certified By	Airgas Inc.
Certified Date	9-Feb-22	Expired Date	9-Feb-30

Point	CALIBRATION RESULTS						
	Ideal	Actual NO	Error NO	%Error NO	Actual NOx	Error NOx	%Error NOx
ZERO	0.00	0.10	0.10	0.10	0.10	0.10	0.10
1	100.00	99.00	-1.00	-1.00	101.30	1.30	1.30
2	200.00	198.40	-1.60	-0.80	201.30	1.30	0.65
3	300.00	298.40	-1.60	-0.53	301.20	1.20	0.40
4	400.00	398.50	-1.50	-0.38	401.30	1.30	0.33
AVERAGE (%)				-0.52			0.56



Calibrated By

(Mr.Jirawut Sakam)
Field Environmental Scientist (3)

Approved By

(Mr.Sarayuth Jittrantont)
Assistant General Manager

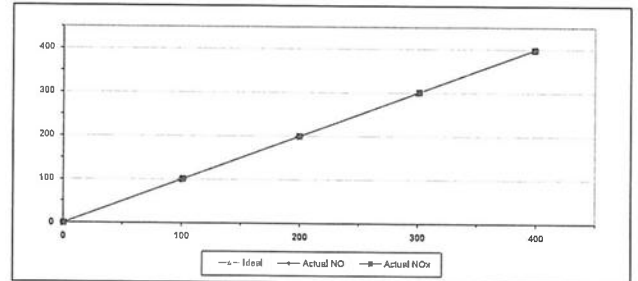
ALS Laboratory Group
FORM NO. F 05-058 REVISION NO. - ISSUE DATE 02/04/12



MULTIPOINT CALIBRATION REPORT

Calibration Date	3-Jul-24	Equipment Name	NOx Analyzer
Manufacturer	HORIBA	Model	APNA-370
Serial No.	NV0ER3YH	Equipment ID	RYG_FS0459
Calibrator Manufacturer	Teledyne API	Model	700
Serial No.	847		
Std. Gas Concentration (PPM)	55.88	Cylinder No.	GN0027222
Cylinder Pressure (psi)	1800	Certified By	Airgas Inc.
Certified Date	9-Feb-22	Expired Date	9-Feb-30

Point	CALIBRATION RESULTS						
	Ideal	Actual NO	Error NO	%Error NO	Actual NOx	Error NOx	%Error NOx
ZERO	0.00	0.05	0.05	0.05	0.10	0.10	0.10
1	100.00	99.50	-0.50	-0.50	101.20	1.20	1.20
2	200.00	198.70	-1.30	-0.65	199.70	-0.30	-0.15
3	300.00	301.10	1.10	0.37	301.40	1.40	0.47
4	400.00	400.30	0.30	0.08	398.80	-1.20	-0.30
AVERAGE (%)				-0.13			0.28



Calibrated By

(Mr.Jirawut Sakam)
Field Environmental Scientist (3)

Approved By

(Mr.Sarayuth Jittrantont)
Assistant General Manager

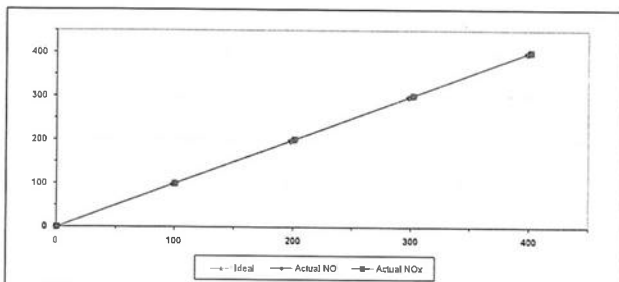
ALS Laboratory Group
FORM NO. F 06-058 REVISION NO. - ISSUE DATE 02/04/12



MULTIPOINT CALIBRATION REPORT

Calibration Date	2-Jul-24	Equipment Name	NOx Analyzer
Manufacturer	HORIBA	Model	APNA-370
Serial No.	SEEAW53E	Equipment ID	RYG_FS0261
Calibrator Manufacturer	Teledyne API	Model	700
Serial No.	947		
Std. Gas Concentration (PPM)	55.88	Cylinder No.	GN0027222
Cylinder Pressure (psi)	1800	Certified By	Airgas Inc.
Certified Date	9-Feb-22	Expired Date	9-Feb-30

Point	CALIBRATION RESULTS						
	Ideal	Actual NO	Error NO	%Error NO	Actual NOx	Error NOx	%Error NOx
ZERO	0.00	0.10	0.10	0.10	0.10	0.10	0.10
1	100.00	98.70	-1.30	-1.30	100.20	0.20	0.20
2	200.00	197.70	-2.30	-1.15	201.20	1.20	0.60
3	300.00	298.10	-1.90	-0.63	302.00	2.00	0.67
4	400.00	398.50	-1.50	-0.38	401.40	1.40	0.35
AVERAGE (%)				-0.67			0.38



Calibrated By

(Mr.Jirawut Sakam)
Field Environmental Scientist (3)

Approved By

(Mr.Sarayuth Jittrantont)
Assistant General Manager

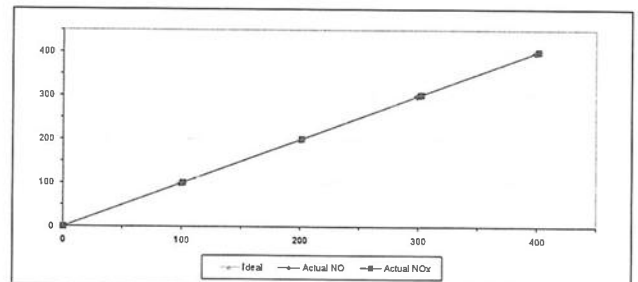
ALS Laboratory Group
FORM NO. F 05-056 REVISION NO. - ISSUE DATE 02/04/12



MULTIPOINT CALIBRATION REPORT

Calibration Date	3-Jul-24	Equipment Name	NOx Analyzer
Manufacturer	HORIBA	Model	APNA-370
Serial No.	R08K0177	Equipment ID	RYG_FS0463
Calibrator Manufacturer	Teledyne API	Model	700
Serial No.	947		
Std. Gas Concentration (PPM)	55.88	Cylinder No.	GN0027222
Cylinder Pressure (psi)	1800	Certified By	Airgas Inc.
Certified Date	9-Feb-22	Expired Date	9-Feb-30

Point	CALIBRATION RESULTS						
	Ideal	Actual NO	Error NO	%Error NO	Actual NOx	Error NOx	%Error NOx
ZERO	0.00	0.10	0.10	0.10	0.10	0.10	0.10
1	100.00	98.60	-1.20	-1.20	101.30	1.30	1.30
2	200.00	201.30	1.30	0.65	201.20	1.20	0.60
3	300.00	299.40	-0.60	-0.20	302.60	2.60	0.87
4	400.00	398.70	-1.30	-0.33	401.50	1.50	0.38
AVERAGE (%)				-0.20			0.65



Calibrated By

(Mr.Jirawut Sakam)
Field Environmental Scientist (3)

Approved By

(Mr.Sarayuth Jittrantont)
Assistant General Manager

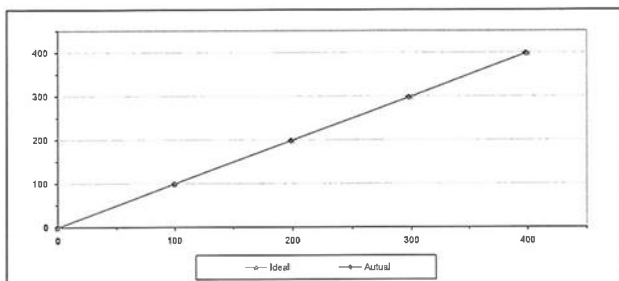
ALS Laboratory Group
FORM NO. F 06-056 REVISION NO. - ISSUE DATE 02/04/12



MULTIPOINT CALIBRATION REPORT

Calibration Date	4-Jul-24	Equipment Name	SO2 Analyzer
Manufacturer	HORIBA	Model	APSA-370
Serial No.	1082NYKM	Equipment ID	RYG_FS0271
Calibrator Manufacturer	Teledyne API	Model	700
Serial No.	947		
Std. Gas Concentration (PPM)	56.3	Cylinder No.	GN0027222
Cylinder Pressure (psi)	1800	Certified By	Airgas Inc.
Certified Date	9-Feb-22	Expired Date	9-Feb-30

Point	CALIBRATION RESULTS			
	Ideal	Actual	Error	%Error
ZERO	0.00	0.10	0.10	0.10
1	100.00	99.50	-0.50	-0.50
2	200.00	198.20	-1.80	-0.90
3	300.00	297.70	-2.30	-0.77
4	400.00	398.30	-1.70	-0.42
AVERAGE (%)				-0.50



Calibrated By

(Mr.Jirawut Sakam)
Field Environmental Scientist (3)

Approved By

(Mr.Sarayuth Jitranont)
Assistant General Manager

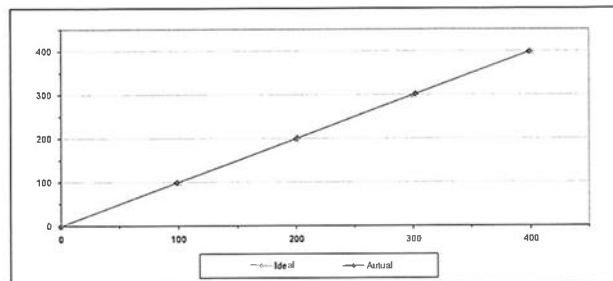
ALS Laboratory Group
FORM NO.: F 05-056 REVISION NO.: - ISSUE DATE: 02/04/12



MULTIPOINT CALIBRATION REPORT

Calibration Date	5-Jul-24	Equipment Name	SO2 Analyzer
Manufacturer	HORIBA	Model	APSA-370
Serial No.	PAUY017A	Equipment ID	RYG_FS0458
Calibrator Manufacturer	Teledyne API	Model	700
Serial No.	947		
Std. Gas Concentration (PPM)	56.3	Cylinder No.	GN0027222
Cylinder Pressure (psi)	1800	Certified By	Airgas Inc.
Certified Date	9-Feb-22	Expired Date	9-Feb-30

Point	CALIBRATION RESULTS			
	Ideal	Actual	Error	%Error
ZERO	0.00	0.10	0.10	0.10
1	100.00	98.90	-1.10	-1.10
2	200.00	201.00	1.00	0.50
3	300.00	302.30	2.30	0.77
4	400.00	398.50	-1.50	-0.38
AVERAGE (%)				-0.02



Calibrated By

(Mr.Jirawut Sakam)
Field Environmental Scientist (3)

Approved By

(Mr.Sarayuth Jitranont)
Assistant General Manager

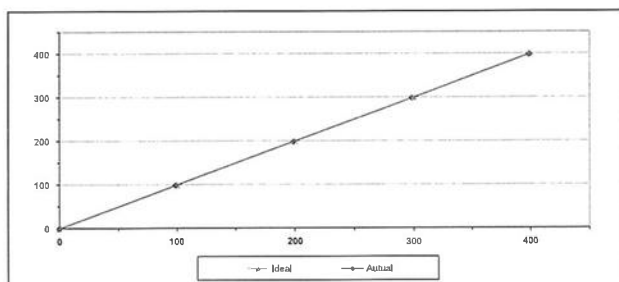
ALS Laboratory Group
FORM NO.: F 05-056 REVISION NO.: - ISSUE DATE: 02/04/12



MULTIPOINT CALIBRATION REPORT

Calibration Date	5-Jul-24	Equipment Name	SO2 Analyzer
Manufacturer	Teledyne API	Model	T100
Serial No.	6061	Equipment ID	RYG_FS0534
Calibrator Manufacturer	Teledyne API	Model	700
Serial No.	947		
Std. Gas Concentration (PPM)	56.3	Cylinder No.	GN0027222
Cylinder Pressure (psi)	1800	Certified By	Airgas Inc.
Certified Date	9-Feb-22	Expired Date	9-Feb-30

Point	CALIBRATION RESULTS			
	Ideal	Actual	Error	%Error
ZERO	0.00	0.10	0.10	0.10
1	100.00	98.90	-1.10	-1.10
2	200.00	198.70	-1.30	-0.65
3	300.00	298.30	-1.70	-0.57
4	400.00	398.70	-1.30	-0.33
AVERAGE (%)				-0.51



Calibrated By

(Mr.Jirawut Sakam)
Field Environmental Scientist (3)

Approved By

(Mr.Sarayuth Jitranont)
Assistant General Manager

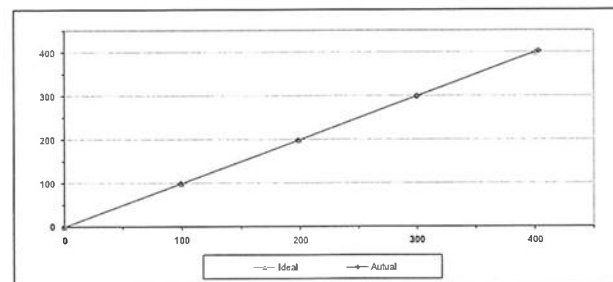
ALS Laboratory Group
FORM NO.: F 05-056 REVISION NO.: - ISSUE DATE: 02/04/12



MULTIPOINT CALIBRATION REPORT

Calibration Date	5-Jul-24	Equipment Name	SO2 Analyzer
Manufacturer	HORIBA	Model	APSA-370
Serial No.	XL28Y85B	Equipment ID	RYG_FS0462
Calibrator Manufacturer	Teledyne API	Model	700
Serial No.	947		
Std. Gas Concentration (PPM)	56.3	Cylinder No.	GN0027222
Cylinder Pressure (psi)	1800	Certified By	Airgas Inc.
Certified Date	9-Feb-22	Expired Date	9-Feb-30

Point	CALIBRATION RESULTS			
	Ideal	Actual	Error	%Error
ZERO	0.00	0.10	0.10	0.10
1	100.00	99.10	-0.90	-0.90
2	200.00	198.00	-2.00	-1.00
3	300.00	299.80	-0.20	-0.07
4	400.00	403.20	3.20	0.80
AVERAGE (%)				-0.21



Calibrated By

(Mr.Jirawut Sakam)
Field Environmental Scientist (3)

Approved By

(Mr.Sarayuth Jitranont)
Assistant General Manager

ALS Laboratory Group
FORM NO.: F 05-056 REVISION NO.: - ISSUE DATE: 02/04/12



Jiranafee Associates Co., Ltd.
67/14-15, 67/15-16,
Pochaisarn 2/11, Kru Worachai, Bangkok,
Bangkok 10000 (Thailand)
Tel: +66(0)2-6181122
E-mail: jiranafee@jiranafee.com
Web site: www.jiranafee.com

Accredited calibration laboratory
ISO/IEC 17025:2017
NSC-TIS-75.17025
CALIBRATION 0367

Air speed measurement laboratory
Calibration services department



Certificate Number

CWS 036-67

CERTIFICATE OF CALIBRATION

Page 1 of 2 Pages

MEASUREMENT ITEM : Cup anemometer
MANUFACTURER : Novalyne
MODEL/TYPE : Sensor: WS-027
Data logger: L10 WS-25DLD
SERIAL NUMBER : Sensor: WSD-A5789
Data logger: AS789
ID NUMBER : RYG_F50531
CONDITION AS-RECEIVED : Used item
CUSTOMER : A.L.S. Laboratory group (Thailand) Co., Ltd.
104 Phatthanakan 40, Phatthanakan Rd, Khwaeng Suan Luang,
Khet Suan Luang, Bangkok 10250 Thailand.

RECEIVED DATE : 08 Aug 2024
MEASUREMENT DATE : 28 Aug 2024
ISSUE DATE : 28 Aug 2024

ENVIRONMENTAL CONDITIONS:
Ambient condition in the laboratory are as follow:
Temperature : 23.0 ± 3.0 °C
Relative humidity : 55.0 ± 15.0 %RH
Atmospheric Pressure : 1010 ± 10 hPa

PLACE OF CALIBRATION : Effel-type wind tunnel of Jiranafee Associates Co., Ltd.

CALIBRATION CONDITIONS : Wind tunnel cross-section area¹ 900 cm²
Wind direction frontal area² 100 cm²
Diameter of mounting pipe³ 1 mm
Blockage ratio of test object⁴ 0.11 [-]

Preconditioning : 24 hours at ambient conditions.
Measurement Condition : The average values during measurement are (23.9) °C, (43.2) %RH and (1009) hPa.

TABULATION OF RESULTS:
The table on next page give the measured values.

Calibrated by:
[Signature] Mr. Sorawat Thachakul
[Signature] Mr. Jiranafee Thachakul



Approved signatory
[Signature] Mr. Pannapa Booncharoen
Calibration Department Manager

REVIEW BY [Signature]
APPROVED BY [Signature]
NEXT CAL. DATE 2/12/26

Remarks:
¹ Needs cross-section area of the wind tunnel.
² Projected (frontal) area of the tested object include mounting pipe.
³ Diameter of mounting pipe.
⁴ Ratio $\frac{A_o}{A_t}$.

THIS CERTIFICATE OF CALIBRATION MAY NOT BE REPRODUCED EXCEPT IN FULL UNLESS PERMISSION FOR REPRODUCTION HAS BEEN OBTAINED IN WRITING FROM THE LABORATORY

Page 2 of 2 Pages

MEASUREMENT RESULTS¹

The Cup anemometer, Unit Under Calibration (UUC) was exercise at 10 m/s for 5 minutes prior to calibration being performed. The standard air velocity 0.5 m/s to 3 m/s was calculated by a standard air velocity transducer which was installed 50 mm away from wind tunnel nozzle and installed 40 mm away from top of the test section and the standard air velocity 5 m/s to 30 m/s was calculated by a pitot tube with precision differential pressure meter which was installed 50 mm away from wind tunnel nozzle and installed 40 mm away from top of the test section. UUC was mounted on a round vertical tube of the lower plate at center of test section. The calibration was carried out under both rising and falling air velocity in the range of 1 m/s to 30 m/s at calibration interval of 1 m/s. The results of calibration and associated measurement uncertainties are reported in the table below.

V_{ref} (m/s)	Temp. wind tunnel (°C)	Temp. room (°C)	V_{UUC} (m/s)	Error (m/s)	U (k=2) (m/s)
1.027	24.10	23.90	0.9	-0.1	0.31
2.054	23.72	23.90	1.9	-0.1	0.31
2.991	24.02	23.90	2.9	-0.1	0.31
4.083	24.04	23.90	3.9	-0.2	0.31
4.98	23.70	23.90	5.0	0.0	0.31
6.02	23.60	23.90	6.0	0.0	0.31
7.03	23.70	23.90	7.1	0.1	0.31
7.98	23.58	23.90	8.1	0.1	0.31
8.99	23.70	23.90	9.1	0.1	0.31
9.97	23.50	23.90	10.1	0.2	0.31
10.98	23.78	23.90	11.2	0.1	0.31
12.05	23.53	23.90	12.2	0.2	0.31
12.97	23.80	23.90	13.3	0.3	0.31
14.23	23.56	23.90	14.3	0.1	0.31
15.03	23.80	23.90	15.1	0.3	0.31
16.02	23.70	23.90	16.1	0.3	0.31

Remarks:
¹ Calibration results only count for the tested circumstances and environmental conditions during which calibration took place.
² Velocity of standard.
³ Velocity of Unit Under Calibration.

PHOTO OF CALIBRATION SET-UP



Calibration set-up of the Cup anemometer calibration in the wind tunnel of Jiranafee Associates Co., Ltd. The Cup anemometer shown may differ from the calibrated one. Remark: The proportion of the set-up is not 1:1 due to imaging geometry.



Jiranafee Associates Co., Ltd.
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E-mail: jiranafee@jiranafee.com
Web site: www.jiranafee.com

Accredited calibration laboratory
ISO/IEC 17025:2017
NSC-TIS-75.17025
CALIBRATION 0367

Wind direction measurement laboratory
Calibration services department



Certificate Number

CWS 036-67

CERTIFICATE OF CALIBRATION

Page 1 of 2 Pages

MEASUREMENT ITEM : Wind Direction Sensor
MANUFACTURER : Novalyne
MODEL/TYPE : Sensor: WS-027
Data logger: L10 WS-25DLD
SERIAL NUMBER : Sensor: WSD-A5789
Data logger: AS789
ID NUMBER : RYG_F50531
CONDITION AS-RECEIVED : Used item
CUSTOMER : A.L.S. Laboratory group (Thailand) Co., Ltd.
104 Phatthanakan 40, Phatthanakan Rd, Khwaeng Suan Luang,
Khet Suan Luang, Bangkok 10250 Thailand.

RECEIVED DATE : 08 Aug 2024
MEASUREMENT DATE : 28 Aug 2024
ISSUE DATE : 28 Aug 2024

ENVIRONMENTAL CONDITIONS:
Ambient condition in the laboratory are as follow:
Temperature : 23.0 ± 3.0 °C
Relative humidity : 55.0 ± 15.0 %RH
Atmospheric Pressure : 1010 ± 10 hPa

PLACE OF CALIBRATION : Effel-type wind tunnel of Jiranafee Associates Co., Ltd.

CALIBRATION CONDITION : Wind tunnel cross-section area¹ 900 cm²
Wind direction frontal area² 128 cm²
Diameter of mounting pipe³ 1 mm
Blockage ratio of test object⁴ 0.143 [-]

Preconditioning : 24 hours at ambient conditions.
Measurement Condition : The average values during measurement are (23.8) °C, (40.0) %RH and (1009.0) hPa.

TABULATION OF RESULTS:
The table on next page give the measured values.

Calibrated by:
[Signature] Mr. Sorawat Thachakul
[Signature] Mr. Jiranafee Thachakul



Approved signatory
[Signature] Mr. Pannapa Booncharoen
Calibration Department Manager

Remarks:
¹ Needs cross-section area of the wind tunnel.
² Projected (frontal) area of the tested object include mounting pipe.
³ Diameter of mounting pipe.
⁴ Ratio $\frac{A_o}{A_t}$.

THIS CERTIFICATE OF CALIBRATION MAY NOT BE REPRODUCED EXCEPT IN FULL UNLESS PERMISSION FOR REPRODUCTION HAS BEEN OBTAINED IN WRITING FROM THE LABORATORY

Certificate Number

CWS 036-67

Page 2 of 2 Pages

MEASUREMENT RESULTS¹

The wind direction sensor was calibrated against standard rotary encoder by comparison method. During calibration, the measurement was carried out at 45° intervals in clockwise and counter-clockwise directions after offset adjustment has been made. The flow speed of wind tunnel (usually 5 m/s) is kept constant while the sensor is rotated around its vertical axis. The results of calibration and associated measurement uncertainties are reported in the table below.

Air speed m/s	D_{ref} Degree (°)	D_{UUC} Degree (°)	Error Degree (°)	U (k=2) Degree (°)
5.02	0.000	0	0	0.80
	45.000	42	-3	0.80
	90.000	87	-3	0.80
	135.000	133	-2	0.80
	180.000	180	0	0.80
	225.000	227	2	0.80
315.000	270.000	273	3	0.80
	315.000	318	3	0.80

Remarks:
¹ Calibration results only count for the tested circumstances and environmental conditions during which calibration took place.
² Direction of standard.
³ Direction of Unit Under Calibration.

End of Certificate of Calibration



17/14-15, 6/175-36
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Tel: +66(0)2-111-1111
Fax: +66(0)2-111-1111
E-mail: info@hiranatee.com
Website: www.hiranatee.com

Temperature measurement laboratory
Calibration services department

CERTIFICATE OF CALIBRATION

Certificate No.: CDT-163-67

Page 1 of 2 Pages

MEASUREMENT ITEM: Data Logger with Temperature sensor
MANUFACTURER: Novalynx
MODEL/TYPE: 110-WS-2501-D
SERIAL NUMBER: AS789
ID NUMBER: BWG_F50531
CONDITION AS-RECEIVED: Used item
CUSTOMER: ALS laboratory group (Thailand) Co., Ltd.
104 Phatthanakan 40, Phatthanakan Rd.,
Khwaeng Suan Luang, Khet Suan Luang,
Bangkok 10250 Thailand.

RECEIVED DATE: 08 Aug 2024
MEASUREMENT DATE: 26 Aug 2024
ISSUE DATE: 28 Aug 2024

ENVIRONMENTAL CONDITIONS:

Ambient condition in the laboratory are as follow:
Temperature: 23.0 ± 3.0 °C
Relative Humidity: 55.0 ± 15.0 %RH

NOTED: The certificate is valid only to the item calibrated on date and place of calibration.

TABULATION OF RESULTS:

The table on next page give the measured values.

Calibration procedure:
The temperature calibration was done by in-house calibration method on WNCI-003 according to comparison method with standard digital temperature indicator and standard temperature probe. The temperature scale was based on ITS-90.

Traceability:
The measurement results are traceable to the international system of units (SI) through National Institute of Metrology Thailand (NIMT) Certificate number: 11-0047-24, Certificate number: ER-0101-23

Reference Used During Calibration:
1. Standard Temperature Probe
Model: STS-100 AS500, Serial No.: 667682, 03,
Due date: 26 Mar 2025
2. Digital Temperature Indicator
Model: DTI-1000-A MK II, Serial No.: 671407,
00591 Due date: 14 Sep 2024

Uncertainty of Measurement:
The reported uncertainty of measurement is based on the standard uncertainty multiplied by a coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%. The standard uncertainty has been determined in accordance with the GUM "Evaluation of measurement data - Guide to the expression of uncertainty in measurement".

Continuation of Certificate of Calibration Number CDT-163-67

Page 2 of 2 Pages

Result of Calibration: ☒ Without Adjustment ☐ With Adjustment

Calibration Range: 20 °C to 40 °C

Function:

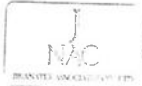
Table 3: This equipment was connected with temperature sensor Model: HMP60 S/N: 10210901, Dimension: Diameter 12 mm, Length 80 mm.

Immersion Depth (mm)	Standard Reading (°C)	UUC Reading (°C)	Error (°C)	Uncertainty (°C)
80	20.049	19.6	-0.4	0.099
60	25.053	24.6	-0.5	0.099
60	30.044	29.7	-0.3	0.059
60	35.027	34.5	-0.5	0.099
60	40.019	39.5	-0.5	0.099

UUC*: Unit Under Calibration

End of Certificate of Calibration

Calibrated by:
☒ Mr. Sorawit Thachalad
☒ Miss Jitraporn Lertsomphol
☒ Miss Ruangrumpai Phuommit



Approved signature

Mr. Panyia Booncharoen
Calibration Department Manager

THIS CERTIFICATE MAY NOT BE REPRODUCED EXCEPT IN FULL UNLESS PERMISSION FOR REPRODUCTION HAS BEEN OBTAINED IN WRITING FROM THE LABORATORY

17/14-15, 6/175-36
Petchburi 7, 7/1, 6/175-36, Bangkok 10600 (Thailand)
Tel: +66(0)2-111-1111
Fax: +66(0)2-111-1111
E-mail: info@hiranatee.com
Website: www.hiranatee.com

Relative humidity and Air Temperature measurement laboratory
Calibration services department

CERTIFICATE OF CALIBRATION

Certificate No.: CRT-038-47

Page 1 of 2 Pages

MEASUREMENT ITEM: Relative humidity with data logger
MANUFACTURER: Novalynx
MODEL/TYPE: Data Logger: 110-WS-2501-D
Sensor: HMP60
SERIAL NUMBER: Data Logger: AS789
Sensor: 10210901
ID NUMBER: BWG_F50531
CONDITION AS-RECEIVED: Used item
CUSTOMER: ALS laboratory group (Thailand) Co., Ltd.
104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Suan Luang,
Khet Suan Luang, Bangkok 10250 Thailand.

RECEIVED DATE: 08 Aug 2024
MEASUREMENT DATE: 26 Aug 2024
ISSUE DATE: 28 Aug 2024

ENVIRONMENTAL CONDITIONS:

Ambient condition in the laboratory are as follow:
Temperature: 23.0 ± 3.0 °C
Relative Humidity: 55.0 ± 15.0 %RH

NOTED: The certificate is valid only to the item calibrated on date and place of calibration.

TABULATION OF RESULTS:

The table on next page give the measured values.

Calibration procedure:
The Relative Humidity and Air Temperature calibration was done by in-house calibration method as WNCI-009 and WNCI-020 according to comparison method with Standard Check Micro hygrometer with Temperature sensor and standard Humidity generator chamber.

Traceability:
The measurements are traceable to the international system of units (SI) through National Institute of Metrology Thailand (NIMT) Certificate number: 11-0047-23 and through Jiranteer Associates Co., Ltd. Certificate number: CD1-001-67.

Uncertainty of Measurement:
The reported uncertainty of measurement is based on the standard uncertainty multiplied by a coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%. The standard uncertainty has been determined in accordance with the GUM "Evaluation of measurement data - Guide to the expression of uncertainty in measurement".

Continuation of Certificate of Calibration Number: CRT-038-47

Page 2 of 2 Pages

Measurement Results:

The results of calibration and associated measurement uncertainties are reported in the table below.

Result of Calibration: ☒ Without Adjustment ☐ With Adjustment

Table 1: The results of calibration of relative humidity at 30 °C are reported in table below.

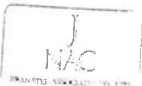
Calibration Range: 20%RH to 80%RH

Air Temperature (°C)	Standard Reading (%RH)	UUC Reading (%RH)	Error (%RH)	Uncertainty (%RH)
29.82	19.61	17.9	-1.7	0.81
29.48	50.70	47.5	-3.2	1.3
29.86	82.37	77.6	-4.8	2.3

UUC*: Unit Under Calibration

End of Certificate of Calibration

Calibrated by:
☒ Mr. Sorawit Thachalad
☒ Miss Jitraporn Lertsomphol
☒ Miss Ruangrumpai Phuommit



Approved signature

Mr. Panyia Booncharoen
Calibration Department Manager

THIS CERTIFICATE REPORT MAY NOT BE REPRODUCED EXCEPT IN FULL UNLESS PERMISSION FOR REPRODUCTION HAS BEEN OBTAINED IN WRITING FROM THE LABORATORY



Stopwatch Calibration Test Report

Calibration Date : 10 Jul 24 Next Cal. Date : 10 Jan 25
Barometric Pressure (mmHg) : 752.4 Temperature (°C) : 28.2
Relative Humidity (%) : 64.0

Reference Stopwatch Data

Stopwatch ID No. : RYG_FS0540
Model : F808
Serial No. : E18061
Calibration Date : 4 Jul 24
Certificate No. : E-2407022

Console Control Meter Data

Dry Gas Meter No. : RYG_FS0315
Model : XC-572-V
Serial No. : 1706091

CONSOLE CONTROL UNIT CALIBRATION TEST REPORT

Calibration Date	10 Jul 24	Barometric Pressure (mmHg)	752.4
Next Cal. Date	10 Jan 25	Relative Humidity (%)	64.0
		Temperature (°C)	28.2
Console Control Meter Data			
Calibration No.	C-100724-RYG_FS0315	Reference Dry Gas Meter ID	BKK_FS1122
Dry Gas Meter ID	RYG_FS0315	Serial No.	A2003240
Serial No.	1706091	Correction Factor (%)	0.0024
Model No.	XC-572-V	Next Calibration Date	7 Nov 24

ΔH (mm H ₂ O)	θ (mm)	Reference Dry Gas Meter Calibration					Console Control Dry Gas Meter					Dry Gas Meter Correction Factor (%)	Orifice Coefficient Factor ΔC _g
		Final	Initial	Total	θ (°C)	Final	Initial	Total	θ (°C)	Final	Initial		
15	12.60	150.00	0.00	150.00	26.0	2011497.0	2011349.0	152.00	29.0	29.0	29.0	0.9778	47.6008
25	9.81	150.00	0.00	150.00	26.0	2011497.0	2011349.0	152.00	29.0	29.0	29.0	0.9778	48.4236
30	6.86	150.00	0.00	150.00	26.0	2011497.0	2011349.0	152.00	29.0	29.0	29.0	0.9778	47.3548
40	4.42	150.00	0.00	150.00	26.0	2011497.0	2011349.0	152.00	29.0	29.0	29.0	0.9778	46.3222
120	4.43	150.00	0.00	150.00	26.0	2011497.0	2011349.0	152.00	29.0	29.0	29.0	0.9778	47.5969
												Avg	0.9776
													47.6126

✓ Rule of reading of reference to dry gas meter: tolerance for individual values ± 0.02 from average

ΔC_g Orifice pressure is nominal that equates to 71.24 mm of air @ 25°C and 760 mm of mercury. min:0.00 tolerance to individual values ± 0.01 from average

Procedure: 45 OF 62 APP A (METS) - SEC 5.3.1.7

Calibrated by: Saksit Phaisanphul
(Mr. Saksit Phaisanphul)
RYG Field Service Scientist (4)

Approved by: Nattapong Jengwareewong
(Mr. Nattapong Jengwareewong)
RYG Field Service Specialist (1)
FORM NC- F 06-027 REVISION NO.: 2 ISSUE DATE: 16/2/23

Run No.	Time Actual (m:ss.ms)	Time Reading (m:ss)	Diff. (ms)	Diff. (min)
1	5:00:03	5:00	3	0.00005
2	5:00:08	5:00	8	0.00013
3	5:00:07	5:00	7	0.00012
4	5:00:08	5:00	8	0.00013
5	5:00:05	5:00	5	0.00006
6	5:00:06	5:00	6	0.00010
7	5:00:06	5:00	6	0.00010
8	5:00:07	5:00	7	0.00012
9	5:00:08	5:00	8	0.00013
10	5:00:07	5:00	7	0.00012
Average				0.00011
SD				0.00003

Calibrate by: Saksit Phaisanphul

Mr. Saksit Phaisanphul

RYG Field Service Scientist (4)

Approved by: Nattapong Jengwareewong

Mr. Nattapong Jengwareewong

RYG Field Service Specialist (1)



DIGITAL TEMPERATURE CALIBRATION DATA SHEET

Calibration Date :	10 Jul 24	Ambient Temperature (°C)	29.2		
Calibration sheet No. :	C-100724-RYG_FS0315	Relative Humidity (%) :	64		
Digital Temperature ID :	RYG_FS0315	Reference Temperature ID	RYG_FS0681		
Serial No. :	1706091	Serial No. :	201090014918		
Model :	XC-572-V	Model :	Digicon-CC-VT-MS		
		Next Calibrate :	13 Nov 24		
Location	Reference Temperature °C	Digital Temperature °C	Error °C	MPE	Pass / Fail
Stack	0	0	0	±3	Pass
	25	25	0	±3	Pass
	50	50	0	±3	Pass
	100	101	1	±3	Pass
	150	151	1	±3	Pass
	200	200	0	±3	Pass
	250	250	0	±3	Pass
Probe	300	301	1	±3	Pass
	500	501	1	±3	Pass
	100	102	2	±3	Pass
	120	121	1	±3	Pass
	140	141	1	±3	Pass
	100	101	1	±3	Pass
	120	120	0	±3	Pass
Oven	140	141	1	±3	Pass
	100	101	1	±3	Pass
Filter	120	120	0	±3	Pass
	140	141	1	±3	Pass
	100	101	1	±3	Pass
Exit	120	121	1	±3	Pass
	140	140	0	±3	Pass
	0	0	0	±3	Pass
Meter	10	10	0	±3	Pass
	20	20	0	±3	Pass
	0	-1	-1	±3	Pass
AUX	25	24	-1	±3	Pass
	50	49	-1	±3	Pass
	0	0	0	±3	Pass
	25	25	0	±3	Pass
	50	50	0	±3	Pass

MPE : (Maximum permissible error of measurement) ค่าความคลาดเคลื่อนสูงสุดของเครื่องมือวัด

Calibrated by: Saksit Phaisanphul

(Mr. Saksit Phaisanphul)
RYG Field Service Scientist (4)

Approved by: Nattapong Jengwareewong

(Mr. Nattapong Jengwareewong)
RYG Field Service Specialist (1)

FORM NC- F 06-027 REVISION NO.: 2 ISSUE DATE: 16/2/23



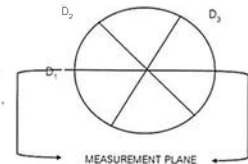
PROBE NOZZLE DIAMETER CALIBRATION DATA SHEET

Calibration Date :	10 Jul 24	Nozzle Set ID.:	RYG_FS0319
Calibration Sheet No.:	C-100724-RYG_FS0319	Vernier Caliper ID.:	BKK_FS1123

Nozzle ID #	Nozzle Diameter (cm.)			Hi - Lo	$(D_1 + D_2 + D_3) \div 3$
	D ₁	D ₂	D ₃	ΔD	D _{avg}
1	0.298	0.300	0.305	0.007	0.301
2	0.465	0.475	0.465	0.010	0.468
3	0.605	0.605	0.605	0.000	0.605
4	0.770	0.760	0.765	0.010	0.765
5	0.930	0.928	0.930	0.002	0.929
6	1.082	1.080	1.085	0.005	1.082
7	1.240	1.230	1.235	0.010	1.235
8	1.594	1.558	1.551	0.043	1.568

Where :

- D₁, D₂, D₃ : There different nozzle diameters at 60 degrees to each other, each measured the nearest 0.025 mm.
- ΔD : Maximum distance between any two diameters, must be ≤ 0.100 mm.
- D_{avg} : $(D_1 + D_2 + D_3) / 3$



Calibrated by: Saksit Phaisanphul

(Mr. Saksit Phaisanphul)
RYG Field Service Scientist (4)

Approved by: Nattapong Jengwareewong

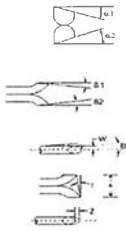
(Mr. Nattapong Jengwareewong)
RYG Field Service Specialist (1)

FORM NC- F 06-027 REVISION NO.: 2 ISSUE DATE: 16/2/23



Type S Pitot Tube Calibration

Date Calibration 10-Jul-24 Due Date 10-Jan-25
Pitot ID RYG_FS0321 Inclinator ID BKK_FS1131
Pitot SN - Vernier ID RYG_FS0539



Parameter	Value	Allowable Range	Check
$\alpha 1$	-1.4	$-10^\circ < \alpha 1 < +10^\circ$	OK
$\alpha 2$	-0.2	$-10^\circ < \alpha 2 < +10^\circ$	OK
$\beta 1$	0.8	$-5^\circ < \beta 1 < +5^\circ$	OK
$\beta 2$	-0.4	$-5^\circ < \beta 2 < +5^\circ$	OK
γ	0.8	-	-
θ	0.5	-	-
$Z = A \tan \gamma$	0.013	$Z \leq 0.125''$	OK
$W = A \tan \theta$	0.008	$W \leq 0.031''$	OK
Dt	0.310	$0.188'' \leq Dt \leq 0.375''$	OK
A/2Dt	1.484	$1.05 \leq A/Dt \leq 1.5$	OK
A	0.92	$2.1Dt \leq A \leq 3Dt$	OK

Certify that pitot tube/probe meets or exceeds all specifications, criteria and/or applicable design features and is hereby assigned a pitot tube certification fact of 0.84. See 40 CFR Pt. 60, App. A, EPA Method 2.

Calibrated by: Sakthi Phansuph
(Mr. Sakthi Phansuph)
RYG Field Services Scientist (4)

Approved by: Nattapong Jangwareewong
(Mr. Nattapong Jangwareewong)
RYG Field Services Specialist (1)

FORM NO: F 09-124 REVISION NO: 0 ISSUE DATE: 25/12/23

Sartorius (Thailand) Co., Ltd.
129 Rama 9 Road, Huaykwang, Huaykwang, Bangkok 10310
Tel: +66 2643 8361-8, e-mail: service.thailand@sartorius.com



NSC-TS-115 17025
CALIBRATION 0475

SARTORIUS

Certificate

of Calibration

REVIEW BY: Prasit
APPROVED BY: D. K.
NEXT CAL. DATE: 09/02/2025

Model Number: MSU224S-100-DU Certificate No.: 24BCI0073
Description: Analytical Balance Issued Date: Friday, February 23, 2024
Serial Number: 0031709552 Reference No.: 229196
ID No.: RYG_EN0003
Manufacturer: Sartorius Page No.: 1 of 2

Customer Name: ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)
616/10 Moo 5 T.Maenam Khu, A.Plusak Daeng, Rayong 21140, Thailand.

Calibrated Place: ALS Laboratory Group (Thailand) Co., Ltd. (Balance Room)
616/10 Moo 5 T.Maenam Khu, A.Plusak Daeng, Rayong 21140, Thailand.

Calibrated By: Mr.Chonchai Inthana Calibration
Calibration Date: Thursday, February 22, 2024 Procedure No.: This calibration was conducted by
Using in-house calibration procedure number (WI-003)
Based on UKAS LAB 14 : 2019

Metrological data: Capacity: 220 g Readability: 0.0001 g
Reasons for calibration: ☐ New Installation ☐ Service / Repaired ☒ Re-calibration/ Maintenance
Equipment Condition: ☒ Good Operate ☐ Fair

Measurement Method UKAS Publication Ref :Lab 14
The measurement uncertainty stated is the expanded uncertainty which is obtained from the standard uncertainty multiplied by the coverage factor (k=2) to provide a level of confidence of approximately 95%. It is determined in accordance with the Guide to Expression of Uncertainty in Measurement (GUM). The calibration certificate documents the traceability to National Standards, which realise the unit of measurement according to the International Standard System of Units (SI). Report of Tolerance came from list of Sartorius Metrological Specifications.

Traceability:

Model Number	Description	Traceability	Certificate No.	Due Date
YCS011-522-00	Sartorius weight set 1mg - 5000g E2.YCS011-522-00	TCS	M2308197S	23-Aug-2025
MHB-382SD	Humidity/Barometer/Temp. Lutron MHB-382SD	DKSH	C1923184S	23-Aug-2024

This certificate relate and apply this equipment only.

This certificate may not be reproduced other than in full except with the prior written approval of the Verification Operation Division Sartorius (Thailand) Co., Ltd.

SOP FM 33 03 February 2022

Mr.Chonchai Inthana(Technical Manager)



Sartorius (Thailand) Co., Ltd.
129 Rama 9 Road, Huaykwang, Huaykwang, Bangkok 10310
Tel: +66 2643 8361-8 Fax: +66 2643 8367, e-mail: service.thailand@sartorius.com

SARTORIUS

Certificate

of Calibration

Model Number: MSU224S-100-DU Certificate No.: 24BCI0073
Description: Analytical Balance Issued Date: Friday, February 23, 2024
Serial Number: 0031709552 Reference No.: 229196
ID No.: RYG_EN0003
Manufacturer: Sartorius Page No.: 2 of 2

Calibration Results : Without Adjustment

Repeatability			Eccentricity (Off-center loading error)		
The reproducibility is the ability of a weighing instrument to display nearly identical readouts under constant test conditions when the same load within a measurement range is placed repeatedly on the weighing pan in the same manner. The standard deviation is used to express reproducibility quantitatively.			The off-center loading error is caused by the difference between the readout of this load, i.e. 10g or 100g or 1000g capacity, placed in the middle of the weighing pan and between each of four additional measurement points (positions defined according to OIML R110).		
Nominal Value : (Low Load)	20 g	200.0001	Nominal value :	100 g	
Tolerance	0.0001 g	200.0000	Tolerance	0.0004 g	
Nominal Value : (High Load)	200 g	200.0001			
Tolerance	0.0001 g	200.0000			
Standard Deviation			Difference		
0.00005			1 -		
			2 0.0000		
			3 -0.0001		
			4 0.0000		
			5 0.0001		
			6 -		

Linearity				
The linearity, also called linearity error, describes the deviation of the characteristic curve of a weighing instrument from the linear slope.				
Tolerance	0.0002 g			
Nominal Value (g)	Conventional Mass Value (g)	Displayed Value (g)	Deviation (g)	Uncertainty (g)
0.01	0.0100	0.0100	0.0000	0.00013
0.1	0.1000	0.1000	0.0000	0.00013
0.5	0.5000	0.5000	0.0000	0.00013
1	1.0000	1.0000	0.0000	0.00013
5	5.0000	5.0000	0.0000	0.00013
10	10.0000	10.0000	0.0000	0.00013
20	20.0000	20.0000	0.0000	0.00013
50	50.0000	50.0000	0.0000	0.00024
100	100.0000	99.9999	-0.0001	0.00018
200	200.0000	199.9999	-0.0001	0.00029

End of Report

SOP FM 33 03 February 2022

Sartorius (Thailand) Co., Ltd.
129 Rama 9 Road, Huaykwang, Huaykwang, Bangkok 10310
Tel: +66 2643 8361-8, e-mail: service.thailand@sartorius.com



NSC-TS-115 17025
CALIBRATION 0475

SARTORIUS

Certificate

of Calibration

REVIEW BY: Prasit
APPROVED BY: D. K.
NEXT CAL. DATE: 09/02/2025

Model Number: MSE125P-100-DU Certificate No.: 24BCI0071
Description: Semi-micro Balance Issued Date: Friday, February 23, 2024
Serial Number: 0033108993 Reference No.: 229196
ID No.: RYG_EN0004
Manufacturer: Sartorius Page No.: 1 of 3

Customer Name: ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)
616/10 Moo 5 T.Maenam Khu, A.Plusak Daeng, Rayong 21140, Thailand.

Calibrated Place: ALS Laboratory Group (Thailand) Co., Ltd. (Balance Room)
616/10 Moo 5 T.Maenam Khu, A.Plusak Daeng, Rayong 21140, Thailand.

Calibrated By: Mr.Chonchai Inthana Calibration
Calibration Date: Thursday, February 22, 2024 Procedure No.: This calibration was conducted by
Using in-house calibration procedure number (WI-003)
Based on UKAS LAB 14 : 2019

Metrological data: Capacity: 60.1120 g Readability: 0.00001/0.0001 g
Reasons for calibration: ☐ New Installation ☐ Service / Repaired ☒ Re-calibration/ Maintenance
Equipment Condition: ☒ Good Operate ☐ Fair

Measurement Method UKAS Publication Ref :Lab 14
The measurement uncertainty stated is the expanded uncertainty which is obtained from the standard uncertainty multiplied by the coverage factor (k=2) to provide a level of confidence of approximately 95%. It is determined in accordance with the Guide to Expression of Uncertainty in Measurement (GUM). The calibration certificate documents the traceability to National Standards, which realise the unit of measurement according to the International Standard System of Units (SI). Report of Tolerance came from list of Sartorius Metrological Specifications.

Traceability:

Model Number	Description	Traceability	Certificate No.	Due Date
YCS011-522-00	Sartorius weight set 1mg - 5000g E2.YCS011-522-00	TCS	M2308197S	23-Aug-2025
MHB-382SD	Humidity/Barometer/Temp. Lutron MHB-382SD	DKSH	C1923184S	23-Aug-2024

This certificate relate and apply this equipment only.

This certificate may not be reproduced other than in full except with the prior written approval of the Verification Operation Division Sartorius (Thailand) Co., Ltd.

SOP FM 33 03 February 2022

Mr.Chonchai Inthana(Technical Manager)



Certificate of Calibration

Model Number : **MSE125P-100-DU** Certificate No. : **24BC10071**
Description : **Semi-micro Balance** Issued Date : **Friday, February 23, 2024**
Serial Number : **0033108993** Reference No. : **229196**
ID No. : **RYG_EN0004**
Manufacturer : **Sartorius** Page No. : **2 of 3**

Calibration Results : Without Adjustment

Repeatability		Eccentricity (Off-center loading error)	
The repeatability is the ability of a weighing instrument to display nearly identical results under constant test conditions when the same load within a measurement series is placed repeatedly on the weighing pan in the same manner. The standard deviation is used to express repeatability quantitatively.		The off-center loading error is yielded by the difference between the readout of the load, i.e. 1/3 or 1/4 of maximum capacity, placed in the middle of the weighing pan and between each of four additional measurement points (positions defined according to OIML R113).	
Nominal Value : (Low Load)	5.00003	50.00003	
5 g	5.00001	50.00003	
Tolerance	5.00003	50.00002	
0.000015 g	5.00002	50.00003	
	5.00001	50.00003	
Nominal Value : (High Load)	5.00002	50.00003	
50 g	5.00001	50.00003	
Tolerance	5.00001	50.00002	
0.000015 g	5.00002	50.00003	
	5.00002	50.00002	
Standard Deviation	0.000008	0.000005	

Linearity		Eccentricity (Off-center loading error)	
The linearity, also called linearity error, describes the deviation of the characteristic curve of a weighing instrument from the linear slope.		The off-center loading error is yielded by the difference between the readout of the load, i.e. 1/3 or 1/4 of maximum capacity, placed in the middle of the weighing pan and between each of four additional measurement points (positions defined according to OIML R113).	
Tolerance	0.00004 g		
Nominal Value	Conventional Mass Value	Displayed Value	Deviation
(g)	(g)	(g)	(g)
0.01	0.01000	0.01000	0.00000
0.1	0.10000	0.10000	0.00000
1	1.00000	1.00000	0.00000
2	2.00002	2.00002	0.00000
5	5.00002	5.00003	0.00001
10	10.00002	10.00004	0.00002
20	20.00002	20.00002	0.00000
30	30.00004	30.00003	-0.00001
40	40.00005	40.00003	-0.00002
50	50.00002	50.00001	-0.00001

SOP FM 33 03 February 2022

Certificate of Calibration

Model Number : **MSE125P-100-DU** Certificate No. : **24BC10071**
Description : **Semi-micro Balance** Issued Date : **Friday, February 23, 2024**
Serial Number : **0033108993** Reference No. : **229196**
ID No. : **RYG_EN0004**
Manufacturer : **Sartorius** Page No. : **3 of 3**

Calibration Results : Without Adjustment

Repeatability		Eccentricity (Off-center loading error)	
The repeatability is the ability of a weighing instrument to display nearly identical results under constant test conditions when the same load within a measurement series is placed repeatedly on the weighing pan in the same manner. The standard deviation is used to express repeatability quantitatively.		The off-center loading error is yielded by the difference between the readout of the load, i.e. 1/3 or 1/4 of maximum capacity, placed in the middle of the weighing pan and between each of four additional measurement points (positions defined according to OIML R113).	
Nominal Value : (Low Load)	100.0000	50.00003	
100 g	100.0000	50.00003	
Tolerance	100.0000	50.00002	
0.000015 g	100.0000	50.00003	
	100.0000	50.00003	
Nominal Value : (High Load)	100.0000	50.00003	
100 g	100.0000	50.00003	
Tolerance	100.0000	50.00002	
0.000015 g	100.0000	50.00003	
	100.0000	50.00002	
Standard Deviation	0.000003		

Linearity		Eccentricity (Off-center loading error)	
The linearity, also called linearity error, describes the deviation of the characteristic curve of a weighing instrument from the linear slope.		The off-center loading error is yielded by the difference between the readout of the load, i.e. 1/3 or 1/4 of maximum capacity, placed in the middle of the weighing pan and between each of four additional measurement points (positions defined according to OIML R113).	
Tolerance	0.0001 g		
Nominal Value	Conventional Mass Value	Displayed Value	Deviation
(g)	(g)	(g)	(g)
65	65.0000	65.0000	0.0000
70	70.0000	70.0000	0.0000
75	75.0001	75.0000	-0.0001
80	80.0001	80.0000	-0.0001
85	85.0001	85.0001	0.0000
90	90.0001	90.0001	0.0000
95	95.0001	95.0001	0.0000
100	100.0000	100.0000	0.0000
110	110.0000	110.0000	0.0000
120	120.0000	120.0000	0.0000

SOP FM 33 03 February 2022



Lot No. : 2487722-1

ANALYZER CALIBRATION DATA

Client : **Glow SPP 2 Co., Ltd.** Location : **Uthairat CTG No.1**
Date : **23 Sep 24** Test Operator : **Sathaporn T.**
O₂ ANALYZER : **TELEDYNE API 200EH** Serial No. : **735**
Span (%) : **25**

	Cylinder Value (%)	Initial Analyzers Calibration Response (%)	Final Analyzers Calibration Response (%)	Difference (Percent of Span)
Zero Gas	0.00	0.00	0.01	0.04
Low-Level Gas	8.19	8.20	8.21	0.04
Span Gas	16.07	16.07	16.08	0.04

NO₂ ANALYZER : **TELEDYNE API 200EH** Serial No. : **735**
Model : **TELEDYNE API 200EH**
Span (ppm) : **100**

	Cylinder Value (ppm)	Initial Analyzers Calibration Response (ppm)	Final Analyzers Calibration Response (ppm)	Difference (Percent of Span)
Zero Gas	0.00	0.01	0.01	0.00
Low-Level Gas	54.96	54.95	54.95	0.00
Span Gas	82.51	82.51	82.49	0.02

SO₂ ANALYZER : **TELEDYNE API 160EH** Serial No. : **410**
Model : **TELEDYNE API 160EH**
Span (ppm) : **100**

	Cylinder Value (ppm)	Initial Analyzers Calibration Response (ppm)	Final Analyzers Calibration Response (ppm)	Difference (Percent of Span)
Zero Gas	0.00	0.01	0.01	0.00
Low-Level Gas	55.55	55.53	55.52	0.01
Span Gas	79.76	79.75	79.75	0.00

Calibrated by

Sathaporn.T

(Mr. Sathaporn Thakaw) Environmental Field Scientist (3)



Lot No. : 2487722-1

SYSTEM CALIBRATION BIAS AND DRIFT DATA

Client : **Glow SPP 2 Co., Ltd.** Location : **Uthairat CTG No.1**
Date : **23 Sep 24** Test Operator : **Sathaporn T.**
O₂ ANALYZER : **TELEDYNE API 200EH** Serial No. : **735**
Cylinder Conc. (%) : **16.07** Span (%) : **25**

	O ₂ Analyzer Calibration Response	Initial Values System Calibration Response	System Cal Bias (% of Span)	Final Values System Calibration Response	System Cal Bias (% of Span)	Drift (% of Span)
Zero Gas	0.00	0.02	0.08	0.02	0.08	0.00
Upscale Gas	16.07	16.10	0.12	16.10	0.12	0.00

NO₂ ANALYZER : **TELEDYNE API 200EH** Serial No. : **735**
Cylinder Conc. (ppm) : **82.51** Span (ppm) : **100**

	NO ₂ Analyzer Calibration Response	Initial Values System Calibration Response	System Cal Bias (% of Span)	Final Values System Calibration Response	System Cal Bias (% of Span)	Drift (% of Span)
Zero Gas	0.01	0.02	0.01	0.02	0.01	0.00
Upscale Gas	82.51	82.45	0.06	82.45	0.06	0.00

SO₂ ANALYZER : **TELEDYNE API 160EH** Serial No. : **410**
Cylinder Conc. (ppm) : **79.76** Span (ppm) : **100**

	SO ₂ Analyzer Calibration Response	Initial Values System Calibration Response	System Cal Bias (% of Span)	Final Values System Calibration Response	System Cal Bias (% of Span)	Drift (% of Span)
Zero Gas	0.01	0.02	0.01	0.02	0.01	0.00
Upscale Gas	79.75	79.72	0.03	79.72	0.03	0.00

Calibrated by

Sathaporn.T

(Mr. Sathaporn Thakaw) Environmental Field Scientist (3)



EMISSION TEST RESULT

Client	Glow SPP 2 Co., Ltd.	Run #	1
Date	23 Sep 24	Location	Shale CTG No.1
Start Time	11:50	Test Operator	Sathaporn T.
SO ₂ Analyzer Model	TELEDYNE API 100EH	Finish Time	12:10
NO _x /O ₂ Analyzer Model	TELEDYNE API 200EH	Serial No.	410
CO/CO ₂ Analyzer Model	-	Serial No.	735

Time (min)	O ₂ (%)	CO ₂ (%)	NO _x (ppm)	SO ₂ (ppm)	CO (ppm)	Remark
11:50	13.33	4.41	16.17	0.05	-	
11:51	13.31	4.42	16.20	0.05	-	
11:52	13.33	4.41	16.21	0.03	-	
11:53	13.33	4.45	16.22	0.04	-	
11:54	13.34	4.43	16.23	0.04	-	
11:55	13.37	4.45	16.17	0.04	-	
11:56	13.33	4.43	16.17	0.05	-	
11:57	13.30	4.47	16.28	0.05	-	
11:58	13.30	4.45	16.36	0.06	-	
11:59	13.29	4.45	16.40	0.05	-	
12:00	13.32	4.44	16.34	0.06	-	
12:01	13.35	4.43	16.29	0.06	-	
12:02	13.33	4.48	16.24	0.05	-	
12:03	13.31	4.41	16.23	0.05	-	
12:04	13.30	4.45	16.16	0.05	-	
12:05	13.33	4.44	16.24	0.05	-	
12:06	13.34	4.45	16.18	0.04	-	
12:07	13.35	4.41	16.12	0.04	-	
12:08	13.35	4.41	16.13	0.05	-	
12:09	13.36	4.43	16.25	0.04	-	
12:10	13.35	4.44	16.32	0.04	-	
Average	13.33	4.44	16.23	0.05	-	

Sathaporn T.

(Mr.Sathaporn Thakaeu)

Environmental Field Scientist (3)

FORM NO F 06-02 REVISION NO 1 ISSUE DATE 18/01/24

ALS Laboratory Group



EMISSION TEST RESULT

Client	Glow SPP 2 Co., Ltd.	Run #	2
Date	23 Sep 24	Location	Shale CTG No.1
Start Time	12:11	Test Operator	Sathaporn T.
SO ₂ Analyzer Model	TELEDYNE API 100EH	Finish Time	12:31
NO _x /O ₂ Analyzer Model	TELEDYNE API 200EH	Serial No.	410
CO/CO ₂ Analyzer Model	-	Serial No.	735

Time (min)	O ₂ (%)	CO ₂ (%)	NO _x (ppm)	SO ₂ (ppm)	CO (ppm)	Remark
12:11	13.34	4.46	16.35	0.04	-	
12:12	13.35	4.41	16.45	0.05	-	
12:13	13.38	4.37	16.50	0.05	-	
12:14	13.37	4.38	16.42	0.05	-	
12:15	13.39	4.45	16.32	0.05	-	
12:16	13.36	4.42	16.33	0.04	-	
12:17	13.32	4.42	16.36	0.03	-	
12:18	13.34	4.43	16.41	0.04	-	
12:19	13.34	4.42	16.45	0.04	-	
12:20	13.37	4.39	16.38	0.05	-	
12:21	13.38	4.39	16.30	0.05	-	
12:22	13.37	4.43	16.25	0.06	-	
12:23	13.37	4.40	16.31	0.06	-	
12:24	13.37	4.39	16.31	0.06	-	
12:25	13.34	4.44	16.31	0.06	-	
12:26	13.36	4.41	16.28	0.05	-	
12:27	13.35	4.40	16.20	0.05	-	
12:28	13.34	4.43	16.18	0.05	-	
12:29	13.32	4.46	16.21	0.05	-	
12:30	13.30	4.47	16.18	0.04	-	
12:31	13.28	4.48	16.38	0.04	-	
Average	13.35	4.42	16.33	0.05	-	

Sathaporn T.

(Mr.Sathaporn Thakaeu)

Environmental Field Scientist (3)

FORM NO F 06-02 REVISION NO 1 ISSUE DATE 18/01/24

ALS Laboratory Group



EMISSION TEST RESULT

Client	Glow SPP 2 Co., Ltd.	Run #	3
Date	23 Sep 24	Location	Shale CTG No.1
Start Time	12:32	Test Operator	Sathaporn T.
SO ₂ Analyzer Model	TELEDYNE API 100EH	Finish Time	12:52
NO _x /O ₂ Analyzer Model	TELEDYNE API 200EH	Serial No.	410
CO/CO ₂ Analyzer Model	-	Serial No.	735

Time (min)	O ₂ (%)	CO ₂ (%)	NO _x (ppm)	SO ₂ (ppm)	CO (ppm)	Remark
12:32	13.30	4.47	16.41	0.05	-	
12:33	13.31	4.48	16.34	0.04	-	
12:34	13.31	4.48	16.22	0.04	-	
12:35	13.31	4.47	16.17	0.04	-	
12:36	13.30	4.47	16.18	0.05	-	
12:37	13.31	4.45	16.24	0.05	-	
12:38	13.32	4.40	16.29	0.05	-	
12:39	13.34	4.42	16.30	0.05	-	
12:40	13.36	4.39	16.32	0.04	-	
12:41	13.37	4.42	16.27	0.03	-	
12:42	13.37	4.38	16.22	0.04	-	
12:43	13.38	4.40	16.21	0.04	-	
12:44	13.37	4.39	16.23	0.05	-	
12:45	13.38	4.40	16.30	0.05	-	
12:46	13.39	4.42	16.43	0.06	-	
12:47	13.41	4.35	16.45	0.06	-	
12:48	13.41	4.43	16.43	0.06	-	
12:49	13.40	4.39	16.43	0.06	-	
12:50	13.38	4.40	16.41	0.05	-	
12:51	13.36	4.44	16.34	0.05	-	
12:52	13.36	4.46	16.32	0.05	-	
Average	13.36	4.43	16.31	0.05	-	

Sathaporn T.

(Mr.Sathaporn Thakaeu)

Environmental Field Scientist (3)

FORM NO F 06-02 REVISION NO 1 ISSUE DATE 18/01/24

ALS Laboratory Group



ANALYZER CALIBRATION DATA

Lot No. 2457726-1

Client	Glow SPP 2 Co., Ltd.	Location	Shale CTG No.1
Date	23 Sep 24	Test Operator	Sathaporn T.

O ₂ ANALYZER	Model	TELEDYNE API 200EH	Serial No.	735
Span (%)		25		

	Cylinder Value (%)	Initial Analyzers Calibration Response (%)	Final Analyzers Calibration Response (%)	Difference (Percent of Span)
Zero Gas	0.00	0.00	0.01	0.04
Low-Level Gas	8.19	8.20	8.21	0.04
Span Gas	16.07	16.07	16.08	0.04

NO _x ANALYZER	Model	TELEDYNE API 200EH	Serial No.	735
Span (ppm)		100		

	Cylinder Value (ppm)	Initial Analyzers Calibration Response (ppm)	Final Analyzers Calibration Response (ppm)	Difference (Percent of Span)
Zero Gas	0.00	0.01	0.01	0.00
Low-Level Gas	54.96	54.95	54.95	0.00
Span Gas	82.51	82.51	82.49	0.02

SO ₂ ANALYZER	Model	TELEDYNE API 100EH	Serial No.	410
Span (ppm)		100		

	Cylinder Value (ppm)	Initial Analyzers Calibration Response (ppm)	Final Analyzers Calibration Response (ppm)	Difference (Percent of Span)
Zero Gas	0.00	0.01	0.01	0.00
Low-Level Gas	55.55	55.53	55.52	0.01
Span Gas	79.76	79.75	79.75	0.00

CO ANALYZER	Model	TELEDYNE API 300EH	Serial No.	425
Span (ppm)		100		

	Cylinder Value (ppm)	Initial Analyzers Calibration Response (ppm)	Final Analyzers Calibration Response (ppm)	Difference (Percent of Span)
Zero Gas	0.00	0.01	0.02	0.01
Low-Level Gas	54.84	54.82	54.83	0.00
Span Gas	79.74	79.73	79.72	0.01

CO ₂ ANALYZER	Model	TELEDYNE API 300EH	Serial No.	425
Span (%)		25		

	Cylinder Value (ppm)	Initial Analyzers Calibration Response (%)	Final Analyzers Calibration Response (%)	Difference (Percent of Span)
Zero Gas	0.00	0.01	0.01	0.00
Low-Level Gas	8.00	7.98	7.97	0.04
Span Gas	15.02	15.01	15.01	0.00

Calibrated by

Sathaporn T.

(Mr.Sathaporn Thakaeu)

Environmental Field Scientist (3)

FORM NO F 06-02 REVISION NO 4 ISSUE DATE 18/01/24

ALS Laboratory Group



Lot No. 2487726-1

SYSTEM CALIBRATION BIAS AND DRIFT DATA

Client : **Glow SPP 2 Co., Ltd.** Location : **Udon CTO No.1**
Date : **23 Sep 24** Test Operator : **Sathaporn T.**

O₂ ANALYZER
Cylinder Conc. (%) : **16.07**

Span (%) : **25**

	O ₂ Analyzer Calibration Response	Initial Values		Final Values		Drift (% of Span)
		System Calibration Response	System Cal Bias (% of Span)	System Calibration Response	System Cal Bias (% of Span)	
Zero Gas	0.00	0.02	0.08	0.02	0.08	0.00
Upscale Gas	16.07	16.10	0.12	16.10	0.12	0.00

NO_x ANALYZER
Cylinder Conc. (ppm) : **82.51**

Span (ppm) : **100**

	NO _x Analyzer Calibration Response	Initial Values		Final Values		Drift (% of Span)
		System Calibration Response	System Cal Bias (% of Span)	System Calibration Response	System Cal Bias (% of Span)	
Zero Gas	0.01	0.02	0.01	0.01	0.01	0.00
Upscale Gas	82.51	82.45	0.06	82.45	0.06	0.00

SO₂ ANALYZER
Cylinder Conc. (ppm) : **79.76**

Span (ppm) : **100**

	SO ₂ Analyzer Calibration Response	Initial Values		Final Values		Drift (% of Span)
		System Calibration Response	System Cal Bias (% of Span)	System Calibration Response	System Cal Bias (% of Span)	
Zero Gas	0.01	0.02	0.01	0.02	0.01	0.00
Upscale Gas	79.75	79.72	0.03	79.72	0.03	0.00

CO ANALYZER
Cylinder Conc. (ppm) : **79.74**

Span (ppm) : **100**

	CO Analyzer Calibration Response	Initial Values		Final Values		Drift (% of Span)
		System Calibration Response	System Cal Bias (% of Span)	System Calibration Response	System Cal Bias (% of Span)	
Zero Gas	0.01	0.03	0.02	0.03	0.02	0.00
Upscale Gas	79.73	79.70	0.03	79.70	0.03	0.00

CO₂ ANALYZER
Cylinder Conc. (%) : **15.02**

Span (%) : **25**

	CO ₂ Analyzer Calibration Response	Initial Values		Final Values		Drift (% of Span)
		System Calibration Response	System Cal Bias (% of Span)	System Calibration Response	System Cal Bias (% of Span)	
Zero Gas	0.01	0.02	0.04	0.02	0.04	0.00
Upscale Gas	15.01	15.00	0.04	15.00	0.04	0.00

Calibrated by

Sathaporn T.

(Mr. Sathaporn Thakaw)

Environmental Field Scientist (3)

FORM NO. P-06-061 REVISION NO. 4 ISSUE DATE 18/01/24

ALS Laboratory Group



CEMs Data

Client Name : Glow SPP 2 Co., Ltd. Date : 23 Sep 24									
Plant Name : SPP2 Location : Udon CTO No.1									
Run No. 1					Run No. 2				
Time Base : 21 min					Time Base : 21 min				
Date	Time	SO ₂	NO _x	CO	CO ₂	Date	Time	SO ₂	NO _x
23 Sep 24	11:50	0.06	18.34	3.40	13.78	23 Sep 24	12:11	0.06	18.07
23 Sep 24	11:51	0.06	18.34	3.40	13.80	23 Sep 24	12:12	0.06	18.07
23 Sep 24	11:52	0.06	18.32	3.32	13.82	23 Sep 24	12:13	0.06	18.05
23 Sep 24	11:53	0.06	18.32	3.28	13.77	23 Sep 24	12:14	0.06	18.02
23 Sep 24	11:54	0.06	18.38	3.45	13.78	23 Sep 24	12:15	0.06	18.02
23 Sep 24	11:55	0.06	18.38	3.45	13.75	23 Sep 24	12:16	0.07	17.92
23 Sep 24	11:56	0.06	18.38	3.41	13.74	23 Sep 24	12:17	0.06	18.01
23 Sep 24	11:57	0.06	18.32	3.32	13.75	23 Sep 24	12:18	0.06	18.01
23 Sep 24	11:58	0.06	18.34	3.35	13.77	23 Sep 24	12:19	0.07	18.04
23 Sep 24	11:59	0.06	18.37	3.40	13.79	23 Sep 24	12:20	0.07	18.05
23 Sep 24	12:00	0.06	18.32	3.37	13.79	23 Sep 24	12:21	0.07	18.05
23 Sep 24	12:01	0.06	18.32	3.40	13.77	23 Sep 24	12:22	0.06	18.01
23 Sep 24	12:02	0.07	18.38	3.51	13.77	23 Sep 24	12:23	0.07	18.01
23 Sep 24	12:03	0.07	18.34	3.49	13.79	23 Sep 24	12:24	0.07	18.01
23 Sep 24	12:04	0.06	18.31	3.43	13.79	23 Sep 24	12:25	0.06	18.01
23 Sep 24	12:05	0.07	18.35	3.37	13.80	23 Sep 24	12:26	0.06	18.01
23 Sep 24	12:06	0.06	18.34	3.40	13.81	23 Sep 24	12:27	0.06	18.01
23 Sep 24	12:07	0.07	18.34	3.40	13.81	23 Sep 24	12:28	0.06	18.01
23 Sep 24	12:08	0.06	18.34	3.40	13.79	23 Sep 24	12:29	0.07	18.02
23 Sep 24	12:09	0.07	17.92	3.37	13.80	23 Sep 24	12:30	0.07	18.00
23 Sep 24	12:10	0.06	17.92	3.36	13.81	23 Sep 24	12:31	0.07	17.91
Max		0.07	17.99	3.41	13.82	Max		0.07	18.02
Avg		0.06	18.30	3.40	13.79	Avg		0.06	18.02

Client Name : Glow SPP 2 Co., Ltd. Date : 23 Sep 24									
Plant Name : SPP2 Location : Udon CTO No.1									
Run No. 3					Run No. 4				
Time Base : 21 min					Time Base : 21 min				
Date	Time	SO ₂	NO _x	CO	CO ₂	Date	Time	SO ₂	NO _x
23 Sep 24	12:32	0.06	18.34	3.40	13.79	23 Sep 24	12:53	0.06	17.94
23 Sep 24	12:33	0.06	18.32	3.36	13.77	23 Sep 24	12:54	0.06	17.92
23 Sep 24	12:34	0.07	18.38	3.49	13.78	23 Sep 24	12:55	0.06	17.91
23 Sep 24	12:35	0.07	18.37	3.46	13.79	23 Sep 24	12:56	0.06	17.91
23 Sep 24	12:36	0.06	18.39	3.37	13.80	23 Sep 24	12:57	0.06	17.91
23 Sep 24	12:37	0.06	18.35	3.37	13.81	23 Sep 24	12:58	0.06	17.91
23 Sep 24	12:38	0.07	18.35	3.39	13.84	23 Sep 24	12:59	0.06	17.91
23 Sep 24	12:39	0.07	18.35	3.39	13.84	23 Sep 24	13:00	0.06	17.91
23 Sep 24	12:40	0.07	18.35	3.39	13.84	23 Sep 24	13:01	0.06	17.91
23 Sep 24	12:41	0.07	18.35	3.39	13.84	23 Sep 24	13:02	0.06	17.91
23 Sep 24	12:42	0.07	18.35	3.39	13.84	23 Sep 24	13:03	0.06	17.91
23 Sep 24	12:43	0.07	18.35	3.39	13.84	23 Sep 24	13:04	0.06	17.91
23 Sep 24	12:44	0.06	18.36	3.34	13.85	23 Sep 24	13:05	0.06	17.91
23 Sep 24	12:45	0.06	18.36	3.34	13.85	23 Sep 24	13:06	0.06	17.91
23 Sep 24	12:46	0.06	18.36	3.34	13.85	23 Sep 24	13:07	0.06	17.91
23 Sep 24	12:47	0.07	18.32	3.36	13.85	23 Sep 24	13:08	0.07	17.91
23 Sep 24	12:48	0.06	18.36	3.37	13.81	23 Sep 24	13:09	0.06	17.91
23 Sep 24	12:49	0.06	18.36	3.37	13.81	23 Sep 24	13:10	0.06	17.91
23 Sep 24	12:50	0.06	18.36	3.37	13.81	23 Sep 24	13:11	0.06	17.91
23 Sep 24	12:51	0.06	18.36	3.37	13.81	23 Sep 24	13:12	0.06	17.91
23 Sep 24	12:52	0.06	18.36	3.37	13.81	23 Sep 24	13:13	0.06	17.91
Max		0.07	18.34	3.42	13.88	Max		0.07	17.92
Avg		0.06	18.36	3.36	13.82	Avg		0.06	17.92

Client Name : Glow SPP 2 Co., Ltd. Date : 23 Sep 24									
Plant Name : SPP2 Location : Udon CTO No.1									
Run No. 5					Run No. 6				
Time Base : 21 min					Time Base : 21 min				
Date	Time	SO ₂	NO _x	CO	CO ₂	Date	Time	SO ₂	NO _x
23 Sep 24	13:14	0.07	17.98	3.37	13.82	23 Sep 24	13:35	0.07	17.92
23 Sep 24	13:15	0.06	17.92	3.38	13.84	23 Sep 24	13:36	0.06	17.91
23 Sep 24	13:16	0.06	17.94	3.20	13.85	23 Sep 24	13:37	0.06	17.91
23 Sep 24	13:17	0.06	18.05	3.37	13.91	23 Sep 24	13:38	0.07	17.92
23 Sep 24	13:18	0.06	18.02	3.36	13.91	23 Sep 24	13:39	0.06	17.91
23 Sep 24	13:19	0.06	18.02	3.36	13.91	23 Sep 24	13:40	0.06	17.91
23 Sep 24	13:20	0.06	18.02	3.36	13.91	23 Sep 24	13:41	0.06	17.91
23 Sep 24	13:21	0.06	18.02	3.36	13.91	23 Sep 24	13:42	0.06	17.91
23 Sep 24	13:22	0.06	18.02	3.36	13.91	23 Sep 24	13:43	0.06	17.91
23 Sep 24	13:23	0.06	18.02	3.36	13.91	23 Sep 24	13:44	0.06	17.91
23 Sep 24	13:24	0.06	18.02	3.36	13.91	23 Sep 24	13:45	0.06	17.91
23 Sep 24	13:25	0.06	18.02	3.36	13.91	23 Sep 24	13:46	0.06	17.91
23 Sep 24	13:26	0.06	18.02	3.36	13.91	23 Sep 24	13:47	0.06	17.91
23 Sep 24	13:27	0.06	18.02	3.36	13.91	23 Sep 24	13:48	0.06	17.91
23 Sep 24	13:28	0.06	18.02	3.36	13.91	23 Sep 24	13:49	0.06	17.91
23 Sep 24	13:29	0.06	18.02	3.36	13.91	23 Sep 24	13:50	0.06	17.91
23 Sep 24	13:30	0.06	18.02	3.36	13.91	23 Sep 24	13:51	0.06	17.91
23 Sep 24	13:31	0.06	18.02	3.36	13.91	23 Sep 24	13:52	0.06	17.91
23 Sep 24	13:32	0.06	18.02	3.36	13.91	23 Sep 24	13:53	0.06	17.91
23 Sep 24	13:33	0.06	18.02	3.36	13.91	23 Sep 24	13:54	0.06	17.91
23 Sep 24	13:34	0.06	18.02	3.36	13.91	23 Sep 24	13:55	0.06	17.91
Max		0.07	17.92	3.34	13.82	Max		0.07	17.92
Avg		0.06	18.00	3.36	13.92	Avg		0.06	18.00



CEMs Data

Client Name : Glow SPP 2 Co., Ltd. Date : 23 Sep 24									
Plant Name : SPP2 Location : Udon CTO No.1									
Run No. 7					Run No. 8				
Time Base : 21 min					Time Base : 21 min				
Date	Time	SO ₂	NO _x	CO	CO ₂	Date	Time	SO ₂	NO _x
23 Sep 24	14:38	0.06	18.32	3.37	13.84	23 Sep 24	14:59	0.06	18.32
23 Sep 24	14:39	0.06	18.32	3.37	13.84	23 Sep 24	15:00	0.06	18.32
23 Sep 24	14:40	0.06	18.32	3.37	13.84	23 Sep 24	15:01	0.06	18.32



Reference Method Data

Client Name Plant Name		Date Location		23 Sep 24 Unit 6 CTG No 1		
Run No. 7		Time Base 21 min		Time Base 21 min		
Date	Time	SO2 ppm	NOx ppm	CO ppm	CO2 ppm	
23 Sep 24	13:56	0.06	16.36	4.29	13.32	4.43
23 Sep 24	13:57	0.06	16.35	4.28	13.33	4.43
23 Sep 24	13:58	0.06	16.36	4.29	13.33	4.38
23 Sep 24	13:59	0.06	16.30	4.19	13.32	4.45
23 Sep 24	14:00	0.06	16.37	4.29	13.31	4.41
23 Sep 24	14:01	0.06	16.37	4.29	13.31	4.41
23 Sep 24	14:02	0.06	16.34	4.24	13.30	4.45
23 Sep 24	14:03	0.06	16.32	4.22	13.30	4.45
23 Sep 24	14:04	0.06	16.26	4.15	13.29	4.47
23 Sep 24	14:05	0.06	16.36	4.18	13.30	4.41
23 Sep 24	14:06	0.06	16.22	4.11	13.31	4.45
23 Sep 24	14:07	0.06	16.16	4.07	13.32	4.44
23 Sep 24	14:08	0.06	16.20	4.11	13.31	4.42
23 Sep 24	14:09	0.06	16.21	4.09	13.31	4.44
23 Sep 24	14:10	0.06	16.19	4.12	13.29	4.45
23 Sep 24	14:11	0.06	16.11	4.02	13.24	4.45
23 Sep 24	14:12	0.06	16.31	4.11	13.28	4.43
23 Sep 24	14:13	0.06	16.31	4.10	13.31	4.42
23 Sep 24	14:14	0.06	16.23	4.06	13.32	4.39
23 Sep 24	14:15	0.06	16.16	4.05	13.33	4.41
23 Sep 24	14:16	0.06	16.17	4.03	13.31	4.44
Max	0.06	16.36	4.29	13.33	4.45	
Min	0.05	16.20	4.03	13.24	4.41	
Avg						

Run No. 9						Time Base 21 min						Run No. 10						Time Base 21 min					
Date	Time	SO2	NOx	CO	CO2	Date	Time	SO2	NOx	CO	CO2	Date	Time	SO2	NOx	CO	CO2						
23-Sep-24	14:38	0.06	16.40	3.99	13.33	4.41	23-Sep-24	14:58	0.06	16.31	3.95	13.30	23-Sep-24	14:58	0.06	16.31	3.95	13.30					
23-Sep-24	14:39	0.06	16.37	3.99	13.33	4.38	23-Sep-24	14:59	0.06	16.42	3.97	13.32	23-Sep-24	14:59	0.06	16.42	3.97	13.32					
23-Sep-24	14:40	0.06	16.32	3.98	13.33	4.40	23-Sep-24	15:00	0.06	16.26	3.82	13.31	23-Sep-24	15:00	0.06	16.26	3.82	13.31					
23-Sep-24	14:41	0.06	16.30	3.98	13.31	4.41	23-Sep-24	15:01	0.06	16.17	3.75	13.28	23-Sep-24	15:01	0.06	16.17	3.75	13.28					
23-Sep-24	14:42	0.06	16.33	3.97	13.29	4.40	23-Sep-24	15:02	0.06	16.08	3.66	13.27	23-Sep-24	15:02	0.06	16.08	3.66	13.27					
23-Sep-24	14:43	0.06	16.34	3.98	13.29	4.42	23-Sep-24	15:03	0.06	16.27	3.89	13.28	23-Sep-24	15:03	0.06	16.27	3.89	13.28					
23-Sep-24	14:44	0.06	16.34	3.93	13.31	4.42	23-Sep-24	15:04	0.06	16.32	3.89	13.29	23-Sep-24	15:04	0.06	16.32	3.89	13.29					
23-Sep-24	14:45	0.06	16.28	3.89	13.32	4.42	23-Sep-24	15:05	0.06	16.28	3.76	13.29	23-Sep-24	15:05	0.06	16.28	3.76	13.29					
23-Sep-24	14:46	0.06	16.24	3.87	13.30	4.41	23-Sep-24	15:06	0.06	16.30	3.87	13.27	23-Sep-24	15:06	0.06	16.30	3.87	13.27					
23-Sep-24	14:47	0.06	16.34	3.93	13.30	4.43	23-Sep-24	15:07	0.06	16.29	3.88	13.25	23-Sep-24	15:07	0.06	16.29	3.88	13.25					
23-Sep-24	14:48	0.06	16.28	3.88	13.30	4.41	23-Sep-24	15:08	0.06	16.34	3.97	13.26	23-Sep-24	15:08	0.06	16.34	3.97	13.26					
23-Sep-24	14:49	0.06	16.30	3.90	13.31	4.45	23-Sep-24	15:09	0.06	16.31	3.79	13.25	23-Sep-24	15:09	0.06	16.31	3.79	13.25					
23-Sep-24	14:50	0.06	16.40	4.01	13.28	4.43	23-Sep-24	15:10	0.06	16.30	3.80	13.29	23-Sep-24	15:10	0.06	16.30	3.80	13.29					
23-Sep-24	14:51	0.06	16.40	4.01	13.29	4.43	23-Sep-24	15:11	0.06	16.32	3.79	13.27	23-Sep-24	15:11	0.06	16.32	3.79	13.27					
23-Sep-24	14:52	0.06	16.50	3.99	13.32	4.38	23-Sep-24	15:12	0.06	16.18	3.86	13.25	23-Sep-24	15:12	0.06	16.18	3.86	13.25					
23-Sep-24	14:53	0.06	16.51	3.72	13.32	4.38	23-Sep-24	15:13	0.06	16.25	3.96	13.19	23-Sep-24	15:13	0.06	16.25	3.96	13.19					
23-Sep-24	14:54	0.06	16.48	3.89	13.33	4.42	23-Sep-24	15:14	0.06	16.22	4.08	13.15	23-Sep-24	15:14	0.06	16.22	4.08	13.15					
23-Sep-24	14:55	0.06	16.41	3.88	13.30	4.42	23-Sep-24	15:15	0.06	16.21	4.13	13.15	23-Sep-24	15:15	0.06	16.21	4.13	13.15					
23-Sep-24	14:56	0.06	16.38	3.90	13.32	4.41	23-Sep-24	15:16	0.06	16.26	3.96	13.14	23-Sep-24	15:16	0.06	16.26	3.96	13.14					
23-Sep-24	14:57	0.06	16.44	3.88	13.31	4.42	23-Sep-24	15:17	0.06	16.38	3.83	13.13	23-Sep-24	15:17	0.06	16.38	3.83	13.13					
23-Sep-24	14:58	0.06	16.54	3.87	13.31	4.35	23-Sep-24	15:18	0.06	16.36	3.87	13.13	23-Sep-24	15:18	0.06	16.36	3.87	13.13					
Max	0.06	16.54	4.01	13.33	4.45		Max	0.06	16.51	4.10	13.31	4.51		0.06	16.51	4.10	13.31	4.51					
Min	0.05	16.27	3.82	13.19	4.41		Min	0.05	16.28	3.82	13.25	4.42		0.05	16.28	3.82	13.25	4.42					
Avg							Avg																

Run No. 11						Time Base 21 min		Run No. 12						Time Base 21 min				
Date	Time	SO2 ppm	NOx ppm	CO ppm	CO2 ppm	Date	Time	SO2 ppm	NOx ppm	CO ppm	CO2 ppm	Date	Time	SO2 ppm	NOx ppm	CO ppm	CO2 ppm	
23-Sep-24	15:20	0.06	16.27	3.87	13.22	4.41	23-Sep-24	15:41	0.06	16.38	4.06	13.18	23-Sep-24	15:41	0.06	16.38	4.06	13.18
23-Sep-24	15:21	0.06	16.24	3.88	13.19	4.45	23-Sep-24	15:42	0.06	16.41	4.11	13.11	23-Sep-24	15:42	0.06	16.41	4.11	13.11
23-Sep-24	15:22	0.06	16.28	4.03	13.19	4.44	23-Sep-24	15:43	0.06	16.32	4.04	13.17	23-Sep-24	15:43	0.06	16.32	4.04	13.17
23-Sep-24	15:23	0.06	16.30	4.05	13.18	4.41	23-Sep-24	15:44	0.06	16.45	4.05	13.22	23-Sep-24	15:44	0.06	16.45	4.05	13.22
23-Sep-24	15:24	0.06	16.34	3.90	13.31	4.43	23-Sep-24	15:45	0.06	16.41	3.80	13.23	23-Sep-24	15:45	0.06	16.41	3.80	13.23
23-Sep-24	15:25	0.06	16.35	3.89	13.24	4.47	23-Sep-24	15:46	0.06	16.34	3.76	13.24	23-Sep-24	15:46	0.06	16.34	3.76	13.24
23-Sep-24	15:26	0.06	16.34	3.83	13.24	4.47	23-Sep-24	15:47	0.06	16.47	3.84	13.24	23-Sep-24	15:47	0.06	16.47	3.84	13.24
23-Sep-24	15:27	0.06	16.26	3.84	13.22	4.43	23-Sep-24	15:48	0.06	16.40	3.50	13.22	23-Sep-24	15:48	0.06	16.40	3.50	13.22
23-Sep-24	15:28	0.06	16.28	3.86	13.24	4.43	23-Sep-24	15:49	0.06	16.42	3.54	13.24	23-Sep-24	15:49	0.06	16.42	3.54	13.24
23-Sep-24	15:29	0.06	16.26	3.87	13.22	4.38	23-Sep-24	15:50	0.06	16.44	3.57	13.21	23-Sep-24	15:50	0.06	16.44	3.57	13.21
23-Sep-24	15:30	0.06	16.32	3.89	13.23	4.41	23-Sep-24	15:51	0.06	16.42	3.72	13.23	23-Sep-24	15:51	0.06	16.42	3.72	13.23
23-Sep-24	15:31	0.06	16.30	3.87	13.24	4.43	23-Sep-24	15:52	0.06	16.35	3.61	13.24	23-Sep-24	15:52	0.06	16.35	3.61	13.24
23-Sep-24	15:32	0.06	16.32	3.88	13.27	4.43	23-Sep-24	15:53	0.06	16.32	3.54	13.25	23-Sep-24	15:53	0.06	16.32	3.54	13.25
23-Sep-24	15:33	0.06	16.34	3.93	13.31	4.43	23-Sep-24	15:54	0.06	16.30	3.53	13.24	23-Sep-24	15:54	0.06	16.30	3.53	13.24
23-Sep-24	15:34	0.06	16.28	3.79	13.24	4.38	23-Sep-24	15:55	0.06	16.42	3.68	13.18	23-Sep-24	15:55	0.06	16.42	3.68	13.18
23-Sep-24	15:35	0.06	16.28	3.86	13.34	4.44	23-Sep-24	15:56	0.06	16.47	3.42	13.18	23-Sep-24	15:56	0.06	16.47	3.42	13.18
23-Sep-24	15:36	0.06	16.30	3.90	13.32	4.41	23-Sep-24	15:57	0.06	16.48	3.58	13.21	23-Sep-24	15:57	0.06	16.48	3.58	13.21
23-Sep-24	15:37	0.06	16.33	3.90	13.34	4.42	23-Sep-24	15:58	0.06	16.47	3.72	13.24	23-Sep-24	15:58	0.06	16.47	3.72	13.24
23-Sep-24	15:38	0.06	16.27	3.85	13.25	4.40	23-Sep-24	15:59	0.06	16.50	3.71	13.25	23-Sep-24	15:59	0.06	16.50	3.71	13.25
23-Sep-24	15:39	0.06	16.24	3.86	13.22	4.41	23-Sep-24	16:00	0.06	16.48	3.74	13.26	23-Sep-24	16:00	0.06	16.48	3.74	13.26
23-Sep-24	15:40	0.06	16.24	3.85	13.19	4.48	23-Sep-24	16:01	0.06	16.49	3.75	13.26	23-Sep-24	16:01	0.06	16.49	3.75	13.26
Max	0.06	16.54	4.04	13.37	4.48		Max	0.06	16.52	4.10	13.35		Max	0.06	16.52	4.10	13.35	
Min	0.05	16.20	3.84	13.21	4.42		Min	0.05	16.42	3.61	13.21		Min	0.05	16.42	3.61	13.21	
Avg							Avg						Avg					



CEMs Data

Client Name Plant Name				Gov SPT 2 Co. Ltd				Location				MFG CTG No 1																			
Run No. 1								Run No. 2								Run No. 3								Run No. 4							
Date	Time	Reflowrate km/h	Temperature °C	Date	Time	Reflowrate km/h	Temperature °C	Date	Time	Reflowrate km/h	Temperature °C	Date	Time	Reflowrate km/h	Temperature °C	Date	Time	Reflowrate km/h	Temperature °C	Date	Time	Reflowrate km/h	Temperature °C								
23-Sep-24	15:50	371.1	136.4	23-Sep-24	15:51	370.9	136.7	23-Sep-24	15:52	369.9	136.7	23-Sep-24	15:53	369.9	132.4	23-Sep-24	15:54	369.6	135.4	23-Sep-24	15:55	370.1	135.3								
23-Sep-24	15:51	368.9	136.3	23-Sep-24	15:52	370.9	136.9	23-Sep-24	15:53	367.8	136.7	23-Sep-24	15:54	372.2	136.6	23-Sep-24	15:55	370.6	135.4	23-Sep-24	15:56	370.1	135.4								
23-Sep-24	15:52	367.5	136.4	23-Sep-24	15:53	370.9	136.1	23-Sep-24	15:54	372.4	136.9	23-Sep-24	15:55	372.4	136.9	23-Sep-24	15:56	370.6	136.9	23-Sep-24	15:57	370.1	135.4								
23-Sep-24	15:53	370.1	136.4	23-Sep-24	15:54	369.1	136.1	23-Sep-24	15:55	372.0	136.0	23-Sep-24	15:56	370.2	136.8	23-Sep-24	15:57	370.4	135.7	23-Sep-24	15:58	370.6	135.7								
23-Sep-24	15:54	364.7	136.3	23-Sep-24	15:55	372.2	136.0	23-Sep-24	15:56	370.6	136.9	23-Sep-24	15:57	370.2	136.8	23-Sep-24	15:58	372.4	135.9	23-Sep-24	15:59	372.6	135.8								
23-Sep-24	15:55	368.0	136.3	23-Sep-24	15:56	372.0	136.0	23-Sep-24	15:57	370.9	135.0	23-Sep-24	15:58	371.4	135.0	23-Sep-24	15:59	372.0	135.0	23-Sep-24	16:00	372.6	135.8								
23-Sep-24	15:56	371.2	136.2	23-Sep-24	15:57	370.4	135.1	23-Sep-24	15:58	372.0	135.0	23-Sep-24	15:59	372.6	135.8	23-Sep-24	16:00	371.3	135.4	23-Sep-24	16:01	371.3	135.4								
23-Sep-24	15:57	370.9	136.2	23-Sep-24	15:58	369.2	135.2	23-Sep-24	15:59	374.3	135.3	23-Sep-24	16:00	369.2	135.3	23-Sep-24	16:01	374.1	135.4	23-Sep-24	16:02	375.2	135.9								
23-Sep-24	15:58	365.0	136.3	23-Sep-24	15:59	371.2	135.4	23-Sep-24	16:00	374.7	135.5	23-Sep-24	16:01	369.2	135.6	23-Sep-24	16:02	374.8	135.6	23-Sep-24	16:03	375.6	135.9								
23-Sep-24	15:59	364.5	136.4	23-Sep-24	16:00	369.4	135.5	23-Sep-24	16:01	369.2	135.6	23-Sep-24	16:02	374.9	135.8	23-Sep-24	16:03	373.7	136.1	23-Sep-24	16:04	375.6	135.9								
23-Sep-24	16:00	368.4	136.5	23-Sep-24	16:01	370.6	136.4	23-Sep-24	16:02	365.7	135.6	23-Sep-24	16:03	374.8	136.0	23-Sep-24	16:04	374.8	136.0	23-Sep-24	16:05	374.8	136.0								
23-Sep-24	16:01	370.4	136.4	23-Sep-24	16:02	370.9	135.2	23-Sep-24	16:03	374.9	135.8	23-Sep-24	16:04	372.2	135.9	23-Sep-24	16:05	370.9	136.1	23-Sep-24	16:06	369.5	136.0								
23-Sep-24	16:02	367.7	136.4	23-Sep-24	16:03	368.8	135.1	23-Sep-24	16:04	372.2	135.9	23-Sep-24	16:05	374.8	136.0	23-Sep-24	16:06	374.8	136.0	23-Sep-24	16:07	374.8	136.0								
23-Sep-24	16:03	369.3	136.4	23-Sep-24	16:04	370.0	135.1	23-Sep-24	16:05	372.2	135.9	23-Sep-24	16:06	374.8	136.0	23-Sep-24	16:07	374.8	136.0	23-Sep-24	16:08	374.8	136.0								
23-Sep-24	16:04	369.1	136.5	23-Sep-24	16:05	371.6	136.7	23-Sep-24	16:06	372.2	136.0	23-Sep-24	16:07	374.8	136.0	23-Sep-24	16:08	374.8	136.0	23-Sep-24	16:09	374.8	136.0								
23-Sep-24	16:05	368.0	136.5	23-Sep-24	16:06	371.7	136.5	23-Sep-24	16:07	372.2	136.0	23-Sep-24	16:08	374.8	136.0	23-Sep-24	16:09	374.8	136.0	23-Sep-24	16:10	374.8	136.0								
23-Sep-24	16:06	367.0	136.5	23-Sep-24	16:07	371.7	136.5	23-Sep-24	16:08	372.2	136.0	23-Sep-24	16:09	374.8	136.0	23-Sep-24	16:10	374.8	136.0	23-Sep-24	16:11	374.8	136.0								
23-Sep-24	16:07	366.0	136.5	23-Sep-24	16:08	371.7	136.5	23-Sep-24	16:09	372.2	136.0	23-Sep-24	16:10	374.8	136.0	23-Sep-24	16:11	374.8	136.0	23-Sep-24	16:12	374.8	136.0								
23-Sep-24	16:08	365.0	136.5	23-Sep-24	16:09	371.7	136.5	23-Sep-24	16:10	372.2	136.0	23-Sep-24	16:11	374.8	136.0	23-Sep-24	16:12	374.8	136.0	23-Sep-24	16:13	374.8	136.0								
23-Sep-24	16:09	364.0	136.5	23-Sep-24	16:10	371.7	136.5	23-Sep-24	16:11	372.2	136.0	23-Sep-24	16:12	374.8	136.0	23-Sep-24	16:13	374.8	136.0	23-Sep-24	16:14	374.8	136.0								
23-Sep-24	16:10	363.0	136.5	23-Sep-24	16:11	371.7	136.5	23-Sep-24	16:12	372.2	136.0	23-Sep-24	16:13	374.8	136.0	23-Sep-24	16:14	374.8	136.0	23-Sep-24	16:15	374.8	136.0								
23-Sep-24	16:11	362.0	136.5	23-Sep-24	16:12	371.7	136.5	23-Sep-24	16:13	372.2	136.0	23-Sep-24	16:14	374.8	136.0	23-Sep-24	16:15	374.8	136.0	23-Sep-24	16:16	374.8	136.0								
23-Sep-24	16:12	361.0	136.5	23-Sep-24	16:13	371.7	136.5	23-Sep-24	16:14	372.2	136.0	23-Sep-24	16:15	374.8	136.0	23-Sep-24	16:16	374.8	136.0	23-Sep-24	16:17	374.8	136.0								
23-Sep-24	16:13	360.0	136.5	23-Sep-24	16:14	371.7	136.5	23-Sep-24	16:15	372.2	136.0	23-Sep-24	16:16	374.8	136.0	23-Sep-24	16:17	374.8	136.0	23-Sep-24	16:18	374.8	136.0								
23-Sep-24	16:14	359.0	136.5	23-Sep-24	16:15	371.7	136.5	23-Sep-24	16:16	372.2	136.0	23-Sep-24	16:17	374.8	136.0	23-Sep-24	16:18	374.8	136.0	23-Sep-24	16:19	374.8	136.0								
23-Sep-24	16:15	358.0	136.5	23-Sep-24	16:16	371.7	136.5	23-Sep-24	16:17	372.2	136.0	23-Sep-24	16:18	374.8	136.0	23-Sep-24	16:19	374.8	136.0	23-Sep-24	16:20	374.8	136.0								
23-Sep-24	16:16	357.0	136.5	23-Sep-24	16:17	371.7	136.5	23-Sep-24	16:18	372.2	136.0	23-Sep-24	16:19	374.8	136.0	23-Sep-24	16:20	374.8	136.0	23-Sep-24	16:21	374.8	136.0								
23-Sep-24	16:17	356.0	136.5	23-Sep-24	16:18	371.7	136.5	23-Sep-24	16:19	372.2	136.0	23-Sep-24	16:20	374.8	136.0	23-Sep-24	16:21	374.8	136.0	23-Sep-24	16:22	374.8	136.0								
23-Sep-24	16:18	355.0	136.5	23-Sep-24	16:19	371.7	136.5	23-Sep-24	16:20	372.2	136.0	23-Sep-24	16:21	374.8	136.0	23-Sep-24	16:22	374.8	136.0	23-Sep-24	16:23	374.8	136.0								
23-Sep-24	16:19	354.0	136.5	23-Sep-24	16:20	371.7	136.5	23-Sep-24	16:21	372.2	136.0	23-Sep-24	16:22	374.8	136.0	23-Sep-24	16:23	374.8	136.0	23-Sep-24	16:24	374.8	136.0								
23-Sep-24	16:20	353.0	136.5	23-Sep-24	16:21	371.7	136.5	23-Sep-24	16:22	372.2	136.0	23-Sep-24	16:23	374.8	136.0	23-Sep-24	16:24	374.8	136.0	23-Sep-24	16:25	374.8	136.0								
23-Sep-24	16:21	352.0	136.5	23-Sep-24	16:22	371.7	136.5	23-Sep-24	16:23	372.2	136.0	23-Sep-24	16:24	374.8	136.0	23-Sep-24	16:25	374.8	136.0	23-Sep-24	16:26	374.8	136.0								
23-Sep-24	16:22	351.0	136.5	23-Sep-24	16:23	371.7	136.5	23-Sep-24	16:24	372.2	136.0	23-Sep-24	16:25	374.8	136.0	23-Sep-24	16:26	374.8	136.0	23-Sep-24	16:27	374.8	136.0								
23-Sep-24	16:23	350.0	136.5	23-Sep-24	16:24	371.7	136.5	23-Sep-24	16:25	372.2	136.0	23-Sep-24	16:26	374.8	136.0	23-Sep-24	16:27	374.8	136.0	23-Sep-24	16:28	374.8	136.0								
23-Sep-24	16:24	349.0	136.5	23-Sep-24	16:25	371.7	136.5	23-Sep-24	16:26	372.2	136.0	23-Sep-24	16:27	374.8	136.0	23-Sep-24	16:28	374.8	136.0	23-Sep-24	16:29	374.8	136.0								
23-Sep-24	16:25	348.0	136.5	23-Sep-24	16:26	371.7	136.5	23-Sep-24	16:27	372.2	136.0	23-Sep-24	16:28	374.8	136.0	23-Sep-24	16:29	374.8	136.0	23-Sep-24	16:30	374.8	136.0								
23-Sep-24	16:26	347.0	136.5	23-Sep-24	16:27	371.7	136.5	23-Sep-24	16:28	372.2	136.0	23-Sep-24	16:29	374.8	136.0	23-Sep-24	16:30	374.8	136.0	23-Sep-24	16:31	374.8	136.0								
23-Sep-24	16:27	346.0	136.5	23-Sep-24	16:28	371.7	136.5	23-Sep-24	16:29	372.2	136.0	23-Sep-24	16:30	374.8	136.0	23-Sep-24	16:31	374.8	136.0	23-Sep-24	16:32	374.8	136.0								
23-Sep-24	16:28	345.0	136.5	23-Sep-24	16:29	371.7	136.5	23-Sep-24	16:30	372.2	136.0	23-Sep-24	16:31	374.8	136.0	23-Sep-24	16:32	374.8	136.0	23-Sep-24	16:33	374.8	136.0								
23-Sep-24	16:29	344.0	136.5	23-Sep-24	16:30	371.7	136.5	23-Sep-24	16:31	372.2	136.0	23-Sep-24	16:32	374.8	136.0	23-Sep-24	16:33	374.8	136.0	23-Sep-24	16:34	374.8	136.0								
23-Sep-24	16:30	343.0	136.5	23-Sep-24	16:31	371.7	136.5	23-Sep-24	16:32	372.2	136.0	23-Sep-24	16:33	374.8	136.0	23-Sep-24	16:34	374.8	136.0	23-Sep-24	16:35	374.8	136.0								
23-Sep-24	16:31	342.0	136.5	23-Sep-24	16:32	371.7	136.5	23-Sep-24	16:33	372.2	136.0	23-Sep-24	16:34	374.8	136.0	23-Sep-24	16:35	374.8	136.0	23-Sep-24	16:36	374.8	136.0								
23-Sep-24	16:32	341.0	136.5	23-Sep-24	16:33	371.7	136.5	23-Sep-24	16:34	372.2	136.0	23-Sep-24	16:35	374.8	136.0	23-Sep-24	16:36	374.8	136.0	23-Sep-24	16:37	374.8	136.0								
23-Sep-24	16:33	340.0	136.5	23-Sep-24	16:34	371.7	136.5	23-Sep-24	16:35	372.2	136.0	23-Sep-24	16:36	374.8	136.0	23-Sep-24	16:37	374.8	136.0	23-Sep-24	16:38	374.8	136.0								
23-Sep-24	16:34	339.0	136.5	23-Sep-24	16:35	371.7	136.5	23-Sep-24	16:36	372.2	136.0	23-Sep-24	16:37	374.8	136.0	23-Sep-24	16:38	374.8	136.0	23-Sep-24	16:39	374.8	136.0								
23-Sep-24	16:35	338.0	136.5	23-Sep-24	16:36	371.7	136.5	23-Sep-24	16:37	372.2	136.0	23-Sep-24	16:38	374.8	136.0	23-Sep-24	16:39	374.8	136.0	23-Sep-24	16:40	374.8	136.0								
23-Sep-24	16:36	337.0	136.5	23-Sep-24	16:37	371.7	136.5	23-Sep-24	16:38	372.2	136.0	23-Sep-24	16:39	374.8	136.0	23-Sep-24	16:40	374.8	136.0	23-Sep-24	16:41	374.8	136.0								
23-Sep-24	16:37	336.0	136.5	23-Sep-24	16:38	371.7	136.5	23-Sep-24	16:39	372.2	136.0	23-Sep-24	16:40	374.8	136.0	23-Sep-24	16:41	374.8	136.0	23-Sep-24	16:42	374.8	136.0								
23-Sep-24	16:38	335.0	136.5	23-Sep-24	16:39																										



Lot No. 2487725-1

ANALYZER CALIBRATION DATA

Client : Glow SPP 2 Co., Ltd. Location : Ulae CTG No 2
Date : 24 Sep 24 Test Operator : Sathaporn T.O₂ ANALYZER Model : TELEDYNE API 200EH Serial No. : 735
Span (%) : 25

	Cylinder Value (%)	Initial Analyzers Calibration Response (%)	Final Analyzers Calibration Response (%)	Difference (Percent of Span)
Zero Gas	0.00	0.01	0.02	0.04
Low-Level Gas	8.19	8.20	8.21	0.04
Span Gas	16.07	16.09	16.10	0.04

NO₂ ANALYZER Model : TELEDYNE API 200EH Serial No. : 735
Span (ppm) : 100

	Cylinder Value (ppm)	Initial Analyzers Calibration Response (ppm)	Final Analyzers Calibration Response (ppm)	Difference (Percent of Span)
Zero Gas	0.00	0.01	0.02	0.01
Low-Level Gas	54.95	54.95	54.95	0.00
Span Gas	82.51	82.51	82.49	0.02

SO₂ ANALYZER Model : TELEDYNE API 100EH Serial No. : 410
Span (ppm) : 100

	Cylinder Value (ppm)	Initial Analyzers Calibration Response (ppm)	Final Analyzers Calibration Response (ppm)	Difference (Percent of Span)
Zero Gas	0.00	0.01	0.01	0.00
Low-Level Gas	55.55	55.53	55.52	0.01
Span Gas	79.75	79.75	79.75	0.00

Calibrated by

Sathaporn.T

(Mr.Sathaporn Thakaw)

Environmental Field Scientist (3)

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Lot No. 2487725-1

SYSTEM CALIBRATION BIAS AND DRIFT DATA

Client : Glow SPP 2 Co., Ltd. Location : Ulae CTG No 2
Date : 24 Sep 24 Test Operator : Sathaporn T.O₂ ANALYZER Cylinder Conc. (%) : 16.07 Span (%) : 25

	O ₂ Analyzer Calibration Response	Initial Values System Calibration Response System Cal Bias (% of Span)	Final Values System Calibration Response System Cal Bias (% of Span)	Drift (% of Span)
Zero Gas	0.01	0.03 0.08	0.03 0.08	0.00
Upscale Gas	16.09	16.12 0.12	16.12 0.12	0.00

NO₂ ANALYZER Cylinder Conc. (ppm) : 82.51 Span (ppm) : 100

	NO ₂ Analyzer Calibration Response	Initial Values System Calibration Response System Cal Bias (% of Span)	Final Values System Calibration Response System Cal Bias (% of Span)	Drift (% of Span)
Zero Gas	0.01	0.03 0.02	0.03 0.02	0.00
Upscale Gas	82.51	82.45 0.06	82.45 0.06	0.00

SO₂ ANALYZER Cylinder Conc. (ppm) : 79.75 Span (ppm) : 100

	SO ₂ Analyzer Calibration Response	Initial Values System Calibration Response System Cal Bias (% of Span)	Final Values System Calibration Response System Cal Bias (% of Span)	Drift (% of Span)
Zero Gas	0.01	0.02 0.01	0.02 0.01	0.00
Upscale Gas	79.75	79.72 0.03	79.72 0.03	0.00

Calibrated by

Sathaporn.T

(Mr.Sathaporn Thakaw)

Environmental Field Scientist (3)

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EMISSION TEST RESULT

Client : Glow SPP 2 Co., Ltd. Run # : 1
Date : 24 Sep 24 Location : Ulae CTG No 2
Start Time : 12:20 Test Operator : Sathaporn T.
SO₂ Analyzer Model : TELEDYNE API 100EH Finish Time : 12:40
NO₂/O₂ Analyzer Model : TELEDYNE API 200EH Serial No. : 410
CO/CO₂ Analyzer Model : Serial No. : 735

Time (min)	O ₂ (%)	CO ₂ (%)	NO _x (ppm)	SO ₂ (ppm)	CO (ppm)	Remark
12:20	14.48	3.77	15.06	0.04	-	
12:21	14.46	3.74	14.99	0.04	-	
12:22	14.46	3.84	15.02	0.02	-	
12:23	14.48	3.78	15.11	0.04	-	
12:24	14.50	3.60	15.11	0.03	-	
12:25	14.50	3.74	15.07	0.03	-	
12:26	14.51	3.75	14.99	0.02	-	
12:27	14.51	3.75	14.97	0.02	-	
12:28	14.50	3.78	14.95	0.02	-	
12:29	14.49	3.77	14.99	0.02	-	
12:30	14.45	3.81	15.04	0.03	-	
12:31	14.41	3.62	15.14	0.03	-	
12:32	14.40	3.65	15.24	0.04	-	
12:33	14.41	3.83	15.29	0.04	-	
12:34	14.41	3.83	15.24	0.04	-	
12:35	14.42	3.79	15.19	0.04	-	
12:36	14.41	3.77	15.25	0.04	-	
12:37	14.41	3.78	15.29	0.04	-	
12:38	14.42	3.81	15.25	0.04	-	
12:39	14.42	3.80	15.25	0.04	-	
12:40	14.41	3.80	15.30	0.04	-	
Average	14.45	3.79	15.15	0.03	-	

Sathaporn.T

(Mr.Sathaporn Thakaw)

Environmental Field Scientist (3)

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EMISSION TEST RESULT

Client : Glow SPP 2 Co., Ltd. Run # : 2
Date : 24 Sep 24 Location : Ulae CTG No 2
Start Time : 12:41 Test Operator : Sathaporn T.
SO₂ Analyzer Model : TELEDYNE API 100EH Finish Time : 13:01
NO₂/O₂ Analyzer Model : TELEDYNE API 200EH Serial No. : 410
CO/CO₂ Analyzer Model : Serial No. : 735

Time (min)	O ₂ (%)	CO ₂ (%)	NO _x (ppm)	SO ₂ (ppm)	CO (ppm)	Remark
12:41	14.41	3.80	15.34	0.04	-	
12:42	14.43	3.81	15.34	0.03	-	
12:43	14.43	3.82	15.29	0.03	-	
12:44	14.43	3.78	15.26	0.04	-	
12:45	14.43	3.84	15.24	0.03	-	
12:46	14.43	3.81	15.32	0.03	-	
12:47	14.44	3.75	15.36	0.03	-	
12:48	14.45	3.78	15.33	0.02	-	
12:49	14.46	3.81	15.26	0.02	-	
12:50	14.47	3.77	15.18	0.03	-	
12:51	14.47	3.76	15.21	0.02	-	
12:52	14.47	3.76	15.25	0.03	-	
12:53	14.49	3.77	15.28	0.04	-	
12:54	14.49	3.79	15.26	0.04	-	
12:55	14.49	3.77	15.31	0.04	-	
12:56	14.48	3.77	15.30	0.02	-	
12:57	14.48	3.76	15.23	0.04	-	
12:58	14.49	3.79	15.20	0.03	-	
12:59	14.49	3.73	15.24	0.03	-	
13:00	14.48	3.76	15.29	0.02	-	
13:01	14.47	3.77	15.26	0.02	-	
Average	14.46	3.78	15.27	0.03	-	

Sathaporn.T

(Mr.Sathaporn Thakaw)

Environmental Field Scientist (3)

FORM NO. F 06-060 REVISION NO. 1 ISSUE DATE 18/01/24

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ภาคผนวก จ

สำเนาหนังสืออนุญาตขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน



ที่ อก ๐๓๑๐(๑)/ ๑ ๖ ๑ ๖ ๘

กรมโรงงานอุตสาหกรรม
ถนนพระรามที่ ๖ แขวงทุ่งพญาไท
เขตราชเทวี กรุงเทพฯ ๑๐๔๐๐

๒ ๐ พฤศจิกายน ๒๕๖๖

เรื่อง ต่ออายุหนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน

เรียน กรรมการผู้จัดการ บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด

อ้างถึง คำขอขึ้นทะเบียน/ต่ออายุ/เปลี่ยนแปลงบุคลากร และชนิดสารมลพิษของห้องปฏิบัติการวิเคราะห์เอกชน
ลงวันที่ ๔ สิงหาคม ๒๕๖๖

- สิ่งที่ส่งมาด้วย ๑. รายชื่อผู้ควบคุมดูแลห้องปฏิบัติการวิเคราะห์ จำนวน ๑ แผ่น
๒. รายชื่อเจ้าหน้าที่ประจำห้องปฏิบัติการวิเคราะห์ จำนวน ๕ แผ่น
๓. ขอบข่ายสารมลพิษที่ได้รับขึ้นทะเบียนจากกรมโรงงานอุตสาหกรรม จำนวน ๓๑ แผ่น

ตามหนังสือที่อ้างถึง บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด ขอต่ออายุหนังสือ
รับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน เลขทะเบียน ว-๒๐๔ สถานที่ตั้งเลขที่ ๑๐๔ ซอยพัฒนาการ ๔๐
ถนนพัฒนาการ แขวงพัฒนาการ เขตสวนหลวง กรุงเทพมหานคร ต่อกรมโรงงานอุตสาหกรรม นั้น

กรมโรงงานอุตสาหกรรมพิจารณาแล้ว ให้บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด
ต่ออายุหนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน โดยมีองค์ประกอบดังนี้

- ก. ผู้ควบคุมดูแลห้องปฏิบัติการวิเคราะห์ จำนวน ๖ ราย ตามสิ่งที่ส่งมาด้วย ๑
ข. เจ้าหน้าที่ประจำห้องปฏิบัติการวิเคราะห์ ๑๘๑ ราย ตามสิ่งที่ส่งมาด้วย ๒
ค. ขอบข่ายสารมลพิษที่ได้รับขึ้นทะเบียนให้วิเคราะห์ในน้ำเสีย น้ำใต้ดิน อากาศเสีย สิ่งปฏิกูล
หรือวัสดุที่ไม่ใช้แล้ว และดิน ตามสิ่งที่ส่งมาด้วย ๓

หนังสือฉบับนี้จะหมดอายุในวันที่ ๒ กันยายน ๒๕๖๙ หากประสงค์จะต่ออายุหนังสือ
รับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน ให้ยื่นคำขอต่ออายุพร้อมเอกสารประกอบคำขอต่อ
กรมโรงงานอุตสาหกรรม ภายใน ๓๐ วัน ก่อนวันสิ้นอายุของหนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน
ทั้งนี้ สามารถยื่นคำขอผ่านระบบอิเล็กทรอนิกส์ได้ที่หน้าเว็บไซต์กรมโรงงานอุตสาหกรรม

จึงเรียนมาเพื่อทราบ

ขอแสดงความนับถือ

(นายสิระ จันทร์เจ็ด)

นักวิทยาศาสตร์เชี่ยวชาญ วิชาการราชการแทน
ผู้อำนวยการกองวิจัยและเตือนภัยมลพิษโรงงาน
ปฏิบัติราชการแทนอธิบดีกรมโรงงานอุตสาหกรรม

กองวิจัยและเตือนภัยมลพิษโรงงาน

กลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษและทะเบียนห้องปฏิบัติการ

โทร. ๐ ๒๔๓๐ ๖๓๑๒ ต่อ ๒๑๐๓-๕

โทรสาร ๐ ๒๔๓๐ ๖๓๑๒ ต่อ ๒๑๙๙

ไปรษณีย์อิเล็กทรอนิกส์ saraban@diw.mail.go.th



“อุตสาหกรรมก้าวไกล ประเทศไทยก้าวหน้า ร่วมกันพัฒนา อุตสาหกรรมสีเขียว”



เอกสารแนบท้ายหนังสือรับต่ออายุขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน
บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด เลขทะเบียน ว-๒๐๔
ที่ อก ๐๓๑๐(๑)/ ๑ ๖ ๑ ๖ ๘ ลงวันที่ ๒ ๐ พฤศจิกายน ๒๕๖๖

ก. ผู้ควบคุมดูแลห้องปฏิบัติการวิเคราะห์ จำนวน ๖ ราย

- | | |
|-------------------------------|----------------------------|
| ๑) นางสาวยุพาพร จันทร์เปล่ง | ทะเบียนเลขที่ ว-๒๐๔-ค-๐๐๐๑ |
| ๒) นางสาวจรรย์ โภมารกุล ณ นคร | ทะเบียนเลขที่ ว-๒๐๔-ค-๐๐๐๒ |
| ๓) นายศรายุทธ จิตรานนท์ | ทะเบียนเลขที่ ว-๒๐๔-ค-๐๐๐๓ |
| ๔) นางสาวกนกกร เอนก | ทะเบียนเลขที่ ว-๒๐๔-ค-๐๐๐๔ |
| ๕) นายสุริยา สอนแก้ว | ทะเบียนเลขที่ ว-๒๐๔-ค-๐๐๐๕ |
| ๖) นายวิชาญ ขุนหิรต์ | ทะเบียนเลขที่ ว-๒๐๔-ค-๐๐๐๖ |

วิมล

เอกสารแนบท้ายหนังสือรับต่ออายุขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน

บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด เลขทะเบียน ว-๒๐๔

ที่ ออก ๐๓๑๐(๑)/ ๑๖๑๖๘ ลงวันที่ ๒๐ พฤศจิกายน ๒๕๖๖

ข. เจ้าหน้าที่ประจำห้องปฏิบัติการวิเคราะห์ จำนวน ๑๘๑ ราย

๑) นายจากงบัณฑิต กิตติศุภวานิชย์	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๐๑
๒) นายภัทรพล สว่างใจธรรม์	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๐๒
๓) นายนราธิป เทือกชัยคำ	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๐๓
๔) นายศิริโชค พงษ์ประสม	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๐๔
๕) นายณัฐวุฒิ ดั่งแพง	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๐๕
๖) นางสาวจินดา ไชจุลธรรม	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๐๖
๗) นางสาวสาวิตรี น้อยเสงี่ยม	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๐๗
๘) นางสาวชนัญญากุญจน์ อัมขม	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๐๘
๙) นางสาวนรินทร์ สายเสียง	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๐๙
๑๐) นางสาวนันทวดี สมบูรณ์	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๑๐
๑๑) นางสาวศรณิยา เฉลิมธำรงค์	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๑๑
๑๒) นางสาวธัญญธร มงคลจิรวุฒิ	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๑๒
๑๓) นางสาวศิริลักษณ์ บุณนาค	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๑๓
๑๔) นายณพพงศ์ จันทพันธ์	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๑๔
๑๕) นายนเรศสรุทธิ์ โกมลาลัย	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๑๕
๑๖) นายธินา จริยา	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๑๖
๑๗) นางสาวเกศรินทร์ แก้วมัน	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๑๗
๑๘) นางสาวสุวิมล ชัยเรืองวุฒิ	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๑๘
๑๙) นางสาวสุชาดา ธรรมถาวร	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๑๙
๒๐) นางสาวเปมิภา ชัยเดชธนกุล	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๒๐
๒๑) นางสาวศศิธร หนูสวัสดิ์	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๒๑
๒๒) นางสาวเสาวลักษณ์ ภูณาทำพร	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๒๒
๒๓) นายอภิสิทธิ์ สิงหา	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๒๓
๒๔) นายศักดิ์สิทธิ์ ไพศาลพิสุทธิ	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๒๔
๒๕) ว่าที่ร้อยตรีหญิง พรณิภา ขำเจริญ	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๒๕
๒๖) นางจิตดา คำแก้ว	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๒๖
๒๗) นางสาวอรรพรม รักษ์ง	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๒๗
๒๘) นางสาวนพรัตน์ แยมกรานต์	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๒๘
๒๙) นายจุลเดช วารินทร์	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๒๙
๓๐) นายสาดายุรัตน์ ร้องคำ	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๓๐
๓๑) นายพรมมี ศรีบัณฑิต	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๓๑
๓๒) นายอุทิศ อุ่นสิม	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๓๒
๓๓) ว่าที่ร้อยตรี เฉลิมเกียรติ อมรศรีเสริม	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๓๓
๓๔) นางสาวรียา สร้างนา	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๓๔
๓๕) นายอนุพงศ์ รัตนศรีประเสริฐ	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๓๕

วิมล

๓๖) นางสาวจุฑารัตน์...

๓๖) นางสาวจุฑารัตน์ โอนสันเทียะ	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๓๖
๓๗) นางสาวจางวรารณ พิมพ์ภักดี	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๓๗
๓๘) นางสาวปราณีทิพย์ กิจไพศาลศักดิ์	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๓๘
๓๙) นางสาวเตือนใจ ทางกลาง	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๓๙
๔๐) นางสาวจิราพร ศิริเวช	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๔๐
๔๑) นายวรกร ผูกกรัก	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๔๑
๔๒) นายทง วิริยะสกิจ	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๔๒
๔๓) นายธนิศ เจนจบ	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๔๓
๔๔) นายคณิศร ขำเพชร	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๔๔
๔๕) นายภูวิช พรหมสะอาด	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๔๕
๔๖) นายธนเดช โภคาพิพัฒน์	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๔๖
๔๗) นายชวฤทธิ์ วงษ์จันทร์	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๔๗
๔๘) นายอาทิตย์ ศรีแสน	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๔๘
๔๙) นายเจตนาทร คงศักดิ์ไทย	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๔๙
๕๐) นายจรัส บุญยิ่ง	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๕๐
๕๑) นายธนาณัติ เอนก	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๕๑
๕๒) นายอภิวัฒน์ ทุมพู	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๕๒
๕๓) นางสาวสุภาวัญ มาก	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๕๓
๕๔) นางสาวพัทธพร ขวาลสมบูรณ์	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๕๔
๕๕) นางสาวธิดา บุญเพ็ง	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๕๕
๕๖) นางสาวภาณุมาศ นามวัฒน์	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๕๖
๕๗) นางสาวอุไรรัตน์ ติ่งสร้างแป้น	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๕๗
๕๘) นายธีรวัฒน์ ปวงสุข	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๕๘
๕๙) นายอิทธิพล ยะโส	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๕๙
๖๐) นายประพนธ์ วรรณสุขชัย	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๖๐
๖๑) นายขยธร พงษ์ทิพย์	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๖๑
๖๒) นางสาวกนกวรรณ จันทบาล	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๖๒
๖๓) นายสิทธิโชค ธงเงิน	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๖๓
๖๔) นางศิวารมณ ใจบุญ	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๖๔
๖๕) นางสาวพรหมธิดา พุ่มคง	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๖๕
๖๖) นายณวัฒน์ ศรีวิริยะ	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๖๖
๖๗) นายสุวิภา ทองอ่อน	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๖๗
๖๘) นายวิญญู บุญตะนัย	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๖๘
๖๙) นายสมบูรณ์ บุตรจันทร์	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๖๙
๗๐) นายวิรัตน์ ไชยชนะรา	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๗๐
๗๑) นายณฤเบศน์ เพิ่มพูน	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๗๑
๗๒) นายจิรณัฐ ขวาละขอ	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๗๒
๗๓) นายอัสรี นามบุรี	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๗๓
๗๔) นายอัครเดช จอสา	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๗๔

๗๕) นายประเสริฐ...	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๗๕
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วิมล

๗๕) นายประเสริฐ...

๗๕) นายประเสริฐ สุระขันธ
๗๖) นายบุญกุล จันทน์นิยม
๗๗) นายพิรพงษ์ ทองคุณปรีดา
๗๘) นายณกุลพล ทองนุช
๗๙) นายอนุวัฒน์ ม่วงแพ
๘๐) นายเจตตราวุฒิ ปัตตะมะ
๘๑) นายกฤษณะ สายวรรณ
๘๒) นายพิชัย บุญยงค์
๘๓) นายภาณุพงศ์ โหมวงศ์
๘๔) นายสามารถ คัมปลี
๘๕) นายสัณชัย โกศรีนาม
๘๖) นายณัฐวุฒิ ศรีประเสริฐ
๘๗) นายชวัลลภ นาคพนม
๘๘) นายพงศธร ชัยทิพย์
๘๙) นายสิทธิโชค ทาสีตา
๙๐) นายธนากร อินสุตา
๙๑) นางสาววรรณิษา ขาติวันชัย
๙๒) นางสาวพิมพ์ตะวัน มินากุล
๙๓) นางสาวเพชรรัตน์ สิงห์สมบุญ
๙๔) นางสาวญานิน พรหมจันทร์
๙๕) นายกิตติ ทวีราช
๙๖) นายจักริน หมั่นวิชา
๙๗) นายฉัตรชัย สุขเปี้ย
๙๘) นายณรรณนธ์ ต๊ะทองคำ
๙๙) นายศุภยพล สันนอก
๑๐๐) นายทักษ์ดนัย อุบลศรี
๑๐๑) นายธนศร นามะกุลณา
๑๐๒) นายธิตินพงศ์ บัวแดง
๑๐๓) นายณนทชัย อุบลมณี
๑๐๔) นายณัฐพล คุณสุทธิ
๑๐๕) นายณัฏฐวัฒน์ สาริน
๑๐๖) นายปิยะนัฐ พลมะศรี
๑๐๗) นายพงศ์สิริ โสมเขียว
๑๐๘) นายพีรพัฒน์ กำคำ
๑๐๙) นายภาณุพงศ์ มานิตย์
๑๑๐) นายมงคล ผลาทิพย์
๑๑๑) นายสิรินนท ทองอัน
๑๑๒) นายอนนชา หันสมัย
๑๑๓) นายอดิศักดิ์ ผมไผ

ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๗๕
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ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๑๓

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๑๑๔) นายอนันต์ชัย...

๑๑๔) นายอนันต์ชัย วิสม
๑๑๕) นายวรวิธ คีนิก
๑๑๖) นายแสงตะวัน นทะสัด
๑๑๗) นายยุทธิพงษ์ รัตนะ
๑๑๘) นายชัยวุฒิ ไชยชนะนิจ
๑๑๙) นายวิศรุต ศรีธรรมมา
๑๒๐) นายณนทกร เผือกฟ่อง
๑๒๑) นายกำชัย สุทธะ
๑๒๒) นางสาวณัฐภรณ์ บุญตะนัย
๑๒๓) นางสาวพัชรินทร์ แสนสร้อย
๑๒๔) นายไพรัชย์ เปี่ยมพิมาย
๑๒๕) นางสาวศุภมาศ ทองมาก
๑๒๖) นางสาวลลิตา จิตรสว่าง
๑๒๗) นางสาวไมพร เลิกภูเขียว
๑๒๘) นางสาวกฤติมาพร คำมีแก่น
๑๒๙) นางสาวสกุลรัตน์ ภาคภูมิ
๑๓๐) นางสาวไพรินทร์ ศรีรูปี
๑๓๑) นางสาวทิพนตร ผุยปัญญา
๑๓๒) นางสาวสาธิตา ปานทอง
๑๓๓) นางสาวอริสา ทองนวล
๑๓๔) นางสาวอรยา คำคลอง
๑๓๕) นางสาวบุศภาภรณ์ สุนทรสนาน
๑๓๖) นางสาวอัญชลี คำจันทร์
๑๓๗) นายบุญฤทธิ์ เอี่ยมเทศ
๑๓๘) นางสาวศุภรดา ปันมยุรา
๑๓๙) นางสาวพาดุติ คุณนาน
๑๔๐) นางสาวจิราเจต ฟองดา
๑๔๑) นางสาวอารยา มีชัย
๑๔๒) นางสาววิษุตา นาคผจญ
๑๔๓) นางสาวนันทิยา จันทะสุน
๑๔๔) นายกิตติพงศ์ แซ่ลี
๑๔๕) นายอนุวัติ ภูทิวลี
๑๔๖) นายธีรพล แสงทอง
๑๔๗) นายศักดิ์ทิพย์พัฒน์ บุญมัน
๑๔๘) นายฐิติวัตร เอมอุไร
๑๔๙) นายชัยณรงค์ ศรีบุรินทร์
๑๕๐) นางสาวอัจฉราวรรณ สวนสนอง
๑๕๑) นางสาวณัฐราพร สิงหา
๑๕๒) นายภิรมศ เทียมโต

ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๑๔
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๑๕๓) นางสาวอุบล...

๑๕๓) นางสาวอุบล เดิกศิริ
๑๕๔) นางสาวมโนรัตน์ ทองบุตร
๑๕๕) นายภาณุภูมิ แทนไทย
๑๕๖) นางสาวสุภาภรณ์ เมล์พวง
๑๕๗) นางสาวพรทิศา สาดาชนม์
๑๕๘) นายเอกวิทย์ วันทะนา
๑๕๙) นายไตรมณฑล ทิพย์วรรณ
๑๖๐) นายจิรเมธ ประเสริฐศิริพงศ์
๑๖๑) นายจิรายุส เกษมสุข
๑๖๒) นายจิรศักดิ์ ศรีวิชัย
๑๖๓) นายณัฐกฤษณ์ สะพานแก้ว
๑๖๔) นายบูรณศักดิ์ ปะที
๑๖๕) นายบัณฑิตวิญญ์ เสมอทรัพย์
๑๖๖) นายพิษณุพงษ์ ไชยา
๑๖๗) นายภัทรพงษ์ มณฑาทอง
๑๖๘) นายวสันต์ ตรีนกุล
๑๖๙) นายภาณุเดช เพชรอุด
๑๗๐) นายอนุกุล วิลแสง
๑๗๑) นายภัทรพงษ์ มีสุข
๑๗๒) นางสาวนุชรี สิละทีป
๑๗๓) นางสาวสุภาวดี โกศรีนาม
๑๗๔) นางสาวอรณิชา เทียนคำ
๑๗๕) นางสาวพรทิพย์ ขอบสอน
๑๗๖) นางสาววันวิสา ขอนพิกุล
๑๗๗) นางสาวอรรณณ เถาว์ทอง
๑๗๘) นางสาวอัยย์ลิลณ์ เมอร์วิณณ์
๑๗๙) นางสาววิสา คุ้มครอง
๑๘๐) นายวุฒิกร ศิริวรรณ
๑๘๑) นางสาวจรรณกร กระจำพันธุ์

ทะเบียนเลขที่ ๖-๒๐๔-จ-๐๑๕๓
ทะเบียนเลขที่ ๖-๒๐๔-จ-๐๑๕๔
ทะเบียนเลขที่ ๖-๒๐๔-จ-๐๑๕๕
ทะเบียนเลขที่ ๖-๒๐๔-จ-๐๑๕๖
ทะเบียนเลขที่ ๖-๒๐๔-จ-๐๑๕๗
ทะเบียนเลขที่ ๖-๒๐๔-จ-๐๑๕๘
ทะเบียนเลขที่ ๖-๒๐๔-จ-๐๑๕๙
ทะเบียนเลขที่ ๖-๒๐๔-จ-๐๑๖๐
ทะเบียนเลขที่ ๖-๒๐๔-จ-๐๑๖๑
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ทะเบียนเลขที่ ๖-๒๐๔-จ-๐๑๗๙
ทะเบียนเลขที่ ๖-๒๐๔-จ-๐๑๘๐
ทะเบียนเลขที่ ๖-๒๐๔-จ-๐๑๘๑

วิภา

เอกสารแนบท้ายหนังสือรับต่ออายุขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน

บริษัท เอนแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด เลขทะเบียน ๖-๒๐๔

ที่ ออก ๐๓๑๐(๑)/ ๑๖ ๑ ๖ ๘ ลงวันที่ ๒๐ พฤศจิกายน ๒๕๖๖

ค. ขอบข่ายสารมลพิษที่ได้รับขึ้นทะเบียนจากกรมโรงงานอุตสาหกรรม จำนวน ๓๗๔ รายการ

น้ำเสีย จำนวน 60 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Aldicarb	High-Performance Liquid Chromatographic Method ^[4]
2	Aldicarb Sulfone	High-Performance Liquid Chromatographic Method ^[4]
3	Aldicarb Sulfoxide	High-Performance Liquid Chromatographic Method ^[4]
4	Aldrin	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
5	Arsenic	1) Digestion, Inductively Coupled Plasma Method ^[4] 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[4]
6	Barium	1) Digestion, Inductively Coupled Plasma Method ^[4] 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[4]
7	α-BHC	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
8	β-BHC	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
9	δ-BHC	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
10	γ-BHC	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
11	Biochemical Oxygen Demand	1) 5-Day BOD Test, Azide Modification Method ^[4] 2) 5-Day BOD Test, Membrane Electrode Method ^[4]
12	Carbaryl	High-Performance Liquid Chromatographic Method ^[4]
13	Carbofuran	High-Performance Liquid Chromatographic Method ^[4]
14	Cadmium	1) Digestion, Inductively Coupled Plasma Method ^[4] 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[4]
15	Chemical Oxygen Demand	1) Closed Reflux, Colorimetric Method ^[4] 2) Closed Reflux, Titrimetric Method ^[4]
16	Chlordane	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
17	Chromium	1) Digestion, Inductively Coupled Plasma Method ^[4] 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[4]
18	Color	ADMI Weighted-Ordinate Spectrophotometric Method ^[4]

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
19	Copper	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
20	Cyanide	Distillation, Colorimetric Method ⁽⁴⁾
21	2,4'-DDD	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
22	4,4'-DDD	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
23	2,4'-DDE	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
24	4,4'-DDE	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
25	2,4'-DDT	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
26	4,4'-DDT	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
27	Dieldrin	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
28	Endosulfan Sulfate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
29	Endosulfan I	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
30	Endosulfan II	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
31	Endrin	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
32	Endrin Aldehyde	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
33	Formaldehyde	Distillation, Colorimetric Method ⁽³⁾
34	Free Chlorine	1) DPD Ferrous Titrimetric Method ⁽⁴⁾ 2) DPD Colorimetric Method ⁽⁴⁾
35	Heptachlor	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
36	Heptachlor Epoxide	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
37	Hexavalent Chromium	Colorimetric Method ⁽⁴⁾
38	3-Hydroxycarbofuran	High-Performance Liquid Chromatographic Method ⁽⁴⁾
39	Lead	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾

40 Manganese...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
40	Manganese	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
41	Mercury	1) Digestion, Cold-Vapor Atomic Absorption Spectrometric Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass spectrometric Method ⁽⁴⁾
42	Methiocarb	High-Performance Liquid Chromatographic Method ⁽⁴⁾
43	Methoxychlor	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
44	Methomyl	High-Performance Liquid Chromatographic Method ⁽⁴⁾
45	Nickel	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
46	Oil & Grease	1) Liquid-Liquid, Partition-Gravimetric Method ⁽⁴⁾ 2) Soxhlet Extraction Method ⁽⁴⁾
47	Oxamyl	High-Performance Liquid Chromatographic Method ⁽⁴⁾
48	Propoxur	High-Performance Liquid Chromatographic Method ⁽⁴⁾
49	pH	Electrometric Method ⁽⁴⁾
50	Phenols	1) Distillation, Chloroform Extraction Method ⁽⁴⁾ 2) Distillation, Direct Photometric Method ⁽⁴⁾
51	Selenium	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
52	Sulfide	Iodometric Method ⁽⁴⁾
53	Temperature	Laboratory and Field Methods ⁽⁴⁾
54	Total Dissolved Solids	Dried at 180 °C ⁽⁴⁾
55	Total Kjeldahl Nitrogen	Semi-Micro Kjeldahl Method ⁽⁴⁾
56	Total Phosphorous	Digestion, Colorimetric Method ⁽⁴⁾
57	Total Suspended Solids	Dried from 103-105 °C ⁽⁴⁾
58	Toxaphene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
59	Trivalent Chromium	1) Digestion, Inductively Coupled Plasma Method; Colorimetric Method; Calculation ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method; Colorimetric Method; Calculation ⁽⁴⁾
60	Zinc	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ⁽⁴⁾

น้ำใต้ดิน...

น้ำใต้ดิน จำนวน 126 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Acenaphthene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
2	Acetone	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
3	Aldrin	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
4	Anthracene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
5	Antimony	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
6	Arsenic	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
7	Atrazine	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
8	Barium	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
9	Benz(a)anthracene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
10	Benzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
11	Benzo(b)fluoranthene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
12	Benzo(k)fluoranthene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
13	Benzoic Acid	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
14	Benzo(a)pyrene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
15	Benzo(g,h,i)perylene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
16	Beryllium	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
17	Bis(2-chloroethyl)ether	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾

18 Bis(2-ethylhexyl)phthalate...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
18	Bis(2-ethylhexyl)phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
19	Bromodichloromethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
20	Bromoform	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
21	Butanol	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
22	Butyl benzyl phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
23	Cadmium	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
24	Carbazole	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
25	Carbon disulfide	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
26	Carbon tetrachloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
27	Chlordane	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
28	p-Chloroaniline	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
29	Chlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
30	Chlorodibromomethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
31	Chloroform	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
32	2-Chlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
33	Chromium	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
34	Chromium (III)	1) Digestion, Inductively Coupled Plasma Method; Colorimetric Method; Calculation ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method; Colorimetric Method; Calculation ⁽⁴⁾
35	Chromium (VI)	Colorimetric Method ⁽⁴⁾

36 Chrysene...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
36	Chrysene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
37	Cyanide	Distillation, Colorimetric Method ⁽⁴⁾
38	2,4-D	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
39	DDD	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
40	DDE	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
41	DDT	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
42	Dibenz(a,h)anthracene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
43	Di-n-Butyl Phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
44	1,2-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
45	1,3-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
46	1,4-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
47	3,3-Dichlorobenzidine	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
48	1,1-Dichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
49	1,2-Dichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
50	1,1-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
51	cis-1,2-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
52	trans-1,2-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
53	2,4-Dichlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
54	1,2-Dichloropropane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
55	1,3-Dichloropropane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾

56 1,3-Dichloropropene...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
56	1,3-Dichloropropene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
57	Dieldrin	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
58	Diethyl Phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
59	2,4-Dimethylphenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
60	2,4-Dinitrophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
61	2,4-Dinitrotoluene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
62	2,6-Dinitrotoluene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
63	Di-n-octyl phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
64	Endosulfan	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
65	Endrin	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
66	Ethylbenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
67	Fluoranthene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
68	Fluorene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
69	Heptachlor	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
70	Heptachlor epoxide	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
71	Hexachlorobenzene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
72	Hexachloro-1,3-butadiene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
73	n-Hexane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
74	α-HCH	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
75	β-HCH	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾

76 γ-HCH...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
76	γ-HCH	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
77	Hexachlorocyclopentadiene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
78	Hexachloroethane	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
79	Indeno(1,2,3-cd)pyrene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
80	Isophorone	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
81	Lead	1) Digestion, Inductively Coupled Plasma Method ^[4] 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[4]
82	Manganese	1) Digestion, Inductively Coupled Plasma Method ^[4] 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[4]
83	Mercury	1) Digestion, Cold Vapor Atomic Absorption Spectrometric Method ^[4] 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[4]
84	Methanol	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[4]
85	Methoxychlor	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
86	Methyl bromide	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[4]
87	Methylene chloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[4]
88	2-Methylphenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
89	2-Methylnapthalene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
90	Methyl tert-butyl Ether	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[4]
91	Naphthalene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
92	Nickel	1) Digestion, Inductively Coupled Plasma Method ^[4] 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[4]
93	Nitrobenzene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]

94 N-Nitrosodiphenylamine...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
94	N-Nitrosodiphenylamine	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
95	N-Nitrosodi-n-Propylamine	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
96	Polychlorinated Biphenyls - PCB 1016 - PCB 1221 - PCB 1232 - PCB 1242 - PCB 1248 - PCB 1254 - PCB 1260	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
97	Pentachlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
98	pH	Electrometric Method ^[4]
99	Phenanthrene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
100	Phenol	1) Distillation, Chloroform Extraction Method ^[4] 2) Distillation, Direct Photometric Method ^[4] 3) Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
101	Pyrene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
102	Selenium	1) Digestion, Inductively Coupled Plasma Method ^[4] 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[4]
103	Silver	1) Digestion, Inductively Coupled Plasma Method ^[4] 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[4]
104	Styrene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[4]
105	1,1,2,2-Tetrachloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[4]
106	Tetrachloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[4]
107	Toluene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[4]
108	Toxaphene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
109	TPH (C ₅ -C ₉)	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,25]

110 TPH (C₈-C₁₆)...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
110	TPH (C ₈ -C ₁₆)	Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic Method ^[9,22]
111	TPH (C ₁₆ -C ₃₅)	Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic Method ^[9,22]
112	1,2,4-Trichlorobenzene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[4]
113	1,1,1-Trichloroethane	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[4]
114	1,1,2-Trichloroethane	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[4]
115	Trichloroethylene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[4]
116	2,4,5-Trichlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
117	2,4,6-Trichlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[4]
118	1,3,5-Trimethylbenzene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[4]
119	Vanadium	1) Digestion, Inductively Coupled Plasma Method ^[4] 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[4]
120	Vinyl acetate	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[4]
121	Vinyl chloride	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[4]
122	m-Xylene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[4]
123	o-Xylene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[4]
124	p-Xylene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[4]
125	Xylene (Total)	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[4]
126	Zinc	1) Digestion, Inductively Coupled Plasma Method ^[4] 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[4]

อากาศเสีย...

อากาศเสีย (ปล่องระบาย) จำนวน 28 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Antimony	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ^[5]
2	Arsenic	2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[5] 1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ^[5]
3	Beryllium	2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[5] 1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ^[5]
4	Cadmium	2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[5] 1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ^[5]
5	Carbon Monoxide	1) Instrumental Analyzer Method ^[5]
6	Chlorine	2) Sampling Bag Non-Dispersive Infrared Method ^[5] 1) Absorption Sampling, Ion Chromatographic Method ^[5]
7	Chromium	2) Isokinetic Sampling, Ion Chromatographic Method ^[5] 1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ^[5]
8	Cobalt	2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[5] 1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ^[5]
9	Copper	2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[5] 1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ^[5]
10	Cresol	Adsorption Sampling, Gas Chromatographic Method ^[5]
11	Dioxins	Isokinetic Sampling ^[5]
12	Hydrogen Chloride	1) Absorption Sampling, Ion Chromatographic Method ^[5]
13	Hydrogen Fluoride	2) Isokinetic Sampling, Ion Chromatographic Method ^[5] 1) Absorption Sampling, Ion Chromatographic Method ^[5]
14	Hydrogen Sulfide	2) Isokinetic Sampling, Ion Chromatographic Method ^[5] Absorption Sampling, Iodometric Method ^[5]

15 Lead...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
15	Lead	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ^[5]
16	Manganese	2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[5] 1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ^[5]
17	Mercury	2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[5] 1) Isokinetic Sampling, Digestion, Cold-Vapor Atomic Absorption Spectrometric Method ^[5]
18	Nickel	2) Isokinetic Sampling, Digestion, Cold-Vapor Atomic Fluorescence Spectrometric Method ^[5] 1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ^[5]
19	Opacity	2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[5]
20	Oxides of Nitrogen	Ringelmann's Method ^[2] 1) Absorption Sampling, Phenoldisulfonic Acid Method ^[5]
21	Selenium	2) Absorption Sampling, Alkaline Permanganate/Colorimetric Method ^[5] 3) Instrumental Analyzer Method ^[5]
22	Sulfur Dioxide	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ^[5] 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[5]
23	Sulfuric Acid	1) Absorption Sampling, Barium-Thorin Titrimetric Method ^[5] 2) Instrumental Analyzer Method ^[5]
24	Tellurium	Isokinetic Sampling, Barium-Thorin Titrimetric Method ^[5] 1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ^[5]
25	Tin	2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[5] 1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ^[5]
26	Total Suspended Particulate	2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[5] 1) Isokinetic Sampling, Gravimetric Method ^[5] 2) Paired Train, Isokinetic Sampling, Gravimetric Method ^[5]

27 Vanadium...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
27	Vanadium	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method ^[5] 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[5]
28	Xylene	Adsorption Sampling, Gas Chromatographic Method ^[5]

สิ่งปฏิกูลหรือวัสดุที่ไม่ใช้แล้ว จำนวน 35 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Aldrin	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[1,9,26] 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[10,26] 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[11,26]
2	Antimony	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^[1,6,16] 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[1,6,17] 3) Digestion, Inductively Coupled Plasma Method ^[7,16] 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[7,17]
3	Arsenic	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^[1,6,16] 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[1,6,17] 3) Digestion, Inductively Coupled Plasma Method ^[7,16] 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[7,17]
4	Barium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^[1,6,16] 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[1,6,17] 3) Digestion, Inductively Coupled Plasma Method ^[7,16] 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[7,17]

5 Beryllium...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
5	Beryllium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^[1,6,16] 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[1,6,17] 3) Digestion, Inductively Coupled Plasma Method ^[7,16] 4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[7,17]
6	Cadmium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^[1,6,16] 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[1,6,17] 3) Digestion, Inductively Coupled Plasma Method ^[7,16] 4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[7,17]
7	Chlordane	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[1,9,26] 2) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[10,26] 3) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[11,26]
8	Chromium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^[1,6,16] 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[1,6,17] 3) Digestion, Inductively Coupled Plasma Method ^[7,16] 4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[7,17]
9	Chromium (III)	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method; Waste Extraction, Colorimetric Method; Calculation Method ^[1,6,16,19] 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method; Waste Extraction, Colorimetric Method; Calculation Method ^[1,6,17,19] 3) Digestion, Inductively Coupled Plasma Method; Alkaline Digestion, Colorimetric Method; Calculation Method ^[7,8,16,19] 4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method; Alkaline Digestion, Colorimetric Method; Calculation Method ^[7,8,17,19]

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
10	Chromium (VI)	1) Waste Extraction, Colorimetric Method ^[1,6,19] 2) Alkaline Digestion, Colorimetric Method ^[8,19]
11	Cobalt	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^[1,6,16] 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[1,6,17] 3) Digestion, Inductively Coupled Plasma Method ^[7,16] 4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[7,17]
12	Copper	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^[1,6,16] 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[1,6,17] 3) Digestion, Inductively Coupled Plasma Method ^[7,16] 4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[7,17]
13	2,4-D	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[1,9,26] 2) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[10,26] 3) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[11,26]
14	DDD	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[1,9,26] 2) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[10,26] 3) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[11,26]
15	DDE	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[1,9,26] 2) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[10,26] 3) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[11,26]
16	DDT	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[1,9,26]

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
17	Dieldrin	2) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 3) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26) 1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1,9,26) 2) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 3) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
18	Endrin	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1,9,26) 2) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 3) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
19	Heptachlor	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1,9,26) 2) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 3) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
20	Lead	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1,6,16) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1,6,17) 3) Digestion, Inductively Coupled Plasma Method ^(7,16) 4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^(7,17)
21	Lindane	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1,9,26) 2) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 3) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
22	Mercury	1) Waste Extraction, Digestion, Cold-Vapor Atomic Absorption Spectrometric Method ^(1,6,20) 2) Waste Extraction, Digestion, Cold-Vapor Atomic Fluorescence Spectrometric Method ^(1,6,30) 3) Digestion, Cold-Vapor Atomic Absorption Spectrometric Method ⁽²⁰⁾ 4) Digestion, Cold-Vapor Atomic Fluorescence Spectrometric Method ⁽³⁰⁾ 5) Thermal Decomposition Amalgamation and Atomic Absorption Spectrometric Method ⁽²¹⁾
23	Methoxychlor	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1,9,26) 2) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 3) Automated Soxhlet Extraction, Gas Chromatographic /Mass Spectrometric Method ^(11,26)
24	Mirex	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1,9,26) 2) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 3) Automated Soxhlet Extraction, Gas Chromatographic /Mass Spectrometric Method ^(11,26)
25	Molybdenum	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1,6,16) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1,6,17) 3) Digestion, Inductively Coupled Plasma Method ^(7,16) 4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^(7,17)
26	Nickel	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1,6,16) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1,6,17) 3) Digestion, Inductively Coupled Plasma Method ^(7,16) 4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^(7,17)
27	Polychlorinated biphenyls (PCBs) - Aroclor 1016 - Aroclor 1221 - Aroclor 1232 - Aroclor 1242 - Aroclor 1248 - Aroclor 1254 - Aroclor 1260	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1,9,26) 2) Soxhlet Extraction, Gas Chromatographic Method ^(10,26) 3) Automated Soxhlet Extraction, Gas Chromatographic Method ^(11,26)

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
28	<ul style="list-style-type: none"> - 2-Chlorobiphenyl - 2,3-Dichlorobiphenyl - 2,2',5-Trichlorobiphenyl - 2,4',5-Trichlorobiphenyl - 2,2',3,5'-Tetrachlorobiphenyl - 2,2',5,5'-Tetrachlorobiphenyl - 2,3',4,4'-Tetrachlorobiphenyl - 2,2',3,4,5'-Pentachlorobiphenyl - 2,2',4,5,5'-Pentachlorobiphenyl - 2,3,3',4',6-Pentachlorobiphenyl - 2,2',3,4,4',5'-Hexachlorobiphenyl - 2,2',3,4,5,5'-Hexachlorobiphenyl - 2,2',3,5,5',6-Hexachlorobiphenyl - 2,2',4,4',5,5'-Hexachlorobiphenyl - 2,2',3,3',4,4',5-Heptachlorobiphenyl - 2,2',3,4,4',5,5'-Heptachlorobiphenyl - 2,2',3,4,4',5,6-Heptachlorobiphenyl - 2,2',3,4,5,5',6-Heptachlorobiphenyl - 2,2',3,3',4,4',5,6-Nonachlorobiphenyl 	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1,9,26) 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(10,26) 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(11,26) Electrometric Method ^(23,24)
29	pH	
30	Selenium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1,6,16) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1,6,17) 3) Digestion, Inductively Coupled Plasma Method ^(7,16) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,17)

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
31	Silver	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1,6,16) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1,6,17) 3) Digestion, Inductively Coupled Plasma Method ^(7,16) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,17)
32	Thallium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1,6,16) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1,6,17) 3) Digestion, Inductively Coupled Plasma Method ^(7,16) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,17)
33	Toxaphene	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1,9,26) 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(10,26) 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(11,26)
34	Vanadium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1,6,16) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1,6,17) 3) Digestion, Inductively Coupled Plasma Method ^(7,16) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,17)
35	Zinc	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1,6,16) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1,6,17) 3) Digestion, Inductively Coupled Plasma Method ^(7,16) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,17)

ดิน จำนวน 125 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Acenaphthene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
2	Acetone	1) Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25) 2) Equilibrium Headspace, Gas Chromatographic/ Mass Spectrometric Method ⁽¹³⁾
3	Aldrin	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
4	Anthracene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
5	Antimony	1) Digestion, Inductively Coupled Plasma Method ^(7,16) 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^(7,17)
6	Arsenic	1) Digestion, Inductively Coupled Plasma Method ^(7,16) 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^(7,17)
7	Atrazine	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
8	Barium	1) Digestion, Inductively Coupled Plasma Method ^(7,16) 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^(7,17)
9	Benz(a)anthracene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
10	Benzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)

11 Benzo(b)fluoranthene

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
11	Benzo(b)fluoranthene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
12	Benzo(k)fluoranthene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
13	Benzoic acid	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
14	Benzo(a)pyrene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
15	Benzo(g,h,i)perylene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
16	Beryllium	1) Digestion, Inductively Coupled Plasma Method ^(7,16) 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^(7,17)
17	Bis(2-chloroethyl)ether	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
18	Bis(2-ethylhexyl)phthalate	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
19	Bromodichloromethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
20	Bromoform	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
21	Butanol	Equilibrium Headspace, Gas Chromatographic/ Mass Spectrometric Method ^(13,25)
22	Butyl Benzyl Phthalate	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)

23 Cadmium...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
23	Cadmium	1) Digestion, Inductively Coupled Plasma Method ^(7,16) 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^(7,17)
24	Carbazole	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
25	Carbon Disulfide	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
26	Carbon tetrachloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
27	Chlordane	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
28	p-Chloroaniline	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
29	Chlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
30	Chlorodibromomethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
31	Chloroform	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
32	2-Chlorophenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
33	Chromium	1) Digestion, Inductively Coupled Plasma Method ^(7,16) 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^(7,17)
34	Chromium (III)	1) Digestion, Inductively Coupled Plasma Method; Alkaline Digestion, Colorimetric Method; Calculation Method ^(7,8,16,19) 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method; Alkaline Digestion, Colorimetric Method; Calculation Method ^(7,8,17,19)
35	Chromium (VI)	Alkaline Digestion, Colorimetric Method ^(8,19)

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
36	Chrysene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
37	Cyanide	Extraction, Distillation, Colorimetric Method ^(27,28,29)
38	2,4-D	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
39	DDD	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
40	DDE	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
41	DDT	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
42	Dibenz(a,h)anthracene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
43	Di-n-Butyl Phthalate	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
44	1,2-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
45	1,3-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
46	1,4-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
47	3,3-Dichlorobenzidine	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
48	1,1-Dichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
49	1,2-Dichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
50	1,1-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
51	cis-1,2-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
52	trans-1,2-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
53	2,4-Dichlorophenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
54	1,2-Dichloropropane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
55	1,3-Dichloropropane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
56	1,3-Dichloropropene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
57	Dieldrin	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
58	Diethyl Phthalate	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
59	2,4-Dimethylphenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
60	2,4-Dinitrophenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
61	2,4-Dinitrotoluene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
62	2,6-Dinitrotoluene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
63	Di-n-Octyl Phthalate	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
64	Endosulfan	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
65	Endrin	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
66	Ethylbenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
67	Fluoranthene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
68	Fluorene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
69	Heptachlor	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
70	Heptachlor epoxide	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
71	Hexachlorobenzene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
72	Hexachloro-1,3-butadiene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
73	n-Hexane	1) Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25) 2) Equilibrium Headspace, Gas Chromatographic/ Mass Spectrometric Method ⁽¹³⁾

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
74	α -HCH	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
75	β -HCH	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
76	γ -HCH	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
77	Hexachlorocyclopentadiene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
78	Hexachloroethane	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
79	Indeno(1,2,3-cd)pyrene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
80	Isophorone	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
81	Lead	1) Digestion, Inductively Coupled Plasma Method ^(7,16) 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^(7,17)
82	Manganese	1) Digestion, Inductively Coupled Plasma Method ^(7,16) 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^(7,17)
83	Mercury	1) Digestion, Cold-Vapor Atomic Absorption Spectrometric Method ⁽²⁰⁾ 2) Thermal Decomposition, Amalgamation, and Atomic Absorption Spectrophotometry ⁽²¹⁾ 3) Digestion, Cold-Vapor Atomic Fluorescence Spectrometric Method ⁽³⁰⁾

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
84	Methanol	1) Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25) 2) Equilibrium Headspace, Gas Chromatographic/ Mass Spectrometric Method ^(13,25)
85	Methoxychlor	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
86	Methyl Bromide	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
87	Methylene Chloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
88	2-methylphenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
89	2-Methylnaphthalene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
90	Methyl tert-Butyl Ether	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
91	Naphthalene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
92	Nickel	1) Digestion, Inductively Coupled Plasma Method ^(7,16) 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^(7,17)
93	Nitrobenzene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
94	N-Nitrosodiphenylamine	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
95	N-Nitrosodi-n-propylamine	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
96	Polychlorinated biphenyls (PCBs) - Aroclor 1016 - Aroclor 1221 - Aroclor 1232 - Aroclor 1242 - Aroclor 1248 - Aroclor 1254 - Aroclor 1260 - 2-Chlorobiphenyl - 2,2',3,5'-Tetrachlorobiphenyl - 2,2',5,5'-Tetrachlorobiphenyl - 2,3',4,4'-Tetrachlorobiphenyl - 2,2',3,4,5'-Pentachlorobiphenyl - 2,2',4,5,5'-Pentachlorobiphenyl - 2,3,3',4',6-Pentachlorobiphenyl - 2,2',3,4,4',5'-Hexachlorobiphenyl - 2,2',3,4,5,5'-Hexachlorobiphenyl - 2,2',3,5,5',6-Hexachlorobiphenyl - 2,2',4,4',5,5'-Hexachlorobiphenyl - 2,2',3,3',4,4',5-Heptachlorobiphenyl - 2,2',3,4,4',5,5'-Heptachlorobiphenyl - 2,2',3,4,4',5,6-Heptachlorobiphenyl - 2,2',3,4',5,5',6-Heptachlorobiphenyl - 2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
97	Pentachlorophenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
98	Phenanthrene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)

99 Phenol...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
99	Phenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
100	Pyrene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
101	Selenium	1) Digestion, Inductively Coupled Plasma Method ^(7,16) 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^(7,17)
102	Silver	1) Digestion, Inductively Coupled Plasma Method ^(7,16) 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^(7,17)
103	Styrene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
104	1,1,2,2-Tetrachloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
105	Tetrachloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
106	Toluene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
107	Toxaphene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
108	TPH (C ₅ -C ₈)	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
109	TPH (C ₈ -C ₁₆)	1) Automate Extraction, Gas Chromatographic Method ^(11,22) 2) Solvent Extraction, Gas Chromatographic Method ^(12,22) 3) Ultrasonic Extraction, Gas Chromatographic Method ^(22,31)
110	TPH (C ₁₆ -C ₃₅)	1) Automate Extraction, Gas Chromatographic Method ^(11,22) 2) Solvent Extraction, Gas Chromatographic Method ^(12,22) 3) Ultrasonic Extraction, Gas Chromatographic Method ^(22,31)
111	1,2,4-Trichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
112	1,1,1-Trichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
113	1,1,2-Trichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
114	Trichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)

115 2,4,5-Trichlorophenol...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
115	2,4,5-Trichlorophenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26)
116	2,4,6-Trichlorophenol	2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
117	1,3,5-Trimethylbenzene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(10,26)
118	Vanadium	2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(11,26)
119	Vinyl Acetate	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
120	Vinyl Chloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
121	m-Xylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
122	o-Xylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
123	p-Xylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
124	Xylene (Total)	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(15,25)
125	Zinc	1) Digestion, Inductively Coupled Plasma Method ^(7,16) 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^(7,17)

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วิมล



ที่ อก ๐๓๑๐(๑)/ ๔ ๑ ๒ ๑

กรมโรงงานอุตสาหกรรม
ถนนพระรามที่ ๖ แขวงทุ่งพญาไท
เขตราชเทวี กรุงเทพฯ ๑๐๔๐๐

๒๕ เมษายน ๒๕๖๗

เรื่อง เปลี่ยนแปลงบุคลากรของห้องปฏิบัติการวิเคราะห์

เรียน กรรมการผู้จัดการ บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด

อ้างถึง คำขอขึ้นทะเบียน/ต่ออายุ/เปลี่ยนแปลงบุคลากร และชนิดสารมลพิษของห้องปฏิบัติการวิเคราะห์เอกชน
ลงวันที่ ๒๙ มีนาคม ๒๕๖๗

ตามคำขอที่อ้างถึง บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด ห้องปฏิบัติการวิเคราะห์เอกชน เลขทะเบียน ว-๒๐๔ สถานที่ตั้งเลขที่ ๑๐๔ ซอยพัฒนาการ ๔๐ ถนนพัฒนาการ แขวงพัฒนาการ เขตสวนหลวง กรุงเทพมหานคร ขอเปลี่ยนแปลงบุคลากร ความละเอียดแจ้งแล้ว นั้น

กรมโรงงานอุตสาหกรรมพิจารณาแล้ว มีความเห็นดังนี้

๑. ไก่ยกเลิกเจ้าหน้าที่ประจำห้องปฏิบัติการวิเคราะห์ จำนวน ๓ ราย

๑) นางสาวพรณิศา พุ่มคง ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๖๕

๒) นายกำชัย สุทธิระ ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๒๑

๓) นางสาวศุภรดา ปันมยุรา ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๓๘

๒. ให้เพิ่มเจ้าหน้าที่ห้องปฏิบัติการวิเคราะห์เอกชน จำนวน ๑๒ ราย

๑) นางสาวฐานิดา กลิ่นเขียว ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๘๒

๒) นางสาวกัญญ์ภัสสร สายคำ ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๘๓

๓) นางสาวณัฐนันท์ กันทะวงศ์ ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๘๔

๔) นายอำนาจ วงษาเคน ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๘๕

๕) นายกฤษณพล ปัญญาวงศ์ ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๘๖

๖) นายณชากร ธรรมชาติ ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๘๗

๗) นายวัชรินทร์ ผ่องสามสวน ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๘๘

๘) นายณัฐพงศ์ โสภาทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๘๙

๙) นายศักรินทร์ ปานเพ็ง ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๙๐

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๑๑) นายธนา สุภาพันธ์ ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๙๒

๑๒) นายณรรธ แก้วพงษ์ชา ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๙๓

อนึ่ง หนังสือฉบับนี้...

อนึ่ง หนังสือฉบับนี้จะหมดอายุพร้อมหนังสือต่ออายุรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน
ในวันที่ ๒ กันยายน ๒๕๖๔

จึงเรียนมาเพื่อทราบ

ขอแสดงความนับถือ


(นายพยศ กลั่นกรอง)
รองอธิบดี ปฏิบัติราชการแทน
อธิบดีกรมโรงงานอุตสาหกรรม

กองวิจัยและเตือนภัยมลพิษโรงงาน

กลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษและทะเบียนห้องปฏิบัติการ

โทร. ๐ ๒๔๓๐ ๖๓๑๒ ต่อ ๒๑๐๓-๕

โทรสาร ๐ ๒๔๓๐ ๖๓๑๒ ต่อ ๒๑๕๔

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ที่ อก ๐๓๑๐(๑)/ ๑๒ ๓ ๖ ๘ /

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เขตราชเทวี กรุงเทพฯ ๑๐๕๐๐

๑๘ ธันวาคม ๒๕๖๗

เรื่อง ยกเลิกบุคลากรของห้องปฏิบัติการวิเคราะห์

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อ้างถึง คำขอขึ้นทะเบียน/ต่ออายุ/เปลี่ยนแปลงบุคลากร และชนิดสารมลพิษของห้องปฏิบัติการวิเคราะห์เอกชน
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วิเคราะห์เอกชน เลขทะเบียน ว-๒๐๔ สถานที่ตั้งเลขที่ ๑๐๔ ซอยพัฒนาการ ๔๐ ถนนพัฒนาการ แขวงพัฒนาการ
เขตสวนหลวง กรุงเทพมหานคร ขอยกเลิกบุคลากร ความละเอียดแจ้งแล้ว นั้น

กรมโรงงานอุตสาหกรรมพิจารณาแล้ว ให้ออกเลิกเจ้าหน้าที่ประจำห้องปฏิบัติการวิเคราะห์
จำนวน ๘ ราย ได้แก่

๑) นายประพจน์ วรณชัชชัย	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๐๖๐
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๓) นายพีรพัฒน์ กำคำ	ทะเบียนเลขที่ ว-๒๐๔-จ-๐๑๐๘
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จึงเรียนมาเพื่อทราบ

ขอแสดงความนับถือ


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