

ภาคผนวก ค

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ใบรับรองผลการตรวจวิเคราะห์ผลกระทบสิ่งแวดล้อม

ภาคผนวก ค-1

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ผลการตรวจวัดคุณภาพอากาศในบรรยากาศ



## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand  
20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 24126075**  
Date Received : Dec 07, 2024  
Date Reported : Dec 13, 2024  
Report Number: 3154784-1

Page 1 of 1

<b>Sample Description</b>		Air Quality			
<b>Location</b>		A1 : รพ.บ้านนา (GPS 47P 0729691, 1447670)			
<b>Date Analysis Commenced</b>		Dec 10, 2024			
<b>Condition of Sample</b>		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)
24126075-1	Nov 27 - Nov 28, 2024	0.064	0.025	756	32
24126075-2	Nov 28 - Nov 29, 2024	0.058	0.024	756	32
24126075-3	Nov 29 - Nov 30, 2024	0.075	0.029	756	30
24126075-4	Nov 30 - Dec 01, 2024	0.090	0.037	756	29
24126075-5	Dec 01 - Dec 02, 2024	0.092	0.040	756	29
24126075-6	Dec 02 - Dec 03, 2024	0.112	0.049	756	29
24126075-7	Dec 03 - Dec 04, 2024	0.116	0.045	756	30
<b>Guideline</b>		0.33	0.12	-	-

### Reference Method

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

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

**Sampled By :** Satcha Phetsawaeng

### Remark :

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

Approved by

*Thanitak.*

Thanita Kulsurivong  
Scientist (4)

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

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10905-31 / EN61

S:\Reports\_Air Ambient\Days.rpt (10/184M)



## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand  
20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 24126075**  
Date Received : Dec 07, 2024  
Date Reported : Dec 13, 2024  
Report Number: 3154784-2

Page 1 of 1

<b>Sample Description</b>		Air Quality			
<b>Location</b>		A2 : หมู่ 9 บ้านนา (GPS 47P 0733883, 1447102)			
<b>Date Analysis Commenced</b>		Dec 10, 2024			
<b>Condition of Sample</b>		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)
24126075-8	Nov 27 - Nov 28, 2024	0.056	0.022	756	32
24126075-9	Nov 28 - Nov 29, 2024	0.060	0.026	756	32
24126075-10	Nov 29 - Nov 30, 2024	0.056	0.025	756	30
24126075-11	Nov 30 - Dec 01, 2024	0.065	0.030	756	29
24126075-12	Dec 01 - Dec 02, 2024	0.070	0.035	756	29
24126075-13	Dec 02 - Dec 03, 2024	0.072	0.038	756	29
24126075-14	Dec 03 - Dec 04, 2024	0.064	0.035	756	30
<b>Guideline</b>		0.33	0.12	-	-

### Reference Method

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

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

**Sampled By :** Satcha Phetsawaeng

### Remark :

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

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Thanita Kulsurivong  
Scientist (4)

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S:\Reports\_Air Ambient\Days.rpt (10/184M)



## Analysis / Test Report

Client : Rojana Industrial Park Public Co., Ltd.

168 Moo 4, Sattahip-Chochoengsao Road., Bowin, Sriracha, Chonburi Thailand 22320

P/O : RJN-BW009/66

Project Name : Chonburi Bowin

Project Location :

Lot ID: 24126071

Date Received : Dec 09, 2024

Date Reported : Dec 13, 2024

Report Number: 3154779-1

Page 1 of 1

Sample Description	Air Quality						
Location	A1 : สะพานเชื่อม (GPS 47P 0729691, 1447670)						
Parameter	Nitrogen dioxide (ppm)						
Measurement Date	Nov 27, 2024 - Dec 04, 2024						
Measurement by	Satcha Phetsawaeng						
	24126071-1	24126071-2	24126071-3	24126071-4	24126071-5	24126071-6	24126071-7
Time	Nov 27, 2024	Nov 28, 2024	Nov 29, 2024	Nov 30, 2024	Dec 01, 2024	Dec 02, 2024	Dec 03, 2024
12:00 PM - 01:00 PM	0.0122	0.0089	0.0080	0.0080	0.0080	0.0113	0.0031
01:00 PM - 02:00 PM	0.0087	0.0086	0.0068	0.0067	0.0078	0.0095	0.0033
02:00 PM - 03:00 PM	0.0048	0.0082	0.0080	0.0074	0.0066	0.0021	0.0008
03:00 PM - 04:00 PM	0.0082	0.0092	0.0078	0.0086	0.0064	0.0031	0.0021
04:00 PM - 05:00 PM	0.0094	0.0118	0.0079	0.0084	0.0071	0.0031	0.0016
05:00 PM - 06:00 PM	0.0141	0.0150	0.0117	0.0135	0.0147	0.0038	0.0018
06:00 PM - 07:00 PM	0.0207	0.0138	0.0164	0.0201	0.0284	0.0035	0.0027
07:00 PM - 08:00 PM	0.0219	0.0152	0.0160	0.0236	0.0279	0.0057	0.0016
08:00 PM - 09:00 PM	0.0169	0.0180	0.0101	0.0302	0.0203	0.0053	0.0061
09:00 PM - 10:00 PM	0.0122	0.0145	0.0083	0.0263	0.0217	0.0070	0.0073
10:00 PM - 11:00 PM	0.0136	0.0107	0.0077	0.0235	0.0200	0.0106	0.0093
11:00 PM - 12:00 AM	0.0129	0.0112	0.0055	0.0221	0.0170	0.0086	0.0093
12:00 AM - 01:00 AM	0.0107	0.0083	0.0050	0.0184	0.0167	0.0108	0.0092
01:00 AM - 02:00 AM	0.0080	0.0070	0.0062	0.0198	0.0137	0.0102	0.0073
02:00 AM - 03:00 AM	0.0092	0.0071	0.0053	0.0186	0.0113	0.0085	0.0077
03:00 AM - 04:00 AM	0.0081	0.0057	0.0047	0.0184	0.0127	0.0066	0.0068
04:00 AM - 05:00 AM	0.0071	0.0055	0.0055	0.0163	0.0136	0.0065	0.0055
05:00 AM - 06:00 AM	0.0064	0.0061	0.0053	0.0162	0.0150	0.0070	0.0046
06:00 AM - 07:00 AM	0.0078	0.0077	0.0056	0.0154	0.0179	0.0079	0.0048
07:00 AM - 08:00 AM	0.0082	0.0113	0.0066	0.0142	0.0261	0.0085	0.0045
08:00 AM - 09:00 AM	0.0077	0.0104	0.0061	0.0114	0.0171	0.0089	0.0057
09:00 AM - 10:00 AM	0.0086	0.0091	0.0070	0.0115	0.0169	0.0067	0.0040
10:00 AM - 11:00 AM	0.0096	0.0076	0.0084	0.0105	0.0181	0.0063	0.0054
11:00 AM - 12:00 PM	0.0104	0.0074	0.0083	0.0083	0.0137	0.0032	0.0060
Average	0.0107	0.0099	0.0078	0.0157	0.0158	0.0069	0.0050
1hr - Maximum	0.0219	0.0180	0.0164	0.0302	0.0284	0.0113	0.0093
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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## Analysis / Test Report

Client : Rojana Industrial Park Public Co., Ltd.

168 Moo 4, Sattahip-Chochoengsao Road., Bowin, Sriracha, Chonburi Thailand 22320

P/O : RJN-BW009/66

Project Name : Chonburi Bowin

Project Location :

Lot ID: 24126071

Date Received : Dec 09, 2024

Date Reported : Dec 13, 2024

Report Number: 3190850-1

Page 1 of 1

Sample Description	Air Quality													
Location	A2 : หมู่ 9 บ้านหนองนาครักษ์ (GPS 47P 0733883, 1447102)													
Parameter	Nitrogen dioxide (ppm)													
Measurement Date	Nov 27, 2024 - Dec 04, 2024													
Measurement by	Satcha Phetsawaeng													
	24126071-8	24126071-9	24126071-10	24126071-11	24126071-12	24126071-13	24126071-14	24126071-15	24126071-16	24126071-17	24126071-18	24126071-19	24126071-20	24126071-21
Time	Nov 27, 2024	Nov 28, 2024	Nov 29, 2024	Nov 30, 2024	Dec 01, 2024	Dec 02, 2024	Dec 03, 2024	Dec 04, 2024	Dec 05, 2024	Dec 06, 2024	Dec 07, 2024	Dec 08, 2024	Dec 09, 2024	Dec 10, 2024
10:00 AM - 11:00 AM	0.0066	0.0038	0.0020	0.0023	0.0025	0.0032	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
11:00 AM - 12:00 PM	0.0015	0.0029	0.0056	0.0019	0.0016	0.0016	0.0029	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016
12:00 PM - 01:00 PM	0.0090	0.0015	0.0046	0.0016	0.0015	0.0026	0.0059	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
01:00 PM - 02:00 PM	0.0024	0.0026	0.0029	0.0055	0.0087	0.0035	0.0027	0.0048	0.0031	0.0022	0.0018	0.0018	0.0018	0.0018
02:00 PM - 03:00 PM	0.0018	0.0057	0.0033	0.0027	0.0048	0.0031	0.0022	0.0076	0.0030	0.0051	0.0069	0.0066	0.0066	0.0066
03:00 PM - 04:00 PM	0.0018	0.0069	0.0022	0.0042	0.0076	0.0030	0.0051	0.0069	0.0030	0.0051	0.0069	0.0030	0.0051	0.0069
04:00 PM - 05:00 PM	0.0027	0.0062	0.0025	0.0043	0.0055	0.0047	0.0018	0.0027	0.0018	0.0027	0.0018	0.0027	0.0018	0.0027
05:00 PM - 06:00 PM	0.0026	0.0099	0.0035	0.0045	0.0039	0.0065	0.0025	0.0026	0.0025	0.0026	0.0025	0.0026	0.0025	0.0026
06:00 PM - 07:00 PM	0.0026	0.0089	0.0082	0.0093	0.0039	0.0058	0.0069	0.0026	0.0026	0.0026	0.0026	0.0026	0.0026	0.0026
07:00 PM - 08:00 PM	0.0120	0.0080	0.0089	0.0191	0.0116	0.0077	0.0116	0.0116	0.0116	0.0116	0.0116	0.0116	0.0116	0.0116
08:00 PM - 09:00 PM	0.0133	0.0063	0.0108	0.0261	0.0106	0.0109	0.0106	0.0106	0.0106	0.0106	0.0106	0.0106	0.0106	0.0106
09:00 PM - 10:00 PM	0.0025	0.0034	0.0108	0.0259	0.0120	0.0093	0.0087	0.0120	0.0120	0.0120	0.0120	0.0120	0.0120	0.0120
10:00 PM - 11:00 PM	0.0035	0.0069	0.0066	0.0039	0.0062	0.0083	0.0106	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035	0.0035
11:00 PM - 12:00 AM	0.0076	0.0068	0.0058	0.0069	0.0039	0.0056	0.0076	0.0076	0.0076	0.0076	0.0076	0.0076	0.0076	0.0076
12:00 AM - 01:00 AM	0.0098	0.0043	0.0079	0.0076	0.0030	0.0051	0.0069	0.0098	0.0098	0.0098	0.0098	0.0098	0.0098	0.0098
01:00 AM - 02:00 AM	0.0126	0.0025	0.0022	0.0062	0.0043	0.0093	0.0066	0.0126	0.0126	0.0126	0.0126	0.0126	0.0126	0.0126
02:00 AM - 03:00 AM	0.0014	0.0025	0.0055	0.0088	0.0049	0.0092	0.0016	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014
03:00 AM - 04:00 AM	0.0083	0.0019	0.0080	0.0052	0.0032	0.0082	0.0096	0.0083	0.0083	0.0083	0.0083	0.0083	0.0083	0.0083
04:00 AM - 05:00 AM	0.0082	0.0014	0.0045	0.0057	0.0030	0.0078	0.0116	0.0082	0.0082	0.0082	0.0082	0.0082	0.0082	0.0082
05:00 AM - 06:00 AM	0.0083	0.0035	0.0016	0.0047	0.0045	0.0080	0.0082	0.0083	0.0083	0.0083	0.0083	0.0083	0.0083	0.0083
06:00 AM - 07:00 AM	0.0214	0.0023	0.0026	0.0046	0.0087	0.0090	0.0035	0.0214	0.0214	0.0214	0.0214	0.0214	0.0214	0.0214
07:00 AM - 08:00 AM	0.0161	0.0039	0.0065	0.0142	0.0169	0.0166	0.0082	0.0161	0.0161	0.0161	0.0161	0.0161	0.0161	0.0161
08:00 AM - 09:00 AM	0.0161	0.0068	0.0066	0.0231	0.0085	0.0086	0.0076	0.0161	0.0161	0.0161	0.0161	0.0161	0.0161	0.0161
09:00 AM - 10:00 AM	0.0050	0.0044	0.0046	0.0059	0.0035	0.0053	0.0048	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050
Average	0.0078	0.0047	0.0053	0.0085	0.0060	0.0069	0.0062	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078	0.0078
1hr - Maximum	0.0214	0.0099	0.0108	0.0261	0.0169	0.0166	0.0116	0.0214	0.0214	0.0214	0.0214	0.0214	0.0214	0.0214
Standard 1hr - Average	0.170	0.170	0.170	0.170	0.170	0.170	0.170	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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## Analysis / Test Report

Client : Rojana Industrial Park Public Co., Ltd.

168 Moo 4, Sattahip-Chochoengsao Road., Bowin, Sriracha, Chonburi Thailand 22320

P/O : RJN-BW009/66

Project Name : Chonburi Bowin

Project Location :

Lot ID: 24126072

Date Received : Dec 09, 2024

Date Reported : Dec 13, 2024

Report Number: 3154781-1

Page 1 of 1

Sample Description	Air Quality						
Location	A1 : สะพานเชื่อม (GPS 47P 0729691, 1447670)						
Parameter	Sulfur Dioxide (ppm)						
Measurement Date	Nov 27, 2024 - Dec 04, 2024						
Measurement by	Satcha Phetsawaeng						
	24126072-1	24126072-2	24126072-3	24126072-4	24126072-5	24126072-6	24126072-7
Time	Nov 27, 2024	Nov 28, 2024	Nov 29, 2024	Nov 30, 2024	Dec 01, 2024	Dec 02, 2024	Dec 03, 2024
12:00 PM - 01:00 PM	0.0030	0.0030	0.0030	0.0028	0.0028	0.0029	0.0032
01:00 PM - 02:00 PM	0.0031	0.0030	0.0030	0.0028	0.0030	0.0028	0.0031
02:00 PM - 03:00 PM	0.0029	0.0030	0.0030	0.0030	0.0027	0.0028	0.0032
03:00 PM - 04:00 PM	0.0029	0.0030	0.0029	0.0030	0.0028	0.0029	0.0031
04:00 PM - 05:00 PM	0.0029	0.0031	0.0029	0.0030	0.0028	0.0029	0.0030
05:00 PM - 06:00 PM	0.0028	0.0031	0.0029	0.0030	0.0029	0.0030	0.0031
06:00 PM - 07:00 PM	0.0028	0.0032	0.0030	0.0030	0.0029	0.0029	0.0031
07:00 PM - 08:00 PM	0.0029	0.0031	0.0031	0.0030	0.0030	0.0030	0.0031
08:00 PM - 09:00 PM	0.0030	0.0030	0.0030	0.0031	0.0030	0.0031	0.0031
09:00 PM - 10:00 PM	0.0030	0.0030	0.0031	0.0031	0.0030	0.0030	0.0030
10:00 PM - 11:00 PM	0.0031	0.0029	0.0031	0.0030	0.0030	0.0030	0.0030
11:00 PM - 12:00 AM	0.0032	0.0029	0.0030	0.0030	0.0030	0.0030	0.0030
12:00 AM - 01:00 AM	0.0033	0.0029	0.0030	0.0029	0.0028	0.0029	0.0029
01:00 AM - 02:00 AM	0.0032	0.0029	0.0029	0.0029	0.0029	0.0029	0.0029
02:00 AM - 03:00 AM	0.0032	0.0029	0.0029	0.0029	0.0029	0.0030	0.0032
03:00 AM - 04:00 AM	0.0033	0.0029	0.0030	0.0029	0.0029	0.0030	0.0032
04:00 AM - 05:00 AM	0.0031	0.0029	0.0030	0.0031	0.0030	0.0031	0.0030
05:00 AM - 06:00 AM	0.0032	0.0029	0.0030	0.0030	0.0029	0.0032	0.0030
06:00 AM - 07:00 AM	0.0031	0.0029	0.0030	0.0029	0.0029	0.0029	0.0032
07:00 AM - 08:00 AM	0.0032	0.0029	0.0030	0.0029	0.0029	0.0029	0.0030
08:00 AM - 09:00 AM	0.0032	0.0030	0.0029	0.0029	0.0029	0.0029	0.0029
09:00 AM - 10:00 AM	0.0031	0.0029	0.0029	0.0029	0.0029	0.0032	0.0029
10:00 AM - 11:00 AM	0.0030	0.0030	0.0029	0.0029	0.0029	0.0031	0.0028
11:00 AM - 12:00 PM	0.0029	0.0030	0.0028	0.0028	0.0029	0.0031	0.0029
Average	0.0031	0.0030	0.0030	0.0030	0.0029	0.0030	0.0030
1hr - Maximum	0.0033	0.0032	0.0031	0.0031	0.0030	0.0032	0.0032
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						

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## Analysis / Test Report

Client : Rojana Industrial Park Public Co., Ltd.

168 Moo 4, Sattahip-Chochoengsao Road., Bowin, Sriracha, Chonburi Thailand 22320

P/O : RJN-BW009/66

Project Name : Chonburi Bowin

Project Location :

Lot ID: 24126072

Date Received : Dec 09, 2024

Date Reported : Dec 13, 2024

Report Number: 3190856-1

Page 1 of 1

Sample Description	Air Quality						
Location	A2 : โรง 9 บ้านหนองนาเกตุ (GPS 47P 0733883, 1447102)						
Parameter	Sulfur Dioxide (ppm)						
Measurement Date	Nov 27, 2024 - Dec 04, 2024						
Measurement by	Satcha Phetsawaeng						
	24126072-8	24126072-9	24126072-10	24126072-11	24126072-12	24126072-13	24126072-14
Time	Nov 27, 2024	Nov 28, 2024	Nov 29, 2024	Nov 30, 2024	Dec 01, 2024	Dec 02, 2024	Dec 03, 2024
10:00 AM - 11:00 AM	0.0051	0.0051	0.0054	0.0044	0.0047	0.0044	0.0044
11:00 AM - 12:00 PM	0.0051	0.0045	0.0049	0.0038	0.0043	0.0042	0.0038
12:00 PM - 01:00 PM	0.0013	0.0038	0.0044	0.0034	0.0035	0.0042	0.0032
01:00 PM - 02:00 PM	0.0034	0.0037	0.0042	0.0031	0.0033	0.0036	0.0028
02:00 PM - 03:00 PM	0.0033	0.0037	0.0039	0.0028	0.0032	0.0032	0.0028
03:00 PM - 04:00 PM	0.0029	0.0038	0.0038	0.0029	0.0031	0.0030	0.0041
04:00 PM - 05:00 PM	0.0030	0.0047	0.0043	0.0030	0.0031	0.0028	0.0042
05:00 PM - 06:00 PM	0.0034	0.0054	0.0050	0.0033	0.0031	0.0028	0.0039
06:00 PM - 07:00 PM	0.0038	0.0054	0.0047	0.0034	0.0033	0.0027	0.0037
07:00 PM - 08:00 PM	0.0043	0.0056	0.0049	0.0038	0.0037	0.0030	0.0038
08:00 PM - 09:00 PM	0.0045	0.0057	0.0052	0.0042	0.0039	0.0033	0.0039
09:00 PM - 10:00 PM	0.0048	0.0059	0.0055	0.0045	0.0040	0.0035	0.0046
10:00 PM - 11:00 PM	0.0051	0.0060	0.0057	0.0049	0.0044	0.0038	0.0054
11:00 PM - 12:00 AM	0.0052	0.0060	0.0058	0.0050	0.0045	0.0041	0.0060
12:00 AM - 01:00 AM	0.0052	0.0059	0.0058	0.0053	0.0047	0.0042	0.0062
01:00 AM - 02:00 AM	0.0053	0.0059	0.0058	0.0054	0.0047	0.0042	0.0065
02:00 AM - 03:00 AM	0.0057	0.0057	0.0058	0.0054	0.0047	0.0043	0.0064
03:00 AM - 04:00 AM	0.0060	0.0057	0.0057	0.0052	0.0050	0.0044	0.0066
04:00 AM - 05:00 AM	0.0058	0.0059	0.0057	0.0052	0.0052	0.0044	0.0067
05:00 AM - 06:00 AM	0.0060	0.0058	0.0056	0.0051	0.0051	0.0044	0.0066
06:00 AM - 07:00 AM	0.0060	0.0060	0.0057	0.0048	0.0048	0.0045	0.0065
07:00 AM - 08:00 AM	0.0059	0.0060	0.0058	0.0047	0.0049	0.0047	0.0064
08:00 AM - 09:00 AM	0.0058	0.0060	0.0056	0.0046	0.0046	0.0047	0.0064
09:00 AM - 10:00 AM	0.0055	0.0057	0.0053	0.0047	0.0044	0.0046	0.0066
Average	0.0047	0.0053	0.0052	0.0043	0.0042	0.0039	0.0051
1hr - Maximum	0.0060	0.0060	0.0058	0.0054	0.0052	0.0047	0.0067
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						

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

Approved by

Orawan R.  
Orawan Rakyong  
Scientist (3)

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S:\Report\Air SON\Or.rpt ( 9:35AM)



## Analysis / Test Report

Client : Rojana Industrial Park Public Co., Ltd.

168 Moo 4, Sattahip-Chochoengsao Road., Bowin, Sriracha, Chonburi Thailand 22320

P/O : RJN-BW009/66

Project Name : Chonburi Bowin

Project Location :

Lot ID: 24126072

Date Received : Dec 09, 2024

Date Reported : Dec 13, 2024

Report Number: 3190858-1

Page 1 of 1

Sample Description	Air Quality						
Location	A3 : สะพานเชื่อม สะ.นาเกตุ (GPS 47P 0727699, 1444085)						
Parameter	Sulfur Dioxide (ppm)						
Measurement Date	Nov 27, 2024 - Dec 04, 2024						
Measurement by	Satcha Phetsawaeng						
	24126072-15	24126072-16	24126072-17	24126072-18	24126072-19	24126072-20	24126072-21
Time	Nov 27, 2024	Nov 28, 2024	Nov 29, 2024	Nov 30, 2024	Dec 01, 2024	Dec 02, 2024	Dec 03, 2024
12:00 PM - 01:00 PM	0.0063	0.0051	0.0049	0.0049	0.0050	0.0045	0.0047
01:00 PM - 02:00 PM	0.0064	0.0051	0.0049	0.0049	0.0002	0.0045	0.0049
02:00 PM - 03:00 PM	0.0066	0.0050	0.0048	0.0050	0.0046	0.0047	0.0053
03:00 PM - 04:00 PM	0.0066	0.0048	0.0047	0.0047	0.0047	0.0047	0.0054
04:00 PM - 05:00 PM	0.0066	0.0050	0.0048	0.0047	0.0047	0.0049	0.0056
05:00 PM - 06:00 PM	0.0064	0.0048	0.0049	0.0047	0.0047	0.0048	0.0055
06:00 PM - 07:00 PM	0.0017	0.0049	0.0048	0.0048	0.0047	0.0047	0.0055
07:00 PM - 08:00 PM	0.0047	0.0049	0.0048	0.0047	0.0047	0.0050	0.0058
08:00 PM - 09:00 PM	0.0048	0.0047	0.0048	0.0047	0.0048	0.0046	0.0056
09:00 PM - 10:00 PM	0.0050	0.0049	0.0048	0.0046	0.0046	0.0044	0.0056
10:00 PM - 11:00 PM	0.0049	0.0050	0.0048	0.0047	0.0047	0.0045	0.0054
11:00 PM - 12:00 AM	0.0049	0.0049	0.0049	0.0049	0.0047	0.0044	0.0054
12:00 AM - 01:00 AM	0.0048	0.0051	0.0049	0.0048	0.0048	0.0047	0.0055
01:00 AM - 02:00 AM	0.0049	0.0049	0.0048	0.0049	0.0049	0.0047	0.0056
02:00 AM - 03:00 AM	0.0050	0.0050	0.0049	0.0049	0.0050	0.0047	0.0056
03:00 AM - 04:00 AM	0.0051	0.0051	0.0048	0.0049	0.0049	0.0045	0.0051
04:00 AM - 05:00 AM	0.0050	0.0050	0.0049	0.0049	0.0048	0.0044	0.0058
05:00 AM - 06:00 AM	0.0050	0.0050	0.0047	0.0049	0.0048	0.0045	0.0052
06:00 AM - 07:00 AM	0.0049	0.0049	0.0049	0.0049	0.0047	0.0048	0.0055
07:00 AM - 08:00 AM	0.0041	0.0052	0.0051	0.0052	0.0046	0.0047	0.0056
08:00 AM - 09:00 AM	0.0046	0.0050	0.0051	0.0052	0.0047	0.0048	0.0058
09:00 AM - 10:00 AM	0.0048	0.0050	0.0051	0.0049	0.0048	0.0048	0.0059
10:00 AM - 11:00 AM	0.0050	0.0051	0.0051	0.0049	0.0049	0.0049	0.0060
11:00 AM - 12:00 PM	0.0049	0.0052	0.0050	0.0049	0.0048	0.0049	0.0059
Average	0.0051	0.0050	0.0049	0.0049	0.0046	0.0047	0.0055
1hr - Maximum	0.0066	0.0052	0.0051	0.0052	0.0050	0.0050	0.0060
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						



## Analysis / Test Report

Client : Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230

Lot ID: 24126074  
Date Received :Dec 07, 2024  
Date Reported :Dec 12, 2024  
Report Number :3154782-1

P/O : RJN-BV009/66  
Project Name : Chonburi Bowin  
Project Location :

Page 1 of 2

Sample Number : 24126074-1 to 7  
Parameter : Wind Speed / Wind Direction  
Location : A4 : สะพานข้ามลำน้ำ (GPS 47P 0729681, 1444261)  
Sampling Date : Nov 27 - Dec 04, 2024  
Sampling by : Satcha Phetsawaeng

Time	Nov 27 - Nov 28, 2024		Nov 28 - Nov 29, 2024		Nov 29 - Nov 30, 2024		Nov 30 - Dec 01, 2024		Dec 01 - Dec 02, 2024		Dec 02 - Dec 03, 2024		Dec 03 - Dec 04, 2024		
	WS (deg)	WD (m/s)	WS (deg)	WD (m/s)	WS (deg)	WD (m/s)	WS (deg)	WD (m/s)	WS (deg)	WD (m/s)	WS (deg)	WD (m/s)	WS (deg)	WD (m/s)	
11:00 AM - 12:00 PM	5.8	86.0	E	3.6	55.0	NE	3.5	30.0	NNE	3.6	5.0	N	3.6	133.0	SE
12:00 PM - 01:00 PM	4.5	59.0	E	3.6	63.0	ENE	3.5	60.0	ENE	5.4	49.0	NE	4.5	146.0	SE
01:00 PM - 02:00 PM	4.0	22.0	NNE	4.8	82.0	E	6.0	83.0	E	6.2	77.0	ENE	3.5	27.0	NNE
02:00 PM - 03:00 PM	7.0	71.0	ENE	6.1	73.0	ENE	5.6	52.0	NE	6.4	58.0	ENE	4.6	81.0	E
03:00 PM - 04:00 PM	4.1	97.0	E	4.1	89.0	E	6.2	87.0	E	5.4	28.0	NNE	3.6	48.0	NE
04:00 PM - 05:00 PM	3.8	85.0	E	3.7	112.0	ESE	5.7	58.0	ENE	3.8	63.0	ENE	2.5	37.0	NE
05:00 PM - 06:00 PM	2.0	88.0	E	2.9	100.0	E	4.3	26.0	NNE	1.9	54.0	NE	1.1	36.0	NE
06:00 PM - 07:00 PM	0.8	87.0	E	3.3	160.0	SSE	3.9	75.0	ENE	1.7	50.0	NE	0.8	38.0	NE
07:00 PM - 08:00 PM	1.5	58.0	ENE	2.3	178.0	S	6.4	54.0	NE	1.8	340.0	NNW	1.6	37.0	NE
08:00 PM - 09:00 PM	1.1	67.0	ENE	3.6	92.0	E	6.0	37.0	NE	1.1	341.0	NNW	0.8	38.0	NE
09:00 PM - 10:00 PM	1.1	67.0	ENE	3.8	110.0	ESE	4.5	75.0	ENE	1.4	43.0	NE	0.4	38.0	NE
10:00 PM - 11:00 PM	1.2	66.0	ENE	4.4	118.0	ESE	6.1	90.0	E	1.6	42.0	NE	2.3	39.0	NE
11:00 PM - 12:00 AM	1.9	34.0	NE	3.9	71.0	ENE	2.7	75.0	ENE	1.0	43.0	NE	1.6	37.0	NE
12:00 AM - 01:00 AM	4.0	63.0	ENE	4.8	89.0	E	3.3	45.0	NE	1.4	42.0	NE	0.9	37.0	NE
01:00 AM - 02:00 AM	4.3	142.0	SE	4.6	161.0	SSE	2.9	56.0	NE	0.8	43.0	NE	1.2	93.0	E
02:00 AM - 03:00 AM	2.4	101.0	E	3.8	77.0	ENE	2.8	72.0	ENE	0.7	41.0	NE	0.6	91.0	E
03:00 AM - 04:00 AM	3.6	73.0	ENE	4.8	85.0	E	4.9	84.0	E	2.6	43.0	NE	0.7	90.0	E
04:00 AM - 05:00 AM	4.0	116.0	ESE	3.0	81.0	E	3.2	94.0	E	1.5	64.0	ENE	2.3	90.0	E
05:00 AM - 06:00 AM	5.3	95.0	E	2.9	75.0	ENE	3.9	103.0	ESE	4.3	56.0	NE	0.4	88.0	E
06:00 AM - 07:00 AM	5.7	111.0	ESE	3.7	66.0	ENE	3.4	91.0	E	6.7	75.0	ENE	0.9	86.0	E
07:00 AM - 08:00 AM	6.1	100.0	E	6.3	87.0	E	4.5	91.0	E	5.4	60.0	ENE	3.0	94.0	E
08:00 AM - 09:00 AM	6.2	105.0	ESE	6.3	66.0	ENE	5.8	66.0	ENE	6.4	82.0	E	4.6	69.0	ENE
09:00 AM - 10:00 AM	3.6	79.0	E	3.6	47.0	NE	3.5	58.0	ENE	2.6	76.0	ENE	4.9	69.0	ENE
10:00 AM - 11:00 AM	5.7	81.0	E	3.6	42.0	NE	5.6	48.0	NE	6.1	87.0	E	4.2	53.0	NE

Reference Method : Cup Anemometer & Anodized Aluminium Vane Method

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

Approved by

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Assistant General Manager

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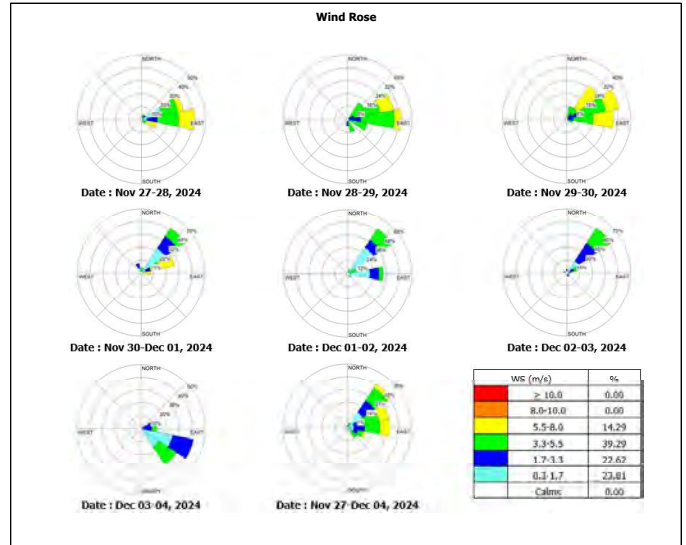
## Analysis / Test Report

Client : Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230

Lot ID: 24126074  
Date Received :Dec 07, 2024  
Date Reported :Dec 12, 2024  
Report Number :3154782-1

P/O : RJN-BV009/66  
Project Name : Chonburi Bowin  
Project Location :

Page 2 of 2



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

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Sarayu Jitranont  
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## Analysis / Test Report

Client : Rajana Industrial Park Public Co., Ltd.

168 Rue 4, Sattapha-Changchawan Road, Bawin, Sriracha, Chonburi Thailand 20239

Lot ID: 2A126677

Date Received: Dec 07, 2024

Date Reported: Dec 11, 2024

Project Number : 2191221-1

P/O : R2N-00009/06

Project Name : Chantorn Bawin

Project Location :

Page 1

Sample Number : 2A126077-9

Parameter :

Location :

Dec 01 - Dec 04, 2024

Mongkorn Phattasit

Serial No. G23094

Measurement Date

Sound Level meter

Dec 04, 2024	Time	Leq	L90	Dec 04, 2024	Time	Leq	L90	Dec 04, 2024	Time	Leq	L90
08:00 AM - 08:30 AM	58.7	48.7	04:40 AM - 04:45 AM	54.8	52.8	07:30 AM - 07:35 AM	54.3	52.3	08:00 AM - 08:05 AM	56.4	54.4
08:30 AM - 09:00 AM	51.5	41.5	04:45 AM - 04:50 AM	56.9	54.9	07:35 AM - 07:40 AM	54.4	52.4	08:05 AM - 08:10 AM	50.5	48.5
09:00 AM - 09:30 AM	50.3	40.3	04:50 AM - 04:55 AM	58.0	56.0	07:40 AM - 07:45 AM	58.8	56.8	08:10 AM - 08:15 AM	52.6	50.6
09:30 AM - 10:00 AM	51.5	41.5	04:55 AM - 05:00 AM	53.1	51.1	07:45 AM - 07:50 AM	54.3	52.3	08:15 AM - 08:20 AM	53.2	51.2
10:00 AM - 10:30 AM	51.3	41.3	05:00 AM - 05:05 AM	53.2	51.2	07:50 AM - 07:55 AM	55.5	53.5	08:20 AM - 08:25 AM	54.4	52.4
10:30 AM - 11:00 AM	50.5	40.5	05:05 AM - 05:10 AM	54.4	52.4	07:55 AM - 07:59 AM	54.9	52.9	08:25 AM - 08:30 AM	54.8	52.8
11:00 AM - 11:30 AM	50.4	40.4	05:10 AM - 05:15 AM	53.1	51.1	08:00 AM - 08:05 AM	56.4	54.4	08:30 AM - 08:35 AM	54.9	52.9
11:30 AM - 12:00 AM	51.4	41.4	05:15 AM - 05:20 AM	52.9	50.9	08:05 AM - 08:10 AM	50.5	48.5	08:35 AM - 08:40 AM	54.9	52.9
12:00 AM - 12:30 AM	51.5	41.5	05:20 AM - 05:25 AM	52.8	50.8	08:10 AM - 08:15 AM	52.6	50.6	08:40 AM - 08:45 AM	54.9	52.9
12:30 AM - 1:00 AM	52.3	42.3	05:25 AM - 05:30 AM	51.7	49.7	08:15 AM - 08:20 AM	53.2	51.2	08:45 AM - 08:50 AM	54.9	52.9
1:00 AM - 1:30 AM	52.4	42.4	05:30 AM - 05:35 AM	52.3	50.3	08:20 AM - 08:25 AM	54.4	52.4	08:50 AM - 08:55 AM	54.9	52.9
1:30 AM - 2:00 AM	52.5	42.5	05:35 AM - 05:40 AM	52.2	50.2	08:25 AM - 08:30 AM	54.8	52.8	08:55 AM - 09:00 AM	54.9	52.9
2:00 AM - 2:30 AM	52.6	42.6	05:40 AM - 05:45 AM	52.5	50.5	08:30 AM - 08:35 AM	54.9	52.9	09:00 AM - 09:05 AM	54.9	52.9
2:30 AM - 3:00 AM	52.7	42.7	05:45 AM - 05:50 AM	52.2	50.2	08:35 AM - 08:40 AM	54.9	52.9	09:05 AM - 09:10 AM	54.9	52.9
3:00 AM - 3:30 AM	52.8	42.8	05:50 AM - 05:55 AM	52.1	50.1	08:40 AM - 08:45 AM	54.9	52.9	09:10 AM - 09:15 AM	54.9	52.9
3:30 AM - 4:00 AM	52.9	42.9	05:55 AM - 06:00 AM	52.0	50.0	08:45 AM - 08:50 AM	54.9	52.9	09:15 AM - 09:20 AM	54.9	52.9
4:00 AM - 4:30 AM	53.0	43.0	06:00 AM - 06:05 AM	51.9	49.9	08:50 AM - 08:55 AM	54.9	52.9	09:20 AM - 09:25 AM	54.9	52.9
4:30 AM - 5:00 AM	53.1	43.1	06:05 AM - 06:10 AM	51.8	49.8	08:55 AM - 09:00 AM	54.9	52.9	09:25 AM - 09:30 AM	54.9	52.9
5:00 AM - 5:30 AM	53.2	43.2	06:10 AM - 06:15 AM	51.7	49.7	09:00 AM - 09:05 AM	54.9	52.9	09:30 AM - 09:35 AM	54.9	52.9
5:30 AM - 6:00 AM	53.3	43.3	06:15 AM - 06:20 AM	51.6	49.6	09:05 AM - 09:10 AM	54.9	52.9	09:35 AM - 09:40 AM	54.9	52.9
6:00 AM - 6:30 AM	53.4	43.4	06:20 AM - 06:25 AM	51.5	49.5	09:10 AM - 09:15 AM	54.9	52.9	09:40 AM - 09:45 AM	54.9	52.9
6:30 AM - 7:00 AM	53.5	43.5	06:25 AM - 06:30 AM	51.4	49.4	09:15 AM - 09:20 AM	54.9	52.9	09:45 AM - 09:50 AM	54.9	52.9
7:00 AM - 7:30 AM	53.6	43.6	06:30 AM - 06:35 AM	51.3	49.3	09:20 AM - 09:25 AM	54.9	52.9	09:50 AM - 09:55 AM	54.9	52.9
7:30 AM - 8:00 AM	53.7	43.7	06:35 AM - 06:40 AM	51.2	49.2	09:25 AM - 09:30 AM	54.9	52.9	09:55 AM - 10:00 AM	54.9	52.9
8:00 AM - 8:30 AM	53.8	43.8	06:40 AM - 06:45 AM	51.1	49.1	09:30 AM - 09:35 AM	54.9	52.9	10:00 AM - 10:05 AM	54.9	52.9
8:30 AM - 9:00 AM	53.9	43.9	06:45 AM - 06:50 AM	51.0	49.0	09:35 AM - 09:40 AM	54.9	52.9	10:05 AM - 10:10 AM	54.9	52.9
9:00 AM - 9:30 AM	54.0	44.0	06:50 AM - 06:55 AM	50.9	48.9	09:40 AM - 09:45 AM	54.9	52.9	10:10 AM - 10:15 AM	54.9	52.9
9:30 AM - 10:00 AM	54.1	44.1	06:55 AM - 07:00 AM	50.8	48.8	09:45 AM - 09:50 AM	54.9	52.9	10:15 AM - 10:20 AM	54.9	52.9
10:00 AM - 10:30 AM	54.2	44.2	07:00 AM - 07:05 AM	50.7	48.7	09:50 AM - 09:55 AM	54.9	52.9	10:20 AM - 10:25 AM	54.9	52.9
10:30 AM - 11:00 AM	54.3	44.3	07:05 AM - 07:10 AM	50.6	48.6	09:55 AM - 10:00 AM	54.9	52.9	10:25 AM - 10:30 AM	54.9	52.9
11:00 AM - 11:30 AM	54.4	44.4	07:10 AM - 07:15 AM	50.5	48.5	10:00 AM - 10:05 AM	54.9	52.9	10:30 AM - 10:35 AM	54.9	52.9
11:30 AM - 12:00 AM	54.5	44.5	07:15 AM - 07:20 AM	50.4	48.4	10:05 AM - 10:10 AM	54.9	52.9	10:35 AM - 10:40 AM	54.9	52.9
12:00 AM - 12:30 AM	54.6	44.6	07:20 AM - 07:25 AM	50.3	48.3	10:10 AM - 10:15 AM	54.9	52.9	10:40 AM - 10:45 AM	54.9	52.9
12:30 AM - 1:00 AM	54.7	44.7	07:25 AM - 07:30 AM	50.2	48.2	10:15 AM - 10:20 AM	54.9	52.9	10:45 AM - 10:50 AM	54.9	52.9
1:00 AM - 1:30 AM	54.8	44.8	07:30 AM - 07:35 AM	50.1	48.1	10:20 AM - 10:25 AM	54.9	52.9	10:50 AM - 10:55 AM	54.9	52.9
1:30 AM - 2:00 AM	54.9	44.9	07:35 AM - 07:40 AM	50.0	48.0	10:25 AM - 10:30 AM	54.9	52.9	10:55 AM - 11:00 AM	54.9	52.9
2:00 AM - 2:30 AM	55.0	45.0	07:40 AM - 07:45 AM	49.9	47.9	10:30 AM - 10:35 AM	54.9	52.9	11:00 AM - 11:05 AM	54.9	52.9
2:30 AM - 3:00 AM	55.1	45.1	07:45 AM - 07:50 AM	49.8	47.8	10:35 AM - 10:40 AM	54.9	52.9	11:05 AM - 11:10 AM	54.9	52.9
3:00 AM - 3:30 AM	55.2	45.2	07:50 AM - 07:55 AM	49.7	47.7	10:40 AM - 10:45 AM	54.9	52.9	11:10 AM - 11:15 AM	54.9	52.9
3:30 AM - 4:00 AM	55.3	45.3	07:55 AM - 08:00 AM	49.6	47.6	10:45 AM - 10:50 AM	54.9	52.9	11:15 AM - 11:20 AM	54.9	52.9
4:00 AM - 4:30 AM	55.4	45.4	08:00 AM - 08:05 AM	49.5	47.5	10:50 AM - 10:55 AM	54.9	52.9	11:20 AM - 11:25 AM	54.9	52.9
4:30 AM - 5:00 AM	55.5	45.5	08:05 AM - 08:10 AM	49.4	47.4	10:55 AM - 11:00 AM	54.9	52.9	11:25 AM - 11:30 AM	54.9	52.9
5:00 AM - 5:30 AM	55.6	45.6	08:10 AM - 08:15 AM	49.3	47.3	11:00 AM - 11:05 AM	54.9	52.9	11:30 AM - 11:35 AM	54.9	52.9
5:30 AM - 6:00 AM	55.7	45.7	08:15 AM - 08:20 AM	49.2	47.2	11:05 AM - 11:10 AM	54.9	52.9	11:35 AM - 11:40 AM	54.9	52.9
6:00 AM - 6:30 AM	55.8	45.8	08:20 AM - 08:25 AM	49.1	47.1	11:10 AM - 11:15 AM	54.9	52.9	11:40 AM - 11:45 AM	54.9	52.9
6:30 AM - 7:00 AM	55.9	45.9	08:25 AM - 08:30 AM	49.0	47.0	11:15 AM - 11:20 AM	54.9	52.9	11:45 AM - 11:50 AM	54.9	52.9
7:00 AM - 7:30 AM	56.0	46.0	08:30 AM - 08:35 AM	48.9	46.9	11:20 AM - 11:25 AM	54.9	52.9	11:50 AM - 11:55 AM	54.9	52.9
7:30 AM - 8:00 AM	56.1	46.1	08:35 AM - 08:40 AM	48.8	46.8	11:25 AM - 11:30 AM	54.9	52.9	11:55 AM - 12:00 AM	54.9	52.9
8:00 AM - 8:30 AM	56.2	46.2	08:40 AM - 08:45 AM	48.7	46.7	11:30 AM - 11:35 AM	54.9	52.9	12:00 AM - 12:05 AM	54.9	52.9
8:30 AM - 9:00 AM	56.3	46.3	08:45 AM - 08:50 AM	48.6	46.6	11:35 AM - 11:40 AM	54.9	52.9	12:05 AM - 12:10 AM	54.9	52.9
9:00 AM - 9:30 AM	56.4	46.4	08:50 AM - 08:55 AM	48.5	46.5	11:40 AM - 11:45 AM	54.9	52.9	12:10 AM - 12:15 AM	54.9	52.9
9:30 AM - 10:00 AM	56.5	46.5	08:55 AM - 09:00 AM	48.4	46.4	11:45 AM - 11:50 AM	54.9	52.9	12:15 AM - 12:20 AM	54.9	52.9
10:00 AM - 10:30 AM	56.6	46.6	09:00 AM - 09:05 AM	48.3	46.3	11:50 AM - 11:55 AM	54.9	52.9	12:20 AM - 12:25 AM	54.9	52.9
10:30 AM - 11:00 AM	56.7	46.7	09:05 AM - 09:10 AM	48.2	46.2	11:55 AM - 12:00 AM	54.9	52.9	12:25 AM - 12:30 AM	54.9	52.9
11:00 AM - 11:30 AM	56.8	46.8	09:10 AM - 09:15 AM	48.1	46.1	12:00 AM - 12:05 AM	54.9	52.9	12:30 AM - 12:35 AM	54.9	52.9
11:30 AM - 12:00 AM	56.9	46.9	09:15 AM - 09:20 AM	48.0	46.0	12:05 AM - 12:10 AM	54.9	52.9	12:35 AM - 12:40 AM	54.9	52.9
12:00 AM - 12:30 AM	57.0	47.0	09:20 AM - 09:25 AM	47.9	45.9	12:10 AM - 12:15 AM	54.9	52.9	12:40 AM - 12:45 AM	54.9	52.9
12:30 AM - 1:00 AM	57.1	47.1	09:25 AM - 09:30 AM	47.8	45.8	12:15 AM - 12:20 AM	54.9	52.9	12:45 AM - 12:50 AM	54.9	52.9
1:00 AM - 1:30 AM	57.2	47.2	09:30 AM - 09:35 AM	47.7	45.7	12:20 AM - 12:25 AM	54.9	52.9	12:50 AM - 12:55 AM	54.9	52.9
1:30 AM - 2:00 AM	57.3	47.3	09:35 AM - 09:40 AM	47.6	45.6	12:25 AM - 12:30 AM	54.9	52.9	12:55 AM - 1:00 AM	54.9	52.9
2:00 AM - 2:30 AM	57.4	47.4	09:40 AM - 09:45 AM	47.5	45.5	12:30 AM - 12:35 AM	54.9	52.9	1:00 AM - 1:05 AM	54.9	52.9
2:30 AM - 3:00 AM	57.5	47.5	09:45 AM - 09:50 AM	47.4	45.4	12:35 AM - 12:40 AM	54.9	52.9	1:05 AM - 1:10 AM	54.9	52.9
3:00 AM - 3:30 AM	57.6	47.6	09:50 AM - 09:55 AM	47.3	45.3	12:40 AM - 12:45 AM	54.9	52.9	1:10 AM - 1:15 AM	54.9	52.9
3:30 AM - 4:00 AM	57.7	47.7	09:55 AM - 10:00 AM	47.2	45.2	12:45 AM - 12:50 AM	54.9	52.9	1:15 AM - 1:20 AM	54.9	52.9
4:00 AM - 4:30 AM	57.8	47.8	10:00 AM - 10:05 AM	47.1	45.1	12:50 AM - 12:55 AM	54.9	52.9	1:20 AM - 1:25 AM	54.9	52.9
4:30 AM - 5:00 AM	57.9	47.9	10:05 AM - 10:10 AM	47.0	45.0	12:55 AM - 1:00 AM	54.9	52.9	1:25 AM - 1:30 AM	54.9	52.9
5:00 AM - 5:30 AM	58.0	48.0	10:10 AM - 10:15 AM	46.9	44.9	1:00 AM - 1:05 AM	54.9	52.9	1:30 AM - 1:35 AM	54.9	52.9
5:30 AM - 6:00 AM	58.1	48.1	10:15 AM - 10:20 AM	46.8	44.8	1:05 AM - 1:10 AM	54.9	52.9	1:35 AM - 1:40 AM	54.9	52.9
6:00 AM - 6:30 AM	58.2	48.2	10:20 AM - 10:25 AM	46.7	44.7	1:10 AM - 1:15 AM	54.9	52.9	1:40 AM - 1:45 AM	54.9	52.9
6:30 AM - 7:00 AM	58.3	48.3	10:25 AM - 10:30 AM	46.6	44.6	1:15 AM - 1:20 AM	54.9	52.9	1:45 AM - 1:50 AM	54.9	52.9
7:00 AM - 7:30 AM	58.4	48.4	10:30 AM - 10:35 AM	46.5	44.5	1:20 AM - 1:25 AM	54.9	52.9	1:50 AM - 1:55 AM	54.9	52.9
7:30 AM - 8:00 AM	58.5	48.5	10:35 AM - 10:40 AM	46.4	44.4	1:25 AM - 1:30 AM	54.9	52.9	1:55 AM - 2:00 AM	54.9	52.9
8:00 AM - 8:30 AM	58.6	48.6	10:40 AM - 10:45 AM	46.3	44.3	1:30 AM - 1:35 AM	54.9	52.9	2:00 AM - 2:05 AM	54.9	52.9
8:30 AM - 9:00 AM	58.7	48.7	10:45 AM - 10:50 AM	46.2	44.2	1:35 AM - 1:40 AM	54.9	52.9	2:05 AM - 2:10 AM	54.9	52.9
9:00 AM - 9:30 AM	58.8	48.8	10:50 AM - 10:55 AM	46.1	44.1	1:40 AM - 1:45 AM	54.9				



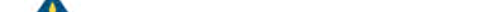
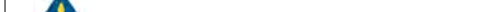
RIGHT SOLUTIONS. PROUDLY PRINTED IN THE U.S.A.

RIGHT SOLUTIONS: inspire. impact. improve.

RIGHT SOLUTIONS • RIGHT PARTNERS


RIGHT SOLUTIONS. RIGHT PARTNERS.











<div>  </div>									
<div> <div>Client : Rajan Industrial Park Public Co., Ltd.</div> <div>168 Rue 4, Sattapong-Chaengwong Road, Bawn, Sriracha, Chonburi Thailand 20330</div> </div>									
<div> <div>P/O : R2N/0009/06</div> <div>Project Name : Chantorn Bawn</div> <div>Project Location : Chantorn Bawn</div> </div>									
<div> <div>Sample Number : 2412007-26</div> <div>Parameter : Noise Level (eq 5 min)</div> <div>Location : N4 : ฝั่งซ้ายหน้าหลัง 5 ไร่ (จุดวัด) (GPS 47° 07'31.44", 146°00'27.00")</div> <div>Measurement Date : Dec 01 - Dec 02, 2024</div> <div>Measurement by : Mongkorn Phattasri</div> <div>Sound Level meter : Serial : 0027109</div> </div>									
<div> <div> <div>Dec 01, 2024</div> <div>Time</div> <div>Leq L90</div> <div>dB(A)</div> <div>Dec 01 - Dec 02, 2024</div> <div>Leq L90</div> <div>dB(A)</div> <div>Dec 02, 2024</div> <div>Leq L90</div> <div>dB(A)</div> </div> </div>									
08:00 PM - 08:05 PM	53.4	48.5	10:40 PM - 10:45 PM	56.3	47.4	01:30 AM - 01:35 AM	53.4	47.9	
08:05 PM - 08:10 PM	50.4	50.3	10:45 PM - 10:50 PM	52.4	45.4	01:35 AM - 01:40 AM	55.3	48.0	
08:10 PM - 08:15 PM	50.0	51.1	10:50 PM - 10:55 PM	56.9	48.3	01:40 AM - 01:45 AM	53.6	47.2	
08:15 PM - 08:20 PM	53.6	50.9	10:55 PM - 11:00 PM	53.6	47.5	01:45 AM - 01:50 AM	54.1	46.0	
08:20 PM - 08:25 PM	55.4	52.3	11:00 PM - 11:05 PM	54.2	47.3	01:50 AM - 01:55 AM	53.8	47.0	
08:25 PM - 08:30 PM	56.7	53.1	11:05 PM - 11:10 PM	52.3	46.5	01:55 AM - 01:59 AM	53.5	46.5	
08:30 PM - 08:35 PM	57.0	51.9	11:10 PM - 11:15 PM	53.8	47.7	01:59 AM - 01:59 AM	56.9	47.9	
08:35 PM - 08:40 PM	56.7	53.8	11:15 PM - 11:20 PM	55.0	48.5	01:59 AM - 02:00 AM	54.7	49.3	
08:40 PM - 08:45 PM	58.0	52.1	11:20 PM - 11:25 PM	55.0	47.5	02:00 AM - 02:05 AM	55.0	48.4	
08:45 PM - 08:50 PM	57.5	53.6	11:25 PM - 11:30 PM	59.6	48.2	02:05 AM - 02:10 AM	52.9	46.7	
08:50 PM - 08:55 PM	58.3	52.1	11:30 PM - 11:35 PM	59.0	50.4	02:10 AM - 02:15 AM	59.5	48.2	
08:55 PM - 09:00 PM	57.5	52.9	11:35 PM - 11:40 PM	56.2	49.8	02:15 AM - 02:20 AM	55.3	47.5	
09:00 PM - 09:05 PM	58.9	55.3	11:40 PM - 11:45 PM	58.4	50.4	02:20 AM - 02:25 AM	51.8	46.2	
09:05 PM - 09:10 PM	58.8	55.4	11:45 PM - 11:50 PM	56.0	50.4	02:25 AM - 02:30 AM	52.4	46.3	
09:10 PM - 09:15 PM	58.4	55.7	11:50 PM - 11:55 PM	58.3	49.3	02:30 AM - 02:35 AM	59.5	48.4	
09:15 PM - 09:20 PM	58.2	56.5	11:55 PM - 12:00 AM	54.2	48.8	02:35 AM - 02:40 AM	52.6	47.0	
09:20 PM - 09:25 PM	58.8	56.6	12:00 AM - 12:05 AM	57.4	47.8	02:40 AM - 02:45 AM	52.7	46.9	
09:25 PM - 09:30 PM	59.8	56.5	12:05 AM - 12:10 AM	57.4	47.8	02:45 AM - 02:50 AM	52.8	46.3	
09:30 PM - 09:35 PM	59.4	56.3	12:10 AM - 12:15 AM	54.4	48.0	02:50 AM - 02:55 AM	52.8	46.3	
09:35 PM - 09:40 PM	58.8	55.6	12:15 AM - 12:20 AM	55.8	48.5	02:55 AM - 03:00 AM	52.8	46.3	
09:40 PM - 09:45 PM	59.8	57.0	12:20 AM - 12:25 AM	54.6	47.9	03:00 AM - 03:05 AM	52.0	46.3	
09:45 PM - 09:50 PM	60.3	56.7	12:25 AM - 12:30 AM	57.7	47.1	03:05 AM - 03:10 AM	54.9	48.0	
09:50 PM - 09:55 PM	60.9	58.0	12:30 AM - 12:35 AM	55.2	47.2	03:10 AM - 03:15 AM	52.7	46.8	
09:55 PM - 10:00 PM	58.9	57.9	12:35 AM - 12:40 AM	54.1	46.7	03:15 AM - 03:20 AM	52.4	46.8	
10:00 PM - 10:05 PM	59.4	57.9	12:40 AM - 12:45 AM	54.4	47.6	03:20 AM - 03:25 AM	51.4	47.6	
10:05 PM - 10:10 PM	60.6	57.4	12:45 AM - 12:50 AM	53.5	47.1	03:25 AM - 03:30 AM	53.1	47.5	
10:10 PM - 10:15 PM	60.4	58.5	12:50 PM - 12:55 AM	53.8	47.2	03:30 AM - 03:35 AM	51.6	47.9	
10:15 PM - 10:20 PM	58.4	57.5	12:55 AM - 01:00 AM	54.3	47.6	03:35 AM - 03:40 AM	51.1	46.6	
10:20 PM - 10:25 PM	62.1	57.6	01:00 AM - 01:05 AM	53.5	48.4	03:40 AM - 03:45 AM	53.1	47.2	
10:25 PM - 10:30 PM	60.1	57.3	01:05 AM - 01:10 AM	56.7	49.3	03:45 AM - 03:50 AM	52.8	47.0	
10:30 PM - 10:35 PM	54.7	47.7	01:10 AM - 01:15 AM	54.1	46.7	03:50 AM - 03:55 AM	50.4	46.1	
10:35 PM - 10:40 PM	53.5	47.8	01:15 AM - 01:20 AM	54.9	47.9	03:55 AM - 04:00 AM	51.8	46.8	

Approved by  Sarayuth Jitranont  
 Assistant General Manager

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 ALL INFORMATION IS UNCLASSIFIED AND NOT FOR DISSEMINATION  
 PROJECT : 2412007-26 (PROJECT : 2412007-26)

<div>  </div>									
<div> <div>Client : Rajan Industrial Park Public Co., Ltd.</div> <div>168 Rue 4, Sattapong-Chaengwong Road, Bawn, Sriracha, Chonburi Thailand 20330</div> </div>									
<div> <div>P/O : R2N/0009/06</div> <div>Project Name : Chantorn Bawn</div> <div>Project Location : Chantorn Bawn</div> </div>									
<div> <div>Sample Number : 2412007-26</div> <div>Parameter : Noise Level (eq 5 min)</div> <div>Location : N4 : ฝั่งซ้ายหน้าหลัง 5 ไร่ (จุดวัด) (GPS 47° 07'31.44", 146°00'27.00")</div> <div>Measurement Date : Dec 01 - Dec 02, 2024</div> <div>Measurement by : Mongkorn Phattasri</div> <div>Sound Level meter : Serial : 0027109</div> </div>									
<div> <div> <div>Dec 02, 2024</div> <div>Time</div> <div>Leq L90</div> <div>dB(A)</div> <div>Dec 02, 2024</div> <div>Leq L90</div> <div>dB(A)</div> <div>Dec 02, 2024</div> <div>Leq L90</div> <div>dB(A)</div> </div> </div>									
08:00 AM - 08:05 AM	50.2	48.3	10:40 AM - 10:45 AM	63.0	58.7	08:30 AM - 08:35 AM	58.9	58.7	
08:05 AM - 08:10 AM	53.9	49.7	10:45 AM - 10:50 AM	61.2	56.1	08:35 AM - 08:40 AM	67.3	61.1	
08:10 AM - 08:15 AM	51.8	46.0	10:50 AM - 10:55 AM	61.0	55.3	08:40 AM - 08:45 AM	67.8	60.7	
08:15 AM - 08:20 AM	55.6	46.6	10:55 AM - 11:00 AM	62.0	56.0	08:45 AM - 08:50 AM	66.1	62.0	
08:20 AM - 08:25 AM	51.2	46.5	11:00 AM - 11:05 AM	61.1	56.2	08:50 AM - 08:55 AM	63.7	54.8	
08:25 AM - 08:30 AM	51.9	46.4	11:05 AM - 11:10 AM	60.0	55.5	08:55 AM - 09:00 AM	60.8	53.8	
08:30 AM - 08:35 AM	50.2	46.7	11:10 AM - 11:15 AM	58.9	55.4	09:00 AM - 09:05 AM	59.2	51.4	
08:35 AM - 08:40 AM	54.3	46.3	11:15 AM - 11:20 AM	60.7	57.2	09:05 AM - 09:10 AM	58.0	52.5	
08:40 AM - 08:45 AM	51.1	45.4	11:20 AM - 11:25 AM	60.5	54.7	09:10 AM - 09:15 AM	59.2	53.1	
08:45 AM - 08:50 AM	52.5	46.1	11:25 AM - 11:30 AM	60.6	56.5	09:15 AM - 09:20 AM	56.0	49.8	
08:50 AM - 08:55 AM	50.3	46.5	11:30 PM - 11:35 PM	60.8	56.1	09:20 AM - 09:25 AM	57.3	55.8	
08:55 AM - 09:00 AM	51.9	45.8	11:35 AM - 11:40 AM	60.4	56.0	09:25 AM - 09:30 AM	58.4	52.9	
09:00 AM - 09:05 AM	51.4	46.3	11:40 AM - 11:45 AM	61.0	55.3	09:30 AM - 09:35 AM	58.8	51.0	
09:05 AM - 09:10 AM	52.2	45.6	11:45 AM - 11:50 AM	60.2	57.7	09:35 AM - 09:40 AM	56.9	49.1	
09:10 PM - 09:15 PM	50.2	46.2	11:50 AM - 11:55 AM	58.7	54.7	09:40 AM - 09:45 AM	55.8	50.4	
09:15 AM - 09:20 AM	53.8	47.2	11:55 AM - 12:00 AM	60.2	54.7	09:45 AM - 09:50 AM	55.4	48.9	
09:20 AM - 09:25 AM	51.6	45.7	12:00 AM - 12:05 AM	59.5	54.6	09:50 AM - 09:55 AM	56.9	52.7	
09:25 AM - 09:30 AM	48.3	45.7	12:05 AM - 12:10 AM	61.0	54.7	09:55 AM - 10:00 AM	55.9	49.7	
09:30 AM - 09:35 PM	51.5	44.9	12:10 AM - 12:15 AM	60.5	55.8	10:00 AM - 10:05 AM	55.7	47.8	
09:35 AM - 09:40 AM	47.9	44.2	12:15 AM - 12:20 AM	60.4	55.2	10:05 AM - 10:10 AM	55.1	48.7	
09:40 AM - 09:45 AM	48.5	44.4	12:20 AM - 12:25 AM	59.2	54.5	10:10 AM - 11:15 AM	57.9	49.7	
09:45 AM - 09:50 AM	52.4	45.0	12:25 AM - 12:30 AM	58.4	53.2	11:15 AM - 11:20 AM	52.4	47.9	
09:50 PM - 09:55 PM	52.4	45.0	12:30 AM - 12:35 AM	54.1	54.3	11:25 AM - 11:30 AM	54.2	47.6	
09:55 PM - 10:00 PM	51.2	46.7	12:35 AM - 12:40 AM	56.4	51.2	11:30 AM - 11:35 AM	55.7	50.2	
10:00 PM - 10:05 PM	61.3	57.7	12:40 AM - 12:45 AM	58.9	53.4	11:35 AM - 11:40 AM	57.4	51.8	
10:05 PM - 10:10 PM	61.0	57.2	12:45 AM - 12:50 AM	58.1	52.0	11:40 PM - 11:45 AM	55.6	46.6	
10:10 PM - 10:15 PM	56.4	52.3	12:50 AM - 12:55 AM	62.7	54.1	11:45 PM - 11:50 AM	56.4	49.3	
10:15 PM - 10:20 PM	62.7	57.7	12:55 AM - 01:00 AM	67.9	62.0	11:50 AM - 11:55 AM	54.1	51.1	
10:20 AM - 10:25 PM	61.1	57.0	01:00 AM - 01:05 AM	68.8	62.5	11:55 AM - 12:00 AM	55.3	48.2	
10:25 AM - 10:30 PM	62.1	56.0	01:05 AM - 01:10 AM	62.1	56.0	12:00 AM - 12:05 AM	54.5	48.1	
10:30 PM - 10:35 PM	60.2	57.2	01:10 AM - 01:15 AM	68.0	62.2	12:05 PM - 12:10 PM	50.0	50.1	

Approved by  Sarayuth Jitranont  
 Assistant General Manager

ADDRESS: 61/10 Moo 5, T. Maenon Kh. A. Haddayon Rajan 21140 Thailand | PHONE : +66 8 330 855 | FAX : +66 8 330 856  
 ALL INFORMATION IS UNCLASSIFIED AND NOT FOR DISSEMINATION  
 PROJECT : 2412007-26 (PROJECT : 2412007-26)

Client : Rajan Industrial Park Public Co., Ltd.  
168 Rue 4, Sattapong-Chaengwong Road, Bawn, Sriracha, Chonburi Thailand 20330

Lot ID: 24120077  
Date Received: Dec 07, 2024  
Date Reported: Dec 13, 2024  
Report Number : 3391241-1

P/O : R2N/0009/06  
Project Name : Chantorn Bawn  
Project Location : Chantorn Bawn

Sample Number : 2412007-27  
Parameter : Noise Level (eq 5 min)  
Location : N4 : ฝั่งซ้ายหน้าหลัง 5 ไร่ (จุดวัด) (GPS 47° 07'31.44", 146°00'27.00")  
Measurement Date : Dec 02 - Dec 03, 2024  
Measurement by : Mongkorn Phattasri  
Sound Level meter : Serial No. 0027109

Dec 02, 2024	Time	Leq	L90	Dec 02, 2024	Time	Leq	L90	Dec 02, 2024	Time	Leq	L90
Dec 02, 2024	Time	Leq	dB(A)	Dec 02, 2024	Time	Leq	dB(A)	Dec 02, 2024	Time	Leq	dB(A)
12:00 PM - 12:05 PM	58.1	50.3	02:40 PM - 02:45 PM	58.3	48.1	05:30 PM - 05:35 PM	53.8	48.3			
12:05 PM - 12:10 PM	57.5	51.1	02:45 PM - 02:50 PM	56.4	48.7	05:35 PM - 05:40 PM	55.1	48.3			
12:10 PM - 12:15 PM	55.4	49.6	02:50 PM - 02:55 PM	56.6	48.8	05:40 PM - 05:45 PM	51.8	48.4			
12:15 PM - 12:20 PM	56.4	50.4	02:55 PM - 03:00 PM	56.0	49.3	05:45 PM - 05:50 PM	54.1	48.9			
12:20 PM - 12:25 PM	58.6	48.5	03:00 PM - 03:05 PM	56.5	50.2	05:50 PM - 05:55 PM	54.2	48.4			
12:25 PM - 12:30 PM	57.3	49.5	03:05 PM - 03:10 PM	55.9	49.1	05:55 PM - 06:00 PM	54.2	49.2			
12:30 PM - 12:35 PM	55.0	49.0	03:10 PM - 03:15 PM	53.8	48.4	06:00 PM - 06:05 PM	54.5	49.0			
12:35 PM - 12:40 PM	54.8	49.0	03:15 PM - 03:20 PM	57.6	49.1	06:05 PM - 06:10 PM	54.8	48.6			
12:40 PM - 12:45 PM	56.1	49.2	03:20 PM - 03:25 PM	53.5	48.5	06:10 PM - 06:15 PM	53.3	47.8			
12:45 PM - 12:50 PM	56.3	48.8	03:25 PM - 03:30 PM	57.1	49.1	06:15 PM - 06:20 PM	53.5	47.5			
12:50 PM - 12:55 PM	58.7	50.1	03:30 PM - 03:35 PM	58.2	50.7	06:20 PM - 06:25 PM	53.4	46.8			
12:55 PM - 01:00 PM	56.7	49.9	03:35 PM - 03:40 PM	57.2	51.5	06:25 PM - 06:30 PM	54.1	46.2			
01:00 PM - 01:05 PM	57.7	49.0	03:40 PM - 03:45 PM	60.0	51.9	06:30 PM - 06:35 PM	57.2	47.8			
01:05 PM - 01:10 PM	57.0	50.4	03:45 PM - 03:50 PM	56.8	50.2	06:35 PM - 06:40 PM	56.4	46.7			
01:10 PM - 01:15 PM	58.4	50.3	03:50 PM - 03:55 PM	57.0	49.9	06:40 PM - 06:45 PM	56.0	47.6			
01:15 PM - 01:20 PM	53.3	47.9	03:55 PM - 04:00 PM	54.5	50.0	06:45 PM - 06:50 PM	56.0	47.6			
01:20 PM - 01:25 PM	56.8	50.2	04:00 PM - 04:05 PM	53.5	49.1	06:50 PM - 06:55 PM	55.1	48.9			
01:25 PM - 01:30 PM	55.1	49.1	04:05 PM - 04:10 PM	59.7	49.6	06:55 PM - 07:00 PM	56.5	49.3			
01:30 PM - 01:35 PM	56.4	49.0	04:10 PM - 04:15 PM	56.4	49.5	06:59 PM - 07:05 PM	54.1	48.1			
01:35 PM - 01:40 PM	56.7	50.1	04:15 PM - 04:20 PM	52.7	47.8	06:59 PM - 07:00 PM	52.9	47.1			
01:40 PM - 01:45 PM	55.9	49.7	04:20 PM - 04:25 PM	53.4	47.5	07:00 PM - 07:05 PM	50.5	46.0			
01:45 PM - 01:50 PM	57.6	50.4	04:25 PM - 04:30 PM	56.7	48.0	07:05 PM - 07:10 PM	53.5	47.0			
01:50 PM - 01:55 PM	53.0	47.5	04:30 PM - 04:35 PM	52.4	47.4	07:10 PM - 07:15 PM	63.2	48.2			
01:55 PM - 02:00 PM	56.6	51.0	04:35 PM - 04:40 PM	56.4	47.3	07:15 PM - 07:20 PM	54.1	46.1			
02:00 PM - 02:05 PM	56.6	49.8	04:40 PM - 04:45 PM	54.0	47.9	07:20 PM - 07:25 PM	50.7	45.6			
02:05 PM - 02:10 PM	54.8	49.4	04:45 PM - 04:50 PM	53.3	47.8	07:25 PM - 07:30 PM	53.8	45.7			
02:10 PM - 02:15 PM	56.5	48.1	04:50 PM - 04:55 PM	53.9	47.6	07:30 PM - 07:35 PM	51.6	45.6			
02:15 PM - 02:20 PM	55.3	48.3	04:55 PM - 05:00 PM	54.0	48.1	07:35 PM - 07:40 PM	55.1	46.5			
02:20 PM - 02:25 PM	56.2	48.4	05:00 PM - 05:05 PM	52.5	47.9	07:40 PM - 07:45 PM	56.2	45.8			
02:25 PM - 02:30 PM	55.9	48.9	05:05 PM - 05:10 PM	51.9	47.7	07:45 PM - 07:50 PM	53.2	47.6			
02:30 PM - 02:35 PM	56.4	52.4	05:10 PM - 05:15 PM	52.9	47.8	07:50 PM - 07:55 PM	54.1	46.1			
02:35 PM - 02:40 PM	54.9	47.1	05:15 PM - 05:20 PM	55.3	48.3	07:55 PM - 08:00 PM	55.5	46.1			

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## Analysis / Test Report

Client : Rogana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattang-Chaengnag Road, Bowin, Sriracha, Chonburi Thailand 20230

P/O : 83N/89009/96  
Project Name : Chonburi Bowin  
Project Location :

Sample No. : 24126078-1  
Parameter : H<sub>2</sub>S (mg/m<sup>3</sup>)  
Location : N1 : หมู่บ้าน (GPS 47° 07'28.00", 14°45'48")  
Measurement Date : Nov 27 - 28, 2024  
Measurement by : Mongkorn Phatphub  
Sound Level Meter : 62388

Lot ID: 24126078  
Date Received: Dec 07, 2024  
Date Reported: Dec 11, 2024  
Report Number : 3189553-1

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		ชนิดสินค้า (GR4)				อัตรา ต้นทุน
วัน	เดือน	ข้อมูล ตามพื้นที่	ข้อมูล ตามสาขา	ข้อมูลตาม สาขา	ข้อมูล รวม	
12:00 AM - 12:05 AM	12	53.2	52.9	52.9	53.0	52.7
12:05 AM - 12:10 AM	12	53.2	52.9	52.9	53.0	52.7
12:10 AM - 12:15 AM	12	53.2	52.9	52.9	53.0	52.7
12:15 AM - 12:20 AM	12	53.2	52.9	52.9	53.0	52.7
12:20 AM - 12:25 AM	12	53.2	52.9	52.9	53.0	52.7
12:25 AM - 12:30 AM	12	53.2	52.9	52.9	53.0	52.7
12:30 AM - 12:35 AM	12	53.2	52.9	52.9	53.0	52.7
12:35 AM - 12:40 AM	12	53.2	52.9	52.9	53.0	52.7
12:40 AM - 12:45 AM	12	53.2	52.9	52.9	53.0	52.7
12:45 AM - 12:50 AM	12	53.2	52.9	52.9	53.0	52.7
12:50 AM - 12:55 AM	12	53.2	52.9	52.9	53.0	52.7
12:55 AM - 01:00 AM	12	53.2	52.9	52.9	53.0	52.7
01:00 AM - 01:05 AM	12	53.2	52.9	52.9	53.0	52.7
01:05 AM - 01:10 AM	12	53.2	52.9	52.9	53.0	52.7
01:10 AM - 01:15 AM	12	53.2	52.9	52.9	53.0	52.7
01:15 AM - 01:20 AM	12	53.2	52.9	52.9	53.0	52.7
01:20 AM - 01:25 AM	12	53.2	52.9	52.9	53.0	52.7
01:25 AM - 01:30 AM	12	53.2	52.9	52.9	53.0	52.7
01:30 AM - 01:35 AM	12	53.2	52.9	52.9	53.0	52.7
01:35 AM - 01:40 AM	12	53.2	52.9	52.9	53.0	52.7
01:40 AM - 01:45 AM	12	53.2	52.9	52.9	53.0	52.7
01:45 AM - 01:50 AM	12	53.2	52.9	52.9	53.0	52.7
01:50 AM - 01:55 AM	12	53.2	52.9	52.9	53.0	52.7
01:55 AM - 02:00 AM	12	53.2	52.9	52.9	53.0	52.7
02:00 AM - 02:05 AM	12	53.2	52.9	52.9	53.0	52.7
02:05 AM - 02:10 AM	12	53.2	52.9	52.9	53.0	52.7
02:10 AM - 02:15 AM	12	53.2	52.9	52.9	53.0	52.7
02:15 AM - 02:20 AM	12	53.2	52.9	52.9	53.0	52.7
02:20 AM - 02:25 AM	12	53.2	52.9	52.9	53.0	52.7
02:25 AM - 02:30 AM	12	53.2	52.9	52.9	53.0	52.7
02:30 AM - 02:35 AM	12	53.2	52.9	52.9	53.0	52.7
02:35 AM - 02:40 AM	12	53.2	52.9	52.9	53.0	52.7
02:40 AM - 02:45 AM	12	53.2	52.9	52.9	53.0	52.7
02:45 AM - 02:50 AM	12	53.2	52.9	52.9	53.0	52.7
02:50 AM - 02:55 AM	12	53.2	52.9	52.9	53.0	52.7
02:55 AM - 03:00 AM	12	53.2	52.9	52.9	53.0	52.7
03:00 AM - 03:05 AM	12	53.2	52.9	52.9	53.0	52.7
03:05 AM - 03:10 AM	12	53.2	52.9	52.9	53.0	52.7
03:10 AM - 03:15 AM	12	53.2	52.9	52.9	53.0	52.7
03:15 AM - 03:20 AM	12	53.2	52.9	52.9	53.0	52.7
03:20 AM - 03:25 AM	12	53.2	52.9	52.9	53.0	52.7
03:25 AM - 03:30 AM	12	53.2	52.9	52.9	53.0	52.7
03:30 AM - 03:35 AM	12	53.2	52.9	52.9	53.0	52.7
03:35 AM - 03:40 AM	12	53.2	52.9	52.9	53.0	52.7
03:40 AM - 03:45 AM	12	53.2	52.9	52.9	53.0	52.7
03:45 AM - 03:50 AM	12	53.2	52.9	52.9	53.0	52.7
03:50 AM - 03:55 AM	12	53.2	52.9	52.9	53.0	52.7
03:55 AM - 04:00 AM	12	53.2	52.9	52.9	53.0	52.7
04:00 AM - 04:05 AM	12	53.2	52.9	52.9	53.0	52.7
04:05 AM - 04:10 AM	12	53.2	52.9	52.9	53.0	52.7
04:10 AM - 04:15 AM	12	53.2	52.9	52.9	53.0	52.7
04:15 AM - 04:20 AM	12	53.2	52.9	52.9	53.0	52.7
04:20 AM - 04:25 AM	12	53.2	52.9	52.9	53.0	52.7
04:25 AM - 04:30 AM	12	53.2	52.9	52.9	53.0	52.7
04:30 AM - 04:35 AM	12	53.2	52.9	52.9	53.0	52.7
04:35 AM - 04:40 AM	12	53.2	52.9	52.9	53.0	52.7
04:40 AM - 04:45 AM	12	53.2	52.9	52.9	53.0	52.7
04:45 AM - 04:50 AM	12	53.2	52.9	52.9	53.0	52.7
04:50 AM - 04:55 AM	12	53.2	52.9	52.9	53.0	52.7
04:55 AM - 05:00 AM	12	53.2	52.9	52.9	53.0	52.7
05:00 AM - 05:05 AM	12	53.2	52.9	52.9	53.0	52.7
05:05 AM - 05:10 AM	12	53.2	52.9	52.9	53.0	52.7
05:10 AM - 05:15 AM	12	53.2	52.9	52.9	53.0	52.7
05:15 AM - 05:20 AM	12	53.2	52.9	52.9	53.0	52.7
05:20 AM - 05:25 AM	12	53.2	52.9	52.9	53.0	52.7
05:25 AM - 05:30 AM	12	53.2	52.9	52.9	53.0	52.7
05:30 AM - 05:35 AM	12	53.2	52.9	52.9	53.0	52.7
05:35 AM - 05:40 AM	12	53.2	52.9	52.9	53.0	52.7
05:40 AM - 05:45 AM	12	53.2	52.9	52.9	53.0	52.7
05:45 AM - 05:50 AM	12	53.2	52.9	52.9	53.0	52.7
05:50 AM - 05:55 AM	12	53.2	52.9	52.9	53.0	52.7
05:55 AM - 06:00 AM	12	53.2	52.9	52.9	53.0	52.7
06:00 AM - 06:05 AM	12	53.2	52.9	52.9	53.0	52.7
06:05 AM - 06:10 AM	12	53.2	52.9	52.9	53.0	52.7
06:10 AM - 06:15 AM	12	53.2	52.9	52.9	53.0	52.7
06:15 AM - 06:20 AM	12	53.2	52.9	52.9	53.0	52.7
06:20 AM - 06:25 AM	12	53.2	52.9	52.9	53.0	52.7
06:25 AM - 06:30 AM	12	53.2	52.9	52.9	53.0	52.7
06:30 AM - 06:35 AM	12	53.2	52.9	52.9	53.0	52.7
06:35 AM - 06:40 AM	12	53.2	52.9	52.9	53.0	52.7
06:40 AM - 06:45 AM	12	53.2	52.9	52.9	53.0	52.7
06:45 AM - 06:50 AM	12	53.2	52.9	52.9	53.0	52.7
06:50 AM - 06:55 AM	12	53.2	52.9	52.9	53.0	52.7
06:55 AM - 07:00 AM	12	53.2	52.9	52.9	53.0	52.7
07:00 AM - 07:05 AM	12	53.2	52.9	52.9	53.0	52.7
07:05 AM - 07:10 AM	12	53.2	52.9	52.9	53.0	52.7
07:10 AM - 07:15 AM	12	53.2	52.9	52.9	53.0	52.7
07:15 AM - 07:20 AM	12	53.2	52.9	52.9	53.0	52.7
07:20 AM - 07:25 AM	12	53.2	52.9	52.9	53.0	52.7
07:25 AM - 07:30 AM	12	53.2	52.9	52.9	53.0	52.7
07:30 AM - 07:35 AM	12	53.2	52.9	52.9	53.0	52.7
07:35 AM - 07:40 AM	12	53.2	52.9	52.9	53.0	52.7
07:40 AM - 07:45 AM	12	53.2	52.9	52.9	53.0	52.7
07:45 AM - 07:50 AM	12	53.2	52.9	52.9	53.0	52.7
07:50 AM - 07:55 AM	12	53.2	52.9	52.9	53.0	52.7
07:55 AM - 08:00 AM	12	53.2	52.9	52.9	53.0	52.7
08:00 AM - 08:05 AM	12	53.2	52.9	52.9	53.0	52.7
08:05 AM - 08:10 AM	12	53.2	52.9	52.9	53.0	52.7
08:10 AM - 08:15 AM	12	53.2	52.9	52.9	53.0	52.7
08:15 AM - 08:20 AM	12	53.2	52.9	52.9	53.0	52.7
08:20 AM - 08:25 AM	12	53.2	52.9	52.9	53.0	52.7
08:25 AM - 08:30 AM	12	53.2	52.9	52.9	53.0	52.7
08:30 AM - 08:35 AM	12	53.2	52.9	52.9	53.0	52.7
08:35 AM - 08:40 AM	12	53.2	52.9	52.9	53.0	52.7
08:40 AM - 08:45 AM	12	53.2	52.9	52.9	53.0	52.7
08:45 AM - 08:50 AM	12	53.2	52.9	52.9	53.0	52.7
08:50 AM - 08:55 AM	12	53.2	52.9	52.9	53.0	52.7
08:55 AM - 09:00 AM	12	53.2	52.9	52.9	53.0	52.7
09:00 AM - 09:05 AM	12	53.2	52.9	52.9	53.0	52.7
09:05 AM - 09:10 AM	12	53.2	52.9	52.9	53.0	52.7
09:10 AM - 09:15 AM	12	53.2	52.9	52.9	53.0	52.7
09:15 AM - 09:20 AM	12	53.2	52.9	52.9	53.0	52.7
09:20 AM - 09:25 AM	12	53.2	52.9	52.9	53.0	52.7
09:25 AM - 09:30 AM	12	53.2	52.9	52.9	53.0	52.7
09:30 AM - 09:35 AM	12	53.2	52.9	52.9	53.0	52.7
09:35 AM - 09:40 AM	12	53.2	52.9	52.9	53.0	52.7
09:40 AM - 09:45 AM	12	53.2	52.9	52.9	53.0	52.7
09:45 AM - 09:50 AM	12	53.2	52.9	52.9	53.0	52.7
09:50 AM - 09:55 AM	12	53.2	52.9	52.9	53.0	52.7
09:55 AM - 10:00 AM	12	53.2	52.9	52.9	53.0	52.7
10:00 AM - 10:05 AM	12	53.2	52.9	52.9	53.0	52.7
10:05 AM - 10:10 AM	12	53.2	52.9	52.9	53.0	52.7
10:10 AM - 10:15 AM	12	53.2	52.9	52.9	53.0	52.7
10:15 AM - 10:20 AM	12	53.2	52.9	52.9	53.0	52.7
10:20 AM - 10:25 AM	12	53.2	52.9	52.9	53.0	52.7
10:25 AM - 10:30 AM	12	53.2	52.9	52.9	53.0	52.7
10:30 AM - 10:35 AM	12	53.2	52.9	52.9	53.0	52.7
10:35 AM - 10:40 AM	12	53.2	52.9	52.9	53.0	52.7
10:40 AM - 10:45 AM	12	53.2	52.9	52.9	53.0	52.7
10:45 AM - 10:50 AM	12	53.2	52.9	52.9	53.0	52.7
10:50 AM - 10:55 AM	12	53.2	52.9	52.9	53.0	52.7
10:55 AM - 11:00 AM	12	53.2	52.9	52.9	53.0	52.7
11:00 AM - 11:05 AM	12	53.2	52.9	52.9	53.0	52.7
11:05 AM - 11:10 AM	12	53.2	52.9	52.9	53.0	52.7
11:10 AM - 11:15 AM	12	53.2	52.9	52.9	53.0	52.7
11:15 AM - 11:20 AM	12	53.2	52.9	52.9	53.0	52.7
11:20 AM - 11:25 AM	12	53.2	52.9	52.9	53.0	52.7
11:25 AM - 11:30 AM	12	53.2	52.9	52.9	53.0	52.7
11:30 AM - 11:35 AM	12	53.2	52.9	52.9	53.0	52.7
11:35 AM - 11:40 AM	12	53.2	52.9	52.9	53.0	52.7
11:40 AM - 11:45 AM	12	53.2	52.9	52.9	53.0	52.7
11:45 AM - 11:50 AM	12	53.2	52.9	52.9	53.0	52.7
11:50 AM - 11:55 AM	12	53.2	52.9	52.9	53.0	52.7
11:55 AM - 12:00 AM	12	53.2	52.9	52.9	53.0	52.7
12:00 AM - 12:05 AM	12	53.2	52.9	52.9	53.0	52.7
12:05 AM - 12:10 AM	12	53.2	52.9	52.9	53.0	52.7
12:10 AM - 12:15 AM	12	53.2	52.9	52.9	53.0	52.7
12:15 AM - 12:20 AM	12	53.2	52.9	52.9	53.0	52.7
12:20 AM - 12:25 AM	12	53.2	52.9	52.9	53.0	52.7
12:25 AM - 12:30 AM	12	53.2	52.9	52.9	53.0	52.7
12:30 AM - 12:35 AM	12	53.2	52.9	52.9	53.0	52.7
12:35 AM - 12:40 AM	12	53.2	52.9	52.9	53.0	52.7
12:40 AM - 12:45 AM	12	53.2	52.9	52.9	53.0	52.7
12:45 AM - 12:50 AM	12	53.2	52.9	52.9	53.0	52.7
12:50 AM - 12:55 AM	12	53.2	52.9	52.9	53.0	52.7
12:55 AM - 01:00 AM	12	53.2	52.9	52.9	53.0	52.7
01:00 AM - 01:05 AM	12	53.2	52.9	52.9	53.0	52.7
01:05 AM - 01:10 AM	12	53.2	52.9	52.9	53.0	52.7
01:10 AM - 01:15 AM	12	53.2	52.9	52.9	53.0	52.7
01:15 AM - 01:20 AM	12	53.2	52.9	52.9	53.0	52.7
01:20 AM - 01:25 AM	12	53.2	52.9	52.9	53.0	52.7
01:25 AM - 01:30 AM	12	53.2	52.9	52.9	53.0	52.7
01:30 AM - 01:35 AM	12	53.2	52.9	52.9	53.0	52.7
01:35 AM - 01:40 AM	12	53.2	52.9	52.9	53.0	







## Analysis / Test Report

Client : Rogina Industrial Park Public Co., Ltd.  
146 Moo 4, Sattahip-Changeroo Road, Boin, Sriracha, Chonburi Thailand 2020

Lot ID: 24126078  
Date Reported: Dec 11, 2024  
Report Number : 3185962-1

P/O : 83M-89009/6  
Project Name : Chorburi Boin  
Project Location :

Sample No. : 24126078-9  
Parameter : Bismuth  
Location : N2 : (อสังหาริมทรัพย์) (GPS 0729495, 144581)  
Measurement Date : Nov 29 - 30, 2024  
Measurement by : Mongkol Phatthapong  
Sound Level Meter : 62394

ข้อมูลทั่วไป (General Information)					
เวลา	ทิศทาง	ความเร็ว	ความถี่	ความถี่	ความถี่
12:00 AM - 12:01 AM	47.9	48.9	0.0	48.5	0.0
12:01 AM - 12:02 AM	47.9	48.9	0.0	48.5	0.0
12:02 AM - 12:03 AM	47.9	48.9	0.0	48.5	0.0
12:03 AM - 12:04 AM	47.9	48.9	0.0	48.5	0.0
12:04 AM - 12:05 AM	47.9	48.9	0.0	48.5	0.0
12:05 AM - 12:06 AM	47.9	48.9	0.0	48.5	0.0
12:06 AM - 12:07 AM	47.9	48.9	0.0	48.5	0.0
12:07 AM - 12:08 AM	47.9	48.9	0.0	48.5	0.0
12:08 AM - 12:09 AM	47.9	48.9	0.0	48.5	0.0
12:09 AM - 12:10 AM	47.9	48.9	0.0	48.5	0.0
12:10 AM - 12:11 AM	47.9	48.9	0.0	48.5	0.0
12:11 AM - 12:12 AM	47.9	48.9	0.0	48.5	0.0
12:12 AM - 12:13 AM	47.9	48.9	0.0	48.5	0.0
12:13 AM - 12:14 AM	47.9	48.9	0.0	48.5	0.0
12:14 AM - 12:15 AM	47.9	48.9	0.0	48.5	0.0
12:15 AM - 12:16 AM	47.9	48.9	0.0	48.5	0.0
12:16 AM - 12:17 AM	47.9	48.9	0.0	48.5	0.0
12:17 AM - 12:18 AM	47.9	48.9	0.0	48.5	0.0
12:18 AM - 12:19 AM	47.9	48.9	0.0	48.5	0.0
12:19 AM - 12:20 AM	47.9	48.9	0.0	48.5	0.0
12:20 AM - 12:21 AM	47.9	48.9	0.0	48.5	0.0
12:21 AM - 12:22 AM	47.9	48.9	0.0	48.5	0.0
12:22 AM - 12:23 AM	47.9	48.9	0.0	48.5	0.0
12:23 AM - 12:24 AM	47.9	48.9	0.0	48.5	0.0
12:24 AM - 12:25 AM	47.9	48.9	0.0	48.5	0.0
12:25 AM - 12:26 AM	47.9	48.9	0.0	48.5	0.0
12:26 AM - 12:27 AM	47.9	48.9	0.0	48.5	0.0
12:27 AM - 12:28 AM	47.9	48.9	0.0	48.5	0.0
12:28 AM - 12:29 AM	47.9	48.9	0.0	48.5	0.0
12:29 AM - 12:30 AM	47.9	48.9	0.0	48.5	0.0
12:30 AM - 12:31 AM	47.9	48.9	0.0	48.5	0.0
12:31 AM - 12:32 AM	47.9	48.9	0.0	48.5	0.0
12:32 AM - 12:33 AM	47.9	48.9	0.0	48.5	0.0
12:33 AM - 12:34 AM	47.9	48.9	0.0	48.5	0.0
12:34 AM - 12:35 AM	47.9	48.9	0.0	48.5	0.0
12:35 AM - 12:36 AM	47.9	48.9	0.0	48.5	0.0
12:36 AM - 12:37 AM	47.9	48.9	0.0	48.5	0.0
12:37 AM - 12:38 AM	47.9	48.9	0.0	48.5	0.0
12:38 AM - 12:39 AM	47.9	48.9	0.0	48.5	0.0
12:39 AM - 12:40 AM	47.9	48.9	0.0	48.5	0.0
12:40 AM - 12:41 AM	47.9	48.9	0.0	48.5	0.0
12:41 AM - 12:42 AM	47.9	48.9	0.0	48.5	0.0
12:42 AM - 12:43 AM	47.9	48.9	0.0	48.5	0.0
12:43 AM - 12:44 AM	47.9	48.9	0.0	48.5	0.0
12:44 AM - 12:45 AM	47.9	48.9	0.0	48.5	0.0
12:45 AM - 12:46 AM	47.9	48.9	0.0	48.5	0.0
12:46 AM - 12:47 AM	47.9	48.9	0.0	48.5	0.0
12:47 AM - 12:48 AM	47.9	48.9	0.0	48.5	0.0
12:48 AM - 12:49 AM	47.9	48.9	0.0	48.5	0.0
12:49 AM - 12:50 AM	47.9	48.9	0.0	48.5	0.0
12:50 AM - 12:51 AM	47.9	48.9	0.0	48.5	0.0
12:51 AM - 12:52 AM	47.9	48.9	0.0	48.5	0.0
12:52 AM - 12:53 AM	47.9	48.9	0.0	48.5	0.0
12:53 AM - 12:54 AM	47.9	48.9	0.0	48.5	0.0
12:54 AM - 12:55 AM	47.9	48.9	0.0	48.5	0.0
12:55 AM - 12:56 AM	47.9	48.9	0.0	48.5	0.0
12:56 AM - 12:57 AM	47.9	48.9	0.0	48.5	0.0
12:57 AM - 12:58 AM	47.9	48.9	0.0	48.5	0.0
12:58 AM - 12:59 AM	47.9	48.9	0.0	48.5	0.0
12:59 AM - 1:00 AM	47.9	48.9	0.0	48.5	0.0
1:00 AM - 1:01 AM	47.9	48.9	0.0	48.5	0.0
1:01 AM - 1:02 AM	47.9	48.9	0.0	48.5	0.0
1:02 AM - 1:03 AM	47.9	48.9	0.0	48.5	0.0
1:03 AM - 1:04 AM	47.9	48.9	0.0	48.5	0.0
1:04 AM - 1:05 AM	47.9	48.9	0.0	48.5	0.0
1:05 AM - 1:06 AM	47.9	48.9	0.0	48.5	0.0
1:06 AM - 1:07 AM	47.9	48.9	0.0	48.5	0.0
1:07 AM - 1:08 AM	47.9	48.9	0.0	48.5	0.0
1:08 AM - 1:09 AM	47.9	48.9	0.0	48.5	0.0
1:09 AM - 1:10 AM	47.9	48.9	0.0	48.5	0.0
1:10 AM - 1:11 AM	47.9	48.9	0.0	48.5	0.0
1:11 AM - 1:12 AM	47.9	48.9	0.0	48.5	0.0
1:12 AM - 1:13 AM	47.9	48.9	0.0	48.5	0.0
1:13 AM - 1:14 AM	47.9	48.9	0.0	48.5	0.0
1:14 AM - 1:15 AM	47.9	48.9	0.0	48.5	0.0
1:15 AM - 1:16 AM	47.9	48.9	0.0	48.5	0.0
1:16 AM - 1:17 AM	47.9	48.9	0.0	48.5	0.0
1:17 AM - 1:18 AM	47.9	48.9	0.0	48.5	0.0
1:18 AM - 1:19 AM	47.9	48.9	0.0	48.5	0.0
1:19 AM - 1:20 AM	47.9	48.9	0.0	48.5	0.0
1:20 AM - 1:21 AM	47.9	48.9	0.0	48.5	0.0
1:21 AM - 1:22 AM	47.9	48.9	0.0	48.5	0.0
1:22 AM - 1:23 AM	47.9	48.9	0.0	48.5	0.0
1:23 AM - 1:24 AM	47.9	48.9	0.0	48.5	0.0
1:24 AM - 1:25 AM	47.9	48.9	0.0	48.5	0.0
1:25 AM - 1:26 AM	47.9	48.9	0.0	48.5	0.0
1:26 AM - 1:27 AM	47.9	48.9	0.0	48.5	0.0
1:27 AM - 1:28 AM	47.9	48.9	0.0	48.5	0.0
1:28 AM - 1:29 AM	47.9	48.9	0.0	48.5	0.0
1:29 AM - 1:30 AM	47.9	48.9	0.0	48.5	0.0
1:30 AM - 1:31 AM	47.9	48.9	0.0	48.5	0.0
1:31 AM - 1:32 AM	47.9	48.9	0.0	48.5	0.0
1:32 AM - 1:33 AM	47.9	48.9	0.0	48.5	0.0
1:33 AM - 1:34 AM	47.9	48.9	0.0	48.5	0.0
1:34 AM - 1:35 AM	47.9	48.9	0.0	48.5	0.0
1:35 AM - 1:36 AM	47.9	48.9	0.0	48.5	0.0
1:36 AM - 1:37 AM	47.9	48.9	0.0	48.5	0.0
1:37 AM - 1:38 AM	47.9	48.9	0.0	48.5	0.0
1:38 AM - 1:39 AM	47.9	48.9	0.0	48.5	0.0
1:39 AM - 1:40 AM	47.9	48.9	0.0	48.5	0.0
1:40 AM - 1:41 AM	47.9	48.9	0.0	48.5	0.0
1:41 AM - 1:42 AM	47.9	48.9	0.0	48.5	0.0
1:42 AM - 1:43 AM	47.9	48.9	0.0	48.5	0.0
1:43 AM - 1:44 AM	47.9	48.9	0.0	48.5	0.0
1:44 AM - 1:45 AM	47.9	48.9	0.0	48.5	0.0
1:45 AM - 1:46 AM	47.9	48.9	0.0	48.5	0.0
1:46 AM - 1:47 AM	47.9	48.9	0.0	48.5	0.0
1:47 AM - 1:48 AM	47.9	48.9	0.0	48.5	0.0
1:48 AM - 1:49 AM	47.9	48.9	0.0	48.5	0.0
1:49 AM - 1:50 AM	47.9	48.9	0.0	48.5	0.0
1:50 AM - 1:51 AM	47.9	48.9	0.0	48.5	0.0
1:51 AM - 1:52 AM	47.9	48.9	0.0	48.5	0.0
1:52 AM - 1:53 AM	47.9	48.9	0.0	48.5	0.0
1:53 AM - 1:54 AM	47.9	48.9	0.0	48.5	0.0
1:54 AM - 1:55 AM	47.9	48.9	0.0	48.5	0.0
1:55 AM - 1:56 AM	47.9	48.9	0.0	48.5	0.0
1:56 AM - 1:57 AM	47.9	48.9	0.0	48.5	0.0
1:57 AM - 1:58 AM	47.9	48.9	0.0	48.5	0.0
1:58 AM - 1:59 AM	47.9	48.9	0.0	48.5	0.0
1:59 AM - 2:00 AM	47.9	48.9	0.0	48.5	0.0
2:00 AM - 2:01 AM	47.9	48.9	0.0	48.5	0.0
2:01 AM - 2:02 AM	47.9	48.9	0.0	48.5	0.0
2:02 AM - 2:03 AM	47.9	48.9	0.0	48.5	0.0
2:03 AM - 2:04 AM	47.9	48.9	0.0	48.5	0.0
2:04 AM - 2:05 AM	47.9	48.9	0.0	48.5	0.0
2:05 AM - 2:06 AM	47.9	48.9	0.0	48.5	0.0
2:06 AM - 2:07 AM	47.9	48.9	0.0	48.5	0.0
2:07 AM - 2:08 AM	47.9	48.9	0.0	48.5	0.0
2:08 AM - 2:09 AM	47.9	48.9	0.0	48.5	0.0
2:09 AM - 2:10 AM	47.9	48.9	0.0	48.5	0.0
2:10 AM - 2:11 AM	47.9	48.9	0.0	48.5	0.0
2:11 AM - 2:12 AM	47.9	48.9	0.0	48.5	0.0
2:12 AM - 2:13 AM	47.9	48.9	0.0	48.5	0.0
2:13 AM - 2:14 AM	47.9	48.9	0.0	48.5	0.0
2:14 AM - 2:15 AM	47.9	48.9	0.0	48.5	0.0
2:15 AM - 2:16 AM	47.9	48.9	0.0	48.5	0.0
2:16 AM - 2:17 AM	47.9	48.9	0.0	48.5	0.0
2:17 AM - 2:18 AM	47.9	48.9	0.0	48.5	0.0
2:18 AM - 2:19 AM	47.9	48.9	0.0	48.5	0.0
2:19 AM - 2:20 AM	47.9	48.9	0.0	48.5	0.0
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2:22 AM - 2:23 AM	47.9	48.9	0.0	48.5	0.0
2:23 AM - 2:24 AM	47.9	48.9	0.0	48.5	0.0
2:24 AM - 2:25 AM	47.9	48.9	0.0	48.5	0.0
2:25 AM - 2:26 AM	47.9	48.9	0.0	48.5	0.0
2:26 AM - 2:27 AM	47.9	48.9	0.0	48.5	0.0
2:27 AM - 2:28 AM	47.9	48.9	0.0	48.5	0.0
2:28 AM - 2:29 AM	47.9	48.9	0.0	48.5	0.0
2:29 AM - 2:30 AM	47.9	48.9	0.0	48.5	0.0
2:30 AM - 2:31 AM	47.9	48.9	0.0	48.5	0.0
2:31 AM - 2:32 AM	47.9	48.9	0.0	48.5	0.0
2:32 AM - 2:33 AM	47.9	48.9	0.0	48.5	0.0
2:33 AM - 2:34 AM	47.9	48.9	0.0	48.5	0.0
2:34 AM - 2:35 AM	47.9	48.9	0.0	48.5	0.0
2:35 AM - 2:36 AM	47.9	48.9	0.0	48.5	0.0
2:36 AM - 2:37 AM	47.9	48.9	0.0	48.5	0.0
2:37 AM - 2:38 AM	47.9	48.9	0.0	48.5	0.0
2:38 AM - 2:39 AM	47.9	48.9	0.0	48.5	0.0
2:39 AM - 2:40 AM	47.9	48.9	0.0	48.5	0.0
2:40 AM - 2:41 AM	47.9	48.9	0.0	48.5	0.0
2:41 AM - 2:42 AM	47.9	48.9	0.0	48.5	0.0
2:42 AM - 2:43 AM	47.9	48.9	0.0	48.5	0.0
2:43 AM - 2:44 AM	47.9	48.9	0.0	48.5	0.0
2:44 AM - 2:45 AM	47.9	48.9	0.0	48.5	0.0
2:45 AM - 2:46 AM	47.9	48.9	0.0	48.5	0.0
2:46 AM - 2:47 AM	47.9	48.9	0.0	48.5	0.0
2:47 AM - 2:48 AM	47.9	48.9	0.0	48.5	0.0
2:48 AM - 2:49 AM	47.9	48.9	0.0	48.5	0.0
2:49 AM - 2:50 AM	47.9	48.9	0.0	48.5	0.0
2:50 AM - 2:51 AM	47.9	48.9	0.0	48.5	0.0
2:51 AM - 2:52 AM	47.9	48.9	0.0	48.5	0.0
2:52 AM - 2:53 AM	47.9	48.9	0.0	48.5	0.0
2:53 AM - 2:54 AM	47.9	48.9	0.0	48.5	0.0
2:54 AM - 2:55 AM	47.9	48.9	0.0	48.5	0.0
2:55 AM - 2:56 AM	47.9	48.9	0.0	48.5	0.0
2:56 AM - 2:57 AM	47.9	48.9	0.0	48.5	0.0
2:57 AM - 2:58 AM	47.9	48.9	0.0	48.5	0.0
2:58 AM - 2:59 AM	47.9	48.9	0.0	48.5	0.0
2:59 AM - 3:00 AM	47.9	48.9	0.0	48.5	0.0
3:00 AM - 3:01 AM	47.9	48.9	0.0	48.5	0.0
3:01 AM - 3:02 AM	47.9	48.9	0.0	48.5	0.0
3:02 AM - 3:03 AM	47.9	48.9	0.0	48.5	0.0
3:03 AM - 3:04 AM	47.9	48.9	0.0	48.5	0.0
3:04 AM - 3:05 AM	47.9	48.9	0.0	48.5	0.0
3:05 AM - 3:06 AM	47.9	48.9	0.0	48.5	0.0
3:06 AM - 3:07 AM	47.9	48.9	0.0	48.5	0.0
3:07 AM - 3:08 AM	47.9	48.9	0.0	48.5	0.0
3:08 AM - 3:09 AM	47.9	48.9	0.0	48.5	0.0
3:09 AM - 3:10 AM	47.9	48.9	0.0	48.5	0.0
3:10 AM - 3:11 AM	47.9	48.9	0.0</		

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Approved by 

Wilmar Botrah  
Manager

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Approved by   
Willem Bontekamp  
Manager


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03:13:00 - 03:22:00	28.4	42.5	-	44.0	35.5	-
03:22:00 - 03:30:00	30.5	42.0	-	27.5	35.1	1.5
03:30:00 - 03:38:00	30.6	38.5	-	34.4	36.4	0.7
03:38:00 - 03:45:00	27.2	38.2	-	NA	36.2	-
03:45:00 - 03:50:00	42.8	42.8	NA	34.3	37.9	-3.4
03:50:00 - 03:45:00	39.3	38.6	-	34.0	36.9	-2.9

The above results are estimates for the above-highlighted scenarios as indicated in the above-highlighted part of the table. The above-highlighted part of the table is for the above-highlighted part of the table. The above-highlighted part of the table is for the above-highlighted part of the table.

Approved by 

Willem Brink  
Manager

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
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Reference Method :  
1. ISO 29994  
2. มาตรฐานการควบคุมภายใน (ใช้) หลักการหรือวิธีปฏิบัติในการควบคุมภายในที่ 24 แห่ง และระเบียบวิธีปฏิบัติในการจัดทำระบบควบคุมภายใน พ.ศ. 2567  
3. มาตรฐานการควบคุมภายใน (ใช้) แนวทางหรือวิธีปฏิบัติในการควบคุมภายในที่ 24 แห่ง และระเบียบวิธีปฏิบัติในการจัดทำระบบควบคุมภายใน พ.ศ. 2568  
4. มาตรฐานการควบคุมภายใน (ใช้) แนวทางหรือวิธีปฏิบัติในการควบคุมภายในที่ 24 แห่ง และระเบียบวิธีปฏิบัติในการจัดทำระบบควบคุมภายใน พ.ศ. 2561  
Basis:  
1. ระเบียบการควบคุมภายใน ของสถาบัน กสอ 01/02 ฉบับที่ 2567  
2. ระเบียบการควบคุมภายใน ของสถาบัน กสอ 01/02 ฉบับที่ 2568  
3. ระเบียบ "Manual" ของสถาบัน กสอ 01/02 ฉบับที่ 2561  
4. ระเบียบ "Manual" ของสถาบัน กสอ 01/02 ฉบับที่ 2567

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Approved by   
Wilwan Borjak  
Director

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Approved by

  
Willem Bontek  
Manager

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## Analysis / Test Report

Client : Rogina Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chaengwong Road, Boin, Sriracha, Chonburi Thailand 20230

P/O : 83M-R9009/96  
Project Name : Chonburi Boin  
Project Location :

Sample No. 24126078-14  
Parameter : N2 : Nitrogen (GAS) (GPS 47P 0729455, 1444551)  
Location : Nov 27 - 28, 2024  
Measurement Date : Mongkol Phonphip  
Measurement by : Sound Level Meter 623394

Lot ID: 24126078  
Date Received: Dec 07, 2024  
Date Reported: Dec 11, 2024  
Report Number: 3189565-1

ข้อมูล (dB(A))					
เวลา	เสียงจากแหล่งกำเนิด	เสียงจากแหล่งกำเนิด	เสียงจากแหล่งกำเนิด	เสียงจากแหล่งกำเนิด	ระดับเสียงรวม
12:30 AM - 12:35 AM	48.6	48.5	48.6	48.6	48.6
12:35 AM - 12:40 AM	48.7	48.6	48.7	48.7	48.7
12:40 AM - 12:45 AM	48.8	48.8	48.8	48.8	48.8
12:45 AM - 12:50 AM	48.9	48.9	48.9	48.9	48.9
12:50 AM - 12:55 AM	49.0	49.0	49.0	49.0	49.0
12:55 AM - 1:00 AM	49.1	49.1	49.1	49.1	49.1
1:00 AM - 1:05 AM	49.2	49.2	49.2	49.2	49.2
1:05 AM - 1:10 AM	49.3	49.3	49.3	49.3	49.3
1:10 AM - 1:15 AM	49.4	49.4	49.4	49.4	49.4
1:15 AM - 1:20 AM	49.5	49.5	49.5	49.5	49.5
1:20 AM - 1:25 AM	49.6	49.6	49.6	49.6	49.6
1:25 AM - 1:30 AM	49.7	49.7	49.7	49.7	49.7
1:30 AM - 1:35 AM	49.8	49.8	49.8	49.8	49.8
1:35 AM - 1:40 AM	49.9	49.9	49.9	49.9	49.9
1:40 AM - 1:45 AM	50.0	50.0	50.0	50.0	50.0
1:45 AM - 1:50 AM	50.1	50.1	50.1	50.1	50.1
1:50 AM - 1:55 AM	50.2	50.2	50.2	50.2	50.2
1:55 AM - 2:00 AM	50.3	50.3	50.3	50.3	50.3
2:00 AM - 2:05 AM	50.4	50.4	50.4	50.4	50.4
2:05 AM - 2:10 AM	50.5	50.5	50.5	50.5	50.5
2:10 AM - 2:15 AM	50.6	50.6	50.6	50.6	50.6
2:15 AM - 2:20 AM	50.7	50.7	50.7	50.7	50.7
2:20 AM - 2:25 AM	50.8	50.8	50.8	50.8	50.8
2:25 AM - 2:30 AM	50.9	50.9	50.9	50.9	50.9
2:30 AM - 2:35 AM	51.0	51.0	51.0	51.0	51.0
2:35 AM - 2:40 AM	51.1	51.1	51.1	51.1	51.1
2:40 AM - 2:45 AM	51.2	51.2	51.2	51.2	51.2
2:45 AM - 2:50 AM	51.3	51.3	51.3	51.3	51.3
2:50 AM - 2:55 AM	51.4	51.4	51.4	51.4	51.4
2:55 AM - 3:00 AM	51.5	51.5	51.5	51.5	51.5
3:00 AM - 3:05 AM	51.6	51.6	51.6	51.6	51.6
3:05 AM - 3:10 AM	51.7	51.7	51.7	51.7	51.7
3:10 AM - 3:15 AM	51.8	51.8	51.8	51.8	51.8
3:15 AM - 3:20 AM	51.9	51.9	51.9	51.9	51.9
3:20 AM - 3:25 AM	52.0	52.0	52.0	52.0	52.0
3:25 AM - 3:30 AM	52.1	52.1	52.1	52.1	52.1
3:30 AM - 3:35 AM	52.2	52.2	52.2	52.2	52.2
3:35 AM - 3:40 AM	52.3	52.3	52.3	52.3	52.3
3:40 AM - 3:45 AM	52.4	52.4	52.4	52.4	52.4
3:45 AM - 3:50 AM	52.5	52.5	52.5	52.5	52.5
3:50 AM - 3:55 AM	52.6	52.6	52.6	52.6	52.6
3:55 AM - 4:00 AM	52.7	52.7	52.7	52.7	52.7
4:00 AM - 4:05 AM	52.8	52.8	52.8	52.8	52.8
4:05 AM - 4:10 AM	52.9	52.9	52.9	52.9	52.9
4:10 AM - 4:15 AM	53.0	53.0	53.0	53.0	53.0
4:15 AM - 4:20 AM	53.1	53.1	53.1	53.1	53.1
4:20 AM - 4:25 AM	53.2	53.2	53.2	53.2	53.2
4:25 AM - 4:30 AM	53.3	53.3	53.3	53.3	53.3
4:30 AM - 4:35 AM	53.4	53.4	53.4	53.4	53.4
4:35 AM - 4:40 AM	53.5	53.5	53.5	53.5	53.5
4:40 AM - 4:45 AM	53.6	53.6	53.6	53.6	53.6
4:45 AM - 4:50 AM	53.7	53.7	53.7	53.7	53.7
4:50 AM - 4:55 AM	53.8	53.8	53.8	53.8	53.8
4:55 AM - 5:00 AM	53.9	53.9	53.9	53.9	53.9
5:00 AM - 5:05 AM	54.0	54.0	54.0	54.0	54.0
5:05 AM - 5:10 AM	54.1	54.1	54.1	54.1	54.1
5:10 AM - 5:15 AM	54.2	54.2	54.2	54.2	54.2
5:15 AM - 5:20 AM	54.3	54.3	54.3	54.3	54.3
5:20 AM - 5:25 AM	54.4	54.4	54.4	54.4	54.4
5:25 AM - 5:30 AM	54.5	54.5	54.5	54.5	54.5
5:30 AM - 5:35 AM	54.6	54.6	54.6	54.6	54.6
5:35 AM - 5:40 AM	54.7	54.7	54.7	54.7	54.7
5:40 AM - 5:45 AM	54.8	54.8	54.8	54.8	54.8
5:45 AM - 5:50 AM	54.9	54.9	54.9	54.9	54.9
5:50 AM - 5:55 AM	55.0	55.0	55.0	55.0	55.0
5:55 AM - 6:00 AM	55.1	55.1	55.1	55.1	55.1
6:00 AM - 6:05 AM	55.2	55.2	55.2	55.2	55.2
6:05 AM - 6:10 AM	55.3	55.3	55.3	55.3	55.3
6:10 AM - 6:15 AM	55.4	55.4	55.4	55.4	55.4
6:15 AM - 6:20 AM	55.5	55.5	55.5	55.5	55.5
6:20 AM - 6:25 AM	55.6	55.6	55.6	55.6	55.6
6:25 AM - 6:30 AM	55.7	55.7	55.7	55.7	55.7
6:30 AM - 6:35 AM	55.8	55.8	55.8	55.8	55.8
6:35 AM - 6:40 AM	55.9	55.9	55.9	55.9	55.9
6:40 AM - 6:45 AM	56.0	56.0	56.0	56.0	56.0
6:45 AM - 6:50 AM	56.1	56.1	56.1	56.1	56.1
6:50 AM - 6:55 AM	56.2	56.2	56.2	56.2	56.2
6:55 AM - 7:00 AM	56.3	56.3	56.3	56.3	56.3
7:00 AM - 7:05 AM	56.4	56.4	56.4	56.4	56.4
7:05 AM - 7:10 AM	56.5	56.5	56.5	56.5	56.5
7:10 AM - 7:15 AM	56.6	56.6	56.6	56.6	56.6
7:15 AM - 7:20 AM	56.7	56.7	56.7	56.7	56.7
7:20 AM - 7:25 AM	56.8	56.8	56.8	56.8	56.8
7:25 AM - 7:30 AM	56.9	56.9	56.9	56.9	56.9
7:30 AM - 7:35 AM	57.0	57.0	57.0	57.0	57.0
7:35 AM - 7:40 AM	57.1	57.1	57.1	57.1	57.1
7:40 AM - 7:45 AM	57.2	57.2	57.2	57.2	57.2
7:45 AM - 7:50 AM	57.3	57.3	57.3	57.3	57.3
7:50 AM - 7:55 AM	57.4	57.4	57.4	57.4	57.4
7:55 AM - 8:00 AM	57.5	57.5	57.5	57.5	57.5
8:00 AM - 8:05 AM	57.6	57.6	57.6	57.6	57.6
8:05 AM - 8:10 AM	57.7	57.7	57.7	57.7	57.7
8:10 AM - 8:15 AM	57.8	57.8	57.8	57.8	57.8
8:15 AM - 8:20 AM	57.9	57.9	57.9	57.9	57.9
8:20 AM - 8:25 AM	58.0	58.0	58.0	58.0	58.0
8:25 AM - 8:30 AM	58.1	58.1	58.1	58.1	58.1
8:30 AM - 8:35 AM	58.2	58.2	58.2	58.2	58.2
8:35 AM - 8:40 AM	58.3	58.3	58.3	58.3	58.3
8:40 AM - 8:45 AM	58.4	58.4	58.4	58.4	58.4
8:45 AM - 8:50 AM	58.5	58.5	58.5	58.5	58.5
8:50 AM - 8:55 AM	58.6	58.6	58.6	58.6	58.6
8:55 AM - 9:00 AM	58.7	58.7	58.7	58.7	58.7
9:00 AM - 9:05 AM	58.8	58.8	58.8	58.8	58.8
9:05 AM - 9:10 AM	58.9	58.9	58.9	58.9	58.9
9:10 AM - 9:15 AM	59.0	59.0	59.0	59.0	59.0
9:15 AM - 9:20 AM	59.1	59.1	59.1	59.1	59.1
9:20 AM - 9:25 AM	59.2	59.2	59.2	59.2	59.2
9:25 AM - 9:30 AM	59.3	59.3	59.3	59.3	59.3
9:30 AM - 9:35 AM	59.4	59.4	59.4	59.4	59.4
9:35 AM - 9:40 AM	59.5	59.5	59.5	59.5	59.5
9:40 AM - 9:45 AM	59.6	59.6	59.6	59.6	59.6
9:45 AM - 9:50 AM	59.7	59.7	59.7	59.7	59.7
9:50 AM - 9:55 AM	59.8	59.8	59.8	59.8	59.8
9:55 AM - 10:00 AM	59.9	59.9	59.9	59.9	59.9
10:00 AM - 10:05 AM	60.0	60.0	60.0	60.0	60.0
10:05 AM - 10:10 AM	60.1	60.1	60.1	60.1	60.1
10:10 AM - 10:15 AM	60.2	60.2	60.2	60.2	60.2
10:15 AM - 10:20 AM	60.3	60.3	60.3	60.3	60.3
10:20 AM - 10:25 AM	60.4	60.4	60.4	60.4	60.4
10:25 AM - 10:30 AM	60.5	60.5	60.5	60.5	60.5
10:30 AM - 10:35 AM	60.6	60.6	60.6	60.6	60.6
10:35 AM - 10:40 AM	60.7	60.7	60.7	60.7	60.7
10:40 AM - 10:45 AM	60.8	60.8	60.8	60.8	60.8
10:45 AM - 10:50 AM	60.9	60.9	60.9	60.9	60.9
10:50 AM - 10:55 AM	61.0	61.0	61.0	61.0	61.0
10:55 AM - 11:00 AM	61.1	61.1	61.1	61.1	61.1
11:00 AM - 11:05 AM	61.2	61.2	61.2	61.2	61.2
11:05 AM - 11:10 AM	61.3	61.3	61.3	61.3	61.3
11:10 AM - 11:15 AM	61.4	61.4	61.4	61.4	61.4
11:15 AM - 11:20 AM	61.5	61.5	61.5	61.5	61.5
11:20 AM - 11:25 AM	61.6	61.6	61.6	61.6	61.6
11:25 AM - 11:30 AM	61.7	61.7	61.7	61.7	61.7
11:30 AM - 11:35 AM	61.8	61.8	61.8	61.8	61.8
11:35 AM - 11:40 AM	61.9	61.9	61.9	61.9	61.9
11:40 AM - 11:45 AM	62.0	62.0	62.0	62.0	62.0
11:45 AM - 11:50 AM	62.1	62.1	62.1	62.1	62.1
11:50 AM - 11:55 AM	62.2	62.2	62.2	62.2	62.2
11:55 AM - 12:00 AM	62.3	62.3	62.3	62.3	62.3
12:00 AM - 12:05 AM	62.4	62.4	62.4	62.4	62.4
12:05 AM - 12:10 AM	62.5	62.5	62.5	62.5	62.5
12:10 AM - 12:15 AM	62.6	62.6	62.6	62.6	62.6
12:15 AM - 12:20 AM	62.7	62.7	62.7	62.7	62.7
12:20 AM - 12:25 AM	62.8	62.8	62.8	62.8	62.8
12:25 AM - 12:30 AM	62.9	62.9	62.9	62.9	62.9
12:30 AM - 12:35 AM	63.0	63.0	63.0	63.0	63.0
12:35 AM - 12:40 AM	63.1	63.1	63.1	63.1	63.1
12:40 AM - 12:45 AM	63.2	63.2	63.2	63.2	63.2
12:45 AM - 12:50 AM	63.3	63.3	63.3	63.3	63.3
12:50 AM - 12:55 AM	63.4	63.4	63.4	63.4	63.4
12:55 AM - 1:00 AM	63.5	63.5	63.5	63.5	63.5
1:00 AM - 1:05 AM	63.6	63.6	63.6	63.6	63.6
1:05 AM - 1:10 AM	63.7	63.7	63.7	63.7	63.7
1:10 AM - 1:15 AM	63.8	63.8	63.8	63.8	63.8
1:15 AM - 1:20 AM	63.9	63.9	63.9	63.9	63.9
1:20 AM - 1:25 AM	64.0	64.0	64.0	64.0	64.0
1:25 AM - 1:30 AM	64.1	64.1	64.1	64.1	64.1
1:30 AM - 1:35 AM	64.2	64.2	64.2	64.2	64.2
1:35 AM - 1:40 AM	64.3	64.3	64.3	64.3	64.3
1:40 AM - 1:45 AM	64.4	64.4	64.4	64.4	64.4
1:45 AM - 1:50 AM	64.5	64.5	64.5	64.5	64.5
1:50 AM - 1:55 AM	64.6	64.6	64.6	64.6	64.6
1:55 AM - 2:00 AM	64.7	64.7	64.7	64.7	64.7
2:00 AM - 2:05 AM	64.8	64.8	64.8	64.8	64.8
2:05 AM - 2:10 AM	64.9	64.9	64.9	64.9	64.9
2:10 AM - 2:15 AM	65.0	65.0	65.0	65.0	65.0
2:15 AM - 2:20 AM	65.1	65.1	65.1	65.1	65.1
2:20 AM - 2:25 AM	65.2	65.2	65.2	65.2	65.2
2:25 AM - 2:30 AM	65.3	65.3	65.3	65.3	65.3
2:30 AM - 2:35 AM	65.4	65.4	65.4	65.4	65.4
2:35 AM - 2:40 AM	65.5	65.5	65.5	65.5	65.5
2:40 AM - 2:45 AM	65.6	65.6	65.6	65.6	65.6
2:45 AM - 2:50 AM	65.7	65.7	65.7	65.7	65.7
2:50 AM - 2:55 AM	65.8	65.8	65.8	65.8	65.8
2:55 AM - 3:00 AM	65.9	65.9	65.9	65.9	65.9
3:00 AM - 3:05 AM	66.0	66.0	66.0	66.0	66.0
3:05 AM - 3:10 AM	66.1	66.1	66.1	66.1	66.1
3:10 AM - 3:15 AM	66.2	66.2	66.2	66.2	66.2
3:15 AM - 3:20 AM	66.3	66.3	66.3	66.3	66.3
3:20 AM - 3:25 AM	66.4	66.4	66.4	66.4	66.4
3:25 AM - 3:30 AM	66.5	66.5	66.5	66.5	66.5
3:30 AM - 3:35 AM	66.6	66.6	66.6	66.6	66.6
3:35 AM - 3:40 AM	66.7	66.7	66.7	66.7	66.7
3:40 AM - 3:45 AM	66.8	66.8	66.8	66.8	66.8
3:45 AM - 3:50 AM	66.9	66.9	66.9	66.9	66.9
3:50 AM - 3:55 AM	67.0	67.0	67.0	67.0	67.0
3:55 AM - 4:00 AM					











## Analysis / Test Report

Client : Rogina Industrial Park Public Co., Ltd.  
168 Moo 4, Sattapich-Changeroo Road, Bowin, Sriracha, Chonburi Thailand 20320

Lot ID: 24126078  
Date Received: Dec 07, 2024  
Date Reported: Dec 11, 2024  
Report Number : 318959-1

P/O : R3N-BW09/66  
Project Name : Chorbuti Bowin  
Project Location :

Page 2 of 2

Sample No. 24126078-27  
Parameter Noise  
Location HRT : โรงงานเหล็ก 5 ชามเหล็ก (GPS 47 0730314, 1446067)  
Measurement Date Dec 01 - 03, 2024  
Measurement by Nongkorn Phatphit  
Sound Level Meter 0087109

เวลา	ชนิดพื้นที่ (dB(A))					
	เสียงจากแหล่งกำเนิด	เสียงจากแหล่งกำเนิด	เสียงจากยานพาหนะ	เสียงจากยานพาหนะ	เสียงจากยานพาหนะ	เสียงจากยานพาหนะ
01:00 AM - 01:05 AM	58.7	52.3	52.3	58.7	58.7	52.3
01:05 AM - 01:10 AM	58.4	48.9	48.9	58.4	58.4	48.9
01:10 AM - 01:15 AM	58.9	48.9	48.9	58.9	58.9	48.9
01:15 AM - 01:20 AM	58.7	48.9	48.9	58.7	58.7	48.9
01:20 AM - 01:25 AM	58.6	48.9	48.9	58.6	58.6	48.9
01:25 AM - 01:30 AM	58.6	48.9	48.9	58.6	58.6	48.9
01:30 AM - 01:35 AM	58.8	48.9	48.9	58.8	58.8	48.9
01:35 AM - 01:40 AM	58.9	48.9	48.9	58.9	58.9	48.9
01:40 AM - 01:45 AM	58.9	48.9	48.9	58.9	58.9	48.9
01:45 AM - 01:50 AM	58.9	48.9	48.9	58.9	58.9	48.9
01:50 AM - 01:55 AM	58.9	48.9	48.9	58.9	58.9	48.9
01:55 AM - 02:00 AM	58.9	48.9	48.9	58.9	58.9	48.9
02:00 AM - 02:05 AM	58.9	48.9	48.9	58.9	58.9	48.9
02:05 AM - 02:10 AM	58.9	48.9	48.9	58.9	58.9	48.9
02:10 AM - 02:15 AM	58.9	48.9	48.9	58.9	58.9	48.9
02:15 AM - 02:20 AM	58.9	48.9	48.9	58.9	58.9	48.9
02:20 AM - 02:25 AM	58.9	48.9	48.9	58.9	58.9	48.9
02:25 AM - 02:30 AM	58.9	48.9	48.9	58.9	58.9	48.9
02:30 AM - 02:35 AM	58.9	48.9	48.9	58.9	58.9	48.9
02:35 AM - 02:40 AM	58.9	48.9	48.9	58.9	58.9	48.9
02:40 AM - 02:45 AM	58.9	48.9	48.9	58.9	58.9	48.9
02:45 AM - 02:50 AM	58.9	48.9	48.9	58.9	58.9	48.9
02:50 AM - 02:55 AM	58.9	48.9	48.9	58.9	58.9	48.9
02:55 AM - 03:00 AM	58.9	48.9	48.9	58.9	58.9	48.9
03:00 AM - 03:05 AM	58.9	48.9	48.9	58.9	58.9	48.9
03:05 AM - 03:10 AM	58.9	48.9	48.9	58.9	58.9	48.9
03:10 AM - 03:15 AM	58.9	48.9	48.9	58.9	58.9	48.9
03:15 AM - 03:20 AM	58.9	48.9	48.9	58.9	58.9	48.9
03:20 AM - 03:25 AM	58.9	48.9	48.9	58.9	58.9	48.9
03:25 AM - 03:30 AM	58.9	48.9	48.9	58.9	58.9	48.9
03:30 AM - 03:35 AM	58.9	48.9	48.9	58.9	58.9	48.9
03:35 AM - 03:40 AM	58.9	48.9	48.9	58.9	58.9	48.9
03:40 AM - 03:45 AM	58.9	48.9	48.9	58.9	58.9	48.9
03:45 AM - 03:50 AM	58.9	48.9	48.9	58.9	58.9	48.9
03:50 AM - 03:55 AM	58.9	48.9	48.9	58.9	58.9	48.9
03:55 AM - 04:00 AM	58.9	48.9	48.9	58.9	58.9	48.9
04:00 AM - 04:05 AM	58.9	48.9	48.9	58.9	58.9	48.9
04:05 AM - 04:10 AM	58.9	48.9	48.9	58.9	58.9	48.9
04:10 AM - 04:15 AM	58.9	48.9	48.9	58.9	58.9	48.9
04:15 AM - 04:20 AM	58.9	48.9	48.9	58.9	58.9	48.9
04:20 AM - 04:25 AM	58.9	48.9	48.9	58.9	58.9	48.9
04:25 AM - 04:30 AM	58.9	48.9	48.9	58.9	58.9	48.9
04:30 AM - 04:35 AM	58.9	48.9	48.9	58.9	58.9	48.9
04:35 AM - 04:40 AM	58.9	48.9	48.9	58.9	58.9	48.9
04:40 AM - 04:45 AM	58.9	48.9	48.9	58.9	58.9	48.9
04:45 AM - 04:50 AM	58.9	48.9	48.9	58.9	58.9	48.9
04:50 AM - 04:55 AM	58.9	48.9	48.9	58.9	58.9	48.9
04:55 AM - 05:00 AM	58.9	48.9	48.9	58.9	58.9	48.9
05:00 AM - 05:05 AM	58.9	48.9	48.9	58.9	58.9	48.9
05:05 AM - 05:10 AM	58.9	48.9	48.9	58.9	58.9	48.9
05:10 AM - 05:15 AM	58.9	48.9	48.9	58.9	58.9	48.9
05:15 AM - 05:20 AM	58.9	48.9	48.9	58.9	58.9	48.9
05:20 AM - 05:25 AM	58.9	48.9	48.9	58.9	58.9	48.9
05:25 AM - 05:30 AM	58.9	48.9	48.9	58.9	58.9	48.9
05:30 AM - 05:35 AM	58.9	48.9	48.9	58.9	58.9	48.9
05:35 AM - 05:40 AM	58.9	48.9	48.9	58.9	58.9	48.9
05:40 AM - 05:45 AM	58.9	48.9	48.9	58.9	58.9	48.9
05:45 AM - 05:50 AM	58.9	48.9	48.9	58.9	58.9	48.9
05:50 AM - 05:55 AM	58.9	48.9	48.9	58.9	58.9	48.9
05:55 AM - 06:00 AM	58.9	48.9	48.9	58.9	58.9	48.9
06:00 AM - 06:05 AM	58.9	48.9	48.9	58.9	58.9	48.9
06:05 AM - 06:10 AM	58.9	48.9	48.9	58.9	58.9	48.9
06:10 AM - 06:15 AM	58.9	48.9	48.9	58.9	58.9	48.9
06:15 AM - 06:20 AM	58.9	48.9	48.9	58.9	58.9	48.9
06:20 AM - 06:25 AM	58.9	48.9	48.9	58.9	58.9	48.9
06:25 AM - 06:30 AM	58.9	48.9	48.9	58.9	58.9	48.9
06:30 AM - 06:35 AM	58.9	48.9	48.9	58.9	58.9	48.9
06:35 AM - 06:40 AM	58.9	48.9	48.9	58.9	58.9	48.9
06:40 AM - 06:45 AM	58.9	48.9	48.9	58.9	58.9	48.9
06:45 AM - 06:50 AM	58.9	48.9	48.9	58.9	58.9	48.9
06:50 AM - 06:55 AM	58.9	48.9	48.9	58.9	58.9	48.9
06:55 AM - 07:00 AM	58.9	48.9	48.9	58.9	58.9	48.9
07:00 AM - 07:05 AM	58.9	48.9	48.9	58.9	58.9	48.9
07:05 AM - 07:10 AM	58.9	48.9	48.9	58.9	58.9	48.9
07:10 AM - 07:15 AM	58.9	48.9	48.9	58.9	58.9	48.9
07:15 AM - 07:20 AM	58.9	48.9	48.9	58.9	58.9	48.9
07:20 AM - 07:25 AM	58.9	48.9	48.9	58.9	58.9	48.9
07:25 AM - 07:30 AM	58.9	48.9	48.9	58.9	58.9	48.9
07:30 AM - 07:35 AM	58.9	48.9	48.9	58.9	58.9	48.9
07:35 AM - 07:40 AM	58.9	48.9	48.9	58.9	58.9	48.9
07:40 AM - 07:45 AM	58.9	48.9	48.9	58.9	58.9	48.9
07:45 AM - 07:50 AM	58.9	48.9	48.9	58.9	58.9	48.9
07:50 AM - 07:55 AM	58.9	48.9	48.9	58.9	58.9	48.9
07:55 AM - 08:00 AM	58.9	48.9	48.9	58.9	58.9	48.9
08:00 AM - 08:05 AM	58.9	48.9	48.9	58.9	58.9	48.9
08:05 AM - 08:10 AM	58.9	48.9	48.9	58.9	58.9	48.9
08:10 AM - 08:15 AM	58.9	48.9	48.9	58.9	58.9	48.9
08:15 AM - 08:20 AM	58.9	48.9	48.9	58.9	58.9	48.9
08:20 AM - 08:25 AM	58.9	48.9	48.9	58.9	58.9	48.9
08:25 AM - 08:30 AM	58.9	48.9	48.9	58.9	58.9	48.9
08:30 AM - 08:35 AM	58.9	48.9	48.9	58.9	58.9	48.9
08:35 AM - 08:40 AM	58.9	48.9	48.9	58.9	58.9	48.9
08:40 AM - 08:45 AM	58.9	48.9	48.9	58.9	58.9	48.9
08:45 AM - 08:50 AM	58.9	48.9	48.9	58.9	58.9	48.9
08:50 AM - 08:55 AM	58.9	48.9	48.9	58.9	58.9	48.9
08:55 AM - 09:00 AM	58.9	48.9	48.9	58.9	58.9	48.9
09:00 AM - 09:05 AM	58.9	48.9	48.9	58.9	58.9	48.9
09:05 AM - 09:10 AM	58.9	48.9	48.9	58.9	58.9	48.9
09:10 AM - 09:15 AM	58.9	48.9	48.9	58.9	58.9	48.9
09:15 AM - 09:20 AM	58.9	48.9	48.9	58.9	58.9	48.9
09:20 AM - 09:25 AM	58.9	48.9	48.9	58.9	58.9	48.9
09:25 AM - 09:30 AM	58.9	48.9	48.9	58.9	58.9	48.9
09:30 AM - 09:35 AM	58.9	48.9	48.9	58.9	58.9	48.9
09:35 AM - 09:40 AM	58.9	48.9	48.9	58.9	58.9	48.9
09:40 AM - 09:45 AM	58.9	48.9	48.9	58.9	58.9	48.9
09:45 AM - 09:50 AM	58.9	48.9	48.9	58.9	58.9	48.9
09:50 AM - 09:55 AM	58.9	48.9	48.9	58.9	58.9	48.9
09:55 AM - 10:00 AM	58.9	48.9	48.9	58.9	58.9	48.9
10:00 AM - 10:05 AM	58.9	48.9	48.9	58.9	58.9	48.9
10:05 AM - 10:10 AM	58.9	48.9	48.9	58.9	58.9	48.9
10:10 AM - 10:15 AM	58.9	48.9	48.9	58.9	58.9	48.9
10:15 AM - 10:20 AM	58.9	48.9	48.9	58.9	58.9	48.9
10:20 AM - 10:25 AM	58.9	48.9	48.9	58.9	58.9	48.9
10:25 AM - 10:30 AM	58.9	48.9	48.9	58.9	58.9	48.9
10:30 AM - 10:35 AM	58.9	48.9	48.9	58.9	58.9	48.9
10:35 AM - 10:40 AM	58.9	48.9	48.9	58.9	58.9	48.9
10:40 AM - 10:45 AM	58.9	48.9	48.9	58.9	58.9	48.9
10:45 AM - 10:50 AM	58.9	48.9	48.9	58.9	58.9	48.9
10:50 AM - 10:55 AM	58.9	48.9	48.9	58.9	58.9	48.9
10:55 AM - 11:00 AM	58.9	48.9	48.9	58.9	58.9	48.9
11:00 AM - 11:05 PM	58.9	58.9	58.9	58.9	58.9	58.9



## Analysis / Test Report

Client : Rigana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattapha-Chachoengsao Road, Bowin, Sriracha, Chonburi Thailand 20230

P/O : RKN-BW02/66  
Project Name : Chonburi Bowin  
Project Location : Chonburi Bowin

Sample No. : 24120800-2  
Parameter : Noise  
Location : N1 : 1x61x9m (GPS 47P 072818, 144548B) (Shut down)  
Measurement Date : Nov 29 - 30, 2024  
Measurement by : Hongkong Phatphat  
Sound Level Meter : 621389

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:20 AM - 12:25 AM	56.7	65.5	51.7
12:25 AM - 12:30 AM	56.5	65.5	51.7
12:30 AM - 12:35 AM	57.5	66.4	52.9
12:35 AM - 12:40 AM	57.5	66.4	52.9
12:40 AM - 12:45 AM	54.0	62.9	51.5
12:45 AM - 12:50 AM	54.0	62.9	51.5
12:50 AM - 12:55 AM	51.4	60.3	48.6
12:55 AM - 01:00 AM	52.0	61.0	51.3
01:00 AM - 01:05 AM	51.5	60.7	51.2
01:05 AM - 01:10 AM	54.0	64.9	51.4
01:10 AM - 01:15 AM	53.5	64.2	51.3
01:15 AM - 01:20 AM	53.4	63.9	50.8
01:20 AM - 01:25 AM	52.7	62.9	50.2
01:25 AM - 01:30 AM	51.9	60.8	49.7
01:30 AM - 01:35 AM	51.7	60.6	49.5
01:35 AM - 01:40 AM	52.2	60.8	50.0
01:40 AM - 01:45 AM	52.4	60.9	50.2
01:45 AM - 01:50 AM	54.9	65.5	50.4
01:50 AM - 01:55 AM	55.9	66.4	51.4
01:55 AM - 02:00 AM	56.9	67.3	52.4
02:00 AM - 02:05 AM	57.9	68.2	53.4
02:05 AM - 02:10 AM	58.9	69.1	54.4
02:10 AM - 02:15 AM	59.9	70.0	55.4
02:15 AM - 02:20 AM	60.9	70.9	56.4
02:20 AM - 02:25 AM	61.9	71.8	57.4
02:25 AM - 02:30 AM	62.9	72.7	58.4
02:30 AM - 02:35 AM	63.9	73.6	59.4
02:35 AM - 02:40 AM	64.9	74.5	60.4
02:40 AM - 02:45 AM	65.9	75.4	61.4
02:45 AM - 02:50 AM	66.9	76.3	62.4
02:50 AM - 02:55 AM	67.9	77.2	63.4
02:55 AM - 03:00 AM	68.9	78.1	64.4
03:00 AM - 03:05 AM	69.9	79.0	65.4
03:05 AM - 03:10 AM	70.9	79.9	66.4
03:10 AM - 03:15 AM	71.9	80.8	67.4
03:15 AM - 03:20 AM	72.9	81.7	68.4
03:20 AM - 03:25 AM	73.9	82.6	69.4
03:25 AM - 03:30 AM	74.9	83.5	70.4
03:30 AM - 03:35 AM	75.9	84.4	71.4
03:35 AM - 03:40 AM	76.9	85.3	72.4
03:40 AM - 03:45 AM	77.9	86.2	73.4
03:45 AM - 03:50 AM	78.9	87.1	74.4
03:50 AM - 03:55 AM	79.9	88.0	75.4
03:55 AM - 04:00 AM	80.9	88.9	76.4
04:00 AM - 04:05 AM	81.9	89.8	77.4
04:05 AM - 04:10 AM	82.9	90.7	78.4
04:10 AM - 04:15 AM	83.9	91.6	79.4
04:15 AM - 04:20 AM	84.9	92.5	80.4
04:20 AM - 04:25 AM	85.9	93.4	81.4
04:25 AM - 04:30 AM	86.9	94.3	82.4
04:30 AM - 04:35 AM	87.9	95.2	83.4
04:35 AM - 04:40 AM	88.9	96.1	84.4
04:40 AM - 04:45 AM	89.9	97.0	85.4
04:45 AM - 04:50 AM	90.9	97.9	86.4
04:50 AM - 04:55 AM	91.9	98.8	87.4
04:55 AM - 05:00 AM	92.9	99.7	88.4
05:00 AM - 05:05 AM	93.9	100.6	89.4
05:05 AM - 05:10 AM	94.9	101.5	90.4
05:10 AM - 05:15 AM	95.9	102.4	91.4
05:15 AM - 05:20 AM	96.9	103.3	92.4
05:20 AM - 05:25 AM	97.9	104.2	93.4
05:25 AM - 05:30 AM	98.9	105.1	94.4
05:30 AM - 05:35 AM	99.9	106.0	95.4
05:35 AM - 05:40 AM	100.9	106.9	96.4
05:40 AM - 05:45 AM	101.9	107.8	97.4
05:45 AM - 05:50 AM	102.9	108.7	98.4
05:50 AM - 05:55 AM	103.9	109.6	99.4
05:55 AM - 06:00 AM	104.9	110.5	100.4
06:00 AM - 06:05 AM	105.9	111.4	101.4
06:05 AM - 06:10 AM	106.9	112.3	102.4
06:10 AM - 06:15 AM	107.9	113.2	103.4
06:15 AM - 06:20 AM	108.9	114.1	104.4
06:20 AM - 06:25 AM	109.9	115.0	105.4
06:25 AM - 06:30 AM	110.9	115.9	106.4
06:30 AM - 06:35 AM	111.9	116.8	107.4
06:35 AM - 06:40 AM	112.9	117.7	108.4
06:40 AM - 06:45 AM	113.9	118.6	109.4
06:45 AM - 06:50 AM	114.9	119.5	110.4
06:50 AM - 06:55 AM	115.9	120.4	111.4
06:55 AM - 07:00 AM	116.9	121.3	112.4
07:00 AM - 07:05 AM	117.9	122.2	113.4
07:05 AM - 07:10 AM	118.9	123.1	114.4
07:10 AM - 07:15 AM	119.9	124.0	115.4
07:15 AM - 07:20 AM	120.9	124.9	116.4
07:20 AM - 07:25 AM	121.9	125.8	117.4
07:25 AM - 07:30 AM	122.9	126.7	118.4
07:30 AM - 07:35 AM	123.9	127.6	119.4
07:35 AM - 07:40 AM	124.9	128.5	120.4
07:40 AM - 07:45 AM	125.9	129.4	121.4
07:45 AM - 07:50 AM	126.9	130.3	122.4
07:50 AM - 07:55 AM	127.9	131.2	123.4
07:55 AM - 08:00 AM	128.9	132.1	124.4
08:00 AM - 08:05 AM	129.9	133.0	125.4
08:05 AM - 08:10 AM	130.9	133.9	126.4
08:10 AM - 08:15 AM	131.9	134.8	127.4
08:15 AM - 08:20 AM	132.9	135.7	128.4
08:20 AM - 08:25 AM	133.9	136.6	129.4
08:25 AM - 08:30 AM	134.9	137.5	130.4
08:30 AM - 08:35 AM	135.9	138.4	131.4
08:35 AM - 08:40 AM	136.9	139.3	132.4
08:40 AM - 08:45 AM	137.9	140.2	133.4
08:45 AM - 08:50 AM	138.9	141.1	134.4
08:50 AM - 08:55 AM	139.9	142.0	135.4
08:55 AM - 09:00 AM	140.9	142.9	136.4
09:00 AM - 09:05 AM	141.9	143.8	137.4
09:05 AM - 09:10 AM	142.9	144.7	138.4
09:10 AM - 09:15 AM	143.9	145.6	139.4
09:15 AM - 09:20 AM	144.9	146.5	140.4
09:20 AM - 09:25 AM	145.9	147.4	141.4
09:25 AM - 09:30 AM	146.9	148.3	142.4
09:30 AM - 09:35 AM	147.9	149.2	143.4
09:35 AM - 09:40 AM	148.9	150.1	144.4
09:40 AM - 09:45 AM	149.9	151.0	145.4
09:45 AM - 09:50 AM	150.9	151.9	146.4
09:50 AM - 09:55 AM	151.9	152.8	147.4
09:55 AM - 10:00 AM	152.9	153.7	148.4
10:00 AM - 10:05 AM	153.9	154.6	149.4
10:05 AM - 10:10 AM	154.9	155.5	150.4
10:10 AM - 10:15 AM	155.9	156.4	151.4
10:15 AM - 10:20 AM	156.9	157.3	152.4
10:20 AM - 10:25 AM	157.9	158.2	153.4
10:25 AM - 10:30 AM	158.9	159.1	154.4
10:30 AM - 10:35 AM	159.9	160.0	155.4
10:35 AM - 10:40 AM	160.9	160.9	156.4
10:40 AM - 10:45 AM	161.9	161.8	157.4
10:45 AM - 10:50 AM	162.9	162.7	158.4
10:50 AM - 10:55 AM	163.9	163.6	159.4
10:55 AM - 11:00 AM	164.9	164.5	160.4
11:00 AM - 11:05 AM	165.9	165.4	161.4
11:05 AM - 11:10 AM	166.9	166.3	162.4
11:10 AM - 11:15 AM	167.9	167.2	163.4
11:15 AM - 11:20 AM	168.9	168.1	164.4
11:20 AM - 11:25 AM	169.9	169.0	165.4
11:25 AM - 11:30 AM	170.9	169.9	166.4
11:30 AM - 11:35 AM	171.9	170.8	167.4
11:35 AM - 11:40 AM	172.9	171.7	168.4
11:40 AM - 11:45 AM	173.9	172.6	169.4
11:45 AM - 11:50 AM	174.9	173.5	170.4
11:50 AM - 11:55 AM	175.9	174.4	171.4
11:55 AM - 12:00 AM	176.9	175.3	172.4
12:00 AM - 12:05 AM	177.9	176.2	173.4
12:05 AM - 12:10 AM	178.9	177.1	174.4
12:10 AM - 12:15 AM	179.9	178.0	175.4
12:15 AM - 12:20 AM	180.9	178.9	176.4
12:20 AM - 12:25 AM	181.9	179.8	177.4
12:25 AM - 12:30 AM	182.9	180.7	178.4
12:30 AM - 12:35 AM	183.9	181.6	179.4
12:35 AM - 12:40 AM	184.9	182.5	180.4
12:40 AM - 12:45 AM	185.9	183.4	181.4
12:45 AM - 12:50 AM	186.9	184.3	182.4
12:50 AM - 12:55 AM	187.9	185.2	183.4
12:55 AM - 01:00 AM	188.9	186.1	184.4
01:00 AM - 01:05 AM	189.9	187.0	185.4
01:05 AM - 01:10 AM	190.9	187.9	186.4
01:10 AM - 01:15 AM	191.9	188.8	187.4
01:15 AM - 01:20 AM	192.9	189.7	188.4
01:20 AM - 01:25 AM	193.9	190.6	189.4
01:25 AM - 01:30 AM	194.9	191.5	190.4
01:30 AM - 01:35 AM	195.9	192.4	191.4
01:35 AM - 01:40 AM	196.9	193.3	192.4
01:40 AM - 01:45 AM	197.9	194.2	193.4
01:45 AM - 01:50 AM	198.9	195.1	194.4
01:50 AM - 01:55 AM	199.9	196.0	195.4
01:55 AM - 02:00 AM	200.9	196.9	196.4
02:00 AM - 02:05 AM	201.9	197.8	197.4
02:05 AM - 02:10 AM	202.9	198.7	198.4
02:10 AM - 02:15 AM	203.9	199.6	199.4
02:15 AM - 02:20 AM	204.9	200.5	200.4
02:20 AM - 02:25 AM	205.9	201.4	201.4
02:25 AM - 02:30 AM	206.9	202.3	202.4
02:30 AM - 02:35 AM	207.9	203.2	203.4
02:35 AM - 02:40 AM	208.9	204.1	204.4
02:40 AM - 02:45 AM	209.9	205.0	205.4
02:45 AM - 02:50 AM	210.9	205.9	206.4
02:50 AM - 02:55 AM	211.9	206.8	207.4
02:55 AM - 03:00 AM	212.9	207.7	208.4
03:00 AM - 03:05 AM	213.9	208.6	209.4
03:05 AM - 03:10 AM	214.9	209.5	210.4
03:10 AM - 03:15 AM	215.9	210.4	211.4
03:15 AM - 03:20 AM	216.9	211.3	212.4
03:20 AM - 03:25 AM	217.9	212.2	213.4
03:25 AM - 03:30 AM	218.9	213.1	214.4
03:30 AM - 03:35 AM	219.9	214.0	215.4
03:35 AM - 03:40 AM	220.9	214.9	216.4
03:40 AM - 03:45 AM	221.9	215.8	217.4
03:45 AM - 03:50 AM	222.9	216.7	218.4
03:50 AM - 03:55 AM	223.9	217.6	219.4
03:55 AM - 04:00 AM	224.9	218.5	220.4
04:00 AM - 04:05 AM	225.9	219.4	221.4
04:05 AM - 04:10 AM	226.9	220.3	222.4
04:10 AM - 04:15 AM	227.9	221.2	223.4
04:15 AM - 04:20 AM	228.9	222.1	224.4
04:20 AM - 04:25 AM	229.9	223.0	225.4
04:25 AM - 04:30 AM	230.9	223.9	226.4
04:30 AM - 04:35 AM	231.9	224.8	227.4
04:35 AM - 04:40 AM	232.9	225.7	228.4
04:40 AM - 04:45 AM	233.9	226.6	229.4
04:45 AM - 04:50 AM	234.9	227.5	230.4
04:50 AM - 04:55 AM	235.9	228.4	231.4
04:55 AM - 05:00 AM	236.9	229.3	232.4
05:00 AM - 05:05 AM	237.9	230.2	233.4
05:05 AM - 05:10 AM	238.9	231.1	234.4
05:10 AM - 05:15 AM	239.9	232.0	235.4
05:15 AM - 05:20 AM	240.9	232.9	236.4
05:20 AM - 05:25 AM	241.9	233.8	237.4
05:25 AM - 05:30 AM	242.9	234.7	238.4
05:30 AM - 05:35 AM	243.9	235.6	239.4
05:35 AM - 05:40 AM	244.9	236.5	240.4
05:40 AM - 05:45 AM	245.9	237.4	241.4
05:45 AM - 05:50 AM	246.9	238.3	242.4
05:50 AM - 05:55 AM	247.9	239.2	243.4
05:55 AM - 06:00 AM	248.9	240.1	244.4
06:00 AM - 06:05 AM	249.9	241.0	245.4
06:05 AM - 06:10 AM	250.9	241.9	246.4
06:10 AM - 06:15 AM	251.9	242.8	247.4
06:15 AM - 06:20 AM	252.9	243.7	248.4
06:20 AM - 06:25 AM	253.9	244.6	249.4
06:25 AM - 06:30 AM	254.9	245.5	250.4
06:30 AM - 06:35 AM	255.9	246.4	251.4
06:35 AM - 06:40 AM	256.9	247.3	252.4
06:40 AM - 06:45 AM	257.9	248.2	253.4
06:45 AM - 06:50 AM	258.9	249.1	254.4
06:50 AM - 06:55 AM	259.9	250.0	255.4
06:55 AM - 07:00 AM	260.9	250.9	256.4
07:00 AM - 07:05 AM	261.9	251.8	257.4
07:05 AM - 07:10 AM	262.9	252.7	258.4
07:10 AM - 07:15 AM	263.9	253.6	259.4
07:15 AM - 07:20 AM	264.9	254.5	260.4
07:20 AM - 07:25 AM	265.9	255.4	261.4
07:25 AM - 07:30 AM	266.9	256.3	262.4
07:30 AM - 07:35 AM	267.9	257.2	263.4
07:35 AM - 07:40 AM	268.9	258.1	264.4
07:40 AM - 07:45 AM	269.9	259.0	265.4
07:45 AM - 07:50 AM	270.9	259.9	266.4
07:50 AM - 07:55 AM	271.9	260.8	</





## Analysis / Test Report

Client : Rujana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattapha-Chachoengsao Road, Boin, Sriracha, Chonburi Thailand 20320

Lot ID: 24126080  
Date Received: Dec 07, 2024  
Date Reported: Dec 11, 2024  
Report No.: 3189589-1

P/O : RKN-BW029/66  
Project Name :  
Project Location : Chonburi Boin

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Sample No : 24126080-9  
Parameter : Noise  
Location : N2 : Jakkajalekboon (GPS 47P 07255N, 10444589) (Shut down)  
Measurement Date : Dec 07 - 08, 2024  
Measurement by : Hongkong Phatthabhi  
Sound Level Meter : 621392

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
07:40 AM - 07:45 AM	51.6	57.1	50.1
07:45 AM - 07:50 AM	51.1	56.6	50.0
07:50 AM - 07:55 AM	51.5	56.5	50.2
07:55 AM - 08:00 AM	51.0	56.0	50.0
08:00 AM - 08:05 AM	51.1	55.9	50.0
08:05 AM - 08:10 AM	50.9	55.6	50.0
08:10 AM - 08:15 AM	51.2	55.9	50.0
08:15 AM - 08:20 AM	51.3	56.0	50.0
08:20 AM - 08:25 AM	51.2	55.9	50.0
08:25 AM - 08:30 AM	50.5	55.1	49.7
08:30 AM - 08:35 AM	50.9	55.3	49.9
08:35 AM - 08:40 AM	51.6	55.9	50.0
08:40 AM - 08:45 AM	50.8	55.4	49.8
08:45 AM - 08:50 AM	51.4	55.9	50.0
08:50 AM - 08:55 AM	50.6	55.3	49.8
08:55 AM - 09:00 AM	51.0	55.7	50.0
09:00 AM - 09:05 AM	50.9	55.6	50.0
09:05 AM - 09:10 AM	51.3	56.0	50.0
09:10 AM - 09:15 AM	50.9	55.6	49.9
09:15 AM - 09:20 AM	51.2	55.9	50.0
09:20 AM - 09:25 AM	51.2	55.9	50.0
09:25 AM - 09:30 AM	51.0	55.6	49.9
09:30 AM - 09:35 AM	51.1	55.7	50.0
09:35 AM - 09:40 AM	51.5	56.0	50.0
09:40 AM - 09:45 AM	51.1	55.6	49.9
09:45 AM - 09:50 AM	51.1	55.6	49.9
09:50 AM - 09:55 AM	51.1	55.6	49.9
09:55 AM - 10:00 AM	51.1	55.6	49.9
10:00 AM - 10:05 AM	51.1	55.6	49.9
10:05 AM - 10:10 AM	51.1	55.6	49.9
10:10 AM - 10:15 AM	51.1	55.6	49.9
10:15 AM - 10:20 AM	51.1	55.6	49.9
10:20 AM - 10:25 AM	51.1	55.6	49.9
10:25 AM - 10:30 AM	51.1	55.6	49.9
10:30 AM - 10:35 AM	51.1	55.6	49.9
10:35 AM - 10:40 AM	51.1	55.6	49.9
10:40 AM - 10:45 AM	51.1	55.6	49.9
10:45 AM - 10:50 AM	51.1	55.6	49.9
10:50 AM - 10:55 AM	51.1	55.6	49.9
10:55 AM - 11:00 AM	51.1	55.6	49.9
11:00 AM - 11:05 AM	51.1	55.6	49.9
11:05 AM - 11:10 AM	51.1	55.6	49.9
11:10 AM - 11:15 AM	51.1	55.6	49.9
11:15 AM - 11:20 AM	51.1	55.6	49.9
11:20 AM - 11:25 AM	51.1	55.6	49.9
11:25 AM - 11:30 AM	51.1	55.6	49.9
11:30 AM - 11:35 AM	51.1	55.6	49.9
11:35 AM - 11:40 AM	51.1	55.6	49.9
11:40 AM - 11:45 AM	51.1	55.6	49.9
11:45 AM - 11:50 AM	51.1	55.6	49.9
11:50 AM - 11:55 AM	51.1	55.6	49.9
11:55 AM - 12:00 AM	51.1	55.6	49.9
12:00 AM - 12:05 AM	51.1	55.6	49.9
12:05 AM - 12:10 AM	51.1	55.6	49.9
12:10 AM - 12:15 AM	51.1	55.6	49.9
12:15 AM - 12:20 AM	51.1	55.6	49.9
12:20 AM - 12:25 AM	51.1	55.6	49.9

Reference Method :  
1. ISO 1996-1  
2. กรมควบคุมมลพิษของประเทศไทยฉบับที่ 24 พ.ศ. 2561 เรื่องการกำหนดค่ามาตรฐานคุณภาพสิ่งแวดล้อมในอากาศ

Approved by

Wiboon Borkak Manager

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## Analysis / Test Report

Client : Rujana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattapha-Chachoengsao Road, Boin, Sriracha, Chonburi Thailand 20320

Lot ID: 24126080  
Date Received: Dec 07, 2024  
Date Reported: Dec 11, 2024  
Report No.: 3189589-1

P/O : RKN-BW029/66  
Project Name :  
Project Location : Chonburi Boin

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Sample No : 24126080-8  
Parameter : Noise  
Location : N2 : Jakkajalekboon (GPS 47P 07255N, 10444589) (Shut down)  
Measurement Date : Nov 27 - 28, 2024  
Measurement by : Hongkong Phatthabhi  
Sound Level Meter : 621392

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 11:05 PM	56.7	61.7	46.5
11:05 PM - 11:10 PM	60.4	65.4	46.9
11:10 PM - 11:15 PM	58.1	63.1	46.0
11:15 PM - 11:20 PM	55.0	60.0	45.0
11:20 PM - 11:25 PM	55.2	60.2	45.2
11:25 PM - 11:30 PM	58.4	63.4	45.5
11:30 PM - 11:35 PM	58.9	63.9	45.9
11:35 PM - 11:40 PM	60.1	65.1	46.1
11:40 PM - 11:45 PM	57.7	62.7	45.7
11:45 PM - 11:50 PM	57.1	62.1	45.1
11:50 PM - 11:55 PM	55.0	60.0	45.0
11:55 PM - 12:00 PM	55.5	60.5	45.5
12:00 PM - 12:05 PM	54.5	59.5	44.5
12:05 PM - 12:10 PM	53.4	58.4	43.4
12:10 PM - 12:15 PM	54.6	59.6	44.6
12:15 PM - 12:20 PM	54.5	59.5	44.5
12:20 PM - 12:25 PM	54.5	59.5	44.5
12:25 PM - 12:30 PM	54.5	59.5	44.5
12:30 PM - 12:35 PM	54.5	59.5	44.5
12:35 PM - 12:40 PM	54.5	59.5	44.5
12:40 PM - 12:45 PM	54.5	59.5	44.5
12:45 PM - 12:50 PM	54.5	59.5	44.5
12:50 PM - 12:55 PM	54.5	59.5	44.5
12:55 PM - 1:00 AM	54.5	59.5	44.5
1:00 AM - 1:05 AM	54.5	59.5	44.5
1:05 AM - 1:10 AM	54.5	59.5	44.5
1:10 AM - 1:15 AM	54.5	59.5	44.5
1:15 AM - 1:20 AM	54.5	59.5	44.5
1:20 AM - 1:25 AM	54.5	59.5	44.5
1:25 AM - 1:30 AM	54.5	59.5	44.5
1:30 AM - 1:35 AM	54.5	59.5	44.5
1:35 AM - 1:40 AM	54.5	59.5	44.5
1:40 AM - 1:45 AM	54.5	59.5	44.5
1:45 AM - 1:50 AM	54.5	59.5	44.5
1:50 AM - 1:55 AM	54.5	59.5	44.5
1:55 AM - 2:00 AM	54.5	59.5	44.5
2:00 AM - 2:05 AM	54.5	59.5	44.5
2:05 AM - 2:10 AM	54.5	59.5	44.5
2:10 AM - 2:15 AM	54.5	59.5	44.5
2:15 AM - 2:20 AM	54.5	59.5	44.5
2:20 AM - 2:25 AM	54.5	59.5	44.5
2:25 AM - 2:30 AM	54.5	59.5	44.5
2:30 AM - 2:35 AM	54.5	59.5	44.5
2:35 AM - 2:40 AM	54.5	59.5	44.5
2:40 AM - 2:45 AM	54.5	59.5	44.5
2:45 AM - 2:50 AM	54.5	59.5	44.5
2:50 AM - 2:55 AM	54.5	59.5	44.5
2:55 AM - 3:00 AM	54.5	59.5	44.5
3:00 AM - 3:05 AM	54.5	59.5	44.5
3:05 AM - 3:10 AM	54.5	59.5	44.5
3:10 AM - 3:15 AM	54.5	59.5	44.5
3:15 AM - 3:20 AM	54.5	59.5	44.5
3:20 AM - 3:25 AM	54.5	59.5	44.5
3:25 AM - 3:30 AM	54.5	59.5	44.5
3:30 AM - 3:35 AM	54.5	59.5	44.5
3:35 AM - 3:40 AM	54.5	59.5	44.5
3:40 AM - 3:45 AM	54.5	59.5	44.5
3:45 AM - 3:50 AM	54.5	59.5	44.5
3:50 AM - 3:55 AM	54.5	59.5	44.5
3:55 AM - 4:00 AM	54.5	59.5	44.5
4:00 AM - 4:05 AM	54.5	59.5	44.5
4:05 AM - 4:10 AM	54.5	59.5	44.5
4:10 AM - 4:15 AM	54.5	59.5	44.5
4:15 AM - 4:20 AM	54.5	59.5	44.5
4:20 AM - 4:25 AM	54.5	59.5	44.5
4:25 AM - 4:30 AM	54.5	59.5	44.5
4:30 AM - 4:35 AM	54.5	59.5	44.5
4:35 AM - 4:40 AM	54.5	59.5	44.5
4:40 AM - 4:45 AM	54.5	59.5	44.5
4:45 AM - 4:50 AM	54.5	59.5	44.5
4:50 AM - 4:55 AM	54.5	59.5	44.5
4:55 AM - 5:00 AM	54.5	59.5	44.5
5:00 AM - 5:05 AM	54.5	59.5	44.5
5:05 AM - 5:10 AM	54.5	59.5	44.5
5:10 AM - 5:15 AM	54.5	59.5	44.5
5:15 AM - 5:20 AM	54.5	59.5	44.5
5:20 AM - 5:25 AM	54.5	59.5	44.5
5:25 AM - 5:30 AM	54.5	59.5	44.5
5:30 AM - 5:35 AM	54.5	59.5	44.5
5:35 AM - 5:40 AM	54.5	59.5	44.5
5:40 AM - 5:45 AM	54.5	59.5	44.5
5:45 AM - 5:50 AM	54.5	59.5	44.5
5:50 AM - 5:55 AM	54.5	59.5	44.5
5:55 AM - 6:00 AM	54.5	59.5	44.5
6:00 AM - 6:05 AM	54.5	59.5	44.5
6:05 AM - 6:10 AM	54.5	59.5	44.5
6:10 AM - 6:15 AM	54.5	59.5	44.5
6:15 AM - 6:20 AM	54.5	59.5	44.5
6:20 AM - 6:25 AM	54.5	59.5	44.5
6:25 AM - 6:30 AM	54.5	59.5	44.5
6:30 AM - 6:35 AM	54.5	59.5	44.5
6:35 AM - 6:40 AM	54.5	59.5	44.5
6:40 AM - 6:45 AM	54.5	59.5	44.5
6:45 AM - 6:50 AM	54.5	59.5	44.5
6:50 AM - 6:55 AM	54.5	59.5	44.5
6:55 AM - 7:00 AM	54.5	59.5	44.5
7:00 AM - 7:05 AM	54.5	59.5	44.5
7:05 AM - 7:10 AM	54.5	59.5	44.5
7:10 AM - 7:15 AM	54.5	59.5	44.5
7:15 AM - 7:20 AM	54.5	59.5	44.5
7:20 AM - 7:25 AM	54.5	59.5	44.5
7:25 AM - 7:30 AM	54.5	59.5	44.5
7:30 AM - 7:35 AM	54.5	59.5	44.5
7:35 AM - 7:40 AM	54.5	59.5	44.5
7:40 AM - 7:45 AM	54.5	59.5	44.5
7:45 AM - 7:50 AM	54.5	59.5	44.5
7:50 AM - 7:55 AM	54.5	59.5	44.5
7:55 AM - 8:00 AM	54.5	59.5	44.5
8:00 AM - 8:05 AM	54.5	59.5	44.5
8:05 AM - 8:10 AM	54.5	59.5	44.5
8:10 AM - 8:15 AM	54.5	59.5	44.5
8:15 AM - 8:20 AM	54.5	59.5	44.5
8:20 AM - 8:25 AM	54.5	59.5	44.5
8:25 AM - 8:30 AM	54.5	59.5	44.5
8:30 AM - 8:35 AM	54.5	59.5	44.5
8:35 AM - 8:40 AM	54.5	59.5	44.5
8:40 AM - 8:45 AM	54.5	59.5	44.5
8:45 AM - 8:50 AM	54.5	59.5	44.5
8:50 AM - 8:55 AM	54.5	59.5	44.5
8:55 AM - 9:00 AM	54.5	59.5	44.5
9:00 AM - 9:05 AM	54.5	59.5	44.5
9:05 AM - 9:10 AM	54.5	59.5	44.5
9:10 AM - 9:15 AM	54.5	59.5	44.5
9:15 AM - 9:20 AM	54.5	59.5	44.5
9:20 AM - 9:25 AM	54.5	59.5	44.5
9:25 AM - 9:30 AM	54.5	59.5	44.5
9:30 AM - 9:35 AM	54.5	59.5	44.5
9:35 AM - 9:40 AM	54.5	59.5	44.5
9:40 AM - 9:45 AM	54.5	59.5	44.5
9:45 AM - 9:50 AM	54.5	59.5	44.5
9:50 AM - 9:55 AM	54.5	59.5	44.5
9:55 AM - 10:00 AM	54.5	59.5	44.5
10:00 AM - 10:05 AM	54.5	59.5	44.5
10:05 AM - 10:10 AM	54.5	59.5	44.5
10:10 AM - 10:15 AM	54.5	59.5	44.5
10:15 AM - 10:20 AM	54.5	59.5	44.5
10:20 AM - 10:25 AM	54.5	59.5	44.5
10:25 AM - 10:30 AM	54.5	59.5	44.5
10:30 AM - 10:35 AM	54.5	59.5	44.5
10:35 AM - 10:40 AM	54.5	59.5	44.5
10:40 AM - 10:45 AM	54.5	59.5	44.5
10:45 AM - 10:50 AM	54.5	59.5	44.5
10:50 AM - 10:55 AM	54.5	59.5	44.5
10:55 AM - 11:00 AM	54.5	59.5	44.5
11:00 AM - 11:05 AM	54.5	59.5	44.5
11:05 AM - 11:10 AM	54.5	59.5	44.5
11:10 AM - 11:15 AM	54.5	59.5	44.5
11:15 AM - 11:20 AM	54.5	59.5	44.5
11:20 AM - 11:25 AM	54.5	59.5	44.5
11:25 AM - 11:30 AM	54.5	59.5	44.5
11:30 AM - 11:35 AM	54.5	59.5	44.5
11:35 AM - 11:40 AM	54.5	59.5	44.5
11:40 AM - 11:45 AM	54.5	59.5	44.5
11:45 AM - 11:50 AM	54.5	59.5	44.5
11:50 AM - 11:55 AM	54.5	59.5	44.5
11:55 AM - 12:00 AM	54.5	59.5	44.5
12:00 AM - 12:05 AM	54.5	59.5	44.5
12:05 AM - 12:10 AM	54.5	59.5	44.5
12:10 AM - 12:15 AM	54.5	59.5	44.5
12:15 AM - 12:20 AM	54.5	59.5	44.5
12:20 AM - 12:25 AM	54.5	59.5	44.5
12:25 AM - 12:30 AM	54.5	59.5	44.5
12:30 AM - 12:35 AM	54.5	59.5	44.5
12:35 AM - 12:40 AM	54.5	59.5	44.5
12:40 AM - 12:45 AM	54.5	59.5	44.5
12:45 AM - 12:50 AM	54.5	59.5	44.5
12:50 AM - 12:55 AM	54.5	59.5	44.5
12:55 AM - 1:00 AM	54.5	59.5	44.5



## Analysis / Test Report

Client : Rigana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattaph-Chachoengsao Road, Bowin, Sriracha, Chonburi Thailand 20230

P/O : RKN-BW02/66  
Project Name : Chonburi Bowin  
Project Location : Chonburi Bowin

Sample No. : 24120800-10  
Parameter : Noise  
Location : N2 : Sattaph-Chachoengsao (GPS 47P 07250N, 1044498E) (Shut down)  
Measurement Date : Nov 29 - 30, 2024  
Measurement by : Hongkong Phatphat  
Sound Level Meter : 621392

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:25 AM - 12:30 AM	69.4	80.9	39.1
12:30 AM - 12:35 AM	69.1	81.4	37.7
12:35 AM - 12:40 AM	69.2	79.9	38.9
12:40 AM - 12:45 AM	68.7	80.4	40.5
12:45 AM - 12:50 AM	68.9	80.9	40.1
12:50 AM - 12:55 AM	69.3	80.4	39.6
12:55 AM - 01:00 AM	69.1	80.4	39.6
01:00 AM - 01:05 AM	69.3	80.4	39.6
01:05 AM - 01:10 AM	69.1	80.4	39.6
01:10 AM - 01:15 AM	69.2	80.9	39.5
01:15 AM - 01:20 AM	69.8	80.9	39.5
01:20 AM - 01:25 AM	69.6	80.9	39.5
01:25 AM - 01:30 AM	69.7	80.9	39.5
01:30 AM - 01:35 AM	69.8	80.9	39.5
01:35 AM - 01:40 AM	69.4	80.9	39.5
01:40 AM - 01:45 AM	69.4	80.9	39.5
01:45 AM - 01:50 AM	69.2	80.9	39.5
01:50 AM - 01:55 AM	69.4	80.9	39.5
01:55 AM - 02:00 AM	69.2	80.9	39.5
02:00 AM - 02:05 AM	69.7	80.9	39.5
02:05 AM - 02:10 AM	69.7	80.9	39.5
02:10 AM - 02:15 AM	69.7	80.9	39.5
02:15 AM - 02:20 AM	69.9	80.9	39.5
02:20 AM - 02:25 AM	69.8	80.9	39.5
02:25 AM - 02:30 AM	69.9	80.9	39.5
02:30 AM - 02:35 AM	69.9	80.9	39.5
02:35 AM - 02:40 AM	69.9	80.9	39.5
02:40 AM - 02:45 AM	69.9	80.9	39.5
02:45 AM - 02:50 AM	69.9	80.9	39.5
02:50 AM - 02:55 AM	69.9	80.9	39.5
02:55 AM - 03:00 AM	69.9	80.9	39.5
03:00 AM - 03:05 AM	69.9	80.9	39.5
03:05 AM - 03:10 AM	69.9	80.9	39.5
03:10 AM - 03:15 AM	69.9	80.9	39.5
03:15 AM - 03:20 AM	69.9	80.9	39.5
03:20 AM - 03:25 AM	69.9	80.9	39.5
03:25 AM - 03:30 AM	69.9	80.9	39.5
03:30 AM - 03:35 AM	69.9	80.9	39.5
03:35 AM - 03:40 AM	69.9	80.9	39.5
03:40 AM - 03:45 AM	69.9	80.9	39.5
03:45 AM - 03:50 AM	69.9	80.9	39.5
03:50 AM - 03:55 AM	69.9	80.9	39.5
03:55 AM - 04:00 AM	69.9	80.9	39.5
04:00 AM - 04:05 AM	69.9	80.9	39.5
04:05 AM - 04:10 AM	69.9	80.9	39.5
04:10 AM - 04:15 AM	69.9	80.9	39.5
04:15 AM - 04:20 AM	69.9	80.9	39.5
04:20 AM - 04:25 AM	69.9	80.9	39.5
04:25 AM - 04:30 AM	69.9	80.9	39.5
04:30 AM - 04:35 AM	69.9	80.9	39.5
04:35 AM - 04:40 AM	69.9	80.9	39.5
04:40 AM - 04:45 AM	69.9	80.9	39.5
04:45 AM - 04:50 AM	69.9	80.9	39.5
04:50 AM - 04:55 AM	69.9	80.9	39.5
04:55 AM - 05:00 AM	69.9	80.9	39.5
05:00 AM - 05:05 AM	69.9	80.9	39.5
05:05 AM - 05:10 AM	69.9	80.9	39.5
05:10 AM - 05:15 AM	69.9	80.9	39.5
05:15 AM - 05:20 AM	69.9	80.9	39.5
05:20 AM - 05:25 AM	69.9	80.9	39.5
05:25 AM - 05:30 AM	69.9	80.9	39.5
05:30 AM - 05:35 AM	69.9	80.9	39.5
05:35 AM - 05:40 AM	69.9	80.9	39.5
05:40 AM - 05:45 AM	69.9	80.9	39.5
05:45 AM - 05:50 AM	69.9	80.9	39.5
05:50 AM - 05:55 AM	69.9	80.9	39.5
05:55 AM - 06:00 AM	69.9	80.9	39.5
06:00 AM - 06:05 AM	69.9	80.9	39.5
06:05 AM - 06:10 AM	69.9	80.9	39.5
06:10 AM - 06:15 AM	69.9	80.9	39.5
06:15 AM - 06:20 AM	69.9	80.9	39.5
06:20 AM - 06:25 AM	69.9	80.9	39.5
06:25 AM - 06:30 AM	69.9	80.9	39.5
06:30 AM - 06:35 AM	69.9	80.9	39.5
06:35 AM - 06:40 AM	69.9	80.9	39.5
06:40 AM - 06:45 AM	69.9	80.9	39.5
06:45 AM - 06:50 AM	69.9	80.9	39.5
06:50 AM - 06:55 AM	69.9	80.9	39.5
06:55 AM - 07:00 AM	69.9	80.9	39.5
07:00 AM - 07:05 AM	69.9	80.9	39.5
07:05 AM - 07:10 AM	69.9	80.9	39.5
07:10 AM - 07:15 AM	69.9	80.9	39.5
07:15 AM - 07:20 AM	69.9	80.9	39.5
07:20 AM - 07:25 AM	69.9	80.9	39.5
07:25 AM - 07:30 AM	69.9	80.9	39.5
07:30 AM - 07:35 AM	69.9	80.9	39.5
07:35 AM - 07:40 AM	69.9	80.9	39.5
07:40 AM - 07:45 AM	69.9	80.9	39.5
07:45 AM - 07:50 AM	69.9	80.9	39.5
07:50 AM - 07:55 AM	69.9	80.9	39.5
07:55 AM - 08:00 AM	69.9	80.9	39.5
08:00 AM - 08:05 AM	69.9	80.9	39.5
08:05 AM - 08:10 AM	69.9	80.9	39.5
08:10 AM - 08:15 AM	69.9	80.9	39.5
08:15 AM - 08:20 AM	69.9	80.9	39.5
08:20 AM - 08:25 AM	69.9	80.9	39.5
08:25 AM - 08:30 AM	69.9	80.9	39.5
08:30 AM - 08:35 AM	69.9	80.9	39.5
08:35 AM - 08:40 AM	69.9	80.9	39.5
08:40 AM - 08:45 AM	69.9	80.9	39.5
08:45 AM - 08:50 AM	69.9	80.9	39.5
08:50 AM - 08:55 AM	69.9	80.9	39.5
08:55 AM - 09:00 AM	69.9	80.9	39.5
09:00 AM - 09:05 AM	69.9	80.9	39.5
09:05 AM - 09:10 AM	69.9	80.9	39.5
09:10 AM - 09:15 AM	69.9	80.9	39.5
09:15 AM - 09:20 AM	69.9	80.9	39.5
09:20 AM - 09:25 AM	69.9	80.9	39.5
09:25 AM - 09:30 AM	69.9	80.9	39.5
09:30 AM - 09:35 AM	69.9	80.9	39.5
09:35 AM - 09:40 AM	69.9	80.9	39.5
09:40 AM - 09:45 AM	69.9	80.9	39.5
09:45 AM - 09:50 AM	69.9	80.9	39.5
09:50 AM - 09:55 AM	69.9	80.9	39.5
09:55 AM - 10:00 AM	69.9	80.9	39.5
10:00 AM - 10:05 AM	69.9	80.9	39.5
10:05 AM - 10:10 AM	69.9	80.9	39.5
10:10 AM - 10:15 AM	69.9	80.9	39.5
10:15 AM - 10:20 AM	69.9	80.9	39.5
10:20 AM - 10:25 AM	69.9	80.9	39.5
10:25 AM - 10:30 AM	69.9	80.9	39.5
10:30 AM - 10:35 AM	69.9	80.9	39.5
10:35 AM - 10:40 AM	69.9	80.9	39.5
10:40 AM - 10:45 AM	69.9	80.9	39.5
10:45 AM - 10:50 AM	69.9	80.9	39.5
10:50 AM - 10:55 AM	69.9	80.9	39.5
10:55 AM - 11:00 AM	69.9	80.9	39.5
11:00 AM - 11:05 AM	69.9	80.9	39.5
11:05 AM - 11:10 AM	69.9	80.9	39.5
11:10 AM - 11:15 AM	69.9	80.9	39.5
11:15 AM - 11:20 AM	69.9	80.9	39.5
11:20 AM - 11:25 AM	69.9	80.9	39.5
11:25 AM - 11:30 AM	69.9	80.9	39.5
11:30 AM - 11:35 AM	69.9	80.9	39.5
11:35 AM - 11:40 AM	69.9	80.9	39.5
11:40 AM - 11:45 AM	69.9	80.9	39.5
11:45 AM - 11:50 AM	69.9	80.9	39.5
11:50 AM - 11:55 AM	69.9	80.9	39.5
11:55 AM - 12:00 AM	69.9	80.9	39.5
12:00 AM - 12:05 AM	69.9	80.9	39.5
12:05 AM - 12:10 AM	69.9	80.9	39.5
12:10 AM - 12:15 AM	69.9	80.9	39.5
12:15 AM - 12:20 AM	69.9	80.9	39.5
12:20 AM - 12:25 AM	69.9	80.9	39.5
12:25 AM - 12:30 AM	69.9	80.9	39.5
12:30 AM - 12:35 AM	69.9	80.9	39.5
12:35 AM - 12:40 AM	69.9	80.9	39.5
12:40 AM - 12:45 AM	69.9	80.9	39.5
12:45 AM - 12:50 AM	69.9	80.9	39.5
12:50 AM - 12:55 AM	69.9	80.9	39.5
12:55 AM - 01:00 AM	69.9	80.9	39.5
01:00 AM - 01:05 AM	69.9	80.9	39.5
01:05 AM - 01:10 AM	69.9	80.9	39.5
01:10 AM - 01:15 AM	69.9	80.9	39.5
01:15 AM - 01:20 AM	69.9	80.9	39.5
01:20 AM - 01:25 AM	69.9	80.9	39.5
01:25 AM - 01:30 AM	69.9	80.9	39.5
01:30 AM - 01:35 AM	69.9	80.9	39.5
01:35 AM - 01:40 AM	69.9	80.9	39.5
01:40 AM - 01:45 AM	69.9	80.9	39.5
01:45 AM - 01:50 AM	69.9	80.9	39.5
01:50 AM - 01:55 AM	69.9	80.9	39.5
01:55 AM - 02:00 AM	69.9	80.9	39.5
02:00 AM - 02:05 AM	69.9	80.9	39.5
02:05 AM - 02:10 AM	69.9	80.9	39.5
02:10 AM - 02:15 AM	69.9	80.9	39.5
02:15 AM - 02:20 AM	69.9	80.9	39.5
02:20 AM - 02:25 AM	69.9	80.9	39.5
02:25 AM - 02:30 AM	69.9	80.9	39.5
02:30 AM - 02:35 AM	69.9	80.9	39.5
02:35 AM - 02:40 AM	69.9	80.9	39.5
02:40 AM - 02:45 AM	69.9	80.9	39.5
02:45 AM - 02:50 AM	69.9	80.9	39.5
02:50 AM - 02:55 AM	69.9	80.9	39.5
02:55 AM - 03:00 AM	69.9	80.9	39.5
03:00 AM - 03:05 AM	69.9	80.9	39.5
03:05 AM - 03:10 AM	69.9	80.9	39.5
03:10 AM - 03:15 AM	69.9	80.9	39.5
03:15 AM - 03:20 AM	69.9	80.9	39.5
03:20 AM - 03:25 AM	69.9	80.9	39.5
03:25 AM - 03:30 AM	69.9	80.9	39.5
03:30 AM - 03:35 AM	69.9	80.9	39.5
03:35 AM - 03:40 AM	69.9	80.9	39.5
03:40 AM - 03:45 AM	69.9	80.9	39.5
03:45 AM - 03:50 AM	69.9	80.9	39.5
03:50 AM - 03:55 AM	69.9	80.9	39.5
03:55 AM - 04:00 AM	69.9	80.9	39.5
04:00 AM - 04:05 AM	69.9	80.9	39.5
04:05 AM - 04:10 AM	69.9	80.9	39.5
04:10 AM - 04:15 AM	69.9	80.9	39.5
04:15 AM - 04:20 AM	69.9	80.9	39.5
04:20 AM - 04:25 AM	69.9	80.9	39.5
04:25 AM - 04:30 AM	69.9	80.9	39.5
04:30 AM - 04:35 AM	69.9	80.9	39.5
04:35 AM - 04:40 AM	69.9	80.9	39.5
04:40 AM - 04:45 AM	69.9	80.9	39.5
04:45 AM - 04:50 AM	69.9	80.9	39.5
04:50 AM - 04:55 AM	69.9	80.9	39.5
04:55 AM - 05:00 AM	69.9	80.9	39.5
05:00 AM - 05:05 AM	69.9	80.9	39.5
05:05 AM - 05:10 AM	69.9	80.9	39.5
05:10 AM - 05:15 AM	69.9	80.9	39.5
05:15 AM - 05:20 AM	69.9	80.9	39.5
05:20 AM - 05:25 AM	69.9	80.9	39.5
05:25 AM - 05:30 AM	69.9	80.9	39.5
05:30 AM - 05:35 AM	69.9	80.9	39.5
05:35 AM - 05:40 AM	69.9	80.9	39.5
05:40 AM - 05:45 AM	69.9	80.9	39.5
05:45 AM - 05:50 AM	69.9	80.9	39.5
05:50 AM - 05:55 AM	69.9	80.9	39.5
05:55 AM - 06:00 AM	69.9	80.9	39.5
06:00 AM - 06:05 AM	69.9	80.9	39.5
06:05 AM - 06:10 AM	69.9	80.9	39.5
06:10 AM - 06:15 AM	69.9	80.9	39.5
06:15 AM - 06:20 AM	69.9	80.9	39.5
06:20 AM - 06:25 AM	69.9	80.9	39.5
06:25 AM - 06:30 AM	69.9	80.9	39.5
06:30 AM - 06:35 AM	69.9	80.9	39.5
06:35 AM - 06:40 AM	69.9	80.9	39.5
06:40 AM - 06:45 AM	69.9	80.9	39.5
06:45 AM - 06:50 AM	69.9	80.9	39.5
06:50 AM - 06:55 AM	69.9	80.9	39.5
06:55 AM - 07:00 AM	69.9	80.9	39.5
07:00 AM - 07:05 AM	69.9	80.9	39.5
07:05 AM - 07:10 AM	69.9	80.9	39.5
07:10 AM - 07:15 AM	69.9	80.9	39.5
07:15 AM - 07:20 AM	69.9	80.9	39.5
07:20 AM - 07:25 AM	69.9	80.9	39.5
07:25 AM - 07:30 AM	69.9	80.9	39.5
07:30 AM - 07:35 AM	69.9	80.9	39.5
07:35 AM - 07:40 AM	69.9	80.9	39.5
07:40 AM - 07:45 AM	69.9	80.9	39.5
07:45 AM - 07:50 AM	69.9	80.9	39.5
07:50 AM - 07:55 AM	69.9	80.9	39.5
07:55 AM - 08:00 AM	69.9	80.9	39.5
08:00 AM - 08:05 AM	69.9	80.9	39.5
08:05 AM - 08:10 AM	69.9	80.9	39.5
08:10 AM - 08:15 AM	69.9	80.9	39.5
08:15 AM - 08:20 AM	69.9	80.9	39.5
08:20 AM - 08:25 AM	69.9	80.9	39.5
08:25 AM - 08:30 AM	69.9	80.9	39.5
08:30 AM - 08:35 AM	69.9	80.9	39.5
08:35 AM - 08:40 AM	69.9	80.9	39.5
08:40 AM - 08:45 AM	69.9	80.9	39.5
08:45 AM - 08:50 AM	69.9	80.9	39.5
08:508			







## Analysis / Test Report

Client : Rigana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattaph-Chachoengsao Road, Bowin, Sriracha, Chonburi Thailand 20230

P/O : RKN-BW02/66  
Project Name : Chonburi Bowin  
Project Location : Chonburi Bowin

Let ID: 24126080  
Date Received : Dec 07, 2024  
Date Reported : Dec 11, 2024  
Report No. : 3189601-1

Sample No : 24126080-19  
Parameter : Noise  
Location : N3 : vubh/vubh 5 (GPS 47° 07'30"17, 144°55'03" (Shut down)  
Measurement Date : Nov 30 : Dec 01, 2024  
Measurement by : Hengkon Phatphat  
Measurement by Sound Level Meter : 01173609

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:15 AM - 12:20 AM	46.5	48.5	45.5
12:20 AM - 12:25 AM	46.5	48.5	45.5
12:25 AM - 12:30 AM	46.5	48.5	45.5
12:30 AM - 12:35 AM	46.5	48.5	45.5
12:35 AM - 12:40 AM	46.5	48.5	45.5
12:40 AM - 12:45 AM	46.5	48.5	45.5
12:45 AM - 12:50 AM	46.5	48.5	45.5
12:50 AM - 12:55 AM	46.5	48.5	45.5
12:55 AM - 01:00 AM	46.5	48.5	45.5
01:00 AM - 01:05 AM	46.5	48.5	45.5
01:05 AM - 01:10 AM	46.5	48.5	45.5
01:10 AM - 01:15 AM	46.5	48.5	45.5
01:15 AM - 01:20 AM	46.5	48.5	45.5
01:20 AM - 01:25 AM	46.5	48.5	45.5
01:25 AM - 01:30 AM	46.5	48.5	45.5
01:30 AM - 01:35 AM	46.5	48.5	45.5
01:35 AM - 01:40 AM	46.5	48.5	45.5
01:40 AM - 01:45 AM	46.5	48.5	45.5
01:45 AM - 01:50 AM	46.5	48.5	45.5
01:50 AM - 01:55 AM	46.5	48.5	45.5
01:55 AM - 02:00 AM	46.5	48.5	45.5
02:00 AM - 02:05 AM	46.5	48.5	45.5
02:05 AM - 02:10 AM	46.5	48.5	45.5
02:10 AM - 02:15 AM	46.5	48.5	45.5
02:15 AM - 02:20 AM	46.5	48.5	45.5
02:20 AM - 02:25 AM	46.5	48.5	45.5
02:25 AM - 02:30 AM	46.5	48.5	45.5
02:30 AM - 02:35 AM	46.5	48.5	45.5
02:35 AM - 02:40 AM	46.5	48.5	45.5
02:40 AM - 02:45 AM	46.5	48.5	45.5
02:45 AM - 02:50 AM	46.5	48.5	45.5
02:50 AM - 02:55 AM	46.5	48.5	45.5
02:55 AM - 03:00 AM	46.5	48.5	45.5
03:00 AM - 03:05 AM	46.5	48.5	45.5
03:05 AM - 03:10 AM	46.5	48.5	45.5
03:10 AM - 03:15 AM	46.5	48.5	45.5
03:15 AM - 03:20 AM	46.5	48.5	45.5
03:20 AM - 03:25 AM	46.5	48.5	45.5
03:25 AM - 03:30 AM	46.5	48.5	45.5
03:30 AM - 03:35 AM	46.5	48.5	45.5

Approved by

Wibb.

Wibb. Borak  
Manager

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## Analysis / Test Report

Client : Rigana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattaph-Chachoengsao Road, Bowin, Sriracha, Chonburi Thailand 20230

P/O : RKN-BW02/66  
Project Name : Chonburi Bowin  
Project Location : Chonburi Bowin

Sample No : 24126080-18  
Parameter : Noise  
Location : N3 : vubh/vubh 5 (GPS 47° 07'30"17, 144°55'03" (Shut down)  
Measurement Date : Nov 30 : Dec 01, 2024  
Measurement by : Hengkon Phatphat  
Measurement by Sound Level Meter : 01173609

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
03:35 AM - 03:40 AM	44.9	47.9	44.9
03:40 AM - 03:45 AM	44.9	47.9	44.9
03:45 AM - 03:50 AM	44.9	47.9	44.9
03:50 AM - 03:55 AM	44.9	47.9	44.9
03:55 AM - 04:00 AM	44.9	47.9	44.9
04:00 AM - 04:05 AM	44.9	47.9	44.9
04:05 AM - 04:10 AM	44.9	47.9	44.9
04:10 AM - 04:15 AM	44.9	47.9	44.9
04:15 AM - 04:20 AM	44.9	47.9	44.9
04:20 AM - 04:25 AM	44.9	47.9	44.9
04:25 AM - 04:30 AM	44.9	47.9	44.9
04:30 AM - 04:35 AM	44.9	47.9	44.9
04:35 AM - 04:40 AM	44.9	47.9	44.9
04:40 AM - 04:45 AM	44.9	47.9	44.9
04:45 AM - 04:50 AM	44.9	47.9	44.9
04:50 AM - 04:55 AM	44.9	47.9	44.9
04:55 AM - 05:00 AM	44.9	47.9	44.9
05:00 AM - 05:05 AM	44.9	47.9	44.9
05:05 AM - 05:10 AM	44.9	47.9	44.9
05:10 AM - 05:15 AM	44.9	47.9	44.9
05:15 AM - 05:20 AM	44.9	47.9	44.9
05:20 AM - 05:25 AM	44.9	47.9	44.9
05:25 AM - 05:30 AM	44.9	47.9	44.9
05:30 AM - 05:35 AM	44.9	47.9	44.9
05:35 AM - 05:40 AM	44.9	47.9	44.9
05:40 AM - 05:45 AM	44.9	47.9	44.9
05:45 AM - 05:50 AM	44.9	47.9	44.9
05:50 AM - 05:55 AM	44.9	47.9	44.9
05:55 AM - 06:00 AM	44.9	47.9	44.9
06:00 AM - 06:05 AM	44.9	47.9	44.9
06:05 AM - 06:10 AM	44.9	47.9	44.9
06:10 AM - 06:15 AM	44.9	47.9	44.9
06:15 AM - 06:20 AM	44.9	47.9	44.9
06:20 AM - 06:25 AM	44.9	47.9	44.9
06:25 AM - 06:30 AM	44.9	47.9	44.9
06:30 AM - 06:35 AM	44.9	47.9	44.9
06:35 AM - 06:40 AM	44.9	47.9	44.9
06:40 AM - 06:45 AM	44.9	47.9	44.9
06:45 AM - 06:50 AM	44.9	47.9	44.9
06:50 AM - 06:55 AM	44.9	47.9	44.9
06:55 AM - 07:00 AM	44.9	47.9	44.9
07:00 AM - 07:05 AM	44.9	47.9	44.9
07:05 AM - 07:10 AM	44.9	47.9	44.9

Reference Method :

1. ISO 1996-1  
2. กรมควบคุมมลพิษ กรมควบคุมมลพิษ กระทรวงทรัพยากรธรรมชาติและสิ่งแวดล้อม พ.ศ. 2562

Approved by

Wibb.

Wibb. Borak  
Manager

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## Analysis / Test Report

Client : Rigana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattaph-Chachoengsao Road, Bowin, Sriracha, Chonburi Thailand 20230

P/O : RKN-BW02/66  
Project Name : Chonburi Bowin  
Project Location : Chonburi Bowin

Sample No : 24126080-17  
Parameter : Noise  
Location : N3 : vubh/vubh 5 (GPS 47° 07'30"17, 144°55'03" (Shut down)  
Measurement Date : Dec 01 : Dec 02, 2024  
Measurement by : Hengkon Phatphat  
Measurement by Sound Level Meter : 01173609

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
07:00 AM - 07:05 AM	51.9	73.9	43.9
07:05 AM - 07:10 AM	47.9	69.9	43.9
07:10 AM - 07:15 AM	47.9	69.9	43.9
07:15 AM - 07:20 AM	47.9	69.9	43.9
07:20 AM - 07:25 AM	47.9	69.9	43.9
07:25 AM - 07:30 AM	47.9	69.9	43.9
07:30 AM - 07:35 AM	47.9	69.9	43.9
07:35 AM - 07:40 AM	47.9	69.9	43.9
07:40 AM - 07:45 AM	47.9	69.9	43.9
07:45 AM - 07:50 AM	47.9	69.9	43.9
07:50 AM - 07:55 AM	47.9	69.9	43.9
07:55 AM - 08:00 AM	47.9	69.9	43.9
08:00 AM - 08:05 AM	47.9	69.9	43.9
08:05 AM - 08:10 AM	47.9	69.9	43.9
08:10 AM - 08:15 AM	47.9	69.9	43.9
08:15 AM - 08:20 AM	47.9	69.9	43.9
08:20 AM - 08:25 AM	47.9	69.9	43.9
08:25 AM - 08:30 AM	47.9	69.9	43.9
08:30 AM - 08:35 AM	47.9	69.9	43.9
08:35 AM - 08:40 AM	47.9	69.9	43.9
08:40 AM - 08:45 AM	47.9	69.9	43.9
08:45 AM - 08:50 AM	47.9	69.9	43.9
08:50 AM - 08:55 AM	47.9	69.9	43.9
08:55 AM - 09:00 AM	47.9	69.9	43.9
09:00 AM - 09:05 AM	47.9	69.9	43.9
09:05 AM - 09:10 AM	47.9	69.9	43.9
09:10 AM - 09:15 AM	47.9	69.9	43.9
09:15 AM - 09:20 AM	47.9	69.9	43.9
09:20 AM - 09:25 AM	47.9	69.9	43.9
09:25 AM - 09:30 AM	47.9	69.9	43.9
09:30 AM - 09:35 AM	47.9	69.9	43.9
09:35 AM - 09:40 AM	47.9	69.9	43.9
09:40 AM - 09:45 AM	47.9	69.9	43.9
09:45 AM - 09:50 AM	47.9	69.9	43.9
09:50 AM - 09:55 AM	47.9	69.9	43.9
09:55 AM - 10:00 AM	47.9	69.9	43.9
10:00 AM - 10:05 AM	47.9	69.9	43.9
10:05 AM - 10:10 AM	47.9	69.9	43.9
10:10 AM - 10:15 AM	47.9	69.9	43.9
10:15 AM - 10:20 AM	47.9	69.9	43.9
10:20 AM - 10:25 AM	47.9	69.9	43.9
10:25 AM - 10:30 AM	47.9	69.9	43.9
10:30 AM - 10:35 AM	47.9	69.9	43.9
10:35 AM - 10:40 AM	47.9	69.9	43.9
10:40 AM - 10:45 AM	47.9	69.9	43.9
10:45 AM - 10:50 AM	47.9	69.9	43.9
10:50 AM - 10:55 AM	47.9	69.9	43.9
10:55 AM - 11:00 AM	47.9	69.9	43.9
11:00 AM - 11:05 AM	47.9	69.9	43.9
11:05 AM - 11:10 AM	47.9	69.9	43.9
11:10 AM - 11:15 AM	47.9	69.9	43.9
11:15 AM - 11:20 AM	47.9	69.9	43.9
11:20 AM - 11:25 AM	47.9	69.9	43.9
11:25 AM - 11:30 AM	47.9	69.9	43.9
11:30 AM - 11:35 AM	47.9	69.9	43.9
11:35 AM - 11:40 AM	47.9	69.9	43.9
11:40 AM - 11:45 AM	47.9	69.9	43.9
11:45 AM - 11:50 AM	47.9	69.9	43.9
11:50 AM - 11:55 AM	47.9	69.9	43.9
11:55 AM - 12:00 AM	47.9	69.9	43.9
12:00 AM - 12:05 AM	47.9	69.9	43.9
12:05 AM - 12:10 AM	47.9	69.9	43.9
12:10 AM - 12:15 AM	47.9	69.9	43.9

Approved by

Wibb.

Wibb. Borak  
Manager

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RIGHT SOLUTIONS. PRECISION. PROTECTION.



## Analysis / Test Report

Client : Rigana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattaph-Chachoengsao Road, Bowin, Sriracha, Chonburi Thailand 20230

P/O : RKN-BW02/66  
Project Name : Chonburi Bowin  
Project Location : Chonburi Bowin

Sample No : 24126080-19  
Parameter : Noise  
Location : N3 : vubh/vubh 5 (GPS 47° 07'30"17, 144°55'03" (Shut down)  
Measurement Date : Dec 01 : Dec 02, 2024  
Measurement by : Hengkon Phatphat  
Measurement by Sound Level Meter : 01173609

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:15 AM - 12:20 AM	47.3	53.3	46.3
12:20 AM - 12:25 AM	46.3	52.3	45.3
12:25 AM - 12:30 AM	46.3	51.3	45.3
12:30 AM - 12:35 AM	46.3	50.3	45.3
12:35 AM - 12:40 AM	46.3	49.3	45.3
12:40 AM - 12:45 AM	46.3	48.3	45.3
12:45 AM - 12:50 AM	46.3	47.3	45.3
12:50 AM - 12:55 AM	46.3	46.3	45.3
12:55 AM - 01:00 AM	46.3	45.3	45.3
01:00 AM - 01:05 AM	46.3	44.3	45.3
01:05 AM - 01:10 AM	46.3	43.3	45.3
01:10 AM - 01:15 AM	46.3	42.3	45.3
01:15 AM - 01:20 AM	46.3	41.3	45.3
01:20 AM - 01:25 AM	46.3	40.3	45.3
01:25 AM - 01:30 AM	46.3	39.3	45.3
01:30 AM - 01:35 AM	46.3	38.3	45.3
01:35 AM - 01:40 AM	46.3	37.3	45.3
01:40 AM - 01:45 AM	46.3	36.3	45.3
01:45 AM - 01:50 AM	46.3	35.3	45.3
01:50 AM - 01:55 AM	46.3	34.3	45.3
01:55 AM - 02:00 AM	46.3	33.3	45.3
02:00 AM - 02:05 AM	46.3	32.3	45.3
02:05 AM - 02:10 AM	46.3	31.3	45.3
02:10 AM - 02:15 AM	46.3	30.3	45.3
02:15 AM - 02:20 AM	46.3	29.3	45.3
02:20 AM - 02:25 AM	46.3	28.3	45.3
02:25 AM - 02:30 AM	46.3	27.3	45.3
02:30 AM - 02:35 AM	46.3	26.3	45.3
02:35 AM - 02:40 AM	46.3	25.3	45.3
02:40 AM - 02:45 AM	46.3	24.3	45.3
02:45 AM - 02:50 AM	46.3	23.3	45.3
02:50 AM - 02:55 AM	46.3	22.3	45.3
02:55 AM - 03:00 AM	46.3	21.3	45.3
03:00 AM - 03:05 AM	46.3	20.3	45.3
03:05 AM - 03:10 AM	46.3	19.3	45.3
03:10 AM - 03:15 AM	46.3	18.3	45.3
03:15 AM - 03:20 AM	46.3	17.3	45.3
03:20 AM - 03:25 AM	46.3	16.3	45.3
03:25 AM - 03:30 AM	46.3	15.3	45.3
03:30 AM - 03:35 AM	46.3	14.3	45.3

Approved by

Wibb.

Wibb. Borak  
Manager

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## Analysis / Test Report

Client : Rigana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattaph-Chachoengsao Road, Boin, Sriracha, Chonburi Thailand 20230

P/O : RKN-BW029/66  
Project Name : Chonburi Boin  
Project Location : Chonburi Boin

Sample No. : 24120800-21  
Parameter : Noise  
Location : หน้าอาคารหลังวัด 5 ชั้น (GPS 07-0730D, 1460274) (Shot down)  
Measurement Date : Nov 29 - 30, 2024  
Measurement by : Mongkhan Phatphit  
Sound Level Meter : 0107423

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
07:30 AM - 07:35 AM	49.2	65.4	42.7
07:35 AM - 07:40 AM	52.6	65.6	43.0
07:40 AM - 07:45 AM	47.2	59.3	42.1
07:45 AM - 07:50 AM	47.2	59.3	42.1
07:50 AM - 07:55 AM	46.6	55.6	41.0
07:55 AM - 08:00 AM	46.6	55.6	41.0
08:00 AM - 08:05 AM	46.0	55.6	40.3
08:05 AM - 08:10 AM	45.2	55.6	40.3
08:10 AM - 08:15 AM	45.2	55.6	40.3
08:15 AM - 08:20 AM	42.4	52.2	39.7
08:20 AM - 08:25 AM	40.2	48.9	38.2
08:25 AM - 08:30 AM	42.0	53.9	38.8
08:30 AM - 08:35 AM	40.6	50.9	41.2
08:35 AM - 08:40 AM	47.0	64.3	40.0
08:40 AM - 08:45 AM	47.0	64.3	40.0
08:45 AM - 08:50 AM	46.2	58.7	40.0
08:50 AM - 08:55 AM	46.2	58.7	40.0
08:55 AM - 09:00 AM	44.0	56.9	38.0
09:00 AM - 09:05 AM	44.0	56.9	38.0
09:05 AM - 09:10 AM	44.0	56.9	38.0
09:10 AM - 09:15 AM	42.8	58.7	40.1
09:15 AM - 09:20 AM	42.8	58.7	40.1
09:20 AM - 09:25 AM	42.8	58.7	40.1
09:25 AM - 09:30 AM	42.8	58.7	40.1
09:30 AM - 09:35 AM	42.8	58.7	40.1
09:35 AM - 09:40 AM	42.8	58.7	40.1
09:40 AM - 09:45 AM	42.8	58.7	40.1
09:45 AM - 09:50 AM	42.8	58.7	40.1
09:50 AM - 09:55 AM	42.8	58.7	40.1
09:55 AM - 10:00 AM	42.8	58.7	40.1
10:00 AM - 10:05 AM	42.8	58.7	40.1
10:05 AM - 10:10 AM	42.8	58.7	40.1
10:10 AM - 10:15 AM	42.8	58.7	40.1
10:15 AM - 10:20 AM	42.8	58.7	40.1
10:20 AM - 10:25 AM	42.8	58.7	40.1
10:25 AM - 10:30 AM	42.8	58.7	40.1
10:30 AM - 10:35 AM	42.8	58.7	40.1
10:35 AM - 10:40 AM	42.8	58.7	40.1
10:40 AM - 10:45 AM	42.8	58.7	40.1
10:45 AM - 10:50 AM	42.8	58.7	40.1
10:50 AM - 10:55 AM	42.8	58.7	40.1
10:55 AM - 11:00 AM	42.8	58.7	40.1
11:00 AM - 11:05 AM	42.8	58.7	40.1
11:05 AM - 11:10 AM	42.8	58.7	40.1
11:10 AM - 11:15 AM	42.8	58.7	40.1
11:15 AM - 11:20 AM	42.8	58.7	40.1
11:20 AM - 11:25 AM	42.8	58.7	40.1
11:25 AM - 11:30 AM	42.8	58.7	40.1
11:30 AM - 11:35 AM	42.8	58.7	40.1
11:35 AM - 11:40 AM	42.8	58.7	40.1
11:40 AM - 11:45 AM	42.8	58.7	40.1
11:45 AM - 11:50 AM	42.8	58.7	40.1
11:50 AM - 11:55 AM	42.8	58.7	40.1
11:55 AM - 12:00 AM	42.8	58.7	40.1
12:00 AM - 12:05 AM	42.8	58.7	40.1
12:05 AM - 12:10 AM	42.8	58.7	40.1
12:10 AM - 12:15 AM	42.8	58.7	40.1
12:15 AM - 12:20 AM	42.8	58.7	40.1
12:20 AM - 12:25 AM	42.8	58.7	40.1
12:25 AM - 12:30 AM	42.8	58.7	40.1

Reference Method :  
1. ISO 1996-1  
2. กรมควบคุมมลพิษ (ฉบับแก้ไขเพิ่มเติม) เรื่อง การวัดและประเมินค่าเสียงรบกวน พ.ศ. 2562

Approved by :  
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## Analysis / Test Report

Client : Rigana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattaph-Chachoengsao Road, Boin, Sriracha, Chonburi Thailand 20230

P/O : RKN-BW029/66  
Project Name : Chonburi Boin  
Project Location : Chonburi Boin

Sample No. : 24120800-21  
Parameter : Noise  
Location : หน้าอาคารหลังวัด 5 ชั้น (GPS 07-0730D, 1460274) (Shot down)  
Measurement Date : Nov 29 - 30, 2024  
Measurement by : Mongkhan Phatphit  
Sound Level Meter : 0107423

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 12:05 PM	53.3	70.1	47.0
12:05 PM - 12:10 PM	52.4	71.8	46.1
12:10 PM - 12:15 PM	52.3	69.0	44.2
12:15 PM - 12:20 PM	51.9	74.7	44.0
12:20 PM - 12:25 PM	51.4	74.3	44.0
12:25 PM - 12:30 PM	51.7	72.3	44.1
12:30 PM - 12:35 PM	51.4	74.3	44.0
12:35 PM - 12:40 PM	53.7	76.7	46.0
12:40 PM - 12:45 PM	53.3	75.0	46.0
12:45 PM - 12:50 PM	53.0	68.8	44.0
12:50 PM - 12:55 PM	53.3	67.7	43.1
12:55 PM - 1:00 PM	48.1	62.9	40.0
1:00 PM - 1:05 PM	48.1	62.9	40.0
1:05 PM - 1:10 PM	47.9	61.7	40.0
1:10 PM - 1:15 PM	46.6	59.9	38.0
1:15 PM - 1:20 PM	46.2	58.5	37.1
1:20 PM - 1:25 PM	46.2	58.5	37.1
1:25 PM - 1:30 PM	46.2	58.5	37.1
1:30 PM - 1:35 PM	46.2	58.5	37.1
1:35 PM - 1:40 PM	46.2	58.5	37.1
1:40 PM - 1:45 PM	46.2	58.5	37.1
1:45 PM - 1:50 PM	46.2	58.5	37.1
1:50 PM - 1:55 PM	46.2	58.5	37.1
1:55 PM - 2:00 PM	46.2	58.5	37.1
2:00 PM - 2:05 PM	46.2	58.5	37.1
2:05 PM - 2:10 PM	46.2	58.5	37.1
2:10 PM - 2:15 PM	46.2	58.5	37.1
2:15 PM - 2:20 PM	46.2	58.5	37.1
2:20 PM - 2:25 PM	46.2	58.5	37.1
2:25 PM - 2:30 PM	46.2	58.5	37.1
2:30 PM - 2:35 PM	46.2	58.5	37.1
2:35 PM - 2:40 PM	46.2	58.5	37.1
2:40 PM - 2:45 PM	46.2	58.5	37.1
2:45 PM - 2:50 PM	46.2	58.5	37.1
2:50 PM - 2:55 PM	46.2	58.5	37.1
2:55 PM - 3:00 PM	46.2	58.5	37.1
3:00 PM - 3:05 PM	46.2	58.5	37.1
3:05 PM - 3:10 PM	46.2	58.5	37.1
3:10 PM - 3:15 PM	46.2	58.5	37.1
3:15 PM - 3:20 PM	46.2	58.5	37.1
3:20 PM - 3:25 PM	46.2	58.5	37.1
3:25 PM - 3:30 PM	46.2	58.5	37.1
3:30 PM - 3:35 PM	46.2	58.5	37.1
3:35 PM - 3:40 PM	46.2	58.5	37.1
3:40 PM - 3:45 PM	46.2	58.5	37.1
3:45 PM - 3:50 PM	46.2	58.5	37.1
3:50 PM - 3:55 PM	46.2	58.5	37.1
3:55 PM - 4:00 PM	46.2	58.5	37.1
4:00 PM - 4:05 PM	46.2	58.5	37.1
4:05 PM - 4:10 PM	46.2	58.5	37.1
4:10 PM - 4:15 PM	46.2	58.5	37.1
4:15 PM - 4:20 PM	46.2	58.5	37.1
4:20 PM - 4:25 PM	46.2	58.5	37.1
4:25 PM - 4:30 PM	46.2	58.5	37.1
4:30 PM - 4:35 PM	46.2	58.5	37.1
4:35 PM - 4:40 PM	46.2	58.5	37.1
4:40 PM - 4:45 PM	46.2	58.5	37.1
4:45 PM - 4:50 PM	46.2	58.5	37.1
4:50 PM - 4:55 PM	46.2	58.5	37.1
4:55 PM - 5:00 PM	46.2	58.5	37.1
5:00 PM - 5:05 PM	46.2	58.5	37.1
5:05 PM - 5:10 PM	46.2	58.5	37.1
5:10 PM - 5:15 PM	46.2	58.5	37.1
5:15 PM - 5:20 PM	46.2	58.5	37.1
5:20 PM - 5:25 PM	46.2	58.5	37.1
5:25 PM - 5:30 PM	46.2	58.5	37.1
5:30 PM - 5:35 PM	46.2	58.5	37.1
5:35 PM - 5:40 PM	46.2	58.5	37.1
5:40 PM - 5:45 PM	46.2	58.5	37.1
5:45 PM - 5:50 PM	46.2	58.5	37.1
5:50 PM - 5:55 PM	46.2	58.5	37.1
5:55 PM - 6:00 PM	46.2	58.5	37.1
6:00 PM - 6:05 PM	46.2	58.5	37.1
6:05 PM - 6:10 PM	46.2	58.5	37.1
6:10 PM - 6:15 PM	46.2	58.5	37.1
6:15 PM - 6:20 PM	46.2	58.5	37.1
6:20 PM - 6:25 PM	46.2	58.5	37.1
6:25 PM - 6:30 PM	46.2	58.5	37.1
6:30 PM - 6:35 PM	46.2	58.5	37.1
6:35 PM - 6:40 PM	46.2	58.5	37.1
6:40 PM - 6:45 PM	46.2	58.5	37.1
6:45 PM - 6:50 PM	46.2	58.5	37.1
6:50 PM - 6:55 PM	46.2	58.5	37.1
6:55 PM - 7:00 PM	46.2	58.5	37.1
7:00 PM - 7:05 PM	46.2	58.5	37.1
7:05 PM - 7:10 PM	46.2	58.5	37.1
7:10 PM - 7:15 PM	46.2	58.5	37.1
7:15 PM - 7:20 PM	46.2	58.5	37.1
7:20 PM - 7:25 PM	46.2	58.5	37.1
7:25 PM - 7:30 PM	46.2	58.5	37.1
7:30 PM - 7:35 PM	46.2	58.5	37.1
7:35 PM - 7:40 PM	46.2	58.5	37.1
7:40 PM - 7:45 PM	46.2	58.5	37.1
7:45 PM - 7:50 PM	46.2	58.5	37.1
7:50 PM - 7:55 PM	46.2	58.5	37.1
7:55 PM - 8:00 PM	46.2	58.5	37.1
8:00 PM - 8:05 PM	46.2	58.5	37.1
8:05 PM - 8:10 PM	46.2	58.5	37.1
8:10 PM - 8:15 PM	46.2	58.5	37.1
8:15 PM - 8:20 PM	46.2	58.5	37.1
8:20 PM - 8:25 PM	46.2	58.5	37.1
8:25 PM - 8:30 PM	46.2	58.5	37.1
8:30 PM - 8:35 PM	46.2	58.5	37.1
8:35 PM - 8:40 PM	46.2	58.5	37.1
8:40 PM - 8:45 PM	46.2	58.5	37.1
8:45 PM - 8:50 PM	46.2	58.5	37.1
8:50 PM - 8:55 PM	46.2	58.5	37.1
8:55 PM - 9:00 PM	46.2	58.5	37.1
9:00 PM - 9:05 PM	46.2	58.5	37.1
9:05 PM - 9:10 PM	46.2	58.5	37.1
9:10 PM - 9:15 PM	46.2	58.5	37.1
9:15 PM - 9:20 PM	46.2	58.5	37.1
9:20 PM - 9:25 PM	46.2	58.5	37.1
9:25 PM - 9:30 PM	46.2	58.5	37.1
9:30 PM - 9:35 PM	46.2	58.5	37.1
9:35 PM - 9:40 PM	46.2	58.5	37.1
9:40 PM - 9:45 PM	46.2	58.5	37.1
9:45 PM - 9:50 PM	46.2	58.5	37.1
9:50 PM - 9:55 PM	46.2	58.5	37.1
9:55 PM - 10:00 PM	46.2	58.5	37.1
10:00 PM - 10:05 PM	46.2	58.5	37.1
10:05 PM - 10:10 PM	46.2	58.5	37.1
10:10 PM - 10:15 PM	46.2	58.5	37.1
10:15 PM - 10:20 PM	46.2	58.5	37.1
10:20 PM - 10:25 PM	46.2	58.5	37.1
10:25 PM - 10:30 PM	46.2	58.5	37.1
10:30 PM - 10:35 PM	46.2	58.5	37.1
10:35 PM - 10:40 PM	46.2	58.5	37.1
10:40 PM - 10:45 PM	46.2	58.5	37.1
10:45 PM - 10:50 PM	46.2	58.5	37.1
10:50 PM - 10:55 PM	46.2	58.5	37.1
10:55 PM - 11:00 PM	46.2	58.5	37.1
11:00 PM - 11:05 PM	46.2	58.5	37.1
11:05 PM - 11:10 PM	46.2	58.5	37.1
11:10 PM - 11:15 PM	46.2	58.5	37.1
11:15 PM - 11:20 PM	46.2	58.5	37.1
11:20 PM - 11:25 PM	46.2	58.5	37.1
11:25 PM - 11:30 PM	46.2	58.5	37.1
11:30 PM - 11:35 PM	46.2	58.5	37.1
11:35 PM - 11:40 PM	46.2	58.5	37.1
11:40 PM - 11:45 PM	46.2	58.5	37.1
11:45 PM - 11:50 PM	46.2	58.5	37.1
11:50 PM - 11:55 PM	46.2	58.5	37.1
11:55 PM - 12:00 PM	46.2	58.5	37.1
12:00 PM - 12:05 PM	46.2	58.5	37.1
12:05 PM - 12:10 PM	46.2	58.5	37.1
12:10 PM - 12:15 AM	46.2	58.5	37.1
12:15 AM - 12:20 AM	46.2	58.5	37.1
12:20 AM - 12:25 AM	46.2	58.5	37.1
12:25 AM - 12:30 AM	46.2	58.5	37.1

Reference Method :  
1. ISO 1996-1  
2. กรมควบคุมมลพิษ (ฉบับแก้ไขเพิ่มเติม) เรื่อง การวัดและประเมินค่าเสียงรบกวน พ.ศ. 2562

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## Analysis / Test Report

Client : Rigana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattaph-Chachoengsao Road, Boin, Sriracha, Chonburi Thailand 20230

P/O : RKN-BW029/66  
Project Name : Chonburi Boin  
Project Location : Chonburi Boin

Sample No. : 24120800-21  
Parameter : Noise  
Location : หน้าอาคารหลังวัด 5 ชั้น (GPS 07-0730D, 1460274) (Shot down)  
Measurement Date : Nov 29 - 30, 2024  
Measurement by : Mongkhan Phatphit  
Sound Level Meter : 0107423

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:30 AM - 12:35 AM	46.1	68.2	41.3
12:35 AM - 12:40 AM	46.1	68.2	41.3
12:40 AM - 12:45 AM	46.1	68.2	41.3
12:45 AM - 12:50 AM	46.1	68.2	41.3
12:50 AM - 12:55 AM	47.0	72.3	



## Analysis / Test Report

Client : Rigana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattaph-Chachoengsao Road, Bowin, Sriracha, Chonburi Thailand 20230

P/O : RKN-BW026/66  
Project Name : Chonburi Bowin  
Project Location : Chonburi Bowin

Sample No. : 24120680-26  
Parameter : Noise  
Location : H4 : ห้องควบคุมห้อง 5 ชั้นบน (GPS 47° 07'30.00N, 1446027'4) (Shot down)  
Measurement Date : Dec 01 - 02, 2024  
Measurement by : Mongkhan Phatthapit  
Sound Level Meter : 01073423

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:30 AM - 12:35 AM	53.4	72.5	47.3
12:35 AM - 12:40 AM	53.1	65.6	45.9
12:40 AM - 12:45 AM	49.9	59.2	42.9
12:45 AM - 12:50 AM	49.9	55.6	42.9
12:50 AM - 12:55 AM	50.7	57.8	45.0
12:55 AM - 1:00 AM	49.9	55.6	45.9
1:00 AM - 1:05 AM	50.8	53.4	45.9
1:05 AM - 1:10 AM	52.6	57.8	45.5
1:10 AM - 1:15 AM	52.3	57.7	45.9
01:15 AM - 01:20 AM	50.8	68.0	45.4
01:20 AM - 01:25 AM	50.9	65.9	45.9
01:25 AM - 01:30 AM	49.5	59.3	46.1
01:30 AM - 01:35 AM	54.0	72.2	45.9
01:35 AM - 01:40 AM	51.8	59.4	45.9
01:40 AM - 01:45 AM	50.9	57.8	46.1
01:45 AM - 01:50 AM	49.1	44.5	44.5
01:50 AM - 01:55 AM	49.2	49.2	44.5
01:55 AM - 02:00 AM	49.4	58.5	44.3
02:00 AM - 02:05 AM	50.9	58.1	45.9
02:05 AM - 02:10 AM	50.4	62.4	44.3
02:10 AM - 02:15 AM	49.9	60.7	44.3
02:15 AM - 02:20 AM	49.9	61.4	43.9
02:20 AM - 02:25 AM	49.9	60.7	43.9
02:25 AM - 02:30 AM	49.6	59.4	43.1
02:30 AM - 02:35 AM	49.6	59.4	43.1
02:35 AM - 02:40 AM	49.6	59.4	43.1
02:40 AM - 02:45 AM	50.7	60.7	44.3
02:45 AM - 02:50 AM	50.9	60.7	43.9
02:50 AM - 02:55 AM	49.6	58.1	43.2
02:55 AM - 03:00 AM	49.6	59.4	43.9
03:00 AM - 03:05 AM	49.5	60.3	43.9
03:05 AM - 03:10 AM	49.6	61.5	43.9
03:10 AM - 03:15 AM	49.2	56.7	43.9
03:15 AM - 03:20 AM	49.6	60.8	42.9
03:20 AM - 03:25 AM	49.2	56.8	42.7
03:25 AM - 03:30 AM	49.2	56.8	42.9
03:30 AM - 03:35 AM	49.7	56.8	43.8
03:35 AM - 03:40 AM	49.6	56.8	43.8
03:40 AM - 03:45 AM	49.6	56.5	43.1
03:45 AM - 03:50 AM	49.9	58.8	43.2

Approved by

Wiboon Borik  
Manager

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## Analysis / Test Report

Client : Rigana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattaph-Chachoengsao Road, Bowin, Sriracha, Chonburi Thailand 20230

P/O : RKN-BW026/66  
Project Name : Chonburi Bowin  
Project Location : Chonburi Bowin

Sample No. : 24120680-26  
Parameter : Noise  
Location : H4 : ห้องควบคุมห้อง 5 ชั้นบน (GPS 47° 07'30.00N, 1446027'4) (Shot down)  
Measurement Date : Dec 01 - 02, 2024  
Measurement by : Mongkhan Phatthapit  
Sound Level Meter : 01073423

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:30 AM - 01:35 AM	47.7	58.4	43.0
01:35 AM - 01:40 AM	47.6	53.9	43.0
01:40 AM - 01:45 AM	45.9	54.8	42.9
01:45 AM - 01:50 AM	47.1	54.8	43.1
01:50 AM - 01:55 AM	46.8	50.3	42.7
01:55 AM - 02:00 AM	47.6	50.7	43.1
02:00 AM - 02:05 AM	47.2	50.6	43.1
02:05 AM - 02:10 AM	47.1	55.3	43.5
02:10 AM - 02:15 AM	47.1	55.1	43.5
02:15 AM - 02:20 AM	47.6	61.8	43.1
02:20 AM - 02:25 AM	45.9	55.1	43.0
02:25 AM - 02:30 AM	45.8	54.8	42.8
02:30 AM - 02:35 AM	45.9	57.1	42.9
02:35 AM - 02:40 AM	47.4	58.7	42.9
02:40 AM - 02:45 AM	47.4	58.7	42.9
02:45 AM - 02:50 AM	47.1	58.4	42.7
02:50 AM - 02:55 AM	47.4	59.2	42.9
02:55 AM - 03:00 AM	47.4	61.8	43.0
03:00 AM - 03:05 AM	47.4	58.4	43.0
03:05 AM - 03:10 AM	47.2	58.4	43.0
03:10 AM - 03:15 AM	47.2	58.4	43.0
03:15 AM - 03:20 AM	47.2	58.4	43.0
03:20 AM - 03:25 AM	47.2	58.4	43.0
03:25 AM - 03:30 AM	47.2	58.4	43.0
03:30 AM - 03:35 AM	47.2	58.4	43.0
03:35 AM - 03:40 AM	47.2	58.4	43.0
03:40 AM - 03:45 AM	47.2	58.4	43.0
03:45 AM - 03:50 AM	47.2	58.4	43.0
03:50 AM - 03:55 AM	47.2	58.4	43.0
03:55 AM - 04:00 AM	47.2	58.4	43.0
04:00 AM - 04:05 AM	47.2	58.4	43.0
04:05 AM - 04:10 AM	47.2	58.4	43.0
04:10 AM - 04:15 AM	47.2	58.4	43.0
04:15 AM - 04:20 AM	47.2	58.4	43.0
04:20 AM - 04:25 AM	47.2	58.4	43.0
04:25 AM - 04:30 AM	47.2	58.4	43.0
04:30 AM - 04:35 AM	47.2	58.4	43.0
04:35 AM - 04:40 AM	47.2	58.4	43.0
04:40 AM - 04:45 AM	47.2	58.4	43.0
04:45 AM - 04:50 AM	47.2	58.4	43.0
04:50 AM - 04:55 AM	47.2	58.4	43.0
04:55 AM - 05:00 AM	47.2	58.4	43.0
05:00 AM - 05:05 AM	47.2	58.4	43.0
05:05 AM - 05:10 AM	47.2	58.4	43.0
05:10 AM - 05:15 AM	47.2	58.4	43.0
05:15 AM - 05:20 AM	47.2	58.4	43.0
05:20 AM - 05:25 AM	47.2	58.4	43.0
05:25 AM - 05:30 AM	47.2	58.4	43.0
05:30 AM - 05:35 AM	47.2	58.4	43.0
05:35 AM - 05:40 AM	47.2	58.4	43.0
05:40 AM - 05:45 AM	47.2	58.4	43.0
05:45 AM - 05:50 AM	47.2	58.4	43.0
05:50 AM - 05:55 AM	47.2	58.4	43.0
05:55 AM - 06:00 AM	47.2	58.4	43.0
06:00 AM - 06:05 AM	47.2	58.4	43.0
06:05 AM - 06:10 AM	47.2	58.4	43.0
06:10 AM - 06:15 AM	47.2	58.4	43.0
06:15 AM - 06:20 AM	47.2	58.4	43.0
06:20 AM - 06:25 AM	47.2	58.4	43.0
06:25 AM - 06:30 AM	47.2	58.4	43.0
06:30 AM - 06:35 AM	47.2	58.4	43.0
06:35 AM - 06:40 AM	47.2	58.4	43.0
06:40 AM - 06:45 AM	47.2	58.4	43.0
06:45 AM - 06:50 AM	47.2	58.4	43.0
06:50 AM - 06:55 AM	47.2	58.4	43.0
06:55 AM - 07:00 AM	47.2	58.4	43.0
07:00 AM - 07:05 AM	47.2	58.4	43.0
07:05 AM - 07:10 AM	47.2	58.4	43.0
07:10 AM - 07:15 AM	47.2	58.4	43.0
07:15 AM - 07:20 AM	47.2	58.4	43.0
07:20 AM - 07:25 AM	47.2	58.4	43.0
07:25 AM - 07:30 AM	47.2	58.4	43.0
07:30 AM - 07:35 AM	47.2	58.4	43.0
07:35 AM - 07:40 AM	47.2	58.4	43.0
07:40 AM - 07:45 AM	47.2	58.4	43.0
07:45 AM - 07:50 AM	47.2	58.4	43.0
07:50 AM - 07:55 AM	47.2	58.4	43.0
07:55 AM - 08:00 AM	47.2	58.4	43.0
08:00 AM - 08:05 AM	47.2	58.4	43.0
08:05 AM - 08:10 AM	47.2	58.4	43.0
08:10 AM - 08:15 AM	47.2	58.4	43.0
08:15 AM - 08:20 AM	47.2	58.4	43.0
08:20 AM - 08:25 AM	47.2	58.4	43.0
08:25 AM - 08:30 AM	47.2	58.4	43.0
08:30 AM - 08:35 AM	47.2	58.4	43.0
08:35 AM - 08:40 AM	47.2	58.4	43.0
08:40 AM - 08:45 AM	47.2	58.4	43.0
08:45 AM - 08:50 AM	47.2	58.4	43.0
08:50 AM - 08:55 AM	47.2	58.4	43.0
08:55 AM - 09:00 AM	47.2	58.4	43.0
09:00 AM - 09:05 AM	47.2	58.4	43.0
09:05 AM - 09:10 AM	47.2	58.4	43.0
09:10 AM - 09:15 AM	47.2	58.4	43.0
09:15 AM - 09:20 AM	47.2	58.4	43.0
09:20 AM - 09:25 AM	47.2	58.4	43.0
09:25 AM - 09:30 AM	47.2	58.4	43.0
09:30 AM - 09:35 AM	47.2	58.4	43.0
09:35 AM - 09:40 AM	47.2	58.4	43.0
09:40 AM - 09:45 AM	47.2	58.4	43.0
09:45 AM - 09:50 AM	47.2	58.4	43.0
09:50 AM - 09:55 AM	47.2	58.4	43.0
09:55 AM - 10:00 AM	47.2	58.4	43.0
10:00 AM - 10:05 AM	47.2	58.4	43.0
10:05 AM - 10:10 AM	47.2	58.4	43.0
10:10 AM - 10:15 AM	47.2	58.4	43.0
10:15 AM - 10:20 AM	47.2	58.4	43.0
10:20 AM - 10:25 AM	47.2	58.4	43.0
10:25 AM - 10:30 AM	47.2	58.4	43.0
10:30 AM - 10:35 AM	47.2	58.4	43.0
10:35 AM - 10:40 AM	47.2	58.4	43.0
10:40 AM - 10:45 AM	47.2	58.4	43.0
10:45 AM - 10:50 AM	47.2	58.4	43.0
10:50 AM - 10:55 AM	47.2	58.4	43.0
10:55 AM - 11:00 AM	47.2	58.4	43.0
11:00 AM - 11:05 AM	47.2	58.4	43.0
11:05 AM - 11:10 AM	47.2	58.4	43.0
11:10 AM - 11:15 AM	47.2	58.4	43.0
11:15 AM - 11:20 AM	47.2	58.4	43.0
11:20 AM - 11:25 AM	47.2	58.4	43.0
11:25 AM - 11:30 AM	47.2	58.4	43.0
11:30 AM - 11:35 AM	47.2	58.4	43.0
11:35 AM - 11:40 AM	47.2	58.4	43.0
11:40 AM - 11:45 AM	47.2	58.4	43.0
11:45 AM - 11:50 AM	47.2	58.4	43.0
11:50 AM - 11:55 AM	47.2	58.4	43.0
11:55 AM - 12:00 AM	47.2	58.4	43.0
12:00 AM - 12:05 AM	47.2	58.4	43.0
12:05 AM - 12:10 AM	47.2	58.4	43.0
12:10 AM - 12:15 AM	47.2	58.4	43.0
12:15 AM - 12:20 AM	47.2	58.4	43.0
12:20 AM - 12:25 AM	47.2	58.4	43.0
12:25 AM - 12:30 AM	47.2	58.4	43.0

Reference Method

- ISO 1996-1
2. สหประชาชาติของกรมการขนส่งทางบกของประเทศไทย 24 ชั่วโมงการวัดระดับเสียงรบกวนในชุมชน พ.ศ. 2567

Approved by

Wiboon Borik  
Manager

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## Analysis / Test Report

Client : Rigana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattaph-Chachoengsao Road, Bowin, Sriracha, Chonburi Thailand 20230

P/O : RKN-BW026/66  
Project Name : Chonburi Bowin  
Project Location : Chonburi Bowin

Sample No. : 24120680-27  
Parameter : Noise  
Location : H4 : ห้องควบคุมห้อง 5 ชั้นบน (GPS 47° 07'30.00N, 1446027'4) (Shot down)  
Measurement Date : Dec 01 - 02, 2024  
Measurement by : Mongkhan Phatthapit  
Sound Level Meter : 01073423

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:30 PM - 12:35 PM	58.3	62.1	54.4
12:35 PM - 12:40 PM	58.3	60.8	53.1
12:40 PM - 12:45 PM	58.3	58.7	52.9
12:45 PM - 12:50 PM	58.3	58.7	52.9
12:50 PM - 12:55 PM	58.3	58.7	52.9
12:55 PM - 1:00 PM	58.3	58.7	52.9
1:00 PM - 1:05 PM	58.3	58.7	52.9
1:05 PM - 1:10 PM	58.3	58.7	52.9
1:10 PM - 1:15 PM	58.3	58.7	52.9
1:15 PM - 1:20 PM	58.3	58.7	52.9
1:20 PM - 1:25 PM	58.3	58.7	52.9
1:25 PM - 1:30 PM	58.3	58.7	52.9
1:30 PM - 1:35 PM	58.3	58.7	52.9
1:35 PM - 1:40 PM	58.3	58.7	52.9
1:40 PM - 1:45 PM	58.3	58.7	52.9
1:45 PM - 1:50 PM	58.3	58.7	52.9
1:50 PM - 1:55 PM	58.3	58.7	52.9
1:55 PM - 2:00 PM	58.3	58.7	52.9
2:00 PM - 2:05 PM	58.3	58.7	52.9
2:05 PM - 2:10 PM	58.3	58.7	52.9
2:10 PM - 2:15 PM	58.3	58.7	52.9
2:15 PM - 2:20 PM	58.3	58.7	52.9
2:20 PM - 2:25 PM	58.3	58.7	52.9
2:25 PM - 2:30 PM	58.3	58.7	52.9
2:30 PM - 2:35 PM	58.3	58.7	52.9
2:35 PM - 2:40 PM	58.3	58.7	52.9
2:40 PM - 2:45 PM	58.3	58.7	52.9
2:45 PM - 2:50 PM	58.3	58.7	52.9
2:50 PM - 2:55 PM	58.3	58.7	52.9
2:55 PM - 3:00 PM	58.3	58.7	52.9
3:00 PM - 3:05 PM	58.3	58.7	52.9
3:05 PM - 3:10 PM	58.3	58.7	52.9
3:10 PM - 3:15 PM	58.3	58.7	52.9
3:15 PM - 3:20 PM	58.3	58.7	52.9
3:20 PM - 3:25 PM	58.3	58.7	52.9
3:25 PM - 3:30 PM	58.3	58.7	52.9
3:30 PM - 3:35 PM	58.3	58.7	52.9
3:35 PM - 3:40 PM	58.3	58.7	52.9
3:40 PM - 3:45 PM	58.3	58.7	52.9
3:45 PM - 3:50 PM	58.3	58.7	52.9
3:50 PM - 3:55 PM	58.3	58.7	52.9
3:55 PM - 4:00 PM	58.3	58.7	52.9
4:00 PM - 4:05 PM	58.3	58.7	52.9
4:05 PM - 4:10 PM	58.3	58.7	52.9
4:10 PM - 4:15 PM	58.3	58.7	52.9
4:15 PM - 4:20 PM	58.3	58.7	52.9
4:20 PM - 4:25 PM	58.3	58.7	52.9
4:25 PM - 4:30 PM	58.3	58.7	52.9
4:30 PM - 4:35 PM	58.3	58.7	52.9
4:35 PM - 4:40 PM	58.3	58.7	52.9
4:40 PM - 4:45 PM	58.3	58.7	52.9
4:45 PM - 4:50 PM	58.3	58.7	52.9
4:50 PM - 4:55 PM	58.3	58.7	52.9
4:55 PM - 5:00 PM	58.3	58.7	52.9
5:00 PM - 5:05 PM	58.3	58.7	52.9
5:05 PM - 5:10 PM	58.3	58.7	52.9
5:10 PM - 5:15 PM	58.3	58.7	52.9
5:15 PM - 5:20 PM	58.3	58.7	52.9
5:20 PM - 5:25 PM	58.3	58.7	52.9
5:25 PM - 5:30 PM	58.3	58.7	52.9
5:30 PM - 5:35 PM	58.3	58.7	52.9
5:35 PM - 5:40 PM	58.3	58.7	52.9
5:40 PM - 5:45 PM	58.3	58.7	52.9
5:45 PM - 5:50 PM	58.3	58.7	52.9
5:50 PM - 5:55 PM	58.3	58.7	52.9
5:55 PM - 6:00 PM	58.3	58.7	52.9
6:00 PM - 6:05 PM	58.3	58.7	52.9
6:05 PM - 6:10 PM	58.3	58.7	52.9
6:10 PM - 6:15 PM	58.3	58.7	52.9
6:15 PM - 6:20 PM	58.3	58.7	52.9
6:20 PM - 6:25 PM	58.3	58.7	52.9
6:25 PM - 6:30 PM	58.3	58.7	52.9
6:30 PM - 6:35 PM	58.3	58.7	52.9
6:35 PM - 6:40 PM	58.3	58.7	52.9
6:40 PM - 6:45 PM	58.3	58.7	52.9
6:45 PM - 6:50 PM	58.3	58.7	52.9
6:50 PM - 6:55 PM	58.3	58.7	52.9
6:55 PM - 7:00 PM	58.3	58.7	52.9
7:00 PM - 7:05 PM	58.3	58.7	52.9
7:05 PM - 7:10 PM	58.3	58.7	52.9
7:10 PM - 7:15 PM	58.3	58.7	52.9
7:15 PM - 7:20 PM	58.3	58.7	52.9
7:20 PM - 7:25 PM	58.3	58.7	52.9
7:25 PM - 7:30 PM	58.3	58.7	52.9
7:30 PM - 7:35 PM	58.3	58.7	52.9
7:35 PM - 7:40 PM	58.3	58.7	52.9
7:40 PM - 7:45 PM	58.3	58.7	52.9
7:45 PM - 7:50 PM	58.3	58.7	52.9
7:50 PM - 7:55 PM	58.3	58.7	52.9
7:55 PM - 8:00 PM	58.3	58.7	52.9
8:00 PM - 8:05 PM	58.3	58.7	52.9
8:05 PM - 8:10 PM	58.3	58.7	52.9
8:10 PM - 8:15 PM	58.3	58.7	52.9
8:15 PM - 8:20 PM	58.3	58.7	52.9
8:20 PM - 8:25 PM	58.3	58.7	52.9
8:25 PM - 8:30 PM	58.3	58.7	52.9
8:30 PM - 8:35 PM	58.3	58.7	52.9
8:35 PM - 8:40 PM	58.3	58.7	52.9
8:40 PM - 8:45 PM	58.3	58.7	52.9
8:45 PM - 8:50 PM	58.3	58.7	52.9
8:50 PM - 8:55 PM	58.3	58.7	52.9
8:55 PM - 9:00 PM	58.3	58.7	52.9
9:00 PM - 9:05 PM	58.3	58.7	52.9
9:05 PM - 9:10 PM	58.3	58.7	52.9
9:10 PM - 9:15 PM	58.3	58.7	52.9
9:15 PM - 9:20 PM	58.3	58.7	52.9
9:20 PM - 9:25 PM	58.3	58.7	52.9
9:25 PM - 9:30 PM	58.3	58.7	52.9
9:30 PM - 9:35 PM	58.3	58.7	52.9
9:35 PM - 9:40 PM	58.3	58.7	52.9
9:40 PM - 9:45 PM	58.3	58.7	52.9
9:45 PM - 9:50 PM	58.3	58.7	52.9
9:50 PM - 9:55 PM	58.3	58.7	52.9
9:55 PM - 10:00 PM	58.3	58.7	52.9
10:00 PM - 10:05 PM	58.3	58.7	52.9
10:05 PM - 10:10 PM	58.3	58.7	52.9
10:10 PM - 10:15 PM	58.3	58.7	52.9
10:15 PM - 10:20 PM	58.3	58.7	52.9
10:20 PM - 10:25 PM	58.3	58.7	52.9
10:25 PM - 10:30 PM	58.3	58.7	52.9
10:30 PM - 10:35 PM	58.3	58.7	52.9
10:35 PM - 10:40 PM	58.3	58.7	52.9
10:40 PM - 10:45 PM	58.3	58.7	52.9
10:45 PM - 10:50 PM	58.3	58.7	52.9
10:50 PM - 10:55 PM	58.3	58.7	52.9
10:55 PM - 11:00 PM	58.3	58.7	52.9
11:00 PM - 11:05 PM	58.3	58.7	52.9
11:05 PM - 11:10 PM	58.3	58.7	52.9
11:10 PM - 11:15 PM	58.3	58.7	52.9
11:15 PM - 11:20 PM	58.3	58.7	52.9
11:20 PM - 11:25 PM	58.3	58.7	52.9
11:25 PM - 11:30 PM	58.3	58.7	52.9
11:30 PM - 11:35 PM	58.3	58.7	52.9
11:35 PM - 11:40 PM	58.3	58.7	52.9
11:40 PM - 11:45 PM	58.3	58.7	52.9
11:45 PM - 11:50 PM	58.3	58.7	52.9
11:50 PM - 11:55 PM	58.3	58.7	52.9
11:55 PM - 12:00 AM	58.3	58.7	52.9
12:00 AM - 12:05 AM	58.3	58.7	52.9
12:05 AM - 12:10 AM	58.3	58.7	52.9
12:10 AM - 12:15 AM	58.3	58.7	52.9
12:15 AM - 12:20 AM	58.3	58.7	52.9
12:20 AM - 12:25 AM	58.3	58.7	52.9
12:25 AM - 12:30 AM	58.3	58.7	52.9

## ภาคผนวก ค-3

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ผลการตรวจวิเคราะห์คุณภาพน้ำเสีย-น้ำทิ้งหลังผ่านการบำบัด



## Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Management Co., Ltd.

2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

P/O :

Project Name : โครงการพัฒนาศักยภาพโรงงาน ขยะ (โรงบำบัด)

Project Location : WWTP

Lot ID: 2470904

Date Received : Jul 18, 2024

Date Reported : Aug 02, 2024

Report Number : 3066295-1

Page 1 of 2

Sample Number	2470904-1
Sampled Date	Jul 18, 2024 9:23 AM
Sample Description	Wastewater
Location	Influent WWTP#2
Date Analysis Commenced	Jul 18, 2024
Condition of Sample	Contained in two BOD bottles, one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
<b>Water Testing</b>						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	2.6	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	60	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Cyanide as CN	mg/L	0.001	0.005	0.009	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-CN (C, E)	Rayong
Formaldehyde	mg/L	0.03	0.1	<0.1	Wastewater analysis manual, Environmental Engineering Association of Thailand, 4th ed., 2004	Rayong
pH at 25 degree C	-	-	-	7.6	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Phenol	mg/L	0.005	0.01	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5530 D	Rayong
Residual Free Chlorine *	mg/L	-	0.1	<0.1	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-CI (F)	Rayong
Sulfide *	mg/L	-	0.5	<0.5	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-S2 (C, F)	Rayong
Temperature *	Degree C	-	-	32.2	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	2980	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	4.2	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong

Technical Management

*Chontichak*  
Chonticha Subongkoch  
Scientist (3)  
โทรเลขเลขที่ 3-323-9-9449

Approved by

*Dej Changchon*  
Dej Changchon  
Senior Manager  
โทรเลขเลขที่ 3-323-9-9442

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## Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Management Co., Ltd.

2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

P/O :

Project Name : โครงการพัฒนาศักยภาพโรงงาน ขยะ (โรงบำบัด)

Project Location : WWTP

Lot ID: 2470904

Date Received : Jul 18, 2024

Date Reported : Aug 02, 2024

Report Number : 3066295-1

Page 2 of 2

Sample Number	2470904-1
Sampled Date	Jul 18, 2024 9:23 AM
Sample Description	Wastewater
Location	Influent WWTP#2
Date Analysis Commenced	Jul 18, 2024
Condition of Sample	Contained in two BOD bottles, one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
<b>Water Testing</b>						
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Sampling By : Warunyoo Chimphalee โทรเลขเลขที่ 3-323-9-0020, Samart Khumplhee โทรเลขเลขที่ 3-204-9-0084

Remark :

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

Technical Management

*Chontichak*  
Chonticha Subongkoch  
Scientist (3)  
โทรเลขเลขที่ 3-323-9-9449

Approved by

*Dej Changchon*  
Dej Changchon  
Senior Manager  
โทรเลขเลขที่ 3-323-9-9442

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## Analysis / Test Report



TESTING  
No.0009

Client : Rojana Industrial Management Co., Ltd.

2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

P/O :

Project Name : โครงการพัฒนาศักยภาพโรงงาน ขยะ (โรงบำบัด)

Project Location : WWTP

Lot ID: 2470904

Date Received : Jul 18, 2024

Date Reported : Aug 02, 2024

Report Number : 3066295-2

Page 1 of 2

Sample Number	2470904-1
Sampled Date	Jul 18, 2024 9:23 AM
Sample Description	Wastewater
Location	Influent WWTP#2
Date Analysis Commenced	Jul 19, 2024
Condition of Sample	Contained in two BOD bottles, one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
<b>Metals Testing</b>						
Arsenic	mg/L	0.0003	0.0005	0.005	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.02	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
Lead	mg/L	0.0003	0.0005	0.0009	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Manganese	mg/L	0.0003	0.0005	0.04	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	<0.0005	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.03	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Zinc	mg/L	0.003	0.005	0.08	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Water Testing</b>						
Oil & Grease *	mg/L	-	3	3	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 D	Bangkok

Sampling By : Warunyoo Chimphalee โทรเลขเลขที่ 3-323-9-0020, Samart Khumplhee โทรเลขเลขที่ 3-204-9-0084

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

Technical Management

*Savitree N.*  
Savitree Nolsangam  
Manager  
โทรเลขเลขที่ 3-204-9-0007

Approved by

*Kanokorn Anek*  
Kanokorn Anek  
Assistant General Manager  
โทรเลขเลขที่ 3-204-9-0004

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## Analysis / Test Report



TESTING  
No.0009

Client : Rojana Industrial Management Co., Ltd.

2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

P/O :

Project Name : โครงการพัฒนาศักยภาพโรงงาน ขยะ (โรงบำบัด)

Project Location : WWTP

Lot ID: 2470904

Date Received : Jul 18, 2024

Date Reported : Aug 02, 2024

Report Number : 3066295-2

Page 2 of 2

Sample Number	2470904-1
Sampled Date	Jul 18, 2024 9:23 AM
Sample Description	Wastewater
Location	Influent WWTP#2
Date Analysis Commenced	Jul 19, 2024
Condition of Sample	Contained in two BOD bottles, one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
<b>Metals Testing</b>						
Arsenic	mg/L	0.0003	0.0005	0.005	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.02	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
Lead	mg/L	0.0003	0.0005	0.0009	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Manganese	mg/L	0.0003	0.0005	0.04	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	<0.0005	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.03	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Zinc	mg/L	0.003	0.005	0.08	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Water Testing</b>						
Oil & Grease *	mg/L	-	3	3	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 D	Bangkok

Sampling By : Warunyoo Chimphalee โทรเลขเลขที่ 3-323-9-0020, Samart Khumplhee โทรเลขเลขที่ 3-204-9-0084

- 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

*Savitree N.*  
Savitree Nolsangam  
Manager  
โทรเลขเลขที่ 3-204-9-0007

Approved by

*Kanokorn Anek*  
Kanokorn Anek  
Assistant General Manager  
โทรเลขเลขที่ 3-204-9-0004

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## Analysis / Test Report



TESTING  
No.0009

Client : Rojana Industrial Management Co., Ltd.

2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

P/O :

Project Name : โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงงานชลบุรี)

Project Location : WWTP

Page 1 of 1

Sample Number	2470904-1					
Sampled Date	Jul 18, 2024 9:23 AM					
Sample Description	Wastewater					
Location	Influent WWTP#2					
Date Analysis Commenced	Jul 18, 2024					
Condition of Sample	Contained in two BOD bottles, one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)					
Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
<b>Metals Testing</b>						
Aluminium	mg/L	0.003	0.005	0.92	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Iron	mg/L	0.003	0.005	0.21	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Silver	mg/L	0.0003	0.0005	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Water Testing</b>						
Chloride as Cl *	mg/L	0.5	1	177	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-C (D)	Rayong
Conductivity at 25 Degree C *	micromhos/cm	-	0.5	4893	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Rayong
Dissolved Oxygen *	mg/L	-	0.1	10.5	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-C (C)	Rayong
Flow rate *	m3/s	-	-	No Report	Flow meter	Rayong
Fluoride as F *	mg/L	0.06	0.2	5.6	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-F (D)	Rayong

Sampling By : Warunyo Chimphee, Samart Khumphlee

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.

Approved by

*Sawitree N.*  
Sawitree Naisangiam  
Manager

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## Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Management Co., Ltd.

2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

P/O :

Project Name : โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงงานชลบุรี)

Project Location : WWTP

Page 1 of 2

Sample Number	2470904-2						
Sampled Date	Jul 18, 2024 9:35 AM						
Sample Description	Wastewater						
Location	Effluent WWTP#2						
Date Analysis Commenced	Jul 18, 2024						
Condition of Sample	Contained in two BOD bottles, one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤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	49	≤120	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Cyanide as CN	mg/L	0.001	0.005	0.005	≤0.2	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-CN (C, E)	Rayong
Formaldehyde	mg/L	0.03	0.1	Not Detected	≤1.0	Wastewater analysis manual, Environmental Engineering Association of Thailand, 4th ed., 2004	Rayong
pH at 25 degree C	-	-	-	7.9	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Phenol *	mg/L	0.005	0.01	Not Detected	≤1.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5530 D	Rayong
Residual Free Chlorine *	mg/L	-	0.1	0.1	≤1.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-C (F)	Rayong
Sulfide *	mg/L	-	0.5	<0.5	≤1.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-S2 (C, F)	Rayong

Technical Management

*Chonticha*  
Chonticha Subongkroh  
Scientist (3)  
โทร: 02-323-4-9449

Approved by

*Dej Changchon*  
Dej Changchon  
Senior Manager  
โทร: 02-323-4-9442

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## Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Management Co., Ltd.

2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

P/O :

Project Name : โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงงานชลบุรี)

Project Location : WWTP

Page 2 of 2

Sample Number	2470904-2						
Sampled Date	Jul 18, 2024 9:35 AM						
Sample Description	Wastewater						
Location	Effluent WWT#2						
Date Analysis Commenced	Jul 18, 2024						
Condition of Sample	Contained in two BOD bottles, one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
Temperature *	Degree C	-	-	31.6	≤40	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	2260	≤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	3.3	≤100	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	7	≤50	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

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

Sampling By : Warunyo Chimphee โทร: 02-323-4-0020, Samart Khumphlee โทร: 02-323-4-0084

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

Approved by

*Dej Changchon*  
Dej Changchon  
Senior Manager  
โทร: 02-323-4-9442

Technical Management

*Chonticha*  
Chonticha Subongkroh  
Scientist (3)  
โทร: 02-323-4-9449

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## Analysis / Test Report



TESTING  
No.0009

Client : Rojana Industrial Management Co., Ltd.

2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

P/O :

Project Name : โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงงานชลบุรี)

Project Location : WWTP

Page 1 of 2

Sample Number	2470904-2						
Sampled Date	Jul 18, 2024 9:35 AM						
Sample Description	Wastewater						
Location	Effluent WWTP #2						
Date Analysis Commenced	Jul 19, 2024						
Condition of Sample	Contained in two BOD bottles, one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Arsenic	mg/L	0.0003	0.0005	0.006	≤0.25	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	<0.0005	≤0.03	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.01	≤2.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.25	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
Lead	mg/L	0.0003	0.0005	0.0007	≤0.2	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Manganese	mg/L	0.0003	0.0005	0.04	≤5.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.02	≤1.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Technical Management

*Sawitree N.*  
Sawitree Naisangiam  
Manager  
โทร: 02-323-4-9442

Approved by

*Kanokorn Anek*  
Kanokorn Anek  
Assistant General Manager  
โทร: 02-323-4-9442

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## Analysis / Test Report



TESTING  
No.0009

**Client :** Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkok, Huaykwang, Bangkok  
Thailand 10310

**P/O :**  
**Project Name :** โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงงานบ่อน)  
**Project Location :** WWTP

**Sample Number** 2470904-2  
**Sampled Date** Jul 18, 2024 9:35 AM  
**Sample Description** Wastewater  
**Location** Effluent WWT#2  
**Date Analysis Commenced** Jul 19, 2024  
**Condition of Sample** Contained in two BOD bottles, one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Page 2 of 2

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Zinc	mg/L	0.003	0.005	0.07	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Water Testing</b>							
Oil & Grease *	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 D	Bangkok

**Guideline :** Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).  
**Sampling By :** Warunyo Chimphalee พนักงานปฏิบัติการ 323-3-0020, Samart Khumplee พนักงานปฏิบัติการ 204-4-0084

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

Technical Management

*Savitree N.*

Savitree Nongsangiam  
Manager  
พนักงานปฏิบัติการ 204-4-0007

Approved by

*Kanokorn Anek*

Kanokorn Anek  
Assistant General Manager  
พนักงานปฏิบัติการ 204-4-0004

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

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## Analysis / Test Report



TESTING  
No.0009

**Client :** Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkok, Huaykwang, Bangkok  
Thailand 10310

**P/O :**  
**Project Name :** โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงงานบ่อน)  
**Project Location :** WWTP

**Sample Number** 2470904-2  
**Sampled Date** Jul 18, 2024 9:35 AM  
**Sample Description** Wastewater  
**Location** Effluent WWT#2  
**Date Analysis Commenced** Jul 18, 2024  
**Condition of Sample** Contained in two BOD bottles, one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Page 1 of 2

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Aluminum	mg/L	0.003	0.005	0.84	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Iron	mg/L	0.003	0.005	0.13	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Water Testing</b>							
Chloride as Cl *	mg/L	0.5	1	159	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Rayong
Conductivity at 25 Degree C *	micromhos/cm	-	0.5	4169	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Rayong
Dissolved Oxygen *	mg/L	-	0.1	9.3	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong
Flow rate *	m <sup>3</sup> /s	-	-	No Report	No Standard	Flow meter	Rayong
Fluoride as F *	mg/L	0.06	0.2	4.6	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-F (D)	Rayong

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

- 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.

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Approved by

*Savitree N.*

Savitree Nongsangiam  
Manager

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## Analysis / Test Report



TESTING  
No.0009

**Client :** Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkok, Huaykwang, Bangkok  
Thailand 10310

**P/O :**  
**Project Name :** โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงงานบ่อน)  
**Project Location :** WWTP

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

Page 2 of 2

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
<b>Water Testing</b>						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	3.6	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 5500 - O G	Rayong
COD	mg/L	1.5	25	280	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Cyanide as CN	mg/L	0.001	0.005	<0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-CN (C, E)	Rayong
Formaldehyde	mg/L	0.03	0.1	Not Detected	Wastewater analysis manual, Environmental Engineering Association of Thailand, 4th ed., 2004	Rayong
pH at 25 degree C	-	-	-	7.7	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (R)	Rayong
Phenol	mg/L	0.005	0.01	<0.010	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5530 D	Rayong
Residual Free Chlorine *	mg/L	-	0.1	<0.1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Cl (F)	Rayong
Sulfide *	mg/L	-	0.5	0.6	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-S2 (C, F)	Rayong
Temperature *	Degree C	-	-	32.6	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	1750	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	7.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part 4500 (D)	Rayong

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

Approved by

*Savitree N.*

Savitree Nongsangiam  
Manager

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkok, Huaykwang, Bangkok  
Thailand 10310

**P/O :**  
**Project Name :** โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงงานบ่อน)  
**Project Location :** WWTP

**Sample Number** 2486633-1  
**Sampled Date** Aug 23, 2024 9:38 AM  
**Sample Description** Wastewater  
**Location** Influent WWT#2  
**Date Analysis Commenced** Aug 23, 2024  
**Condition of Sample** Contained in two glass vials, one amber glass bottle, two BOD bottles and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Page 1 of 2

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
<b>Water Testing</b>						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	3.6	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 5500 - O G	Rayong
COD	mg/L	1.5	25	280	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Cyanide as CN	mg/L	0.001	0.005	<0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-CN (C, E)	Rayong
Formaldehyde	mg/L	0.03	0.1	Not Detected	Wastewater analysis manual, Environmental Engineering Association of Thailand, 4th ed., 2004	Rayong
pH at 25 degree C	-	-	-	7.7	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (R)	Rayong
Phenol	mg/L	0.005	0.01	<0.010	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5530 D	Rayong
Residual Free Chlorine *	mg/L	-	0.1	<0.1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Cl (F)	Rayong
Sulfide *	mg/L	-	0.5	0.6	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-S2 (C, F)	Rayong
Temperature *	Degree C	-	-	32.6	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	1750	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	7.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C), part 4500 (D)	Rayong

Technical Management

*Photchanas S.*

Photchanas Senda  
Scientist (4)  
พนักงานปฏิบัติการ 323-3-0028

Approved by

*Dei Changchong*

Dei Changchong  
Senior Manager  
พนักงานปฏิบัติการ 323-3-0001

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## Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Management Co., Ltd.

2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

P/O :

Project Name : โครงการสวนอุตสาหกรรมโรจนะ ขยะ (โรงบำบัด)

Project Location : WWTP

Lot ID: 2486633

Date Received : Aug 23, 2024

Date Reported : Aug 29, 2024

Report Number : 3096757-1

Page 2 of 2

Sample Number	2486633-1
Sampled Date	Aug 23, 2024 9:38 AM
Sample Description	Wastewater
Location	Influent WWTP#2
Date Analysis Commenced	Aug 23, 2024
Condition of Sample	Contained in two glass vials, one amber glass bottle, two BOD bottles and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOQ)	Result	Method	Testing Location
<b>Water Testing</b>						
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Sampling By : Surawit Narapong ระเบียบแสง 323-0-0011, Pattarapol Sawangjaitam ระเบียบแสง 204-0-0002

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)

ระเบียบแสง 323-0-0028

Approved by

Dej Changchon

Senior Manager

ระเบียบแสง 323-0-0001

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## Analysis / Test Report



TESTING  
No.0009

Client : Rojana Industrial Management Co., Ltd.

2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

P/O :

Project Name : โครงการสวนอุตสาหกรรมโรจนะ ขยะ (โรงบำบัด)

Project Location : WWTP

Lot ID: 2486633

Date Received : Aug 23, 2024

Date Reported : Aug 30, 2024

Report Number : 3096757-2

Page 1 of 2

Sample Number	2486633-1
Sampled Date	Aug 23, 2024 9:38 AM
Sample Description	Wastewater
Location	Influent WWTP#2
Date Analysis Commenced	Aug 24, 2024
Condition of Sample	Contained in two glass vials, one amber glass bottle, two BOD bottles and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOQ)	Result	Method	Testing Location
<b>Metals Testing</b>						
Arsenic	mg/L	0.0003	0.0005	0.005	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.02	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3500-C1 B	Bangkok
Lead	mg/L	0.0003	0.0005	0.002	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Manganese	mg/L	0.0003	0.0005	0.04	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	<0.0005	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.11	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Zinc	mg/L	0.003	0.005	0.09	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Water Testing</b>						
Oil & Grease *	mg/L	-	3	4	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5520 D	Bangkok

Note : No Report เนื่องจากไม่สามารถ Flow rate ได้

Sampling By : Surawit Narapong ระเบียบแสง 323-0-0011, Pattarapol Sawangjaitam ระเบียบแสง 204-0-0002

Remark :

Technical Management

Sawitree N.

Sawitree Noisangiam  
Manager

ระเบียบแสง 204-0-0007

Approved by

Kanokorn Anek

Assistant General Manager

ระเบียบแสง 204-0-0004

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## Analysis / Test Report



TESTING  
No.0009

Client : Rojana Industrial Management Co., Ltd.

2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

P/O :

Project Name : โครงการสวนอุตสาหกรรมโรจนะ ขยะ (โรงบำบัด)

Project Location : WWTP

Lot ID: 2486633

Date Received : Aug 23, 2024

Date Reported : Aug 30, 2024

Report Number : 3096757-2

Page 2 of 2

Sample Number	2486633-1
Sampled Date	Aug 23, 2024 9:38 AM
Sample Description	Wastewater
Location	Influent WWTP#2
Date Analysis Commenced	Aug 23, 2024
Condition of Sample	Contained in two glass vials, one amber glass bottle, two BOD bottles and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOQ)	Result	Method	Testing Location
<b>Metals Testing</b>						
Aluminium	mg/L	0.003	0.005	0.27	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Iron	mg/L	0.003	0.005	0.14	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Silver	mg/L	0.0003	0.0005	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Water Testing</b>						
Chloride as Cl *	mg/L	0.5	1	613	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Cl (D)	Rayong
Conductivity at 25 Degree C *	micromhos/cm	-	0.5	2952	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Rayong
Dissolved Oxygen *	mg/L	-	0.1	4.5	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong
Flow rate *	m3/s	-	-	No Report	Flow meter	Rayong
Fluoride as F *	mg/L	0.06	0.2	5.7	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-F (D)	Rayong

Note : No Report เนื่องจากไม่สามารถ Flow rate ได้

Sampling By : Surawit Narapong , 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.

Technical Management

Sawitree N.

Sawitree Noisangiam  
Manager

ระเบียบแสง 204-0-0007

Approved by

Kanokorn Anek

Assistant General Manager

ระเบียบแสง 204-0-0004

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## Analysis / Test Report



TESTING  
No.0009

Client : Rojana Industrial Management Co., Ltd.

2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

P/O :

Project Name : โครงการสวนอุตสาหกรรมโรจนะ ขยะ (โรงบำบัด)

Project Location : WWTP

Lot ID: 2486633

Date Received : Aug 23, 2024

Date Reported : Aug 30, 2024

Report Number : 3096757-3

Page 1 of 1

Sample Number	2486633-1
Sampled Date	Aug 23, 2024 9:38 AM
Sample Description	Wastewater
Location	Influent WWTP#2
Date Analysis Commenced	Aug 23, 2024
Condition of Sample	Contained in two glass vials, one amber glass bottle, two BOD bottles and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOQ)	Result	Method	Testing Location
<b>Metals Testing</b>						
Aluminium	mg/L	0.003	0.005	0.27	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Iron	mg/L	0.003	0.005	0.14	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Silver	mg/L	0.0003	0.0005	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Water Testing</b>						
Chloride as Cl *	mg/L	0.5	1	613	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Cl (D)	Rayong
Conductivity at 25 Degree C *	micromhos/cm	-	0.5	2952	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Rayong
Dissolved Oxygen *	mg/L	-	0.1	4.5	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong
Flow rate *	m3/s	-	-	No Report	Flow meter	Rayong
Fluoride as F *	mg/L	0.06	0.2	5.7	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-F (D)	Rayong

Note : No Report เนื่องจากไม่สามารถ Flow rate ได้

Sampling By : Surawit Narapong , Pattarapol Sawangjaitam

Remark :

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

Approved by

Sawitree N.

Sawitree Noisangiam  
Manager

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## Analysis / Test Report

TESTING  
No.0042

Client : Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkok, Huaykwang, Bangkok  
Thailand 10310

P/O :  
Project Name : โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงงานแป้น)  
Project Location : WWTP

Lot ID: 2486633  
Date Received : Aug 23, 2024  
Date Reported : Aug 30, 2024  
Report Number : 3096758-1

Page 1 of 2

Sample Number 2486633-2  
Sampled Date Aug 23, 2024 10:03 AM  
Sample Description Wastewater  
Location Effluent WWTP#2  
Date Analysis Commenced Aug 23, 2024  
Condition of Sample Contained in two glass vials, one amber glass bottle, two BOD bottles and eight 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	3.7	≤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	233	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Cyanide as CN	mg/L	0.001	0.005	<0.005	≤0.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-CN (C, E)	Rayong
Formaldehyde	mg/L	0.03	0.1	Not Detected	≤1.0	Wastewater analysis manual, Environmental Engineering Association of Thailand, 4th ed., 2004	Rayong
pH at 25 degree C	-	-	-	7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Phenol	mg/L	0.005	0.01	Not Detected	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5230 D	Rayong
Residual Free Chlorine *	mg/L	-	0.1	<0.1	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-C (F)	Rayong
Sulfide *	mg/L	-	0.5	<0.5	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-S2 (C, F)	Rayong

Technical Management

Photchana S.

Photchana Seeda  
Scientist (4)  
โทรเลข 323-4-0028

Approved by

Dej Changchon

Dej Changchon  
Senior Manager  
โทรเลข 323-4-0001

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. ALS Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

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## Analysis / Test Report

TESTING  
No.0042

Client : Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkok, Huaykwang, Bangkok  
Thailand 10310

P/O :  
Project Name : โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงงานแป้น)  
Project Location : WWTP

Lot ID: 2486633  
Date Received : Aug 23, 2024  
Date Reported : Aug 30, 2024  
Report Number : 3096758-1

Page 2 of 2

Sample Number 2486633-2  
Sampled Date Aug 23, 2024 10:03 AM  
Sample Description Wastewater  
Location Effluent WWTP#2  
Date Analysis Commenced Aug 23, 2024  
Condition of Sample Contained in two glass vials, one amber glass bottle, two BOD bottles and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing Temperature *	Degree C	-	-	32.7	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	1540	≤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	3.9	≤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	9	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).  
Sampling By : Surawit Narapong โทรเลข 323-4-0013, Pattarapol Sawangjaitam โทรเลข 323-4-0002

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

Technical Management

Photchana S.

Photchana Seeda  
Scientist (4)  
โทรเลข 323-4-0028

Approved by

Dej Changchon

Dej Changchon  
Senior Manager  
โทรเลข 323-4-0001

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## Analysis / Test Report

TESTING  
No.0009

Client : Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkok, Huaykwang, Bangkok  
Thailand 10310

P/O :  
Project Name : โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงงานแป้น)  
Project Location : WWTP

Lot ID: 2486633  
Date Received : Aug 23, 2024  
Date Reported : Aug 30, 2024  
Report Number : 3096758-2

Page 1 of 2

Sample Number 2486633-2  
Sampled Date Aug 23, 2024 10:03 AM  
Sample Description Wastewater  
Location Effluent WWTP#2  
Date Analysis Commenced Aug 24, 2024  
Condition of Sample Contained in two glass vials, one amber glass bottle, two BOD bottles and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing Arsenic	mg/L	0.0003	0.0005	0.006	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	0.0007	≤0.03	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.01	≤2.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Lead	mg/L	0.0003	0.0005	0.002	≤0.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Manganese	mg/L	0.0003	0.0005	0.03	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	<0.0005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.08	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Technical Management

Sawitree N.

Sawitree Noisangiam  
Manager  
โทรเลข 204-4-0007

Approved by

Kanokkorn Anek

Kanokkorn Anek  
Assistant General Manager  
โทรเลข 204-4-0004

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## Analysis / Test Report

TESTING  
No.0009

Client : Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkok, Huaykwang, Bangkok  
Thailand 10310

P/O :  
Project Name : โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงงานแป้น)  
Project Location : WWTP

Lot ID: 2486633  
Date Received : Aug 23, 2024  
Date Reported : Aug 30, 2024  
Report Number : 3096758-2

Page 2 of 2

Sample Number 2486633-2  
Sampled Date Aug 23, 2024 10:03 AM  
Sample Description Wastewater  
Location Effluent WWTP#2  
Date Analysis Commenced Aug 24, 2024  
Condition of Sample Contained in two glass vials, one amber glass bottle, two BOD bottles and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing Zinc	mg/L	0.003	0.005	0.06	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing Oil & Grease *	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 D	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).  
Note : No Report เนื่องจากระดับ Flow rate ไม่

Sampling By : Surawit Narapong โทรเลข 323-4-0013, Pattarapol Sawangjaitam โทรเลข 323-4-0002

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

Technical Management

Sawitree N.

Sawitree Noisangiam  
Manager  
โทรเลข 204-4-0007

Approved by

Kanokkorn Anek

Kanokkorn Anek  
Assistant General Manager  
โทรเลข 204-4-0004

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## Analysis / Test Report



TESTING  
No.0009

**Client :** Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

**Lot ID: 2486633**  
Date Received : Aug 23, 2024  
Date Reported : Sep 04, 2024  
Report Number : 3096758-3

**P/O :**  
**Project Name :** โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงอบปูน)  
**Project Location :** WWTP

Page 1 of 2

**Sample Number** 2486633-2  
**Sampled Date** Aug 23, 2024 10:03 AM  
**Sample Description** Wastewater  
**Location** Effluent WWTP#2  
**Date Analysis Commenced** Aug 23, 2024  
**Condition of Sample** Contained in two glass vials, one amber glass bottle, two BOD bottles and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Aluminium	mg/L	0.003	0.005	0.45	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Iron	mg/L	0.003	0.005	0.07	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Water Testing</b>							
Chloride as Cl *	mg/L	0.5	1	595	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Cl (D)	Rayong
Conductivity at 25 Degree C *	micromhos/cm	-	0.5	3368	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Rayong
Dissolved Oxygen *	mg/L	-	0.1	7.9	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong
Flow rate *	m <sup>3</sup> /s	-	-	No Report	No Standard	Flow meter	Rayong
Fluoride as F *	mg/L	0.06	0.2	8.4	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-F (D)	Rayong

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

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

Approved by

*Sawitree N.*  
Sawitree Noisangiam  
Manager

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## Analysis / Test Report



TESTING  
No.0009

**Client :** Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

**Lot ID: 2486633**  
Date Received : Aug 23, 2024  
Date Reported : Sep 04, 2024  
Report Number : 3096758-3

**P/O :**  
**Project Name :** โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงอบปูน)  
**Project Location :** WWTP

Page 2 of 2

**Note :** No Report (เนื่องจากไม่สามารถวัด Flow rate ได้)  
**Sampling By :** Surawit Narapong , Pattarapol Sawangjaitam

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

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Approved by

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Sawitree Noisangiam  
Manager

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

**Lot ID: 2498376**  
Date Received : Sep 18, 2024  
Date Reported : Oct 01, 2024  
Report Number : 3121741-1

**P/O :**  
**Project Name :** โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงอบปูน)  
**Project Location :** WWTP

Page 1 of 2

**Sample Number** 2498376-1  
**Sampled Date** Sep 18, 2024 10:20 AM  
**Sample Description** Wastewater  
**Location** Influent WWTP#2  
**Date Analysis Commenced** Sep 18, 2024  
**Condition of Sample** Contained in two BOD bottles, one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
<b>Water Testing</b>						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	5.9	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	266	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5220 D	Rayong
Cyanide as CN	mg/L	0.001	0.005	<0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-CN (C, E)	Rayong
Formaldehyde	mg/L	0.03	0.1	0.1	Wastewater analysis manual, Environmental Engineering Association of Thailand, 4th ed., 2004	Rayong
pH at 25 degree C	-	-	-	8.1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (R)	Rayong
Phenol	mg/L	0.005	0.01	Not Detected	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5530 D	Rayong
Residual Free Chlorine *	mg/L	-	0.1	<0.1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Cl (F)	Rayong
Sulfide *	mg/L	-	0.5	<0.5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-S2 (C, F)	Rayong
Temperature *	Degree C	-	-	32.4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	2170	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	5.8	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (C), part 1103 (D)	Rayong

Technical Management

*Photchanna S.*  
Photchanna Seeda  
Scientist (4)  
หมายเลขโทรศัพท์ 3-323-4-0028

Approved by

*D. Changchon*  
Dej Changchon  
Senior Manager  
หมายเลขโทรศัพท์ 3-323-4-0001

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. ALS Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

**Lot ID: 2498376**  
Date Received : Sep 18, 2024  
Date Reported : Oct 01, 2024  
Report Number : 3121741-1

**P/O :**  
**Project Name :** โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงอบปูน)  
**Project Location :** WWTP

Page 2 of 2

**Sample Number** 2498376-1  
**Sampled Date** Sep 18, 2024 10:20 AM  
**Sample Description** Wastewater  
**Location** Influent WWTP#2  
**Date Analysis Commenced** Sep 18, 2024  
**Condition of Sample** Contained in two BOD bottles, one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
<b>Water Testing</b>						
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

**Sampling By :** Warunyoo Chimpalee หมายเลขโทรศัพท์ 3-323-4-0020 , Samart Khumpliee หมายเลขโทรศัพท์ 3-323-4-0084

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

Technical Management

*Photchanna S.*  
Photchanna Seeda  
Scientist (4)  
หมายเลขโทรศัพท์ 3-323-4-0028

Approved by

*D. Changchon*  
Dej Changchon  
Senior Manager  
หมายเลขโทรศัพท์ 3-323-4-0001

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## Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkok, Huaykwang, Bangkok  
Thailand 10310

P/O :  
Project Name : โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงงานแปรรูป)  
Project Location : WWTP

Lot ID: 2498376  
Date Received : Sep 18, 2024  
Date Reported : Oct 01, 2024  
Report Number : 3121742-1

Page 2 of 2

Sample Number	2498376-2						
Sampled Date	Sep 18, 2024 10:35 AM						
Sample Description	Wastewater						
Location	Effluent WWT#2						
Date Analysis Commenced	Sep 18, 2024						
Condition of Sample	Contained in two BOD bottles, one amber glass bottle, pretreatment - preservation standards (APHA, USEPA) two glass vials and eight plastic bottles, sample containers comply to						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Temperature *	Degree C	-	-	32.6	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	2190	≤3000	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	2.2	≤100	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	5	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

**Guideline :** Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).  
**Sampling By :** Warunyo Chimphalee วัฒนธนาพร >323-4-0020, Samart Khumplilee วัฒนธนาพร >204-4-0084

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

Technical Management

Photchana S.

Photchana Seeda  
Scientist (4)  
วัฒนธนาพร >323-4-0028

Approved by

Dej Changchon

Dej Changchon  
Senior Manager  
วัฒนธนาพร >323-4-0001

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## Analysis / Test Report



TESTING  
No.0009

Client : Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkok, Huaykwang, Bangkok  
Thailand 10310

P/O :  
Project Name : โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงงานแปรรูป)  
Project Location : WWTP

Lot ID: 2498376  
Date Received : Sep 18, 2024  
Date Reported : Oct 01, 2024  
Report Number : 3121742-2

Page 1 of 2

Sample Number	2498376-2						
Sampled Date	Sep 18, 2024 10:35 AM						
Sample Description	Wastewater						
Location	Effluent WWTP#2						
Date Analysis Commenced	Sep 19, 2024						
Condition of Sample	Contained in two BOD bottles, one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.008	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.005	≤2.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3500-C B	Bangkok
Lead	mg/L	0.0003	0.0005	Not Detected	≤0.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Manganese	mg/L	0.0003	0.0005	0.01	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	<0.0005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.11	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok

Technical Management

Sawitree N.

Sawitree Nongsiam  
Manager  
วัฒนธนาพร >204-4-0007

Approved by

Kanokkorn Anek

Kanokkorn Anek  
Assistant General Manager  
วัฒนธนาพร >204-4-0004

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## Analysis / Test Report



TESTING  
No.0009

Client : Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkok, Huaykwang, Bangkok  
Thailand 10310

P/O :  
Project Name : โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงงานแปรรูป)  
Project Location : WWTP

Lot ID: 2498376  
Date Received : Sep 18, 2024  
Date Reported : Oct 01, 2024  
Report Number : 3121742-2

Page 2 of 2

Sample Number	2498376-2						
Sampled Date	Sep 18, 2024 10:35 AM						
Sample Description	Wastewater						
Location	Effluent WWTP#2						
Date Analysis Commenced	Sep 19, 2024						
Condition of Sample	Contained in two BOD bottles, one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Zinc	mg/L	0.003	0.005	0.06	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Water Testing							
Oil & Grease *	mg/L	-	3	5	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 D	Bangkok

**Guideline :** Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).  
**Sampling By :** Warunyo Chimphalee วัฒนธนาพร >323-4-0020, Samart Khumplilee วัฒนธนาพร >204-4-0084

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

Technical Management

Sawitree N.

Sawitree Nongsiam  
Manager  
วัฒนธนาพร >204-4-0007

Approved by

Kanokkorn Anek

Kanokkorn Anek  
Assistant General Manager  
วัฒนธนาพร >204-4-0004

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## Analysis / Test Report



TESTING  
No.0009

Client : Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkok, Huaykwang, Bangkok  
Thailand 10310

P/O :  
Project Name : โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงงานแปรรูป)  
Project Location : WWTP

Lot ID: 2498376  
Date Received : Sep 18, 2024  
Date Reported : Oct 01, 2024  
Report Number : 3121742-3

Page 1 of 2

Sample Number	2498376-2						
Sampled Date	Sep 18, 2024 10:35 AM						
Sample Description	Wastewater						
Location	Effluent WWTP#2						
Date Analysis Commenced	Sep 18, 2024						
Condition of Sample	Contained in two BOD bottles, one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Aluminium	mg/L	0.003	0.005	0.09	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Iron	mg/L	0.003	0.005	0.04	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Water Testing							
Chloride as Cl *	mg/L	0.5	1	672	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-C (D)	Rayong
Conductivity at 25 Degree C *	micromhos/cm	-	0.5	3178	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2510 B	Rayong
Dissolved Oxygen *	mg/L	-	0.1	6.7	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-O (C)	Rayong
Flow rate *	m3/s	-	-	No Report	No Standard	Flow meter	Rayong
Fluoride as F *	mg/L	0.06	0.2	1.8	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-F (D)	Rayong

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

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## Analysis / Test Report



TESTING  
No.0009

**Client :** Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

**P/O :**  
**Project Name :** โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงประปวน)  
**Project Location :** WWTP

**Note :** No Report (เนื่องจากไม่สามารถวัด Flowrate ได้)  
**Sampling By :** Warunyo Chimphalee , Samart Khumplhee

Page 2 of 2

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

*Sawitree N.*  
Sawitree Nolsangiam  
Manager

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

**P/O :**  
**Project Name :** โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงประปวน)  
**Project Location :** WWTP

Page 1 of 2

Sample Number	24109696-1					
Sampled Date	Oct 18, 2024 10:15 AM					
Sample Description	Wastewater					
Location	Influent WWTP#2					
Date Analysis Commenced	Oct 18, 2024					
Condition of Sample	Contained in two BOD bottles, one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment – preservation standards (APHA, USEPA)					
Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	2.8	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	243	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 5220 D	Rayong
Cyanide as CN	mg/L	0.001	0.005	<0.005	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500-CN (C, E)	Rayong
Formaldehyde	mg/L	0.03	0.1	<0.1	Wastewater analysis manual, Environmental Engineering Association of Thailand, 4th ed., 2004	Rayong
pH at 25 degree C		-	-	8.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Phenol	mg/L	0.005	0.01	<0.010	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 5530 D	Rayong
Residual Free Chlorine *	mg/L	-	0.1	<0.1	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500-Cl (F)	Rayong
Sulfide *	mg/L	-	0.5	<0.5	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500-S2 (C, F)	Rayong
Temperature *	Degree C	-	-	31.7	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	1460	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	3.9	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (C), part NH3 (D)	Rayong

Technical Management

*Photchana S.*  
Photchana Seeda  
Scientist (4)  
โทรเลขเลขที่ 3-323-0-0028

Approved by

*Dej Chanchon*  
Dej Chanchon  
Senior Manager  
โทรเลขเลขที่ 3-323-0-0001

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

**P/O :**  
**Project Name :** โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงประปวน)  
**Project Location :** WWTP

Page 2 of 2

Sample Number	24109696-1
Sampled Date	Oct 18, 2024 10:15 AM
Sample Description	Wastewater
Location	Influent WWTP#2
Date Analysis Commenced	Oct 18, 2024
Condition of Sample	Contained in two BOD bottles, one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

**Sampling By :** Wasan Kinnuti โทรเลขเลขที่ 3-323-0-0019 , Samart Khumplhee โทรเลขเลขที่ 3-204-0-0084

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

Technical Management

*Photchana S.*  
Photchana Seeda  
Scientist (4)  
โทรเลขเลขที่ 3-323-0-0028

Approved by

*Dej Chanchon*  
Dej Chanchon  
Senior Manager  
โทรเลขเลขที่ 3-323-0-0001

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## Analysis / Test Report



TESTING  
No.0009

**Client :** Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

**P/O :**  
**Project Name :** โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงประปวน)  
**Project Location :** WWTP

Page 1 of 2

Sample Number	24109696-1					
Sampled Date	Oct 18, 2024 10:15 AM					
Sample Description	Wastewater					
Location	Influent WWTP#2					
Date Analysis Commenced	Oct 21, 2024					
Condition of Sample	Contained in two BOD bottles, one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)					
Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Metals Testing						
Arsenic	mg/L	0.0003	0.0005	0.008	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.002	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3500-Cr B	Bangkok
Lead	mg/L	0.0003	0.0005	0.002	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Manganese	mg/L	0.0003	0.0005	0.02	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Zinc	mg/L	0.003	0.005	0.06	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Water Testing						
Oil & Grease *	mg/L	-	3	4	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 5520 D	Bangkok

**Sampling By :** Wasan Kinnuti โทรเลขเลขที่ 3-323-0-0019 , Samart Khumplhee โทรเลขเลขที่ 3-204-0-0084

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

Technical Management

*Sawitree N.*  
Sawitree Nolsangiam  
Manager  
โทรเลขเลขที่ 3-204-0-0007

Approved by

*Kanokorn Anek*  
Kanokorn Anek  
Assistant General Manager  
โทรเลขเลขที่ 3-204-0-0004

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## Analysis / Test Report

TESTING  
No.0009

Client : Rojana Industrial Management Co., Ltd.

2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

P/O :

Project Name : โครงการสวนอุตสาหกรรมโรจนะ ขยะ (โรงงานปูน)

Project Location : WWTP

Lot ID: 24109696

Date Received : Oct 18, 2024

Date Reported : Oct 25, 2024

Report Number : 3147495-2

Page 2 of 2

\* 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.



## Analysis / Test Report

TESTING  
No.0009

Client : Rojana Industrial Management Co., Ltd.

2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

P/O :

Project Name : โครงการสวนอุตสาหกรรมโรจนะ ขยะ (โรงงานปูน)

Project Location : WWTP

Lot ID: 24109696

Date Received : Oct 18, 2024

Date Reported : Oct 25, 2024

Report Number : 3147495-3

Page 1 of 1

Sample Number : 24109696-1  
Sampled Date : Oct 18, 2024 10:15 AM  
Sample Description : Wastewater  
Location : Influent WWTP#2  
Date Analysis Commenced : Oct 18, 2024  
Condition of Sample : Contained in two BOD bottles, one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOQ)	Result	Method	Testing Location
<b>Metals Testing</b>						
Aluminium	mg/L	0.003	0.005	0.12	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Iron	mg/L	0.003	0.005	0.14	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Silver	mg/L	0.0003	0.0005	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<b>Water Testing</b>						
Chloride as Cl *	mg/L	0.5	1	439	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500-Cl (D)	Rayong
Conductivity at 25 Degree C *	micromhos/cm	-	0.5	2236	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 2510 B	Rayong
Dissolved Oxygen *	mg/L	-	0.1	5.1	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500-O (C)	Rayong
Flow rate *	m3/s	-	-	No Report	Flow meter	Rayong
Fluoride as F *	mg/L	0.06	0.2	1.6	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500-F (D)	Rayong

Sampling By : Wasan Kinunti , Samart Khumpliee

Remark :  
LOQ : 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

*Savitree N.*  
Savitree Naisangiam  
Manager  
โทรศัพท์ ๖-204-๖-0007

Approved by

*Kanokorn Anek*  
Kanokorn Anek  
Assistant General Manager  
โทรศัพท์ ๖-204-๖-0004

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Approved by

*Savitree N.*  
Savitree Naisangiam  
Manager

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## Analysis / Test Report

TESTING  
No.0042

Client : Rojana Industrial Management Co., Ltd.

2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

P/O :

Project Name : โครงการสวนอุตสาหกรรมโรจนะ ขยะ (โรงงานปูน)

Project Location : WWTP

Lot ID: 24109696

Date Received : Oct 18, 2024

Date Reported : Oct 25, 2024

Report Number : 3147496-1

Page 1 of 2

Sample Number : 24109696-2  
Sampled Date : Oct 18, 2024 10:25 AM  
Sample Description : Wastewater  
Location : Effluent WWTP#2  
Date Analysis Commenced : Oct 18, 2024  
Condition of Sample : Contained in two BOD bottles, one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOQ)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤20	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	223	≤120	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 5220 D	Rayong
Cyanide as CN	mg/L	0.001	0.005	<0.005	≤0.2	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500-CN (C, E)	Rayong
Formaldehyde	mg/L	0.03	0.1	<0.1	≤1.0	Wastewater analysis manual, Environmental Engineering Association of Thailand, 4th ed., 2004	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
Phenol	mg/L	0.005	0.01	Not Detected	≤1.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 5330 D	Rayong
Residual Free Chlorine *	mg/L	-	0.1	<0.1	≤1.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500-Cl (F)	Rayong
Sulfide *	mg/L	-	0.5	<0.5	≤1.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500-S2 (C, F)	Rayong

Technical Management

*Photchana S.*  
Photchana Seeds  
Scientist (4)  
โทรศัพท์ ๖-323-๖-0028

Approved by

*Dj Changchon*  
Dj Changchon  
Senior Manager  
โทรศัพท์ ๖-323-๖-0001

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## Analysis / Test Report

TESTING  
No.0042

Client : Rojana Industrial Management Co., Ltd.

2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

P/O :

Project Name : โครงการสวนอุตสาหกรรมโรจนะ ขยะ (โรงงานปูน)

Project Location : WWTP

Lot ID: 24109696

Date Received : Oct 18, 2024

Date Reported : Oct 25, 2024

Report Number : 3147496-1

Page 2 of 2

Sample Number : 24109696-2  
Sampled Date : Oct 18, 2024 10:25 AM  
Sample Description : Wastewater  
Location : Effluent WWTP#2  
Date Analysis Commenced : Oct 18, 2024  
Condition of Sample : Contained in two BOD bottles, one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOQ)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
Temperature *	Degree C	-	-	32.8	≤40	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	1480	≤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	1.3	≤100	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (C), part NH3 (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	7	≤50	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

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

Sampling By : Wasan Kinunti โทรศัพท์ ๖-323-๖-0019 , Samart Khumpliee โทรศัพท์ ๖-204-๖-0004

Remark :  
LOQ : 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 Seeds  
Scientist (4)  
โทรศัพท์ ๖-323-๖-0028

Approved by

*Dj Changchon*  
Dj Changchon  
Senior Manager  
โทรศัพท์ ๖-323-๖-0001

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## Analysis / Test Report



TESTING  
No.0009

**Client :** Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkok, Huaykwang, Bangkok  
Thailand 10310

**Lot ID: 24109696**  
Date Received : Oct 18, 2024  
Date Reported : Oct 25, 2024  
Report Number : 3147496-2

**P/O :**  
**Project Name :** โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงงานปอเงิน)  
**Project Location :** WWTP

Page 1 of 2

**Sample Number** 24109696-2  
**Sampled Date** Oct 18, 2024 10:25 AM  
**Sample Description** Wastewater  
**Location** Effluent WWTP#2  
**Date Analysis Commenced** Oct 21, 2024  
**Condition of Sample** Contained in two BOD bottles, one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Arsenic	mg/L	0.0003	0.0005	0.01	≤0.25	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.003	≤2.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.25	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Lead	mg/L	0.0003	0.0005	0.0006	≤0.2	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Manganese	mg/L	0.0003	0.0005	0.01	≤5.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.09	≤1.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok

Technical Management

*Savitree N.*

Savitree Nongsiam  
Manager  
โทรเลขแจ้ง 7-204-4-0007

Approved by

*Kanokorn Anek*

Kanokorn Anek  
Assistant General Manager  
โทรเลขแจ้ง 7-204-4-0004

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## Analysis / Test Report



TESTING  
No.0009

**Client :** Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkok, Huaykwang, Bangkok  
Thailand 10310

**Lot ID: 24109696**  
Date Received : Oct 18, 2024  
Date Reported : Oct 25, 2024  
Report Number : 3147496-2

**P/O :**  
**Project Name :** โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงงานปอเงิน)  
**Project Location :** WWTP

Page 2 of 2

**Sample Number** 24109696-2  
**Sampled Date** Oct 18, 2024 10:25 AM  
**Sample Description** Wastewater  
**Location** Effluent WWTP#2  
**Date Analysis Commenced** Oct 21, 2024  
**Condition of Sample** Contained in two BOD bottles, one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Zinc	mg/L	0.003	0.005	0.05	≤5.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<b>Water Testing</b>							
Oil & Grease *	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 5520 D	Bangkok

**Guideline :** Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).  
**Sampling By :** Wasan Kinunti โทรเลขแจ้ง 7-323-4-0019, Samart Khumplee โทรเลขแจ้ง 7-204-4-0084

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

Technical Management

*Savitree N.*

Savitree Nongsiam  
Manager  
โทรเลขแจ้ง 7-204-4-0007

Approved by

*Kanokorn Anek*

Kanokorn Anek  
Assistant General Manager  
โทรเลขแจ้ง 7-204-4-0004

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## Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Management Co., Ltd.

2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

P/O :

Project Name : โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงระบ่อ)

Project Location : WWTP

Lot ID: 24133718

Date Received : Nov 28, 2024

Date Reported : Dec 06, 2024

Report Number : 3186098-1

Page 1 of 2

Sample Number	24133718-1					
Sampled Date	Nov 28, 2024 10:00 AM					
Sample Description	Wastewater					
Location	Influent WWTF#2					
Date Analysis Commenced	Nov 28, 2024					
Condition of Sample	Contained in two BOD bottles, one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)					
Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	3.5	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	270	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 5220 D	Rayong
Cyanide as CN	mg/L	0.001	0.005	<0.005	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500-CN (C, E)	Rayong
Formaldehyde	mg/L	0.03	0.1	0.1	Wastewater analysis manual, Environmental Engineering Association of Thailand, 4th ed., 2004	Rayong
pH at 25 degree C	-	-	-	7.9	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Phenol	mg/L	0.005	0.01	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 5530 D	Rayong
Residual Free Chlorine *	mg/L	-	0.1	0.1	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500-Cl (F)	Rayong
Sulfide *	mg/L	-	0.5	0.5	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500-S2 (C, F)	Rayong
Temperature *	Degree C	-	-	30.3	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	1820	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	1.3	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500-norg (C), part NH3 (D)	Rayong

Technical Management

**Photchana S.**

Photchana Seeda

Scientist (4)

โทรศัพท์ 323-0-0028

Approved by

**Dej Changchon**

Dej Changchon

Senior Manager

โทรศัพท์ 323-0-0001

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## Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Management Co., Ltd.

2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

P/O :

Project Name : โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงระบ่อ)

Project Location : WWTP

Lot ID: 24133718

Date Received : Nov 28, 2024

Date Reported : Dec 06, 2024

Report Number : 3186098-1

Page 2 of 2

Sample Number	24133718-1					
Sampled Date	Nov 28, 2024 10:00 AM					
Sample Description	Wastewater					
Location	Influent WWTF#2					
Date Analysis Commenced	Nov 28, 2024					
Condition of Sample	Contained in two BOD bottles, one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)					
Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

**Sampling By :** Ekkachai Tuntong โทรศัพท์ 323-0-0022, Samart Khumplee โทรศัพท์ 204-0-0084

Remark :

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

Technical Management

**Photchana S.**

Photchana Seeda

Scientist (4)

โทรศัพท์ 323-0-0028

Approved by

**Dej Changchon**

Dej Changchon

Senior Manager

โทรศัพท์ 323-0-0001

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## Analysis / Test Report



TESTING  
No.0009

Client : Rojana Industrial Management Co., Ltd.

2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

P/O :

Project Name : โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงระบ่อ)

Project Location : WWTP

Lot ID: 24133718

Date Received : Nov 28, 2024

Date Reported : Dec 06, 2024

Report Number : 3186098-2

Page 1 of 2

Sample Number	24133718-1					
Sampled Date	Nov 28, 2024 10:00 AM					
Sample Description	Wastewater					
Location	Influent WWTF#2					
Date Analysis Commenced	Nov 29, 2024					
Condition of Sample	Contained in two BOD bottles, one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)					
Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Metals Testing						
Arsenic	mg/L	0.0003	0.0005	0.004	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.002	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3500-Cr B	Bangkok
Lead	mg/L	0.0003	0.0005	0.002	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Manganese	mg/L	0.0003	0.0005	0.03	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.09	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Zinc	mg/L	0.003	0.005	0.03	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Water Testing						
Oil & Grease *	mg/L	-	3	5	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 5520 D	Bangkok

**Sampling By :** Ekkachai Tuntong โทรศัพท์ 323-0-0022, Samart Khumplee โทรศัพท์ 204-0-0084

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

Technical Management

**Savitree N.**

Savitree Nolsangam

Manager

โทรศัพท์ 204-0-0007

Approved by

**Kanokorn Anek**

Kanokorn Anek

Assistant General Manager

โทรศัพท์ 204-0-0004

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## Analysis / Test Report



TESTING  
No.0009

Client : Rojana Industrial Management Co., Ltd.

2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

P/O :

Project Name : โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงระบ่อ)

Project Location : WWTP

Lot ID: 24133718

Date Received : Nov 28, 2024

Date Reported : Dec 06, 2024

Report Number : 3186098-2

Page 2 of 2

- 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

**Savitree N.**

Savitree Nolsangam

Manager

โทรศัพท์ 204-0-0007

Approved by

**Kanokorn Anek**

Kanokorn Anek

Assistant General Manager

โทรศัพท์ 204-0-0004

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## Analysis / Test Report



TESTING  
No.0009

**Client :** Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

**P/O :**  
**Project Name :** โครงการสวนอุตสาหกรรมโรจนะ ชลบุรี (โรงงานปูน)  
**Project Location :** WWTP

**Lot ID: 24133718**  
Date Received : Nov 28, 2024  
Date Reported : Dec 06, 2024  
Report Number : 3186098-3

Page 1 of 1

Sample Number	24133718-1					
Sampled Date	Nov 28, 2024 10:00 AM					
Sample Description	Wastewater					
Location	Influent WWT#2					
Date Analysis Commenced	Nov 28, 2024					
Condition of Sample	Contained in two BOD bottles, one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)					
Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Metals Testing						
Aluminum	mg/L	0.003	0.005	0.07	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Iron	mg/L	0.003	0.005	0.20	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Silver	mg/L	0.0003	0.0005	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Water Testing						
Chloride as Cl *	mg/L	0.5	1	614	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500-C (D)	Rayong
Conductivity at 25 Degree C *	micromhos/cm	-	0.5	2826	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 2510 B	Rayong
Dissolved Oxygen *	mg/L	-	0.1	4.3	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500-C (C)	Rayong
Flow rate *	m3/s	-	-	No Report	Flow meter	Rayong
Fluoride as F *	mg/L	0.06	0.2	1.2	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500-F (D)	Rayong

**Sampling By :** Ekkaichai Tunlong, Samart Khumphlee

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

Approved by

*Sawitree N.*  
Sawitree Naisiangiam  
Manager

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

**P/O :**  
**Project Name :** โครงการสวนอุตสาหกรรมโรจนะ ชลบุรี (โรงงานปูน)  
**Project Location :** WWTP

**Lot ID: 24133718**  
Date Received : Nov 28, 2024  
Date Reported : Dec 06, 2024  
Report Number : 3186099-1

Page 1 of 2

<b>Sample Number</b>	24133718-2						
<b>Sampled Date</b>	Nov 28, 2024 10:15 AM						
<b>Sample Description</b>	Wastewater						
<b>Location</b>	Effluent WWTP#2						
<b>Date Analysis Commenced</b>	Nov 28, 2024						
<b>Condition of Sample</b>	Contained in two BOD bottles, one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤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	269	≤120	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 5220 D	Rayong
Cyanide as CN	mg/L	0.001	0.005	<0.005	≤0.2	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500-CN (C, E)	Rayong
Formaldehyde	mg/L	0.03	0.1	0.1	≤1.0	Wastewater analysis manual, Environmental Engineering Association of Thailand, 4th ed., 2004	Rayong
pH at 25 degree C	-	-	-	8.7	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Phenol	mg/L	0.005	0.01	Not Detected	≤1.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 5530 D	Rayong
Residual Free Chlorine *	mg/L	-	0.1	0.1	≤1.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500-C (F)	Rayong
Sulfide *	mg/L	-	0.5	<0.5	≤1.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500-S2 (C, F)	Rayong

Technical Management

*Photchana S.*  
Photchana Seeda  
Scientist (4)  
เบอร์โทรแจ้ง 323-4-0028

Approved by

*Dej Changchon*  
Dej Changchon  
Senior Manager  
เบอร์โทรแจ้ง 323-4-0001

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

**P/O :**  
**Project Name :** โครงการสวนอุตสาหกรรมโรจนะ ชลบุรี (โรงงานปูน)  
**Project Location :** WWTP

**Lot ID: 24133718**  
Date Received : Nov 28, 2024  
Date Reported : Dec 06, 2024  
Report Number : 3186099-1

Page 2 of 2

<b>Sample Number</b>	24133718-2						
<b>Sampled Date</b>	Nov 28, 2024 10:15 AM						
<b>Sample Description</b>	Wastewater						
<b>Location</b>	Effluent WWTP#2						
<b>Date Analysis Commenced</b>	Nov 28, 2024						
<b>Condition of Sample</b>	Contained in two BOD bottles, one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
Temperature *	Degree C	-	-	29.0	≤40	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	1840	≤3000	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	1.1	≤100	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500-Nitrog (C), part NfH (D)	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	6	≤50	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

**Guideline :** Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).  
**Sampling By :** Ekkaichai Tunlong เบอร์โทรแจ้ง 323-4-0022, Samart Khumphlee เบอร์โทรแจ้ง 323-4-0084

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

Approved by

*Dej Changchon*  
Dej Changchon  
Senior Manager  
เบอร์โทรแจ้ง 323-4-0001

Technical Management

*Photchana S.*  
Photchana Seeda  
Scientist (4)  
เบอร์โทรแจ้ง 323-4-0028

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## Analysis / Test Report



TESTING  
No.0009

**Client :** Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

**P/O :**  
**Project Name :** โครงการสวนอุตสาหกรรมโรจนะ ชลบุรี (โรงงานปูน)  
**Project Location :** WWTP

**Lot ID: 24133718**  
Date Received : Nov 28, 2024  
Date Reported : Dec 06, 2024  
Report Number : 3186099-2

Page 1 of 2

<b>Sample Number</b>	24133718-2						
<b>Sampled Date</b>	Nov 28, 2024 10:15 AM						
<b>Sample Description</b>	Wastewater						
<b>Location</b>	Effluent WWTP#2						
<b>Date Analysis Commenced</b>	Nov 29, 2024						
<b>Condition of Sample</b>	Contained in two BOD bottles, one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Arsenic	mg/L	0.0003	0.0005	0.007	≤0.25	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.003	≤2.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.25	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3500-Cr B	Bangkok
Lead	mg/L	0.0003	0.0005	0.001	≤0.2	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Manganese	mg/L	0.0003	0.0005	0.005	≤5.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.11	≤1.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok

Technical Management

*Sawitree N.*  
Sawitree Naisiangiam  
Manager  
เบอร์โทรแจ้ง 323-4-0007

Approved by

*Kanokorn Anek*  
Kanokorn Anek  
Assistant General Manager  
เบอร์โทรแจ้ง 323-4-0004

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## Analysis / Test Report

TESTING  
No.0009

**Client :** Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkok, Huaykwang, Bangkok  
Thailand 10310

**Lot ID: 24133718**  
Date Received : Nov 28, 2024  
Date Reported : Dec 06, 2024  
Report Number : 3186099-2

**P/O :**  
**Project Name :** โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงงานปอเงิน)  
**Project Location :** WWTP

Page 2 of 2

**Sample Number** 24133718-2  
**Sampled Date** Nov 28, 2024 10:15 AM  
**Sample Description** Wastewater  
**Location** Effluent WWTP#2  
**Date Analysis Commenced** Nov 29, 2024  
**Condition of Sample** Contained in two BOD bottles, one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Zinc	mg/L	0.003	0.005	0.05	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<b>Water Testing</b>							
Oil & Grease *	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 D	Bangkok

**Guideline :** Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).  
**Sampling By :** Ekkachai Tuntong หน่วยงานที่ 3-323-4-0022, Samart Khumplhee หน่วยงานที่ 3-204-4-0084

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

*Savitree N.*

Savitree Nosingiam  
Manager  
หน่วยงานที่ 3-204-4-0007

Approved by

*Kanokorn Anek*

Kanokorn Anek  
Assistant General Manager  
หน่วยงานที่ 3-204-4-0004

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## Analysis / Test Report

TESTING  
No.0009

**Client :** Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkok, Huaykwang, Bangkok  
Thailand 10310

**Lot ID: 24133718**  
Date Received : Nov 28, 2024  
Date Reported : Dec 06, 2024  
Report Number : 3186099-3

**P/O :**  
**Project Name :** โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงงานปอเงิน)  
**Project Location :** WWTP

Page 1 of 2

**Sample Number** 24133718-2  
**Sampled Date** Nov 28, 2024 10:15 AM  
**Sample Description** Wastewater  
**Location** Effluent WWTP#2  
**Date Analysis Commenced** Nov 28, 2024  
**Condition of Sample** Contained in two BOD bottles, one amber glass bottle, two glass vials and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Aluminum	mg/L	0.003	0.005	0.13	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Iron	mg/L	0.003	0.005	0.10	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<b>Water Testing</b>							
Chloride as Cl *	mg/L	0.5	1	655	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-C (D)	Rayong
Conductivity at 25 Degree C *	micromhos/cm	-	0.5	3065	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2510 B	Rayong
Dissolved Oxygen *	mg/L	-	0.1	8.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-O (C)	Rayong
Flow rate *	m <sup>3</sup> /s	-	-	No Report	No Standard	Flow meter	Rayong
Fluoride as F *	mg/L	0.06	0.2	1.6	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-F (D)	Rayong

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

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

Approved by

*Savitree N.*

Savitree Nosingiam  
Manager

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## Analysis / Test Report

TESTING  
No.0009

**Client :** Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkok, Huaykwang, Bangkok  
Thailand 10310

**Lot ID: 24133718**  
Date Received : Nov 28, 2024  
Date Reported : Dec 06, 2024  
Report Number : 3186099-3

**P/O :**  
**Project Name :** โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงงานปอเงิน)  
**Project Location :** WWTP

Page 2 of 2

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

Approved by

*Savitree N.*

Savitree Nosingiam  
Manager

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## Analysis / Test Report

TESTING  
No.0042

**Client :** Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkok, Huaykwang, Bangkok  
Thailand 10310

**Lot ID: 24135476**  
Date Received : Dec 20, 2024  
Date Reported : Dec 27, 2024  
Report Number : 3204547-1

**P/O :**  
**Project Name :** โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงงานปอเงิน)  
**Project Location :** WWTP

Page 1 of 2

**Sample Number** 24135476-1  
**Sampled Date** Dec 20, 2024 9:10 AM  
**Sample Description** Wastewater  
**Location** Influent WWTP#2  
**Date Analysis Commenced** Dec 20, 2024  
**Condition of Sample** Contained in two glass vials, one amber glass bottle, two BOD bottles and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
<b>Water Testing</b>						
BOD (5 days at 20 Degree C)	mg/L	-	2.0	2.7	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	49	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5220 D	Rayong
Cyanide as CN	mg/L	0.001	0.005	<0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-CN (C, E)	Rayong
Formaldehyde	mg/L	0.03	0.1	<0.1	Wastewater analysis manual, Environmental Engineering Association of Thailand, 4th ed., 2004	Rayong
pH at 25 degree C	-	-	-	8.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (R)	Rayong
Phenol	mg/L	0.005	0.01	<0.010	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5530 B, D	Rayong
Residual Free Chlorine *	mg/L	-	0.1	<0.1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Cl (F)	Rayong
Sulfide *	mg/L	-	0.5	0.6	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-S2 (C, F)	Rayong
Temperature *	Degree C	-	-	24.8	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	520	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Kjeldahl Nitrogen as N	mg/L	-	1.0	2.5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Norg (C), part 4500 (D)	Rayong

Technical Management

*Photchanas S.*

Photchanas Senda  
Scientist (4)  
หน่วยงานที่ 3-323-4-0028

Approved by

*Dei Changchon*

Dei Changchon  
Senior Manager  
หน่วยงานที่ 3-323-4-0001

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## Analysis / Test Report



TESTING  
No.0042

Client : Rojana Industrial Management Co., Ltd.

2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

P/O :

Project Name : โครงการสวนอุตสาหกรรมโรจนะ ขยะ (โรงขยะ)

Project Location : WWTP

Lot ID: 24135476

Date Received : Dec 20, 2024

Date Reported : Dec 27, 2024

Report Number : 3204574-1

Page 2 of 2

Sample Number	24135476-1
Sampled Date	Dec 20, 2024 9:10 AM
Sample Description	Wastewater
Location	Influent WWTP#2
Date Analysis Commenced	Dec 20, 2024
Condition of Sample	Contained in two glass vials, one amber glass bottle, two BOD bottles and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOQ)	Result	Method	Testing Location
<b>Water Testing</b>						
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Sampling By : Ekkachai Tuntong ระเบียบเลขที่ >323-ก-0022 , Pattarapol Sawangjaitam ระเบียบเลขที่ >204-ก-0002

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

Technical Management

*Photchana S.*

Photchana Seeda  
Scientist (4)  
ระเบียบเลขที่ >323-ก-0028

Approved by

*Dej Changchon*

Dej Changchon  
Senior Manager  
ระเบียบเลขที่ >323-ก-0001

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## Analysis / Test Report



TESTING  
No.0009

Client : Rojana Industrial Management Co., Ltd.

2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

P/O :

Project Name : โครงการสวนอุตสาหกรรมโรจนะ ขยะ (โรงขยะ)

Project Location : WWTP

Lot ID: 24135476

Date Received : Dec 20, 2024

Date Reported : Dec 27, 2024

Report Number : 3204574-2

Page 1 of 2

Sample Number	24135476-1
Sampled Date	Dec 20, 2024 9:10 AM
Sample Description	Wastewater
Location	Influent WWTP#2
Date Analysis Commenced	Dec 23, 2024
Condition of Sample	Contained in two glass vials, one amber glass bottle, two BOD bottles and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOQ)	Result	Method	Testing Location
<b>Metals Testing</b>						
Arsenic	mg/L	0.0003	0.0005	0.009	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.003	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3500-C1 B	Bangkok
Lead	mg/L	0.0003	0.0005	0.0006	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Manganese	mg/L	0.0003	0.0005	0.04	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	<0.0005	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.01	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Zinc	mg/L	0.003	0.005	0.04	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<b>Water Testing</b>						
Oil & Grease *	mg/L	-	3	<3	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 5520 D	Bangkok

Sampling By : Ekkachai Tuntong ระเบียบเลขที่ >323-ก-0022 , Pattarapol Sawangjaitam ระเบียบเลขที่ >204-ก-0002

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

Technical Management

*Savitree N.*

Savitree Naisangiam  
Manager  
ระเบียบเลขที่ >204-ก-0007

Approved by

*Kanokorn Anek*

Kanokorn Anek  
Assistant General Manager  
ระเบียบเลขที่ >204-ก-0004

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## Analysis / Test Report



TESTING  
No.0009

Client : Rojana Industrial Management Co., Ltd.

2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

P/O :

Project Name : โครงการสวนอุตสาหกรรมโรจนะ ขยะ (โรงขยะ)

Project Location : WWTP

Lot ID: 24135476

Date Received : Dec 20, 2024

Date Reported : Dec 27, 2024

Report Number : 3204574-2

Page 2 of 2

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

*Savitree N.*

Savitree Naisangiam  
Manager  
ระเบียบเลขที่ >204-ก-0007

Approved by

*Kanokorn Anek*

Kanokorn Anek  
Assistant General Manager  
ระเบียบเลขที่ >204-ก-0004

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## Analysis / Test Report



TESTING  
No.0009

Client : Rojana Industrial Management Co., Ltd.

2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkapi, Huaykwang, Bangkok  
Thailand 10310

P/O :

Project Name : โครงการสวนอุตสาหกรรมโรจนะ ขยะ (โรงขยะ)

Project Location : WWTP

Lot ID: 24135476

Date Received : Dec 20, 2024

Date Reported : Dec 27, 2024

Report Number : 3204574-3

Page 1 of 1

Sample Number	24135476-1
Sampled Date	Dec 20, 2024 9:10 AM
Sample Description	Wastewater
Location	Influent WWTP#2
Date Analysis Commenced	Dec 20, 2024
Condition of Sample	Contained in two glass vials, one amber glass bottle, two BOD bottles and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOQ)	Result	Method	Testing Location
<b>Metals Testing</b>						
Aluminum	mg/L	0.003	0.005	0.06	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Iron	mg/L	0.003	0.005	0.05	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Silver	mg/L	0.0003	0.0005	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<b>Water Testing</b>						
Chloride as Cl *	mg/L	0.5	1	145	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500-Cl (D)	Rayong
Conductivity at 25 Degree C *	micromhos/cm	-	0.5	1031	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 2510 B	Rayong
Dissolved Oxygen *	mg/L	-	0.1	2.8	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500-O (C)	Rayong
Flow rate *	m3/s	-	-	No Report	Flow meter	Rayong
Fluoride as F *	mg/L	0.06	0.2	2.6	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 4500-F (D)	Rayong

Sampling By : Ekkachai Tuntong , Pattarapol Sawangjaitam

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

Approved by

*Savitree N.*

Savitree Naisangiam  
Manager

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## Analysis / Test Report

TESTING  
No.0042

Lot ID: 24135476  
Date Received : Dec 20, 2024  
Date Reported : Dec 27, 2024  
Report Number : 3204575-1

Client : Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkok, Huaykwang, Bangkok  
Thailand 10310

P/O :  
Project Name : โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงงานปูน)  
Project Location : WWTP

Sample Number 24135476-2  
Sampled Date Dec 20, 2024 9:15 AM  
Sample Description Wastewater  
Location Effluent WWTP#2  
Date Analysis Commenced Dec 20, 2024  
Condition of Sample Contained in two glass vials, one amber glass bottle, two BOD bottles and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Page 1 of 2

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
BOD (5 days at 20 Degree C)	mg/L	-	2.0	2.1	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O G	Rayong
COD	mg/L	1.5	25	317	≤120	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5220 D	Rayong
Cyanide as CN	mg/L	0.001	0.005	<0.005	≤0.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-CN (C, E)	Rayong
Formaldehyde	mg/L	0.03	0.1	<0.1	≤1.0	Wastewater analysis manual, Environmental Engineering Association of Thailand, 4th ed., 2004	Rayong
pH at 25 degree C	-	-	-	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
Phenol	mg/L	0.005	0.01	Not Detected	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5530 B, D	Rayong
Residual Free Chlorine *	mg/L	-	0.1	<0.1	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-C (F)	Rayong
Sulfide *	mg/L	-	0.5	<0.5	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-S2 (C, F)	Rayong

Technical Management

Photchana S.

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

Approved by

Dej Changchon

Dej Changchon  
Senior Manager  
โทรเลขแจ้ง ร-323-4-0001

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. ALS Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

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## Analysis / Test Report

TESTING  
No.0042

Lot ID: 24135476  
Date Received : Dec 20, 2024  
Date Reported : Dec 27, 2024  
Report Number : 3204575-1

Client : Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkok, Huaykwang, Bangkok  
Thailand 10310

P/O :  
Project Name : โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงงานปูน)  
Project Location : WWTP

Sample Number 24135476-2  
Sampled Date Dec 20, 2024 9:15 AM  
Sample Description Wastewater  
Location Effluent WWTP#2  
Date Analysis Commenced Dec 20, 2024  
Condition of Sample Contained in two glass vials, one amber glass bottle, two BOD bottles and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Page 2 of 2

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
Temperature *	Degree C	-	-	22.8	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	1720	≤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	11.4	≤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	12	≤50	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 D	Rayong

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).  
Sampling By : Ekikachai Tuntong โทรเลขแจ้ง ร-323-4-0023, Pattarapol Sawangjaitam โทรเลขแจ้ง ร-204-4-0002

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

Technical Management

Photchana S.

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

Approved by

Dej Changchon

Dej Changchon  
Senior Manager  
โทรเลขแจ้ง ร-323-4-0001

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## Analysis / Test Report

TESTING  
No.0009

Lot ID: 24135476  
Date Received : Dec 20, 2024  
Date Reported : Dec 27, 2024  
Report Number : 3204575-2

Client : Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkok, Huaykwang, Bangkok  
Thailand 10310

P/O :  
Project Name : โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงงานปูน)  
Project Location : WWTP

Sample Number 24135476-2  
Sampled Date Dec 20, 2024 9:15 AM  
Sample Description Wastewater  
Location Effluent WWTP#2  
Date Analysis Commenced Dec 23, 2024  
Condition of Sample Contained in two glass vials, one amber glass bottle, two BOD bottles and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Page 1 of 2

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Arsenic	mg/L	0.0003	0.0005	0.005	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.010	≤2.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.25	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3500-Cr B	Bangkok
Lead	mg/L	0.0003	0.0005	Not Detected	≤0.2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Manganese	mg/L	0.0003	0.0005	0.005	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	<0.0005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.09	≤1.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok

Technical Management

Sawitree N.

Sawitree Noisangam  
Manager  
โทรเลขแจ้ง ร-204-4-0007

Approved by

Kanokorn Anek

Kanokorn Anek  
Assistant General Manager  
โทรเลขแจ้ง ร-204-4-0004

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## Analysis / Test Report

TESTING  
No.0009

Lot ID: 24135476  
Date Received : Dec 20, 2024  
Date Reported : Dec 27, 2024  
Report Number : 3204575-2

Client : Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkok, Huaykwang, Bangkok  
Thailand 10310

P/O :  
Project Name : โครงการพัฒนาศักยภาพโรงงาน ชลบุรี (โรงงานปูน)  
Project Location : WWTP

Sample Number 24135476-2  
Sampled Date Dec 20, 2024 9:15 AM  
Sample Description Wastewater  
Location Effluent WWTP#2  
Date Analysis Commenced Dec 23, 2024  
Condition of Sample Contained in two glass vials, one amber glass bottle, two BOD bottles and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Page 2 of 2

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Zinc	mg/L	0.003	0.005	0.03	≤5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<b>Water Testing</b>							
Oil & Grease *	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5520 D	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).  
Sampling By : Ekikachai Tuntong โทรเลขแจ้ง ร-323-4-0022, Pattarapol Sawangjaitam โทรเลขแจ้ง ร-204-4-0002

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

Technical Management

Sawitree N.

Sawitree Noisangam  
Manager  
โทรเลขแจ้ง ร-204-4-0007

Approved by

Kanokorn Anek

Kanokorn Anek  
Assistant General Manager  
โทรเลขแจ้ง ร-204-4-0004

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## Analysis / Test Report

TESTING  
No.0009

**Client :** Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkok, Huaykwang, Bangkok  
Thailand 10310

**Lot ID: 24135476**  
Date Received : Dec 20, 2024  
Date Reported : Dec 27, 2024  
Report Number : 3204575-3

**P/O :**  
**Project Name :** โครงการควบคุมคุณภาพการปนเปื้อนของน้ำ (โรงงานปูน)  
**Project Location :** WWTP

Page 1 of 2

**Sample Number** 24135476-2  
**Sampled Date** Dec 20, 2024 9:15 AM  
**Sample Description** Wastewater  
**Location** Effluent WWTP#2  
**Date Analysis Commenced** Dec 20, 2024  
**Condition of Sample** Contained in two glass vials, one amber glass bottle, two BOD bottles and eight plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Aluminium	mg/L	0.003	0.005	0.43	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Iron	mg/L	0.003	0.005	0.03	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<b>Water Testing</b>							
Chloride as Cl *	mg/L	0.5	1	662	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Cl (D)	Rayong
Conductivity at 25 Degree C *	micromhos/cm	-	0.5	2968	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2510 B	Rayong
Dissolved Oxygen *	mg/L	-	0.1	4.8	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-O (C)	Rayong
Flow rate *	m <sup>3</sup> /s	-	-	No Report	No Standard	Flow meter	Rayong
Fluoride as F *	mg/L	0.06	0.2	3.3	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-F (D)	Rayong

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

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Approved by

*Sawitree N.*  
Sawitree Noisangiam  
Manager

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## Analysis / Test Report

TESTING  
No.0009

**Client :** Rojana Industrial Management Co., Ltd.  
2034/115 26TH Fl. Italthai Tower, New Petchburi Road, Bangkok, Huaykwang, Bangkok  
Thailand 10310

**Lot ID: 24135476**  
Date Received : Dec 20, 2024  
Date Reported : Dec 27, 2024  
Report Number : 3204575-3

**P/O :**  
**Project Name :** โครงการควบคุมคุณภาพการปนเปื้อนของน้ำ (โรงงานปูน)  
**Project Location :** WWTP

Page 2 of 2

**Sampling By :** Ekkachai Tuntong , Pattarapol Sawangjaitam

Remark :

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

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Approved by

*Sawitree N.*  
Sawitree Noisangiam  
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ผลการตรวจวิเคราะห์คุณภาพน้ำผิวดิน



## Analysis / Test Report



TESTING  
No.0000

Lot ID: 2467652

Date Received : Jul 12, 2024

Date Reported : Jul 20, 2024

Report Number : 3024535-1

Client : Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
P/O : RJN-BW009/66  
Project Name : Chonburi Bowin  
Project Location :

Sample Number : 2467652-1  
Sampled Date : Jul 12, 2024 10:00 AM  
Sample Description : Surface Water  
Location : SW1 : พฤษภาคม ใส่น้ำไหลวนพื้นใต้อาคาร  
Date Analysis Commenced : Jul 12, 2024  
Condition of Sample : Contained in two 800 bottles, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
Aluminium	mg/L	0.003	0.005	0.20	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Arsenic	mg/L	0.0003	0.0005	0.01	≤0.01	≤0.01	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.004	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
Iron	mg/L	0.003	0.005	0.74	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Lead	mg/L	0.0003	0.0005	0.001	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury	mg/L	0.0001	0.0005	<0.0005	≤0.002	≤0.002	In-house method : STM 05-007 based on United States Environmental Protection Agency, 2002, EPA Method 1631, Revision E	Bangkok

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Approved by

Sithichok T.  
Sithichok Thongnuen  
Scientist (3)

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## Analysis / Test Report



TESTING  
No.0000

Lot ID: 2467652

Date Received : Jul 12, 2024

Date Reported : Jul 20, 2024

Report Number : 3024535-1

Client : Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
P/O : RJN-BW009/66  
Project Name : Chonburi Bowin  
Project Location :

Sample Number : 2467652-1  
Sampled Date : Jul 12, 2024 10:00 AM  
Sample Description : Surface Water  
Location : SW1 : พฤษภาคม ใส่น้ำไหลวนพื้นใต้อาคาร  
Date Analysis Commenced : Jul 12, 2024  
Condition of Sample : Contained in two 800 bottles, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
Nickel	mg/L	0.0003	0.0005	0.004	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	<0.01	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Zinc	mg/L	0.003	0.005	0.01	≤1	≤1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Microbiological Testing</b>								
Fecal Coliform	MPN/100mL	-	-	49000.0	≤4000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B, E	Bangkok
Total Coliform	MPN/100mL	-	-	79000.0	≤20000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
<b>Water Testing</b>								
Ammonia Nitrogen *	mg/L	0.02	0.05	0.52	≤0.5	≤0.5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH <sub>3</sub> (F)	Rayong
BOD (5 days at 20 Degree C)	mg/L	-	2.0	3.3	≤2	≤4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong

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Approved by

Sithichok T.  
Sithichok Thongnuen  
Scientist (3)

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5/Reports\_AI\_20L\_rpt (11-4986)



## Analysis / Test Report



TESTING  
No.0000

Lot ID: 2467652

Date Received : Jul 12, 2024

Date Reported : Jul 20, 2024

Report Number : 3024535-1

Client : Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
P/O : RJN-BW009/66  
Project Name : Chonburi Bowin  
Project Location :

Sample Number : 2467652-1  
Sampled Date : Jul 12, 2024 10:00 AM  
Sample Description : Surface Water  
Location : SW1 : พฤษภาคม ใส่น้ำไหลวนพื้นใต้อาคาร  
Date Analysis Commenced : Jul 12, 2024  
Condition of Sample : Contained in two BOD bottles, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>								
Cyanide as CN *	mg/L	0.001	0.005	<0.005	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-CN (C, E)	Rayong
Dissolved Oxygen *	mg/L	-	0.1	4.7	≥4	≥2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong
Flow rate *	m <sup>3</sup> /s	-	-	0.481	No Standard	No Standard	Flow meter	Rayong
Nitrate as N *	mg/L	0.015	0.05	6.46	≤5	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO <sub>3</sub> (E)	Rayong
pH at 25 Degree C *	-	-	-	8.0	5.0-9.0	5.0-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Phenol *	mg/L	0.0005	0.001	0.001	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5530 D	Rayong
Temperature *	Degree C	-	-	29.3	(c)	(c)	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong

Guideline : Water Supply Quality Standards Amata City Industrial Estate

Guideline : (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)  
(2) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)

(a) Not Change from natural condition  
(b) Non Objectionable  
(c) Change from Natural condition not more than 3 degree C

Sampling By : Ekkachai Tunlong

Remark :  
- LOD : Limit of Detection

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

Approved by

Sithichok T.  
Sithichok Thongnuen  
Scientist (3)

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## Analysis / Test Report



TESTING  
No.0000

Lot ID: 2467652

Date Received : Jul 12, 2024

Date Reported : Jul 20, 2024

Report Number : 3024535-1

Client : Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
P/O : RJN-BW009/66  
Project Name : Chonburi Bowin  
Project Location :

\* "<" : 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.

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Sithichok Thongnuen  
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## Analysis / Test Report



TESTING  
No.0000

Lot ID: 2467652

Date Received : Jul 12, 2024

Date Reported : Jul 20, 2024

Report Number : 3024535-1

Client : Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
P/O : RJN-BW009/66  
Project Name : Chonburi Bowin  
Project Location :

Sample Number 2467652-2  
Sampled Date Jul 12, 2024 10:10 AM  
Sample Description Surface Water  
Location SW2 : แหล่งสาธารณะ คลองโหม่งพื้นที่โครงการ  
Date Analysis Commenced Jul 12, 2024  
Condition of Sample Contained in two 800 bottles, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
Aluminium	mg/L	0.003	0.005	0.18	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Arsenic	mg/L	0.0003	0.0005	0.010	≤0.01	≤0.01	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.06	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
Iron	mg/L	0.003	0.005	0.91	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Lead	mg/L	0.0003	0.0005	0.002	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury	mg/L	0.0001	0.0005	<0.0005	≤0.002	≤0.002	In-house method : STM 05-007 based on United States Environmental Protection Agency, 2002, EPA Method 1631, Revision E	Bangkok

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Approved by

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5 | Reports\_Alt\_30L\_rpt (11-4986)



## Analysis / Test Report



TESTING  
No.0000

Lot ID: 2467652

Date Received : Jul 12, 2024

Date Reported : Jul 20, 2024

Report Number : 3024535-1

Client : Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
P/O : RJN-BW009/66  
Project Name : Chonburi Bowin  
Project Location :

Sample Number 2467652-2  
Sampled Date Jul 12, 2024 10:10 AM  
Sample Description Surface Water  
Location SW2 : แหล่งสาธารณะ คลองโหม่งพื้นที่โครงการ  
Date Analysis Commenced Jul 12, 2024  
Condition of Sample Contained in two 800 bottles, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
Nickel	mg/L	0.0003	0.0005	0.03	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	<0.01	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Zinc	mg/L	0.003	0.005	0.19	≤1	≤1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Microbiological Testing</b>								
Fecal Coliform	MPN/100mL	-	-	24000.0	≤4000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B, E	Bangkok
Total Coliform	MPN/100mL	-	-	49000.0	≤20000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
<b>Water Testing</b>								
Ammonia Nitrogen *	mg/L	0.02	0.05	4.74	≤0.5	≤0.5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH <sub>3</sub> (F)	Rayong
BOD (5 days at 20 Degree C)	mg/L	-	2.0	2.6	≤2	≤4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong

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## Analysis / Test Report



TESTING  
No.0000

Lot ID: 2467652

Date Received : Jul 12, 2024

Date Reported : Jul 20, 2024

Report Number : 3024535-1

Client : Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
P/O : RJN-BW009/66  
Project Name : Chonburi Bowin  
Project Location :

Sample Number : 2467652-3  
Sampled Date : Jul 12, 2024 9:40 AM  
Sample Description : Surface Water  
Location : แหล่งน้ำแข็ง ควบ/ควบน้ำบนพื้นที่โครงการ  
Date Analysis Commenced : Jul 12, 2024  
Condition of Sample : Contained in two 800 bottles, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Page 9 of 20

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
Aluminium	mg/L	0.003	0.005	0.53	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Arsenic	mg/L	0.0003	0.0005	0.007	≤0.01	≤0.01	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.03	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	0.03	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
Iron	mg/L	0.003	0.005	2.30	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Lead	mg/L	0.0003	0.0005	0.002	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury	mg/L	0.0001	0.0005	<0.0005	≤0.002	≤0.002	In-house method : STM 05-007 based on United States Environmental Protection Agency, 2002, EPA Method 1631, Revision E	Bangkok

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## Analysis / Test Report



TESTING  
No.0000

Lot ID: 2467652

Date Received : Jul 12, 2024

Date Reported : Jul 20, 2024

Report Number : 3024535-1

Client : Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
P/O : RJN-BW009/66  
Project Name : Chonburi Bowin  
Project Location :

Sample Number : 2467652-3  
Sampled Date : Jul 12, 2024 9:40 AM  
Sample Description : Surface Water  
Location : แหล่งน้ำแข็ง ควบ/ควบน้ำบนพื้นที่โครงการ  
Date Analysis Commenced : Jul 12, 2024  
Condition of Sample : Contained in two 800 bottles, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Page 10 of 20

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
Nickel	mg/L	0.0003	0.0005	0.13	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	0.07	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Zinc	mg/L	0.003	0.005	0.01	≤1	≤1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Microbiological Testing</b>								
Fecal Coliform	MPN/100mL	-	-	7900.0	≤4000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B, E	Bangkok
Total Coliform	MPN/100mL	-	-	17000.0	≤20000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
<b>Water Testing</b>								
Ammonia Nitrogen *	mg/L	0.02	0.05	0.34	≤0.5	≤0.5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH <sub>3</sub> (F)	Rayong
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤2	≤4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong

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## Analysis / Test Report



TESTING  
No.0000

Lot ID: 2467652

Date Received : Jul 12, 2024

Date Reported : Jul 20, 2024

Report Number : 3024535-1

Page 13 of 20

Client : Rojana Industrial Park Public Co., Ltd.

168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230

P/O : RJN-BW009/66

Project Name : Chonburi Bowin

Project Location :

Sample Number 2467652-4

Sampled Date Jul 12, 2024 9:25 AM

Sample Description Surface Water

Location SW4 : แหล่งน้ำเลี้ยง ภาชนะบรรจุภัณฑ์ของโครงการ

Date Analysis Commenced Jul 12, 2024

Condition of Sample Contained in two BOD bottles, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
Aluminium	mg/L	0.003	0.005	1.01	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Arsenic	mg/L	0.0003	0.0005	0.01	≤0.01	≤0.01	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.03	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	0.02	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
Iron	mg/L	0.003	0.005	2.85	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Lead	mg/L	0.0003	0.0005	0.005	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury	mg/L	0.0001	0.0005	<0.0005	≤0.002	≤0.002	In-house method : STM 05-007 based on United States Environmental Protection Agency, 2002, EPA Method 1631, Revision E	Bangkok

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## Analysis / Test Report



TESTING  
No.0000

Lot ID: 2467652

Date Received : Jul 12, 2024

Date Reported : Jul 20, 2024

Report Number : 3024535-1

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Client : Rojana Industrial Park Public Co., Ltd.

168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230

P/O : RJN-BW009/66

Project Name : Chonburi Bowin

Project Location :

Sample Number 2467652-4

Sampled Date Jul 12, 2024 9:25 AM

Sample Description Surface Water

Location SW4 : แหล่งน้ำเลี้ยง ภาชนะบรรจุภัณฑ์ของโครงการ

Date Analysis Commenced Jul 12, 2024

Condition of Sample Contained in two BOD bottles, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
Nickel	mg/L	0.0003	0.0005	0.08	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	0.06	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Zinc	mg/L	0.003	0.005	0.04	≤1	≤1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Microbiological Testing</b>								
Fecal Coliform	MPN/100mL	-	-	79000.0	≤4000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B, E	Bangkok
Total Coliform	MPN/100mL	-	-	130000.0	≤20000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
<b>Water Testing</b>								
Ammonia Nitrogen *	mg/L	0.02	0.05	0.36	≤0.5	≤0.5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH <sub>3</sub> (F)	Rayong
BOD (5 days at 20 Degree C)	mg/L	-	2.0	2.4	≤2	≤4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong

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## Analysis / Test Report



TESTING  
No.0000

Lot ID: 2467652

Date Received : Jul 12, 2024

Date Reported : Jul 20, 2024

Report Number : 3024535-1

Page 15 of 20

Client : Rojana Industrial Park Public Co., Ltd.

168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230

P/O : RJN-BW009/66

Project Name : Chonburi Bowin

Project Location :

Sample Number 2467652-4

Sampled Date Jul 12, 2024 9:25 AM

Sample Description Surface Water

Location SW4 : แหล่งน้ำเลี้ยง ภาชนะบรรจุภัณฑ์ของโครงการ

Date Analysis Commenced Jul 12, 2024

Condition of Sample Contained in two BOD bottles, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>								
Cyanide as CN *	mg/L	0.001	0.005	<0.005	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-CN (C, E)	Rayong
Dissolved Oxygen *	mg/L	-	0.1	6.1	≥4	≥2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong
Flow rate *	m <sup>3</sup> /s	-	-	2.137	No Standard	No Standard	Flow meter	Rayong
Nitrate as N *	mg/L	0.015	0.05	3.08	≤5	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO <sub>3</sub> (E)	Rayong
pH at 25 Degree C *	-	-	-	7.7	5.0-9.0	5.0-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Phenol *	mg/L	0.0005	0.001	0.004	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5530 D	Rayong
Temperature *	Degree C	-	-	29.0	(c)	(c)	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong

Guideline : Water Supply Quality Standards Amata City Industrial Estate

Guideline : (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)

(2) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)

(a) Not Change from natural condition

(b) Non Objectionable

(c) Change from Natural condition not more than 3 degree C

Sampling By : Ekkachai Tunlong

Remark :  
- LOD : Limit of Detection

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

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## Analysis / Test Report



TESTING  
No.0000

Lot ID: 2467652

Date Received : Jul 12, 2024

Date Reported : Jul 20, 2024

Report Number : 3024535-1

Page 16 of 20

Client : Rojana Industrial Park Public Co., Ltd.

168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230

P/O : RJN-BW009/66

Project Name : Chonburi Bowin

Project Location :

Sample Number 2467652-4

Sampled Date Jul 12, 2024 9:25 AM

Sample Description Surface Water

Location SW4 : แหล่งน้ำเลี้ยง ภาชนะบรรจุภัณฑ์ของโครงการ

Date Analysis Commenced Jul 12, 2024

Condition of Sample Contained in two BOD bottles, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

- "<" : 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.								

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## Analysis / Test Report



TESTING  
No.0000

Lot ID: 2467652

Date Received : Jul 12, 2024

Date Reported : Jul 20, 2024

Report Number : 3024535-1

Page 17 of 20

Client : Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
P/O : RJN-BW009/66  
Project Name : Chonburi Bowin  
Project Location :

Sample Number : 2467652-5  
Sampled Date : Jul 12, 2024 10:25 AM  
Sample Description : Surface Water  
Location : แหล่งน้ำแข็ง พลังงานพื้นที่โครงการ  
Date Analysis Commenced : Jul 12, 2024  
Condition of Sample : Contained in two 800 bottles, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
Aluminium	mg/L	0.003	0.005	0.51	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Arsenic	mg/L	0.0003	0.0005	0.009	≤0.01	≤0.01	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.02	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	0.02	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
Iron	mg/L	0.003	0.005	1.89	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Lead	mg/L	0.0003	0.0005	0.002	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	≤0.002	In-house method : STM 05-007 based on United States Environmental Protection Agency, 2002, EPA Method 1631, Revision E	Bangkok

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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5/Reports\_AI\_20L-upt (11-4986)



## Analysis / Test Report



TESTING  
No.0000

Lot ID: 2467652

Date Received : Jul 12, 2024

Date Reported : Jul 20, 2024

Report Number : 3024535-1

Page 18 of 20

Client : Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
P/O : RJN-BW009/66  
Project Name : Chonburi Bowin  
Project Location :

Sample Number : 2467652-5  
Sampled Date : Jul 12, 2024 10:25 AM  
Sample Description : Surface Water  
Location : แหล่งน้ำแข็ง พลังงานพื้นที่โครงการ  
Date Analysis Commenced : Jul 12, 2024  
Condition of Sample : Contained in two 800 bottles, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
Nickel	mg/L	0.0003	0.0005	0.07	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	0.04	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Zinc	mg/L	0.003	0.005	0.03	≤1	≤1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Microbiological Testing</b>								
Fecal Coliform	MPN/100mL	-	-	11000.0	≤4000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B, E	Bangkok
Total Coliform	MPN/100mL	-	-	49000.0	≤20000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
<b>Water Testing</b>								
Ammonia Nitrogen *	mg/L	0.02	0.05	0.31	≤0.5	≤0.5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH <sub>3</sub> (F)	Rayong
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤2	≤4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong

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5/Reports\_AI\_20L-upt (11-4986)



## Analysis / Test Report



TESTING  
No.0000

Lot ID: 2467652

Date Received : Jul 12, 2024

Date Reported : Jul 20, 2024

Report Number : 3024535-1

Page 19 of 20

Client : Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
P/O : RJN-BW009/66  
Project Name : Chonburi Bowin  
Project Location :

Sample Number : 2467652-5  
Sampled Date : Jul 12, 2024 10:25 AM  
Sample Description : Surface Water  
Location : แหล่งน้ำแข็ง พลังงานพื้นที่โครงการ  
Date Analysis Commenced : Jul 12, 2024  
Condition of Sample : Contained in two BOD bottles, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>								
Cyanide as CN *	mg/L	0.001	0.005	<0.005	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-CN (C, E)	Rayong
Dissolved Oxygen *	mg/L	-	0.1	5.8	≥4	≥2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong
Flow rate *	m <sup>3</sup> /s	-	-	1.274	No Standard	No Standard	Flow meter	Rayong
Nitrate as N *	mg/L	0.015	0.05	6.61	≤5	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO <sub>3</sub> (E)	Rayong
pH at 25 Degree C *	-	-	-	7.7	5.0-9.0	5.0-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Phenol *	mg/L	0.0005	0.001	0.001	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5530 D	Rayong
Temperature *	Degree C	-	-	30.5	(c)	(c)	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong

Guideline : Water Supply Quality Standards Amata City Industrial Estate

Guideline : (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)  
(2) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)

(a) Not Change from natural condition  
(b) Non Objectionable  
(c) Change from Natural condition not more than 3 degree C

Sampling By : Ekkachai Tunton

Remark :  
- LOD : Limit of Detection

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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5/Reports\_AI\_20L-upt (11-4986)



## Analysis / Test Report



TESTING  
No.0000

Lot ID: 2467652

Date Received : Jul 12, 2024

Date Reported : Jul 20, 2024

Report Number : 3024535-1

Page 20 of 20

Client : Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
P/O : RJN-BW009/66  
Project Name : Chonburi Bowin  
Project Location :

- "<" : 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.

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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5/Reports\_AI\_20L-upt (11-4986)



## Analysis / Test Report



TESTING  
No.0042

**Lot ID: 2486567**  
Date Received : Aug 14, 2024  
Date Reported : Aug 23, 2024  
Report Number : 3067965-1

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

Page 1 of 20

**Sample Number** 2486567-1  
**Sampled Date** Aug 14, 2024 10:54 AM  
**Sample Description** Surface Water  
**Location** SW1 : แหล่งน้ำดิบเพื่อผลิตน้ำประปา  
**Date Analysis Commenced** Aug 14, 2024  
**Condition of Sample** Contained in two glass vials, two BOD bottles and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
<sup>(A)</sup> Aluminum	mg/L	0.003	0.005	0.42	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Arsenic	mg/L	0.0003	0.0005	0.006	≤0.01	≤0.01	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Copper	mg/L	0.0003	0.0005	0.02	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Hexavalent Chromium	mg/L	0.003	0.01	<0.01	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
<sup>(A)</sup> Iron	mg/L	0.003	0.005	1.93	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Lead	mg/L	0.0003	0.0005	0.001	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	≤0.002	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

Page 2 of 20

**Sample Number** 2486567-1  
**Sampled Date** Aug 14, 2024 10:54 AM  
**Sample Description** Surface Water  
**Location** SW1 : แหล่งน้ำดิบเพื่อผลิตน้ำประปา  
**Date Analysis Commenced** Aug 14, 2024  
**Condition of Sample** Contained in two glass vials, two BOD bottles and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
<sup>(A)</sup> Nickel	mg/L	0.0003	0.0005	0.10	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	0.07	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Zinc	mg/L	0.003	0.005	0.01	≤1	≤1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Microbiological Testing</b>								
Fecal Coliform	MPN/100mL	-	-	33000.0	≤4000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B, E	Bangkok
<sup>(A)</sup> Total Coliform	MPN/100mL	-	-	49000.0	≤20000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
<b>Water Testing</b>								
Ammonia Nitrogen *	mg/L	0.02	0.05	0.41	≤0.5	≤0.5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH <sub>3</sub> (F)	Rayong
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤2	≤4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong

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## Analysis / Test Report



TESTING  
No.0042

**Lot ID: 2486567**  
Date Received : Aug 14, 2024  
Date Reported : Aug 23, 2024  
Report Number : 3067965-1

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

Page 3 of 20

**Sample Number** 2486567-1  
**Sampled Date** Aug 14, 2024 10:54 AM  
**Sample Description** Surface Water  
**Location** SW1 : แหล่งน้ำดิบเพื่อผลิตน้ำประปา  
**Date Analysis Commenced** Aug 14, 2024  
**Condition of Sample** Contained in two glass vials, two BOD bottles and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>								
Cyanide as CN	mg/L	0.001	0.005	<0.005	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-CN (C, E)	Rayong
Dissolved Oxygen *	mg/L	-	0.1	6.3	≥4	≥2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong
Flow rate *	m <sup>3</sup> /s	-	-	0.812	No Standard	No Standard	Flow meter	Rayong
Nitrate as N *	mg/L	0.015	0.05	2.08	≤5	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO <sub>3</sub> (E)	Rayong
pH at 25 degree C	-	-	-	7.6	5.0-9.0	5.0-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Phenol *	mg/L	0.0005	0.001	0.002	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5530 D	Rayong
Temperature *	Degree C	-	-	31.4	(c)	(c)	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong

**Guideline :** Water Supply Quality Standards Amata City Industrial Estate

**Guideline :** (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)  
(2) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)  
(a) Not Change from natural condition  
(b) Non Objectionable  
(c) Change from Natural condition not more than 3 degree C

**Sampling By :** Surawit Narapong , Kardbundi Kitsupavanit

Remark :  
- LOD : Limit of Detection

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

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

Page 4 of 20

- "<" : 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.

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2486567**  
Date Received : Aug 14, 2024  
Date Reported : Aug 23, 2024  
Report Number : 3067965-1

Page 5 of 20

**Sample Number** 2486567-2  
**Sampled Date** Aug 14, 2024 11:31 AM  
**Sample Description** Surface Water  
**Location** SW2 : แหล่งสาธารณะ คลองโพนแก้วพื้นที่โครงการ  
**Date Analysis Commenced** Aug 14, 2024  
**Condition of Sample** Contained in two glass vials, two BOD bottles and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
<sup>(A)</sup> Aluminum	mg/L	0.003	0.005	4.27	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Arsenic	mg/L	0.0003	0.0005	0.02	≤0.01	≤0.01	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Copper	mg/L	0.0003	0.0005	0.07	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
<sup>(A)</sup> Iron	mg/L	0.003	0.005	6.48	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Lead	mg/L	0.0003	0.0005	0.01	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	≤0.002	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2486567**  
Date Received : Aug 14, 2024  
Date Reported : Aug 23, 2024  
Report Number : 3067965-1

Page 6 of 20

**Sample Number** 2486567-2  
**Sampled Date** Aug 14, 2024 11:31 AM  
**Sample Description** Surface Water  
**Location** SW2 : แหล่งสาธารณะ คลองโพนแก้วพื้นที่โครงการ  
**Date Analysis Commenced** Aug 14, 2024  
**Condition of Sample** Contained in two glass vials, two BOD bottles and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
<sup>(A)</sup> Nickel	mg/L	0.0003	0.0005	0.02	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	<0.01	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Zinc	mg/L	0.003	0.005	0.12	≤1	≤1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Microbiological Testing</b>								
Fecal Coliform	MPN/100mL	-	-	130000.0	≤4000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B, E	Bangkok
<sup>(A)</sup> Total Coliform	MPN/100mL	-	-	330000.0	≤20000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
<b>Water Testing</b>								
Ammonia Nitrogen *	mg/L	0.02	0.05	3.05	≤0.5	≤0.5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH <sub>4</sub> (F)	Rayong
BOD (5 days at 20 Degree C)	mg/L	-	2.0	6.6	≤2	≤4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2486567**  
Date Received : Aug 14, 2024  
Date Reported : Aug 23, 2024  
Report Number : 3067965-1

Page 7 of 20

**Sample Number** 2486567-2  
**Sampled Date** Aug 14, 2024 11:31 AM  
**Sample Description** Surface Water  
**Location** SW2 : แหล่งสาธารณะ คลองโพนแก้วพื้นที่โครงการ  
**Date Analysis Commenced** Aug 14, 2024  
**Condition of Sample** Contained in two glass vials, two BOD bottles and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>								
Cyanide as CN	mg/L	0.001	0.005	<0.005	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-CN (C, E)	Rayong
Dissolved Oxygen *	mg/L	-	0.1	<0.1	≥4	≥2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong
Flow rate *	m <sup>3</sup> /s	-	-	1.016	No Standard	No Standard	Flow meter	Rayong
Nitrate as N *	mg/L	0.015	0.05	0.76	≤5	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO <sub>3</sub> (E)	Rayong
pH at 25 degree C	-	-	-	7.6	5.0-9.0	5.0-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Phenol *	mg/L	0.0005	0.001	0.002	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5530 D	Rayong
Temperature *	Degree C	-	-	31.4	(c)	(c)	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong

**Guideline :** Water Supply Quality Standards Amata City Industrial Estate

**Guideline :** (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)  
(2) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)  
(a) Not Change from natural condition  
(b) Non Objectionable  
(c) Change from Natural condition not more than 3 degree C

**Sampling By :** Surawit Narapong , Kardbundi Kitsupavanit

Remark :  
- LOD : Limit of Detection

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2486567**  
Date Received : Aug 14, 2024  
Date Reported : Aug 23, 2024  
Report Number : 3067965-1

Page 8 of 20

- "<" : 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.

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## Analysis / Test Report



TESTING  
No.0042

**Lot ID: 2486567**  
Date Received : Aug 14, 2024  
Date Reported : Aug 23, 2024  
Report Number : 3067965-1

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

Page 9 of 20

**Sample Number** 2486567-3  
**Sampled Date** Aug 14, 2024 11:14 AM  
**Sample Description** Surface Water  
**Location** SW3 : แหล่งน้ำดิบ ก่อนไหลเข้าพื้นที่โครงการ  
**Date Analysis Commenced** Aug 14, 2024  
**Condition of Sample** Contained in two glass vials, two BOD bottles and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
<sup>(A)</sup> Aluminum	mg/L	0.003	0.005	0.29	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Arsenic	mg/L	0.0003	0.0005	0.010	≤0.01	≤0.01	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Copper	mg/L	0.0003	0.0005	0.004	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
<sup>(A)</sup> Iron	mg/L	0.003	0.005	0.81	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Lead	mg/L	0.0003	0.0005	0.0008	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	≤0.002	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

Page 10 of 20

**Sample Number** 2486567-3  
**Sampled Date** Aug 14, 2024 11:14 AM  
**Sample Description** Surface Water  
**Location** SW3 : แหล่งน้ำดิบ ก่อนไหลเข้าพื้นที่โครงการ  
**Date Analysis Commenced** Aug 14, 2024  
**Condition of Sample** Contained in two glass vials, two BOD bottles and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
<sup>(A)</sup> Nickel	mg/L	0.0003	0.0005	0.003	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	<0.01	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Zinc	mg/L	0.003	0.005	0.010	≤1	≤1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Microbiological Testing</b>								
Fecal Coliform	MPN/100mL	-	-	33000.0	≤4000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B, E	Bangkok
<sup>(A)</sup> Total Coliform	MPN/100mL	-	-	130000.0	≤20000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
<b>Water Testing</b>								
Ammonia Nitrogen *	mg/L	0.02	0.05	0.18	≤0.5	≤0.5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH <sub>3</sub> (F)	Rayong
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤2	≤4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong

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## Analysis / Test Report



TESTING  
No.0042

**Lot ID: 2486567**  
Date Received : Aug 14, 2024  
Date Reported : Aug 23, 2024  
Report Number : 3067965-1

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

Page 11 of 20

**Sample Number** 2486567-3  
**Sampled Date** Aug 14, 2024 11:14 AM  
**Sample Description** Surface Water  
**Location** SW3 : แหล่งน้ำดิบ ก่อนไหลเข้าพื้นที่โครงการ  
**Date Analysis Commenced** Aug 14, 2024  
**Condition of Sample** Contained in two glass vials, two BOD bottles and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>								
Cyanide as CN	mg/L	0.001	0.005	<0.005	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-CN (C, E)	Rayong
Dissolved Oxygen *	mg/L	-	0.1	6.0	≥4	≥2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong
Flow rate *	m <sup>3</sup> /s	-	-	0.916	No Standard	No Standard	Flow meter	Rayong
Nitrate as N *	mg/L	0.015	0.05	3.51	≤5	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO <sub>3</sub> (E)	Rayong
pH at 25 degree C	-	-	-	7.9	5.0-9.0	5.0-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Phenol *	mg/L	0.0005	0.001	Not Detected	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5530 D	Rayong
Temperature *	Degree C	-	-	31.1	(c)	(c)	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong

**Guideline :** Water Supply Quality Standards Amata City Industrial Estate

**Guideline :** (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)  
(2) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)  
(a) Not Change from natural condition  
(b) Non Objectionable  
(c) Change from Natural condition not more than 3 degree C

**Sampling By :** Surawit Narapong , Kardbundi Kitsupavanit

Remark :  
- LOD : Limit of Detection

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

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

Page 12 of 20

- "<" : 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.



## Analysis / Test Report



TESTING  
No.0042

**Lot ID: 2486567**  
Date Received : Aug 14, 2024  
Date Reported : Aug 23, 2024  
Report Number : 3067965-1

Page 13 of 20

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Sample Number** 2486567-4  
**Sampled Date** Aug 14, 2024 10:22 AM  
**Sample Description** Surface Water  
**Location** SW4 : แหล่งน้ำแข็ง น้ำจากจุดระบายน้ำของโรงงาน  
**Date Analysis Commenced** Aug 14, 2024  
**Condition of Sample** Contained in two glass vials, two BOD bottles and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
<sup>(A)</sup> Aluminum	mg/L	0.003	0.005	1.07	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Arsenic	mg/L	0.0003	0.0005	0.008	≤0.01	≤0.01	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Copper	mg/L	0.0003	0.0005	0.02	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Hexavalent Chromium	mg/L	0.003	0.01	<0.01	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
<sup>(A)</sup> Iron	mg/L	0.003	0.005	2.04	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Lead	mg/L	0.0003	0.0005	0.002	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	≤0.002	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Sample Number** 2486567-4  
**Sampled Date** Aug 14, 2024 10:22 AM  
**Sample Description** Surface Water  
**Location** SW4 : แหล่งน้ำแข็ง น้ำจากจุดระบายน้ำของโรงงาน  
**Date Analysis Commenced** Aug 14, 2024  
**Condition of Sample** Contained in two glass vials, two BOD bottles and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
<sup>(A)</sup> Nickel	mg/L	0.0003	0.0005	0.06	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	0.05	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Zinc	mg/L	0.003	0.005	0.04	≤1	≤1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Microbiological Testing</b>								
Fecal Coliform	MPN/100mL	-	-	13000.0	≤4000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B, E	Bangkok
<sup>(A)</sup> Total Coliform	MPN/100mL	-	-	33000.0	≤20000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
<b>Water Testing</b>								
Ammonia Nitrogen *	mg/L	0.02	0.05	0.32	≤0.5	≤0.5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH <sub>3</sub> (F)	Rayong
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤2	≤4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong

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## Analysis / Test Report



TESTING  
No.0042

**Lot ID: 2486567**  
Date Received : Aug 14, 2024  
Date Reported : Aug 23, 2024  
Report Number : 3067965-1

Page 15 of 20

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Sample Number** 2486567-4  
**Sampled Date** Aug 14, 2024 10:22 AM  
**Sample Description** Surface Water  
**Location** SW4 : แหล่งน้ำแข็ง น้ำจากจุดระบายน้ำของโรงงาน  
**Date Analysis Commenced** Aug 14, 2024  
**Condition of Sample** Contained in two glass vials, two BOD bottles and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>								
Cyanide as CN	mg/L	0.001	0.005	<0.005	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-CN (C, E)	Rayong
Dissolved Oxygen *	mg/L	-	0.1	6.6	≥4	≥2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong
Flow rate *	m <sup>3</sup> /s	-	-	2.517	No Standard	No Standard	Flow meter	Rayong
Nitrate as N *	mg/L	0.015	0.05	2.36	≤5	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO <sub>3</sub> (E)	Rayong
pH at 25 degree C	-	-	-	8.4	5.0-9.0	5.0-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Phenol *	mg/L	0.0005	0.001	Not Detected	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5530 D	Rayong
Temperature *	Degree C	-	-	30.5	(c)	(c)	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong

**Guideline :** Water Supply Quality Standards Amata City Industrial Estate

**Guideline :** (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)  
(2) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)  
(a) Not Change from natural condition  
(b) Non Objectionable  
(c) Change from Natural condition not more than 3 degree C

**Sampling By :** Surawit Narapong , Kardbundi Kitsupavanit

Remark :  
- LOD : Limit of Detection

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

- "<" : 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.

Page 16 of 20

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2486567**  
Date Received : Aug 14, 2024  
Date Reported : Aug 23, 2024  
Report Number : 3067965-1

Page 17 of 20

**Sample Number** 2486567-5  
**Sampled Date** Aug 14, 2024 11:53 AM  
**Sample Description** Surface Water  
**Location** SWS : แหล่งน้ำเสาะ พลังงานพื้นที่โครงการ  
**Date Analysis Commenced** Aug 14, 2024  
**Condition of Sample** Contained in two glass vials, two BOD bottles and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
<sup>(A)</sup> Aluminum	mg/L	0.003	0.005	1.00	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Arsenic	mg/L	0.0003	0.0005	0.009	≤0.01	≤0.01	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Copper	mg/L	0.0003	0.0005	0.02	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
<sup>(A)</sup> Iron	mg/L	0.003	0.005	1.84	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Lead	mg/L	0.0003	0.0005	0.002	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	≤0.002	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Sample Number** 2486567-5  
**Sampled Date** Aug 14, 2024 11:53 AM  
**Sample Description** Surface Water  
**Location** SWS : แหล่งน้ำเสาะ พลังงานพื้นที่โครงการ  
**Date Analysis Commenced** Aug 14, 2024  
**Condition of Sample** Contained in two glass vials, two BOD bottles and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Page 18 of 20

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
<sup>(A)</sup> Nickel	mg/L	0.0003	0.0005	0.05	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	0.04	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Zinc	mg/L	0.003	0.005	0.02	≤1	≤1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Microbiological Testing</b>								
Fecal Coliform	MPN/100mL	-	-	13000.0	≤4000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B, E	Bangkok
<sup>(A)</sup> Total Coliform	MPN/100mL	-	-	49000.0	≤20000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
<b>Water Testing</b>								
Ammonia Nitrogen *	mg/L	0.02	0.05	0.24	≤0.5	≤0.5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH <sub>3</sub> (F)	Rayong
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤2	≤4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2486567**  
Date Received : Aug 14, 2024  
Date Reported : Aug 23, 2024  
Report Number : 3067965-1

Page 19 of 20

**Sample Number** 2486567-5  
**Sampled Date** Aug 14, 2024 11:53 AM  
**Sample Description** Surface Water  
**Location** SWS : แหล่งน้ำเสาะ พลังงานพื้นที่โครงการ  
**Date Analysis Commenced** Aug 14, 2024  
**Condition of Sample** Contained in two glass vials, two BOD bottles and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>								
Cyanide as CN	mg/L	0.001	0.005	<0.005	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-CN (C, E)	Rayong
Dissolved Oxygen *	mg/L	-	0.1	6.2	≥4	≥2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong
Flow rate *	m <sup>3</sup> /s	-	-	1.825	No Standard	No Standard	Flow meter	Rayong
Nitrate as N *	mg/L	0.015	0.05	3.99	≤5	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO <sub>3</sub> (E)	Rayong
pH at 25 degree C	-	-	-	8.0	5.0-9.0	5.0-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Phenol *	mg/L	0.0005	0.001	0.001	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5530 D	Rayong
Temperature *	Degree C	-	-	32.2	(c)	(c)	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong

**Guideline :** Water Supply Quality Standards Amata City Industrial Estate

**Guideline :** (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)  
(2) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)  
(a) Not Change from natural condition  
(b) Non Objectionable  
(c) Change from Natural condition not more than 3 degree C

**Sampling By :** Surawit Narapong , Kardbundi Kitsupavanit

Remark :  
- LOD : Limit of Detection

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

- "<" : 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.

Page 20 of 20



## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498869**  
Date Received : Sep 13, 2024  
Date Reported : Sep 21, 2024  
Report Number : 3093669-1

Page 1 of 20

**Sample Number** 2498869-1  
**Sampled Date** Sep 13, 2024 2:36 PM  
**Sample Description** Surface Water  
**Location** SW1 : แหล่งรวมน้ำฝนในแปลงนา  
**Date Analysis Commenced** Sep 13, 2024  
**Condition of Sample** Contained in two BOD bottles, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
<sup>(A)</sup> Aluminum	mg/L	0.003	0.005	0.27	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Arsenic	mg/L	0.0003	0.0005	0.02	≤0.01	≤0.01	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Copper	mg/L	0.0003	0.0005	0.003	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
<sup>(A)</sup> Iron	mg/L	0.003	0.005	0.75	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Lead	mg/L	0.0003	0.0005	0.001	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	≤0.002	In-house method : STM 05-007 based on United States Environmental Protection Agency, 2002, EPA Method 1631, Revision E	Bangkok

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498869**  
Date Received : Sep 13, 2024  
Date Reported : Sep 21, 2024  
Report Number : 3093669-1

Page 2 of 20

**Sample Number** 2498869-1  
**Sampled Date** Sep 13, 2024 2:36 PM  
**Sample Description** Surface Water  
**Location** SW1 : แหล่งรวมน้ำฝนในแปลงนา  
**Date Analysis Commenced** Sep 13, 2024  
**Condition of Sample** Contained in two BOD bottles, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
<sup>(A)</sup> Nickel	mg/L	0.0003	0.0005	0.003	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	<0.01	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Zinc	mg/L	0.003	0.005	0.01	≤1	≤1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Microbiological Testing</b>								
Fecal Coliform	MPN/100mL	-	-	2400.0	≤4000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B, E	Bangkok
<sup>(A)</sup> Total Coliform	MPN/100mL	-	-	7900.0	≤20000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
<b>Water Testing</b>								
Ammonia Nitrogen *	mg/L	0.02	0.05	1.01	≤0.5	≤0.5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH <sub>4</sub> (F)	Rayong
BOD (5 days at 20 Degree C)	mg/L	-	2.0	2.4	≤2	≤4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong

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Approved by

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498869**  
Date Received : Sep 13, 2024  
Date Reported : Sep 21, 2024  
Report Number : 3093669-1

Page 3 of 20

**Sample Number** 2498869-1  
**Sampled Date** Sep 13, 2024 2:36 PM  
**Sample Description** Surface Water  
**Location** SW1 : แหล่งรวมน้ำฝนในแปลงนา  
**Date Analysis Commenced** Sep 13, 2024  
**Condition of Sample** Contained in two BOD bottles, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>								
Cyanide as CN	mg/L	0.001	0.005	<0.005	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-CN (C, E)	Rayong
Dissolved Oxygen *	mg/L	-	0.1	5.2	≥4	≥2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong
Flow rate *	m <sup>3</sup> /s	-	-	No Velocity	No Standard	No Standard	Flow meter	Rayong
Nitrate as N *	mg/L	0.015	0.05	2.01	≤5	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO <sub>3</sub> (E)	Rayong
pH at 25 degree C	-	-	-	8.6	5.0-9.0	5.0-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Phenol *	mg/L	0.0005	0.001	0.004	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5530 D	Rayong
Temperature *	Degree C	-	-	31.4	(c)	(c)	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong

**Guideline :** (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)  
(2) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)

(a) Not Change from natural condition  
(b) Non Objectionable  
(c) Change from Natural condition not more than 3 degree C

**Sampling By :** Wasan Kinunti , Kardbundit Kitsupavanit

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

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498869**  
Date Received : Sep 13, 2024  
Date Reported : Sep 21, 2024  
Report Number : 3093669-1

Page 4 of 20

- 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.

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498869**  
Date Received : Sep 13, 2024  
Date Reported : Sep 21, 2024  
Report Number : 3093669-1

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**Sample Number** 2498869-2  
**Sampled Date** Sep 13, 2024 2:44 PM  
**Sample Description** Surface Water  
**Location** SW2 : แหล่งสาธารณะ คลองโพนแก้วพื้นที่โครงการ  
**Date Analysis Commenced** Sep 13, 2024  
**Condition of Sample** Contained in two BOD bottles, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
<sup>(A)</sup> Aluminum	mg/L	0.003	0.005	0.27	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Arsenic	mg/L	0.0003	0.0005	0.01	≤0.01	≤0.01	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Copper	mg/L	0.0003	0.0005	0.14	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
<sup>(A)</sup> Iron	mg/L	0.003	0.005	1.06	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Lead	mg/L	0.0003	0.0005	0.001	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	≤0.002	In-house method : STM 05-007 based on United States Environmental Protection Agency, 2002, EPA Method 1631, Revision E	Bangkok

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498869**  
Date Received : Sep 13, 2024  
Date Reported : Sep 21, 2024  
Report Number : 3093669-1

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**Sample Number** 2498869-2  
**Sampled Date** Sep 13, 2024 2:44 PM  
**Sample Description** Surface Water  
**Location** SW2 : แหล่งสาธารณะ คลองโพนแก้วพื้นที่โครงการ  
**Date Analysis Commenced** Sep 13, 2024  
**Condition of Sample** Contained in two BOD bottles, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
<sup>(A)</sup> Nickel	mg/L	0.0003	0.0005	0.05	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	<0.01	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Zinc	mg/L	0.003	0.005	0.31	≤1	≤1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Microbiological Testing</b>								
Fecal Coliform	MPN/100mL	-	-	7900.0	≤4000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B, E	Bangkok
<sup>(A)</sup> Total Coliform	MPN/100mL	-	-	49000.0	≤20000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
<b>Water Testing</b>								
Ammonia Nitrogen *	mg/L	0.02	0.05	0.92	≤0.5	≤0.5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH <sub>3</sub> (F)	Rayong
BOD (5 days at 20 Degree C)	mg/L	-	2.0	6.9	≤2	≤4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong

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## Analysis / Test Report



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**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498869**  
Date Received : Sep 13, 2024  
Date Reported : Sep 21, 2024  
Report Number : 3093669-1

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**Sample Number** 2498869-2  
**Sampled Date** Sep 13, 2024 2:44 PM  
**Sample Description** Surface Water  
**Location** SW2 : แหล่งสาธารณะ คลองโพนแก้วพื้นที่โครงการ  
**Date Analysis Commenced** Sep 13, 2024  
**Condition of Sample** Contained in two BOD bottles, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>								
Cyanide as CN	mg/L	0.001	0.005	<0.005	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-CN (C, E)	Rayong
Dissolved Oxygen *	mg/L	-	0.1	4.9	≥4	≥2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong
Flow rate *	m <sup>3</sup> /s	-	-	No Velocity	No Standard	No Standard	Flow meter	Rayong
Nitrate as N *	mg/L	0.015	0.05	2.64	≤5	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO <sub>3</sub> (E)	Rayong
pH at 25 degree C	-	-	-	7.7	5.0-9.0	5.0-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Phenol *	mg/L	0.0005	0.001	0.003	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5530 D	Rayong
Temperature *	Degree C	-	-	31.2	(c)	(c)	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong

**Guideline :** (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)  
(2) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)  
(a) Not Change from natural condition  
(b) Non Objectionable  
(c) Change from Natural condition not more than 3 degree C

**Sampling By :** Wasan Kinunti , Kardbundit Kitsupavanit

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

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498869**  
Date Received : Sep 13, 2024  
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Page 8 of 20

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## Analysis / Test Report



TESTING  
No.0042

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**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498869**  
Date Received : Sep 13, 2024  
Date Reported : Sep 21, 2024  
Report Number : 3093669-1

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**Sample Number** 2498869-3  
**Sampled Date** Sep 13, 2024 2:27 PM  
**Sample Description** Surface Water  
**Location** SW3 : แหล่งน้ำเดิม ก่อนไหลผ่านพื้นที่โครงการ  
**Date Analysis Commenced** Sep 13, 2024  
**Condition of Sample** Contained in two BOD bottles, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
<sup>(A)</sup> Aluminum	mg/L	0.003	0.005	0.23	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Arsenic	mg/L	0.0003	0.0005	0.006	≤0.01	≤0.01	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Copper	mg/L	0.0003	0.0005	0.03	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Hexavalent Chromium	mg/L	0.003	0.01	<0.01	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
<sup>(A)</sup> Iron	mg/L	0.003	0.005	1.86	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Lead	mg/L	0.0003	0.0005	0.0010	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	≤0.002	In-house method : STM 05-007 based on United States Environmental Protection Agency, 2002, EPA Method 1631, Revision E	Bangkok

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

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## Analysis / Test Report



TESTING  
No.0042

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168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Siriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498869**  
Date Received : Sep 13, 2024  
Date Reported : Sep 21, 2024  
Report Number : 3093669-1

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**Sample Number** 2498869-3  
**Sampled Date** Sep 13, 2024 2:27 PM  
**Sample Description** Surface Water  
**Location** SW3 : แหล่งน้ำเดิม ก่อนไหลผ่านพื้นที่โครงการ  
**Date Analysis Commenced** Sep 13, 2024  
**Condition of Sample** Contained in two BOD bottles, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
<sup>(A)</sup> Nickel	mg/L	0.0003	0.0005	0.10	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	0.07	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Zinc	mg/L	0.003	0.005	0.01	≤1	≤1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Microbiological Testing</b>								
Fecal Coliform	MPN/100mL	-	-	4900.0	≤4000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B, E	Bangkok
<sup>(A)</sup> Total Coliform	MPN/100mL	-	-	33000.0	≤20000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
<b>Water Testing</b>								
Ammonia Nitrogen *	mg/L	0.02	0.05	0.12	≤0.5	≤0.5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH <sub>4</sub> (F)	Rayong
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤2	≤4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong

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

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Siriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498869**  
Date Received : Sep 13, 2024  
Date Reported : Sep 21, 2024  
Report Number : 3093669-1

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**Sample Number** 2498869-3  
**Sampled Date** Sep 13, 2024 2:27 PM  
**Sample Description** Surface Water  
**Location** SW3 : แหล่งน้ำเดิม ก่อนไหลผ่านพื้นที่โครงการ  
**Date Analysis Commenced** Sep 13, 2024  
**Condition of Sample** Contained in two BOD bottles, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>								
Cyanide as CN	mg/L	0.001	0.005	<0.005	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-CN (C, E)	Rayong
Dissolved Oxygen *	mg/L	-	0.1	6.5	≥4	≥2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong
Flow rate *	m <sup>3</sup> /s	-	-	No Velocity	No Standard	No Standard	Flow meter	Rayong
Nitrate as N *	mg/L	0.015	0.05	2.34	≤5	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO <sub>3</sub> (E)	Rayong
pH at 25 degree C	-	-	-	7.6	5.0-9.0	5.0-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Phenol *	mg/L	0.0005	0.001	0.001	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5530 D	Rayong
Temperature *	Degree C	-	-	31.4	(c)	(c)	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong

**Guideline :** (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)  
(2) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)  
(a) Not Change from natural condition  
(b) Non Objectionable  
(c) Change from Natural condition not more than 3 degree C

**Sampling By :** Wasan Kinunti , Kardbundit Kitsupavanit

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

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Siriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498869**  
Date Received : Sep 13, 2024  
Date Reported : Sep 21, 2024  
Report Number : 3093669-1

Page 12 of 20

- 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.

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

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498869**  
Date Received : Sep 13, 2024  
Date Reported : Sep 21, 2024  
Report Number : 3093669-1

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**Sample Number** 2498869-4  
**Sampled Date** Sep 13, 2024 2:10 PM  
**Sample Description** Surface Water  
**Location** SW4 : แหล่งน้ำเลี้ยง ภาชนะบรรจุภัณฑ์ของโรงงาน  
**Date Analysis Commenced** Sep 13, 2024  
**Condition of Sample** Contained in two BOD bottles, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
<sup>(A)</sup> Aluminum	mg/L	0.003	0.005	0.36	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Arsenic	mg/L	0.0003	0.0005	0.010	≤0.01	≤0.01	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Copper	mg/L	0.0003	0.0005	0.03	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
<sup>(A)</sup> Iron	mg/L	0.003	0.005	1.33	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Lead	mg/L	0.0003	0.0005	0.0010	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	≤0.002	In-house method : STM 05-007 based on United States Environmental Protection Agency, 2002, EPA Method 1631, Revision E	Bangkok

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Sample Number** 2498869-4  
**Sampled Date** Sep 13, 2024 2:10 PM  
**Sample Description** Surface Water  
**Location** SW4 : แหล่งน้ำเลี้ยง ภาชนะบรรจุภัณฑ์ของโรงงาน  
**Date Analysis Commenced** Sep 13, 2024  
**Condition of Sample** Contained in two BOD bottles, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
<sup>(A)</sup> Nickel	mg/L	0.0003	0.0005	0.05	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	0.03	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Zinc	mg/L	0.003	0.005	0.05	≤1	≤1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Microbiological Testing</b>								
Fecal Coliform	MPN/100mL	-	-	49000.0	≤4000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B, E	Bangkok
<sup>(A)</sup> Total Coliform	MPN/100mL	-	-	240000.0	≤20000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
<b>Water Testing</b>								
Ammonia Nitrogen *	mg/L	0.02	0.05	0.17	≤0.5	≤0.5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH <sub>3</sub> (F)	Rayong
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤2	≤4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498869**  
Date Received : Sep 13, 2024  
Date Reported : Sep 21, 2024  
Report Number : 3093669-1

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**Sample Number** 2498869-4  
**Sampled Date** Sep 13, 2024 2:10 PM  
**Sample Description** Surface Water  
**Location** SW4 : แหล่งน้ำเลี้ยง ภาชนะบรรจุภัณฑ์ของโรงงาน  
**Date Analysis Commenced** Sep 13, 2024  
**Condition of Sample** Contained in two BOD bottles, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>								
Cyanide as CN	mg/L	0.001	0.005	<0.005	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-CN (C, E)	Rayong
Dissolved Oxygen *	mg/L	-	0.1	5.8	≥4	≥2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong
Flow rate *	m <sup>3</sup> /s	-	-	No Velocity	No Standard	No Standard	Flow meter	Rayong
Nitrate as N *	mg/L	0.015	0.05	2.47	≤5	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO <sub>3</sub> (E)	Rayong
pH at 25 degree C	-	-	-	7.7	5.0-9.0	5.0-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Phenol *	mg/L	0.0005	0.001	0.003	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5530 D	Rayong
Temperature *	Degree C	-	-	30.4	(c)	(c)	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong

**Guideline :** (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)  
(2) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)  
(a) Not Change from natural condition  
(b) Non Objectionable  
(c) Change from Natural condition not more than 3 degree C

**Sampling By :** Wasan Kinunti , Kardbundit Kitsupavanit

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

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

- 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.

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498869**  
Date Received : Sep 13, 2024  
Date Reported : Sep 21, 2024  
Report Number : 3093669-1

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**Sample Number** 2498869-5  
**Sampled Date** Sep 13, 2024 3:00 PM  
**Sample Description** Surface Water  
**Location** SWS : แหล่งน้ำเสาะ แหล่งน้ำพื้นที่โครงการ  
**Date Analysis Commenced** Sep 13, 2024  
**Condition of Sample** Contained in two BOD bottles, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
<sup>(A)</sup> Aluminum	mg/L	0.003	0.005	0.32	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Arsenic	mg/L	0.0003	0.0005	0.009	≤0.01	≤0.01	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Copper	mg/L	0.0003	0.0005	0.03	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
<sup>(A)</sup> Iron	mg/L	0.003	0.005	1.40	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Lead	mg/L	0.0003	0.0005	0.0009	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	≤0.002	In-house method : STM 05-007 based on United States Environmental Protection Agency, 2002, EPA Method 1631, Revision E	Bangkok

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## Analysis / Test Report



TESTING  
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**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498869**  
Date Received : Sep 13, 2024  
Date Reported : Sep 21, 2024  
Report Number : 3093669-1

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**Sample Number** 2498869-5  
**Sampled Date** Sep 13, 2024 3:00 PM  
**Sample Description** Surface Water  
**Location** SWS : แหล่งน้ำเสาะ แหล่งน้ำพื้นที่โครงการ  
**Date Analysis Commenced** Sep 13, 2024  
**Condition of Sample** Contained in two BOD bottles, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
<sup>(A)</sup> Nickel	mg/L	0.0003	0.0005	0.04	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	0.02	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Zinc	mg/L	0.003	0.005	0.04	≤1	≤1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Microbiological Testing</b>								
Fecal Coliform	MPN/100mL	-	-	4900.0	≤4000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B, E	Bangkok
<sup>(A)</sup> Total Coliform	MPN/100mL	-	-	49000.0	≤20000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
<b>Water Testing</b>								
Ammonia Nitrogen *	mg/L	0.02	0.05	0.11	≤0.5	≤0.5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH <sub>4</sub> (F)	Rayong
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤2	≤4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong

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

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498869**  
Date Received : Sep 13, 2024  
Date Reported : Sep 21, 2024  
Report Number : 3093669-1

Page 19 of 20

**Sample Number** 2498869-5  
**Sampled Date** Sep 13, 2024 3:00 PM  
**Sample Description** Surface Water  
**Location** SWS : แหล่งน้ำเสาะ แหล่งน้ำพื้นที่โครงการ  
**Date Analysis Commenced** Sep 13, 2024  
**Condition of Sample** Contained in two BOD bottles, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>								
Cyanide as CN	mg/L	0.001	0.005	<0.005	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-CN (C, E)	Rayong
Dissolved Oxygen *	mg/L	-	0.1	5.8	≥4	≥2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong
Flow rate *	m <sup>3</sup> /s	-	-	No Velocity	No Standard	No Standard	Flow meter	Rayong
Nitrate as N *	mg/L	0.015	0.05	3.41	≤5	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO <sub>3</sub> (E)	Rayong
pH at 25 degree C	-	-	-	7.8	5.0-9.0	5.0-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Phenol *	mg/L	0.0005	0.001	0.002	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5530 D	Rayong
Temperature *	Degree C	-	-	31.1	(c)	(c)	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong

**Guideline :** (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)  
(2) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)

(a) Not Change from natural condition  
(b) Non Objectionable  
(c) Change from Natural condition not more than 3 degree C

**Sampling By :** Wasan Kinunti , Kardbundit Kitsupavanit

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

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498869**  
Date Received : Sep 13, 2024  
Date Reported : Sep 21, 2024  
Report Number : 3093669-1

Page 20 of 20

- 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.

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

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20320  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498870**  
Date Received : Sep 13, 2024  
Date Reported : Sep 21, 2024  
Report Number : 3093672-1

Page 1 of 8

**Sample Number** 2498870-1  
**Sampled Date** Sep 13, 2024 3:41 PM  
**Sample Description** Surface Water  
**Location** SW6 : ส่วนบำบัดน้ำและของเสีย  
**Date Analysis Commenced** Sep 13, 2024  
**Condition of Sample** Contained in two BOD bottles, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
<sup>(A)</sup> Aluminum	mg/L	0.003	0.005	0.09	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Arsenic	mg/L	0.0003	0.0005	0.004	≤0.01	≤0.01	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Copper	mg/L	0.0003	0.0005	0.0006	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
<sup>(A)</sup> Iron	mg/L	0.003	0.005	0.06	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Lead	mg/L	0.0003	0.0005	<0.0005	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	≤0.002	In-house method : STM 05-007 based on United States Environmental Protection Agency, 2002, EPA Method 1631, Revision E	Bangkok

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20320  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498870**  
Date Received : Sep 13, 2024  
Date Reported : Sep 21, 2024  
Report Number : 3093672-1

Page 2 of 8

**Sample Number** 2498870-1  
**Sampled Date** Sep 13, 2024 3:41 PM  
**Sample Description** Surface Water  
**Location** SW6 : ส่วนบำบัดน้ำและของเสีย  
**Date Analysis Commenced** Sep 13, 2024  
**Condition of Sample** Contained in two BOD bottles, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
<sup>(A)</sup> Nickel	mg/L	0.0003	0.0005	0.002	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	<0.01	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Zinc	mg/L	0.003	0.005	<0.005	≤1	≤1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Microbiological Testing</b>								
Fecal Coliform	MPN/100mL	-	-	220.0	≤4000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B, E	Bangkok
<sup>(A)</sup> Total Coliform	MPN/100mL	-	-	4900.0	≤20000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
<b>Water Testing</b>								
Ammonia Nitrogen *	mg/L	0.02	0.05	<0.05	≤0.5	≤0.5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH <sub>4</sub> (F)	Rayong
BOD (5 days at 20 Degree C)	mg/L	-	2.0	<2.0	≤2	≤4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong

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## Analysis / Test Report



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**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498870**  
Date Received : Sep 13, 2024  
Date Reported : Sep 21, 2024  
Report Number : 3093672-1

Page 3 of 8

**Sample Number** 2498870-1  
**Sampled Date** Sep 13, 2024 3:41 PM  
**Sample Description** Surface Water  
**Location** SW6 : ส่วนบำบัดน้ำและของเสีย  
**Date Analysis Commenced** Sep 13, 2024  
**Condition of Sample** Contained in two BOD bottles, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>								
Cyanide as CN	mg/L	0.001	0.005	<0.005	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-CN (C, E)	Rayong
Dissolved Oxygen *	mg/L	-	0.1	7.0	≥4	≥2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong
Flow rate *	m <sup>3</sup> /s	-	-	No Velocity	No Standard	No Standard	Flow meter	Rayong
Nitrate as N *	mg/L	0.015	0.05	0.41	≤5	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO <sub>3</sub> (E)	Rayong
pH at 25 degree C	-	-	-	7.6	5.0-9.0	5.0-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Rayong
Phenol *	mg/L	0.0005	0.001	0.003	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5530 D	Rayong
Temperature *	Degree C	-	-	30.2	(c)	(c)	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Rayong

**Guideline :** (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)  
(2) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)

(a) Not Change from natural condition  
(b) Non Objectionable  
(c) Change from Natural condition not more than 3 degree C

**Sampling By :** Wasan Kinunti , Kardbundi Kitsupavanit

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

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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20320  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498870**  
Date Received : Sep 13, 2024  
Date Reported : Sep 21, 2024  
Report Number : 3093672-1

Page 4 of 8

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## Analysis / Test Report

TESTING  
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168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Siriracha, Chonburi Thailand 20320  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498870**  
Date Received : Sep 13, 2024  
Date Reported : Sep 21, 2024  
Report Number : 3093672-1

Page 5 of 8

**Sample Number** 2498870-2  
**Sampled Date** Sep 13, 2024 1:53 PM  
**Sample Description** Surface Water  
**Location** ชลบุรี  
**Date Analysis Commenced** Sep 13, 2024  
**Condition of Sample** Contained in two BOD bottles, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
<sup>(A)</sup> Aluminum	mg/L	0.003	0.005	0.01	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Arsenic	mg/L	0.0003	0.0005	0.006	≤0.01	≤0.01	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Copper	mg/L	0.0003	0.0005	Not Detected	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3500-Cr B	Bangkok
<sup>(A)</sup> Iron	mg/L	0.003	0.005	0.01	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Lead	mg/L	0.0003	0.0005	Not Detected	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	≤0.002	In-house method : STM 05-007 based on United States Environmental Protection Agency, 2002, EPA Method 1631, Revision E	Bangkok

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

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## Analysis / Test Report

TESTING  
No.0042

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168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Siriracha, Chonburi Thailand 20320  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498870**  
Date Received : Sep 13, 2024  
Date Reported : Sep 21, 2024  
Report Number : 3093672-1

Page 6 of 8

**Sample Number** 2498870-2  
**Sampled Date** Sep 13, 2024 1:53 PM  
**Sample Description** Surface Water  
**Location** ชลบุรี  
**Date Analysis Commenced** Sep 13, 2024  
**Condition of Sample** Contained in two BOD bottles, two glass vials and seven plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
<sup>(A)</sup> Nickel	mg/L	0.0003	0.0005	0.002	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<sup>(A)</sup> Zinc	mg/L	0.003	0.005	Not Detected	≤1	≤1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
<b>Water Testing</b>								
BOD (5 days at 20 Degree C) *	mg/L	-	2.0	<2.0	≤2	≤4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Rayong
Chloride as Cl *	mg/L	0.5	1	36	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Cl (B)	Rayong
COD *	mg/L	-	25	<25	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Rayong
Cyanide as CN	mg/L	0.001	0.005	<0.005	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-CN (C, E)	Rayong
Dissolved Oxygen *	mg/L	-	0.1	7.6	≥4	≥2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Rayong

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## Analysis / Test Report



### TESTING

No.0042

Lot ID: 24109679

Date Received : Oct 09, 2024

Date Reported : Oct 18, 2024

Report Number : 3118536-1

Client : Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230

P/O : RJN-BW009/66

Project Name : Chonburi Bowin

Project Location :

Sample Number	24109679-1						
Sampled Date	Oct 09, 2024 10:05 AM						
Sample Description	Surface Water						
Location	SW1 : แหล่งน้ำบริเวณพื้นที่โครงการ						
Date Analysis Commenced	Oct 09, 2024						
Condition of Sample	Contained in two glass vials, two BOD bottles and seven plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						

Page 1 of 20

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
<sup>(A)</sup> Aluminum	mg/L	0.003	0.005	0.33	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Arsenic	mg/L	0.0003	0.0005	0.01	≤0.01	≤0.01	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Copper	mg/L	0.0003	0.0005	0.004	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3500-Cr B	Bangkok
<sup>(A)</sup> Iron	mg/L	0.003	0.005	0.70	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Lead	mg/L	0.0003	0.0005	0.001	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	≤0.002	In-house method : STM 05-007 based on United States Environmental Protection Agency, 2002, EPA Method 1631, Revision E	Bangkok

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## Analysis / Test Report



### TESTING

No.0042

Lot ID: 24109679

Date Received : Oct 09, 2024

Date Reported : Oct 18, 2024

Report Number : 3118536-1

Client : Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230

P/O : RJN-BW009/66

Project Name : Chonburi Bowin

Project Location :

Sample Number	24109679-1						
Sampled Date	Oct 09, 2024 10:05 AM						
Sample Description	Surface Water						
Location	SW1 : แหล่งน้ำบริเวณพื้นที่โครงการ						
Date Analysis Commenced	Oct 09, 2024						
Condition of Sample	Contained in two glass vials, two BOD bottles and seven plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						

Page 2 of 20

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
<sup>(A)</sup> Nickel	mg/L	0.0003	0.0005	0.004	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	<0.01	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Zinc	mg/L	0.003	0.005	0.01	≤1	≤1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<b>Microbiological Testing</b>								
Fecal Coliform	MPN/100mL	-	-	33000.0	≤4000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 9221 B, E	Bangkok
<sup>(A)</sup> Total Coliform	MPN/100mL	-	-	49000.0	≤20000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 9221 B	Bangkok
<b>Water Testing</b>								
Ammonia Nitrogen *	mg/L	0.02	0.05	0.21	≤0.5	≤0.5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-NH <sub>3</sub> (F)	Rayong
BOD (5 days at 20 Degree C)	mg/L	-	2.0	8.1	≤2	≤4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O G	Rayong

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## Analysis / Test Report



### TESTING

No.0042

Lot ID: 24109679

Date Received : Oct 09, 2024

Date Reported : Oct 18, 2024

Report Number : 3118536-1

Client : Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230

P/O : RJN-BW009/66

Project Name : Chonburi Bowin

Project Location :

Sample Number	24109679-1						
Sampled Date	Oct 09, 2024 10:05 AM						
Sample Description	Surface Water						
Location	SW1 : แหล่งน้ำบริเวณพื้นที่โครงการ						
Date Analysis Commenced	Oct 09, 2024						
Condition of Sample	Contained in two glass vials, two BOD bottles and seven plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)						

Page 3 of 20

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>								
Cyanide as CN	mg/L	0.001	0.005	<0.005	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-CN (C, E)	Rayong
Dissolved Oxygen *	mg/L	-	0.1	4.6	≥4	≥2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-O (C)	Rayong
Flow rate *	m <sup>3</sup> /s	-	-	0.220	No Standard	No Standard	Flow meter	Rayong
Nitrate as N *	mg/L	0.015	0.05	7.17	≤5	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-NO <sub>3</sub> (E)	Rayong
pH at 25 degree C	-	-	-	7.9	5.0-9.0	5.0-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Phenol *	mg/L	0.0005	0.001	0.004	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5530 D	Rayong
Temperature *	Degree C	-	-	27.6	(c)	(c)	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong

**Guideline :** (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)  
(2) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)  
(a) Not Change from natural condition  
(b) Non Objectionable  
(c) Change from Natural condition not more than 3 degree C

**Sampling By :** Phongthep Sitthiloh , Samart Khumplee

Remark :  
LOD : Limit of Detection

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## Analysis / Test Report



### TESTING

No.0042

Lot ID: 24109679

Date Received : Oct 09, 2024

Date Reported : Oct 18, 2024

Report Number : 3118536-1

Client : Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230

P/O : RJN-BW009/66

Project Name : Chonburi Bowin

Project Location :

- "<" : 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.								

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## Analysis / Test Report



### TESTING

No.0042

Lot ID: 24109679

Date Received : Oct 09, 2024

Date Reported : Oct 18, 2024

Report Number : 3118536-1

Page 5 of 20

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20320  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Sample Number** 24109679-2  
**Sampled Date** Oct 09, 2024 10:30 AM  
**Sample Description** Surface Water  
**Location** SW2 : แหล่งสาธารณะ คลองโหม่งวนพื้นที่โครงการ  
**Date Analysis Commenced** Oct 09, 2024  
**Condition of Sample** Contained in two glass vials, two BOD bottles and seven plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
<sup>(A)</sup> Aluminum	mg/L	0.003	0.005	0.42	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Arsenic	mg/L	0.0003	0.0005	0.009	≤0.01	≤0.01	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Copper	mg/L	0.0003	0.0005	0.16	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3500-Cr B	Bangkok
<sup>(A)</sup> Iron	mg/L	0.003	0.005	1.49	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Lead	mg/L	0.0003	0.0005	0.002	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	≤0.002	In-house method : STM 05-007 based on United States Environmental Protection Agency, 2002, EPA Method 1631, Revision E	Bangkok

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## Analysis / Test Report



### TESTING

No.0042

Lot ID: 24109679

Date Received : Oct 09, 2024

Date Reported : Oct 18, 2024

Report Number : 3118536-1

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**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20320  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Sample Number** 24109679-2  
**Sampled Date** Oct 09, 2024 10:30 AM  
**Sample Description** Surface Water  
**Location** SW2 : แหล่งสาธารณะ คลองโหม่งวนพื้นที่โครงการ  
**Date Analysis Commenced** Oct 09, 2024  
**Condition of Sample** Contained in two glass vials, two BOD bottles and seven plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
<sup>(A)</sup> Nickel	mg/L	0.0003	0.0005	0.07	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	<0.01	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Zinc	mg/L	0.003	0.005	0.43	≤1	≤1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<b>Microbiological Testing</b>								
Fecal Coliform	MPN/100mL	-	-	49000.0	≤4000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 9221 B, E	Bangkok
<sup>(A)</sup> Total Coliform	MPN/100mL	-	-	79000.0	≤20000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 9221 B	Bangkok
<b>Water Testing</b>								
Ammonia Nitrogen *	mg/L	0.02	0.05	2.25	≤0.5	≤0.5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-NH <sub>3</sub> (F)	Rayong
BOD (5 days at 20 Degree C)	mg/L	-	2.0	13.2	≤2	≤4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O G	Rayong

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## Analysis / Test Report



### TESTING

No.0042

Lot ID: 24109679

Date Received : Oct 09, 2024

Date Reported : Oct 18, 2024

Report Number : 3118536-1

Page 9 of 20

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20320  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Sample Number** 24109679-3  
**Sampled Date** Oct 09, 2024 12:05 PM  
**Sample Description** Surface Water  
**Location** SW3 : แหล่งน้ำเดิม ควบ/ไหลผ่านพื้นที่โครงการ  
**Date Analysis Commenced** Oct 09, 2024  
**Condition of Sample** Contained in two glass vials, two BOD bottles and seven plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
<sup>(A)</sup> Aluminum	mg/L	0.003	0.005	0.32	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Arsenic	mg/L	0.0003	0.0005	0.005	≤0.01	≤0.01	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Copper	mg/L	0.0003	0.0005	0.01	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Hexavalent Chromium	mg/L	0.003	0.01	0.01	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3500-Cr B	Bangkok
<sup>(A)</sup> Iron	mg/L	0.003	0.005	1.69	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Lead	mg/L	0.0003	0.0005	0.0007	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	≤0.002	In-house method : STM 05-007 based on United States Environmental Protection Agency, 2002, EPA Method 1631, Revision E	Bangkok

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## Analysis / Test Report



### TESTING

No.0042

Lot ID: 24109679

Date Received : Oct 09, 2024

Date Reported : Oct 18, 2024

Report Number : 3118536-1

Page 10 of 20

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20320  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Sample Number** 24109679-3  
**Sampled Date** Oct 09, 2024 12:05 PM  
**Sample Description** Surface Water  
**Location** SW3 : แหล่งน้ำเดิม ควบ/ไหลผ่านพื้นที่โครงการ  
**Date Analysis Commenced** Oct 09, 2024  
**Condition of Sample** Contained in two glass vials, two BOD bottles and seven plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
<sup>(A)</sup> Nickel	mg/L	0.0003	0.0005	0.05	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	0.05	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Zinc	mg/L	0.003	0.005	0.008	≤1	≤1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<b>Microbiological Testing</b>								
Fecal Coliform	MPN/100mL	-	-	11000.0	≤4000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 9221 B, E	Bangkok
<sup>(A)</sup> Total Coliform	MPN/100mL	-	-	17000.0	≤20000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 9221 B	Bangkok
<b>Water Testing</b>								
Ammonia Nitrogen *	mg/L	0.02	0.05	0.42	≤0.5	≤0.5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-NH <sub>3</sub> (F)	Rayong
BOD (5 days at 20 Degree C)	mg/L	-	2.0	15.2	≤2	≤4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O G	Rayong

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## Analysis / Test Report



### TESTING

No.0042

Lot ID: 24109679

Date Received : Oct 09, 2024

Date Reported : Oct 18, 2024

Report Number : 3118536-1

Page 11 of 20

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20320  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Sample Number** 24109679-3  
**Sampled Date** Oct 09, 2024 12:05 PM  
**Sample Description** Surface Water  
**Location** SW3 : แหล่งน้ำเดิม ควบ/ไหลผ่านพื้นที่โครงการ  
**Date Analysis Commenced** Oct 09, 2024  
**Condition of Sample** Contained in two glass vials, two BOD bottles and seven plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Water Testing</b>								
Cyanide as CN	mg/L	0.001	0.005	<0.005	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-CN (C, E)	Rayong
Dissolved Oxygen *	mg/L	-	0.1	7.3	≥4	≥2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-O (C)	Rayong
Flow rate *	m <sup>3</sup> /s	-	-	0.720	No Standard	No Standard	Flow meter	Rayong
Nitrate as N *	mg/L	0.015	0.05	1.56	≤5	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-NO <sub>3</sub> (E)	Rayong
pH at 25 degree C	-	-	-	7.5	5.0-9.0	5.0-9.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong
Phenol *	mg/L	0.0005	0.001	0.003	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5530 D	Rayong
Temperature *	Degree C	-	-	28.7	(c)	(c)	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2550 B	Rayong

**Guideline :** (1) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 3)  
(2) Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)  
(a) Not Change from natural condition  
(b) Non Objectionable  
(c) Change from Natural condition not more than 3 degree C

**Sampling By :** Phongthep Sitthiloh , Samart Khumplhee

Remark :  
· LOD : Limit of Detection

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

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## Analysis / Test Report



### TESTING

No.0042

Lot ID: 24109679

Date Received : Oct 09, 2024

Date Reported : Oct 18, 2024

Report Number : 3118536-1

Page 12 of 20

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20320  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

· "<c" : 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.

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## Analysis / Test Report



### TESTING

No.0042

Lot ID: 24109679

Date Received : Oct 09, 2024

Date Reported : Oct 18, 2024

Report Number : 3118536-1

Page 13 of 20

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20320  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Sample Number** 24109679-4  
**Sampled Date** Oct 09, 2024 11:30 AM  
**Sample Description** Surface Water  
**Location** SW4 : แหล่งน้ำแข็ง บริเวณจุดระบายน้ำของโรงงาน  
**Date Analysis Commenced** Oct 09, 2024  
**Condition of Sample** Contained in two glass vials, two BOD bottles and seven plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
<sup>(A)</sup> Aluminum	mg/L	0.003	0.005	0.39	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Arsenic	mg/L	0.0003	0.0005	0.008	≤0.01	≤0.01	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Copper	mg/L	0.0003	0.0005	0.03	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Hexavalent Chromium	mg/L	0.003	0.01	<0.01	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3500-Cr B	Bangkok
<sup>(A)</sup> Iron	mg/L	0.003	0.005	1.43	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Lead	mg/L	0.0003	0.0005	0.0009	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	≤0.002	In-house method : STM 05-007 based on United States Environmental Protection Agency, 2002, EPA Method 1631, Revision E	Bangkok

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## Analysis / Test Report



### TESTING

No.0042

Lot ID: 24109679

Date Received : Oct 09, 2024

Date Reported : Oct 18, 2024

Report Number : 3118536-1

Page 14 of 20

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20320  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Sample Number** 24109679-4  
**Sampled Date** Oct 09, 2024 11:30 AM  
**Sample Description** Surface Water  
**Location** SW4 : แหล่งน้ำแข็ง บริเวณจุดระบายน้ำของโรงงาน  
**Date Analysis Commenced** Oct 09, 2024  
**Condition of Sample** Contained in two glass vials, two BOD bottles and seven plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
<sup>(A)</sup> Nickel	mg/L	0.0003	0.0005	0.04	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	0.03	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Zinc	mg/L	0.003	0.005	0.07	≤1	≤1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<b>Microbiological Testing</b>								
Fecal Coliform	MPN/100mL	-	-	24000.0	≤4000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 9221 B, E	Bangkok
<sup>(A)</sup> Total Coliform	MPN/100mL	-	-	24000.0	≤20000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 9221 B	Bangkok
<b>Water Testing</b>								
Ammonia Nitrogen *	mg/L	0.02	0.05	0.36	≤0.5	≤0.5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-NH <sub>3</sub> (F)	Rayong
BOD (5 days at 20 Degree C)	mg/L	-	2.0	6.3	≤2	≤4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O G	Rayong

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## Analysis / Test Report



### TESTING

No.0042

Lot ID: 24109679

Date Received : Oct 09, 2024

Date Reported : Oct 18, 2024

Report Number : 3118536-1

Page 17 of 20

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Sample Number** 24109679-5  
**Sampled Date** Oct 09, 2024 11:00 AM  
**Sample Description** Surface Water  
**Location** SWS : แหล่งน้ำเสาะ พลังงานพื้นที่โครงการ  
**Date Analysis Commenced** Oct 09, 2024  
**Condition of Sample** Contained in two glass vials, two BOD bottles and seven plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
<sup>(A)</sup> Aluminum	mg/L	0.003	0.005	0.51	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Arsenic	mg/L	0.0003	0.0005	0.009	≤0.01	≤0.01	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	≤0.005	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Copper	mg/L	0.0003	0.0005	0.03	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Hexavalent Chromium	mg/L	0.003	0.01	<0.01	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3500-Cr B	Bangkok
<sup>(A)</sup> Iron	mg/L	0.003	0.005	1.75	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Lead	mg/L	0.0003	0.0005	0.001	≤0.05	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	≤0.002	In-house method : STM 05-007 based on United States Environmental Protection Agency, 2002, EPA Method 1631, Revision E	Bangkok

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## Analysis / Test Report



### TESTING

No.0042

Lot ID: 24109679

Date Received : Oct 09, 2024

Date Reported : Oct 18, 2024

Report Number : 3118536-1

Page 18 of 20

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Sample Number** 24109679-5  
**Sampled Date** Oct 09, 2024 11:00 AM  
**Sample Description** Surface Water  
**Location** SWS : แหล่งน้ำเสาะ พลังงานพื้นที่โครงการ  
**Date Analysis Commenced** Oct 09, 2024  
**Condition of Sample** Contained in two glass vials, two BOD bottles and seven plastic bottles. Sample containers comply to pretreatment - preservation standards. (APHA / USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
<b>Metals Testing</b>								
<sup>(A)</sup> Nickel	mg/L	0.0003	0.0005	0.04	≤0.10	≤0.10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Silver	mg/L	0.0003	0.0005	Not Detected	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	0.04	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<sup>(A)</sup> Zinc	mg/L	0.003	0.005	0.07	≤1	≤1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<b>Microbiological Testing</b>								
Fecal Coliform	MPN/100mL	-	-	33000.0	≤4000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 9221 B, E	Bangkok
<sup>(A)</sup> Total Coliform	MPN/100mL	-	-	49000.0	≤20000	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 9221 B	Bangkok
<b>Water Testing</b>								
Ammonia Nitrogen *	mg/L	0.02	0.05	0.28	≤0.5	≤0.5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-NH <sub>4</sub> (F)	Rayong
BOD (5 days at 20 Degree C)	mg/L	-	2.0	16.2	≤2	≤4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 5210 B, part 4500 - O G	Rayong

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ภาคผนวก ค-5

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ผลการตรวจวิเคราะห์คุณภาพน้ำใต้ดิน



## Analysis / Test Report

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498871**  
Date Received : Sep 16, 2024  
Date Reported : Sep 26, 2024  
Report Number : 3123118-1

Page 1 of 1

**Sample Number** 2498871-1  
**Sampled Date** Sep 16, 2024 11:38 AM  
**Sample Description** Underground Water  
**Location** GW1 ; พื้นที่สระในแนวถนนของโครงการพัฒนาพื้นที่  
**Date Analysis Commenced** Sep 16, 2024  
**Condition of Sample** Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
pH at 25 degree C	-	-	-	6.4	6.5-9.2 (I)	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong

**Guideline :** Notification of the Ministry of Industry B.E. 2559 (2016) on Soil and Groundwater Contamination Criteria, Monitoring of Soil and Groundwater Quality, Report Submission and Report Preparation of Soil and Groundwater Quality, and Proposal Report of Soil and Groundwater Controlling and Reduction Measures  
(I) : ตรวจวัดค่าปนเปื้อนในดินและน้ำใต้ดินจากแหล่งกำเนิดมลพิษจากอุตสาหกรรมและชุมชนในพื้นที่โครงการพัฒนาพื้นที่สระน้ำในแนวถนนของโครงการพัฒนาพื้นที่  
ค่ามาตรฐานของน้ำใต้ดินตามเกณฑ์มาตรฐานของน้ำดื่มในพื้นที่ โดยค่าที่เกินค่านี้แสดงถึงมลพิษในดินและน้ำใต้ดิน  
**Sampling By :** Surawit Narongpong รับผิดชอบพื้นที่ 323-4-0011, Thanasorn Namakunna รับผิดชอบพื้นที่ 204-4-0101

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

Technical Management

*Photchana S.*

Photchana Seeda  
Scientist (4)  
รับผิดชอบพื้นที่ 323-4-0028

Approved by

*Dej Changchon*

Dej Changchon  
Senior Manager  
รับผิดชอบพื้นที่ 204-4-0001

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## Analysis / Test Report

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**



TESTING  
No.0009

**Lot ID: 2498871**  
Date Received : Sep 16, 2024  
Date Reported : Sep 26, 2024  
Report Number : 3123118-2

Page 1 of 2

**Sample Number** 2498871-1  
**Sampled Date** Sep 16, 2024 11:38 AM  
**Sample Description** Underground Water  
**Location** GW1 ; พื้นที่สระในแนวถนนของโครงการพัฒนาพื้นที่  
**Date Analysis Commenced** Sep 18, 2024  
**Condition of Sample** Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Arsenic	mg/L	0.0003	0.0005	0.18	0.1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Barium	mg/L	0.0003	0.0005	0.19	160	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	2.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	6.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3500-Cr B	Bangkok
Lead	mg/L	0.0003	0.0005	0.004	4.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Manganese	mg/L	0.0003	0.0005	3.23	33	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	Not Detected	0.7	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.001	5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok

Technical Management

*Savitree N.*

Savitree Nongsiam  
Manager  
รับผิดชอบพื้นที่ 204-4-0007

Approved by

*Kanokkorn Anek*

Kanokkorn Anek  
Assistant General Manager  
รับผิดชอบพื้นที่ 204-4-0004

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## Analysis / Test Report

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498871**  
Date Received : Sep 16, 2024  
Date Reported : Sep 26, 2024  
Report Number : 3123118-2

Page 2 of 2

**Sample Number** 2498871-1  
**Sampled Date** Sep 16, 2024 11:38 AM  
**Sample Description** Underground Water  
**Location** GW1 ; พื้นที่สระในแนวถนนของโครงการพัฒนาพื้นที่  
**Date Analysis Commenced** Sep 18, 2024  
**Condition of Sample** Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Selenium	mg/L	0.0003	0.0005	Not Detected	12	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Silver	mg/L	0.0003	0.0005	Not Detected	12	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	<0.01	40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Zinc	mg/L	0.003	0.005	0.005	10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok

**Guideline :** Notification of the Ministry of Industry B.E. 2559 (2016) on Soil and Groundwater Contamination Criteria, Monitoring of Soil and Groundwater Quality, Report Submission and Report Preparation of Soil and Groundwater Quality, and Proposal Report of Soil and Groundwater Controlling and Reduction Measures  
**Sampling By :** Surawit Narongpong รับผิดชอบพื้นที่ 323-4-0011, Thanasorn Namakunna รับผิดชอบพื้นที่ 204-4-0101

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

Technical Management

*Savitree N.*

Savitree Nongsiam  
Manager  
รับผิดชอบพื้นที่ 204-4-0007

Approved by

*Kanokkorn Anek*

Kanokkorn Anek  
Assistant General Manager  
รับผิดชอบพื้นที่ 204-4-0004

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## Analysis / Test Report

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**



TESTING  
No.0009

**Lot ID: 2498871**  
Date Received : Sep 16, 2024  
Date Reported : Sep 26, 2024  
Report Number : 3123118-3

Page 1 of 2

**Sample Number** 2498871-1  
**Sampled Date** Sep 16, 2024 11:38 AM  
**Sample Description** Underground Water  
**Location** GW1 ; พื้นที่สระในแนวถนนของโครงการพัฒนาพื้นที่  
**Date Analysis Commenced** Sep 17, 2024  
**Condition of Sample** Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Aluminum	mg/L	0.003	0.005	0.16	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.0007	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Iron	mg/L	0.003	0.005	24.2	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<b>Microbiological Testing</b>							
<i>Escherichia coli</i>	MPN/100mL	-	-	<1.8	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 9221 B, F	Bangkok
<b>Water Testing</b>							
Chloride as Cl *	mg/L	0.5	1	3	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Cl (B)	Rayong
Color *	Color unit	-	5	5	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 B	Rayong
Fluoride *	mg/L	-	0.2	0.5	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-F (C)	Rayong
Nitrate as N *	mg/L	0.015	0.05	0.11	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-NO3 (E)	Rayong

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



TESTING  
No.0009

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 24106909**  
Date Received : Sep 17, 2024  
Date Reported : Sep 27, 2024  
Report Number : 3123971-2

Page 2 of 2

**Sample Number** 24106909-1  
**Sampled Date** Sep 17, 2024 9:38 AM  
**Sample Description** Underground Water  
**Location** GW3 ; พื้นที่สระบัวในสวนของโครงการพัฒนาที่ดิน  
**Date Analysis Commenced** Sep 18, 2024  
**Condition of Sample** Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Nickel	mg/L	0.0003	0.0005	0.003	5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Selenium	mg/L	0.0003	0.0005	Not Detected	12	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Silver	mg/L	0.0003	0.0005	Not Detected	12	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	<0.01	40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Zinc	mg/L	0.003	0.005	0.03	10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok

**Guideline :** Notification of the Ministry of Industry B.E. 2559 (2016) on Soil and Groundwater Contamination Criteria, Monitoring of Soil and Groundwater Quality, Report Submission and Report Preparation of Soil and Groundwater Quality, and Proposal Report of Soil and Groundwater Controlling and Reduction Measures  
**Sampling By :** Surawit Narongpong หนึ่งแสนพร 323-0-0011, Thanassou Namakunna หนึ่งแสนพร 204-0-0101

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

Technical Management

*Sawitree N.*  
Sawitree Nonsangiam  
Manager  
หนึ่งแสนพร 204-0-0007

Approved by

*Kanokorn Anek*  
Kanokorn Anek  
Assistant General Manager  
หนึ่งแสนพร 204-0-0004

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## Analysis / Test Report



TESTING  
No.0009

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 24106909**  
Date Received : Sep 17, 2024  
Date Reported : Sep 27, 2024  
Report Number : 3123971-3

Page 1 of 2

**Sample Number** 24106909-1  
**Sampled Date** Sep 17, 2024 9:38 AM  
**Sample Description** Underground Water  
**Location** GW3 ; พื้นที่สระบัวในสวนของโครงการพัฒนาที่ดิน  
**Date Analysis Commenced** Sep 17, 2024  
**Condition of Sample** Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

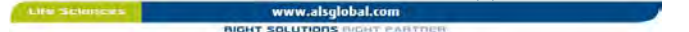
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Aluminum	mg/L	0.003	0.005	0.26	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Iron	mg/L	0.003	0.005	0.31	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
<b>Microbiological Testing</b>							
<i>Escherichia coli</i>	MPN/100mL	-	-	4.5	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 9221 B, F	Bangkok
<b>Water Testing</b>							
Chloride as Cl <sup>-</sup>	mg/L	0.5	1	25	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Cl (B)	Rayong
Color *	Color unit	-	5	<5	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 B	Rayong
Fluoride *	mg/L	-	0.2	<0.2	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-F (C)	Rayong
Nitrate as N *	mg/L	0.015	0.05	0.29	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-NO3 (E)	Rayong
Permanent Hardness as CaCO <sub>3</sub> *	mg/L	-	1	33	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2320 B	Bangkok

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Approved by

*Sawitree N.*  
Sawitree Nonsangiam  
Manager

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## Analysis / Test Report



TESTING  
No.0009

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 24106909**  
Date Received : Sep 17, 2024  
Date Reported : Sep 27, 2024  
Report Number : 3123971-3

Page 2 of 2

**Sample Number** 24106909-1  
**Sampled Date** Sep 17, 2024 9:38 AM  
**Sample Description** Underground Water  
**Location** GW3 ; พื้นที่สระบัวในสวนของโครงการพัฒนาที่ดิน  
**Date Analysis Commenced** Sep 17, 2024  
**Condition of Sample** Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
Sulfate *	mg/L	0.6	2	30.7	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-SO4 (E)	Rayong
Total Alkalinity as CaCO <sub>3</sub> *	mg/L	-	1	<1	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2320 B	Bangkok
Total Dissolved Solids Dried at 180 degree C *	mg/L	-	5	130	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong
Total Hardness as CaCO <sub>3</sub> *	mg/L	-	1	33	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2340 C	Bangkok
Turbidity *	NTU	-	0.1	7.3	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2130 B	Rayong

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

**Sampling By :** Surawit Narongpong , Thanassou Namakunna

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

Approved by

*Sawitree N.*  
Sawitree Nonsangiam  
Manager

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## Analysis / Test Report



TESTING  
No.0009

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 24106909**  
Date Received : Sep 17, 2024  
Date Reported : Sep 27, 2024  
Report Number : 3123972-1

Page 1 of 1

**Sample Number** 24106909-2  
**Sampled Date** Sep 17, 2024 10:28 AM  
**Sample Description** Underground Water  
**Location** GW4 ; พื้นที่สระบัวในสวนของโครงการพัฒนาที่ดิน  
**Date Analysis Commenced** Sep 17, 2024  
**Condition of Sample** Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
pH at 25 degree C		-	-	7.4	6.5-9.2 (I)	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500 - H (B)	Rayong

**Guideline :** Notification of the Ministry of Industry B.E. 2559 (2016) on Soil and Groundwater Contamination Criteria, Monitoring of Soil and Groundwater Quality, Report Submission and Report Preparation of Soil and Groundwater Quality, and Proposal Report of Soil and Groundwater Controlling and Reduction Measures  
(I): ในกรณีที่ผลการวิเคราะห์ของค่าต่าง ๆ ไม่เป็นไปตามเกณฑ์ที่กำหนดไว้ในการศึกษาตรวจสอบคุณภาพสิ่งแวดล้อมและทรัพยากรธรรมชาติและสิ่งแวดล้อมในพื้นที่โครงการพัฒนาที่ดินของ บริษัท รोजना อุตสาหกรรม จำกัด (มหาชน) บริษัท รोजना อุตสาหกรรม จำกัด ขอสงวนสิทธิ์ในการดำเนินการตามขั้นตอนการแก้ไขปัญหาคุณภาพสิ่งแวดล้อมและทรัพยากรธรรมชาติและสิ่งแวดล้อมในพื้นที่โครงการพัฒนาที่ดินของ บริษัท รोजना อุตสาหกรรม จำกัด (มหาชน) โดยไม่ผูกพันความรับผิดทางกฎหมาย

**Sampling By :** Surawit Narongpong หนึ่งแสนพร 323-0-0011, Thanassou Namakunna หนึ่งแสนพร 204-0-0101

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

Technical Management

*Photchanas S.*  
Photchanas Seeds  
Scientist (4)  
หนึ่งแสนพร 323-0-0028

Approved by

*D. Chongchon*  
Dej Chongchon  
Senior Manager  
หนึ่งแสนพร 323-0-0001

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## Analysis / Test Report



TESTING  
No.0009

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 24106909**  
Date Received : Sep 17, 2024  
Date Reported : Sep 27, 2024  
Report Number : 3123972-2

Page 1 of 3

**Sample Number** 24106909-2  
**Sampled Date** Sep 17, 2024 10:28 AM  
**Sample Description** Underground Water  
**Location** GW4 ; พื้นที่ใต้ดินบริเวณโรงกลั่นปิโตรเลียม  
**Date Analysis Commenced** Sep 18, 2024  
**Condition of Sample** Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Aluminum	mg/L	0.003	0.005	0.11	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Arsenic	mg/L	0.0003	0.0005	0.02	0.1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Barium	mg/L	0.0003	0.0005	0.42	160	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	2.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	Not Detected	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	6.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3500-Cr 6	Bangkok
Iron	mg/L	0.003	0.005	5.80	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Lead	mg/L	0.0003	0.0005	<0.0005	4.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok

Technical Management

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Approved by

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

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## Analysis / Test Report



TESTING  
No.0009

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 24106909**  
Date Received : Sep 17, 2024  
Date Reported : Sep 27, 2024  
Report Number : 3123972-2

Page 2 of 3

**Sample Number** 24106909-2  
**Sampled Date** Sep 17, 2024 10:28 AM  
**Sample Description** Underground Water  
**Location** GW4 ; พื้นที่ใต้ดินบริเวณโรงกลั่นปิโตรเลียม  
**Date Analysis Commenced** Sep 18, 2024  
**Condition of Sample** Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Manganese	mg/L	0.0003	0.0005	2.70	33	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	Not Detected	0.7	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.0009	5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Selenium	mg/L	0.0003	0.0005	Not Detected	12	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Silver	mg/L	0.0003	0.0005	Not Detected	12	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	<0.01	40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Zinc	mg/L	0.003	0.005	Not Detected	10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok

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

Technical Management

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## Analysis / Test Report



TESTING  
No.0009

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 24106909**  
Date Received : Sep 17, 2024  
Date Reported : Sep 27, 2024  
Report Number : 3123972-2

Page 3 of 3

**Sampling By :** Surawit Narongpon โทรศัพท์ +323-4-0011, Thanasoun Namakunna โทรศัพท์ +204-4-0101

Remark :

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

Technical Management

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*Kanokorn Anek*  
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## Analysis / Test Report



TESTING  
No.0042

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 24106909**  
Date Received : Sep 17, 2024  
Date Reported : Sep 27, 2024  
Report Number : 3123972-3

Page 1 of 2

**Sample Number** 24106909-2  
**Sampled Date** Sep 17, 2024 10:28 AM  
**Sample Description** Underground Water  
**Location** GW4 ; พื้นที่ใต้ดินบริเวณโรงกลั่นปิโตรเลียม  
**Date Analysis Commenced** Sep 18, 2024  
**Condition of Sample** Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Microbiological Testing</b>							
Escherichia coli	MPN/100mL	-	-	11.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 9221 B, F	Bangkok
<b>Water Testing</b>							
Chloride as Cl <sup>-</sup>	mg/L	0.5	1	15	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Cl (B)	Rayong
Color *	Color unit	-	5	5	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 B	Rayong
Fluoride	mg/L	-	0.2	0.4	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-F (C)	Rayong
Nitrate as N *	mg/L	0.015	0.05	<0.05	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-NO3 (E)	Rayong
Permanent Hardness as CaCO <sub>3</sub> *	mg/L	-	1	53	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2320 B	Bangkok
Sulfate *	mg/L	0.6	2	8.5	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-SO4 (E)	Rayong
Total Alkalinity as CaCO <sub>3</sub> *	mg/L	-	1	277	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2320 B	Bangkok
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	372	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong

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Approved by

*Suwannee Chumbeaw*  
Suwannee Chumbeaw  
Section Head

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TESTING  
No.0042

**Lot ID: 24106909**  
Date Received : Sep 17, 2024  
Date Reported : Sep 27, 2024  
Report Number : 3123972-3

Page 2 of 2

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

Approved by   
Suwannee Chuamkeaw  
Section Head

10905-31/ EMAIL

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**Lot ID: 24106909**

Date Received : Sep 17, 2024  
Date Reported : Sep 27, 2024  
Report Number : 3123973-1

Page 1 of 1

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

ตัวอย่างบ่อน้ำที่ใช้เป็นบ่ออ้างอิงบนทางทิศทางการไหลของน้ำใต้ดินในพื้นที่ โดยค่าพีเอชที่เปลี่ยนแปลงจะต้องไม่เกินหนึ่งระดับ  
มาตรฐานคุณภาพน้ำมาดลที่ใช้บริโภคคือ 6.5-9.2  
**Sampling By :** Surawit Narapong ทะเบียนเลขที่ ว-323-จ-0011 , Thanasoun Namakunna ทะเบียนเลขที่ ว-204-จ-0101

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

0.1800



TESTING  
No.0009

**Lot ID: 24106909**  
Date Received : Sep 17, 2024  
Date Reported : Sep 27, 2024  
Report Number : 3123973-2

Page 1 of 3

Technical Management

  
Sawitree Noisangiam  
Manager  
ทะเบียนเลขที่ ว-204-จ-0007

1090E-24 / PM10

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TESTING  
No.0009

Date Received : Sep 17, 2024  
Date Reported : Sep 27, 2024  
Report Number : 3123973-2

Page 2 of 3

Technical Management

  
Sawitree Noisangiam  
Manager  
ทะเบียนเลขที่ ๖-204-๖-0007

1090E-21 / EN13

01ReportMvRef AL Cl int / 7:0750



TESTING  
No.0009

**Lot ID: 24106909**  
Date Received : Sep 17, 2024  
Date Reported : Sep 27, 2024  
Report Number : 3123973-2

Page 3 of 3

Remark :

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

  
Kanokkorn Anek  
Assistant General Manager  
ทะเบียนเลขที่ ๖-204-ค-0004

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TESTING  
No.0009

**Lot ID: 24106909**  
Date Received : Sep 17, 2024  
Date Reported : Sep 27, 2024  
Report Number : 3123973-3

Page 1 of 2

<b>Sampled Date</b>	Sep 17, 2024 10:55 AM
<b>Sample Description</b>	Underground Water
<b>Location</b>	๒.4 บ้านพันเสด็จใน
<b>Date Analysis Commenced</b>	Sep 17, 2024
<b>Condition of Sample</b>	Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ	Result	Guideline / Specification	Method	Testing Location
<b>Microbiological Testing</b>							
<i>Escherichia coli</i>	MPN/100mL	-	-	33.0	No Standard	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 24th ed., 2023, part 9221 B, F	Bangkok
<b>Water Testing</b>							
Chloride as Cl *	mg/L	0.5	1	21	No Standard	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 24th ed., 2023, part 4500-Cl (B)	Rayong
Color *	Color unit	-	5	<5	No Standard	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 24th ed., 2023, part 2120 B	Rayong
Fluoride *	mg/L	-	0.2	<0.2	No Standard	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 24th ed., 2023, part 4500-F (C)	Rayong
Nitrate as N *	mg/L	0.015	0.05	9.00	No Standard	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 24th ed., 2023, part 4500-NO3 (E)	Rayong
Permanent Hardness as CaCO3 *	mg/L	-	1	43	No Standard	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 24th ed., 2023, part 2320 B	Bangkok
Sulfate *	mg/L	0.6	2	53.1	No Standard	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 24th ed., 2023, part 4500-SO4 (E)	Rayong
Total Alkalinity as CaCO3 *	mg/L	-	1	60	No Standard	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 24th ed., 2023, part 2320 B	Bangkok
Total Dissolved Solids Dried at 180 degree C *	mg/L	-	5	276	No Standard	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong

  
Suwannee Chuamkeaw  
Section Head

Life Sciences www.alsglobal.com

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TESTING  
No.0009

**Lot ID: 24106909**  
Date Received : Sep 17, 2024  
Date Reported : Sep 27, 2024  
Report Number : 3123973-3

Page 2 of 2

Sample Number	2100000000
Sampled Date	Sep 17, 2024 10:55 AM
Sample Description	Underground Water
Location	บ.4 บ้านพินเสด็จใน
Date Analysis Commenced	Sep 17, 2024
Condition of Sample	Contained in two glass v (USFPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
Total Hardness as CaCO3 *	mg/L	-	1	103	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 2340 C	Bangkok
Turbidity *	NTU	-	0.1	0.8	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 2130 B	Rayong

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

**Sampling By :** Surawit Narapong , Thanasoun Namakunna

**Remark :**

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

  
Suwannee Chuamkeaw  
Section Head

Life Sciences www.alsglobal.com

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**Lot ID: 24106909**

**Lot ID: 24106909**  
Date Received : Sep 17, 2024  
Date Reported : Sep 27, 2024  
Report Number : 3123974-1

Page 1 of 1

<b>Sampled Date</b>	Sep 17, 2024 11:17 AM
<b>Sample Description</b>	Underground Water
<b>Location</b>	10.10 10.10 10.10
<b>Date Analysis Commenced</b>	Sep 17, 2024
<b>Condition of Sample</b>	Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards ( APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Water Testing</b>							
pH at 25 degree C	-	-	7.0	6.5-9.2 (I)	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 24th ed., 2012, part 950 – H (B)	Rayong	

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

(Measures) 1. ในกรณีที่มีการประเมินของกรมหรือค่าใช้เปรียบเทียบแล้ววิเคราะห์จากจุดเก็บตัวอย่างบ่อยครั้งที่ใช้ในการติดตามตรวจสอบการเปลี่ยนแปลงบริเวณหัวเขตรอบจากจุดเก็บตัวอย่างต่อเนื่องที่เข้าเป็นเมืองอย่างยั่งยืนทางกาการไหลของน้ำใต้ดินในพื้นที่ โดยค่าใช้ที่เปลี่ยนแปลงจะต้องไม่เกินหนึ่งระดับ และไม่เกินอย่างค่าเกณฑ์ของโมดูลสูงสุดของมาตรฐานคุณภาพน้ำบาดาลที่ประเทศไทย 6.5-9.2

**Sampling by:** Surawit Narapong เบอร์โทรเลขที่ ๖-323-๖-0011, Thanasoun Namakunna เบอร์โทรเลขที่ ๖-204-๖-0101

Remark :

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

Photchana S.  
Photchana Seeda  
Scientist ( 4 )  
ทะเบียนเลขที่ ว-323-จ-0028

  
Dej Changchon  
Senior Manager  
ทะเบียนเลขที่ 7-323-ค-0001

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## Analysis / Test Report



TESTING  
No.0009

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 24106909**  
Date Received : Sep 17, 2024  
Date Reported : Sep 27, 2024  
Report Number : 3123974-2

Page 1 of 3

**Sample Number** 24106909-4  
**Sampled Date** Sep 17, 2024 11:17 AM  
**Sample Description** Underground Water  
**Location** ๙.10 ไร่จันทน์  
**Date Analysis Commenced** Sep 18, 2024  
**Condition of Sample** Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Aluminum	mg/L	0.003	0.005	0.007	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Arsenic	mg/L	0.0003	0.0005	0.005	0.1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Barium	mg/L	0.0003	0.0005	0.41	160	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	2.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.003	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Hexavalent Chromium	mg/L	0.003	0.01	Not Detected	6.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3500-Cr B	Bangkok
Iron	mg/L	0.003	0.005	0.010	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Lead	mg/L	0.0003	0.0005	0.0007	4.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok

Technical Management

*Savitree N.*

Savitree Nosingiam  
Manager  
โทรศัพท์ ๖-204-๙-0007

Approved by

*Kanokorn Anek*

Kanokorn Anek  
Assistant General Manager  
โทรศัพท์ ๖-204-๙-0004

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## Analysis / Test Report



TESTING  
No.0009

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 24106909**  
Date Received : Sep 17, 2024  
Date Reported : Sep 27, 2024  
Report Number : 3123974-2

Page 2 of 3

**Sample Number** 24106909-4  
**Sampled Date** Sep 17, 2024 11:17 AM  
**Sample Description** Underground Water  
**Location** ๙.10 ไร่จันทน์  
**Date Analysis Commenced** Sep 18, 2024  
**Condition of Sample** Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Manganese	mg/L	0.0003	0.0005	0.04	33	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	Not Detected	0.7	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.004	5.0	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Selenium	mg/L	0.0003	0.0005	0.0009	12	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Silver	mg/L	0.0003	0.0005	Not Detected	12	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Trivalent Chromium *	mg/L	-	0.01	<0.01	40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok
Zinc	mg/L	0.003	0.005	0.03	10	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 3125 B,3030 F	Bangkok

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

Technical Management

*Savitree N.*

Savitree Nosingiam  
Manager  
โทรศัพท์ ๖-204-๙-0007

Approved by

*Kanokorn Anek*

Kanokorn Anek  
Assistant General Manager  
โทรศัพท์ ๖-204-๙-0004

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## Analysis / Test Report



TESTING  
No.0009

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 24106909**  
Date Received : Sep 17, 2024  
Date Reported : Sep 27, 2024  
Report Number : 3123974-2

Page 3 of 3

**Sampling By :** Surawit Narongpon โทรศัพท์ ๖-323-๙-0011, Thanasoun Namakunna โทรศัพท์ ๖-204-๙-0101

Remark :

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

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Microbiological Testing</b>							
Escherichia coli	MPN/100mL	-	-	79.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 9221 B, F	Bangkok
<b>Water Testing</b>							
Chloride as Cl *	mg/L	0.5	1	36	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Cl (B)	Rayong
Color *	Color unit	-	5	<5	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 B	Rayong
Fluoride *	mg/L	-	0.2	<0.2	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-F (C)	Rayong
Nitrate as N *	mg/L	0.015	0.05	28.7	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-NO3 (E)	Rayong
Permanent Hardness as CaCO3 *	mg/L	-	1	62	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2320 B	Bangkok
Sulfate *	mg/L	0.6	2	15.8	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-SO4 (E)	Rayong
Total Alkalinity as CaCO3 *	mg/L	-	1	76	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2320 B	Bangkok
Total Dissolved Solids Dried at 180 degree C *	mg/L	-	5	386	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong

Technical Management

*Savitree N.*

Savitree Nosingiam  
Manager  
โทรศัพท์ ๖-204-๙-0007

Approved by

*Kanokorn Anek*

Kanokorn Anek  
Assistant General Manager  
โทรศัพท์ ๖-204-๙-0004

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## Analysis / Test Report



TESTING  
No.0009

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 24106909**  
Date Received : Sep 17, 2024  
Date Reported : Sep 27, 2024  
Report Number : 3123974-3

Page 1 of 2

**Sample Number** 24106909-4  
**Sampled Date** Sep 17, 2024 11:17 AM  
**Sample Description** Underground Water  
**Location** ๙.10 ไร่จันทน์  
**Date Analysis Commenced** Sep 17, 2024  
**Condition of Sample** Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Microbiological Testing</b>							
Escherichia coli	MPN/100mL	-	-	79.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 9221 B, F	Bangkok
<b>Water Testing</b>							
Chloride as Cl *	mg/L	0.5	1	36	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-Cl (B)	Rayong
Color *	Color unit	-	5	<5	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2120 B	Rayong
Fluoride *	mg/L	-	0.2	<0.2	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-F (C)	Rayong
Nitrate as N *	mg/L	0.015	0.05	28.7	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-NO3 (E)	Rayong
Permanent Hardness as CaCO3 *	mg/L	-	1	62	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2320 B	Bangkok
Sulfate *	mg/L	0.6	2	15.8	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 4500-SO4 (E)	Rayong
Total Alkalinity as CaCO3 *	mg/L	-	1	76	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2320 B	Bangkok
Total Dissolved Solids Dried at 180 degree C *	mg/L	-	5	386	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2540 C	Rayong

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Analysis / Test Report

Client : Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
P/O : RJN-BW009/66  
Project Name : Chonburi Bowin  
Project Location :

TESTING  
No.0009  
Lot ID: 24106909  
Date Received : Sep 17, 2024  
Date Reported : Sep 27, 2024  
Report Number : 3123974-3

Sample Number 24106909-4  
Sampled Date Sep 17, 2024 11:17 AM  
Sample Description Underground Water  
Location อ.10  
Date Analysis Commenced Sep 17, 2024  
Condition of Sample Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Total Hardness as CaCO3 *	mg/L	-	1	137	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2340 C	Bangkok
Turbidity *	NTU	-	0.1	0.3	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 24th ed., 2023, part 2130 B	Rayong

Guideline : Notification of the Ministry of Industry B.E. 2559 (2016) on Soil and Groundwater Contamination Criteria, Monitoring of Soil and Groundwater Quality, Report Submission and Report Preparation of Soil and Groundwater Quality, and Proposal Report of Soil and Groundwater Controlling and Reduction Measures  
Sampling By : Surawit Narapong , Thanasoun Namakunna  
Remark :  
LOD : Limit of Detection  
" < " : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)  
Analyte(s) marked \* is/are not included in scope of Accreditation ISO/IEC 17025.  
The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025.

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Approved by  
Suwannee Chumkeaw  
Section Head

ภาคผนวก ค-6

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ผลการศึกษาทรัพยากรชีวภาพทางน้ำ



สถานีวิทยุประมงศรีราชา  
101/12 หมู่ 9 ต. บางพระ  
อ. ศรีราชา จ. ชลบุรี 20110  
โทร./โทรสาร. (038) 311379

Client : Rojana Industrial Park Public Co., Ltd.  
Address : 168 Moo 4 Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi, Thailand, 20230  
Project Name : Chonburi Bowin

รายงานผลการวิเคราะห์แหล่งกักต่อน้ำพิษ

ตาราง ผลการวิเคราะห์แหล่งกักต่อน้ำพิษ (เก็บตัวอย่างวันที่ 9 ตุลาคม 2567)

ชนิดแหล่งกักต่อน้ำพิษ	ปริมาณแหล่งกักต่อน้ำพิษ (หน่วยต่อลูกบาศก์เมตร)				
	24109680-1	24109680-2	24109680-3	24109680-4	24109680-5
Division Cyanophyta					
Class Cyanophyceae					
Order Nostocales					
Family Oscillatoriaceae					
1. Lyngbya sp.	-	-	16,000	-	17,000
2. Oscillatoria anguina	-	17,000	-	-	-
3. Oscillatoria angustissima	-	365,000	-	-	-
4. Oscillatoria planctonica	-	17,000	171,000	-	-
5. Oscillatoria princeps	-	17,000	-	-	9,000
6. Oscillatoria sp.	70,000	199,000	-	17,000	9,000
7. Oscillatoria tenuis	-	141,000	24,000	17,000	96,000
Family Nostocaceae					
8. Anabaenopsis sp.	9,000	-	-	-	-
Family Rivulariaceae					
9. Calothrix sp.	18,000	25,000	-	17,000	200,000

ตาราง ผลการวิเคราะห์แหล่งกักต่อน้ำพิษ (เก็บตัวอย่างวันที่ 9 ตุลาคม 2567)  
(ต่อ)

ชนิดแหล่งกักต่อน้ำพิษ	ปริมาณแหล่งกักต่อน้ำพิษ (หน่วยต่อลูกบาศก์เมตร)				
	24109680-1	24109680-2	24109680-3	24109680-4	24109680-5
Division Chlorophyta					
Class Chlorophyceae					
Order Volvocales					
Family Volvocaceae					
10. Eudorina elegans	-	-	-	9,000	-
Order Tetrasporales					
Family Palmellaceae					
11. Asterococcus superbus	9,000	-	16,000	-	26,000
12. Sphaerocystis shroeteri	-	-	-	17,000	-
Order Chlorococcales					
Family Hydrodictyaceae					
13. Pediatrum duplex	-	-	73,000	145,000	61,000
Family Coelastraceae					
14. Coelastrum sphaericum	-	-	16,000	9,000	-
Family Oocystaceae					
15. Ankistrodesmus falcatus	9,000	-	-	-	-
16. Planktosphaeria gelatinosa	-	-	-	9,000	9,000
17. Tetradron gracile	-	-	-	-	17,000
Family Scenedesmeceae					
18. Actinastrum hantzschii	-	-	24,000	-	-
19. Scenedesmus armatus	-	8,000	98,000	34,000	296,000
20. Scenedesmus bijuga	-	-	16,000	-	9,000
21. Scenedesmus dimorphus	-	-	-	9,000	26,000
22. Scenedesmus opoliensis	-	-	652,000	308,000	696,000
23. Scenedesmus quadricauda	-	-	1,434,000	1,394,000	1,636,000

ตาราง ผลการวิเคราะห์แหล่งกักต่อน้ำพิษ (เก็บตัวอย่างวันที่ 9 ตุลาคม 2567)  
(ต่อ)

ชนิดแหล่งกักต่อน้ำพิษ	ปริมาณแหล่งกักต่อน้ำพิษ (หน่วยต่อลูกบาศก์เมตร)				
	24109680-1	24109680-2	24109680-3	24109680-4	24109680-5
Order Zygomatales					
Family Zygnemataceae					
24. Spirogyra sp.	-	-	106,000	-	44,000
Family Desmidiaceae					
25. Closterium acerosum	9,000	-	-	9,000	-
26. Closterium ehrenbergii	-	8,000	16,000	-	-
27. Closterium gracile	-	-	8,000	-	-
28. Closterium lineatum	-	-	-	9,000	-
29. Closterium ralfsii	-	-	8,000	-	-
30. Closterium sp.	-	17,000	-	-	-
31. Closterium tumidum	-	-	-	-	9,000
32. Cosmarium nudum	-	-	8,000	-	-
33. Cosmarium rectangulare	-	8,000	-	-	9,000
34. Hyalotheca dissiliens	-	216,000	24,000	34,000	-
Class Euglenophyceae					
Order Euglenales					
Family Euglenaceae					
35. Euglena acus	9,000	141,000	33,000	9,000	9,000
36. Euglena gracilis	-	-	-	-	9,000
37. Euglena oxyuris	-	50,000	-	9,000	17,000
38. Euglena sp.	-	-	-	9,000	-
39. Euglena splendens	70,000	-	-	-	9,000
40. Lepocinclis ovum	131,000	33,000	41,000	171,000	131,000
41. Phacus angulatus	9,000	-	-	9,000	-
42. Phacus hamatus	-	208,000	-	111,000	9,000
43. Phacus longicauda	18,000	8,000	-	-	9,000
44. Phacus myersi	-	-	-	9,000	17,000

ตาราง ผลการวิเคราะห์แหล่งกักต่อน้ำพิษ (เก็บตัวอย่างวันที่ 9 ตุลาคม 2567)  
(ต่อ)

ชนิดแหล่งกักต่อน้ำพิษ	ปริมาณแหล่งกักต่อน้ำพิษ (หน่วยต่อลูกบาศก์เมตร)				
	24109680-1	24109680-2	24109680-3	24109680-4	24109680-5
45. Phacus platatea	-	17,000	-	9,000	-
46. Phacus pleuronectes	-	8,000	-	-	9,000
47. Phacus sp.	26,000	66,000	139,000	103,000	87,000
48. Phacus tortus	-	25,000	-	-	-
49. Trachelomonas crebea	-	-	-	9,000	9,000
50. Trachelomonas daugerdiana	-	-	-	-	9,000
51. Trachelomonas hispida	-	-	130,000	-	9,000
52. Trachelomonas mirabilis	18,000	-	-	-	17,000
53. Trachelomonas rugulosa	9,000	-	-	-	17,000
54. Trachelomonas superba	-	8,000	-	-	9,000
Division Chromophyta					
Class Bacillariophyceae					
Order Biddulphiales					
Suborder Coscinodiscineae					
Family Thalassiosiraceae					
55. Cyclotella meneghiniana	18,000	-	-	-	-
56. Cyclotella stelligera	44,000	8,000	-	-	87,000
Family Aulacoseiraceae					
57. Aulacoseira granulata	-	-	-	-	26,000
Suborder Biddulphiineae					
Family Biddulphiaceae					
58. Biddulphia biddulphiana	9,000	-	-	-	-
Order Bacillariales					
Suborder Fragilariineae					
Family Fragilariaceae					
59. Fragilaria capucina	26,000	4,449,000	456,000	1,488,000	1,009,000
60. Synedra acus	-	17,000	8,000	-	-

**ตาราง ผลการวิเคราะห์แฟลงก์ตอนพืช** (เก็บตัวอย่างวันที่ 9 ตุลาคม 2567)  
 (ต่อ)


ชนิดแฟลงก์ตอนพืช	ปริมาณแฟลงก์ตอนพืช (หน่วยต่อลูกบาศก์เมตร)				
	24109680-1	24109680-2	24109680-3	24109680-4	24109680-5
61. <i>Synedra ulna</i>	53,000	1,627,000	163,000	624,000	313,000
<b>Suborder Bacillariaceae</b>					
<b>Family Eunotiaceae</b>					
62. <i>Eunotia pectinalis</i>	26,000	17,000	-	-	-
<b>Family Achnantheaceae</b>					
63. <i>Achnanthe lanceolatum</i>	-	-	-	17,000	-
<b>Family Cymbellaceae</b>					
64. <i>Gomphonema gracile</i>	-	-	-	-	104,000
65. <i>Gomphonema parvulum</i>	-	8,000	8,000	-	35,000
<b>Family Naviculaceae</b>					
66. <i>Amphora normani</i>	-	-	-	9,000	-
67. <i>Amphora ovalis</i>	9,000	-	-	-	-
68. <i>Gyrosigma attenuatum</i>	44,000	-	-	26,000	17,000
69. <i>Gyrosigma scalproides</i>	-	-	-	9,000	-
70. <i>Gyrosigma</i> sp.	-	-	8,000	-	-
71. <i>Navicula cuspidata</i>	-	25,000	24,000	-	9,000
72. <i>Navicula lanceolata</i>	9,000	8,000	16,000	94,000	9,000
73. <i>Navicula</i> sp.	-	-	-	9,000	-
74. <i>Pinnularia acrosphaeria</i>	-	8,000	-	-	-
75. <i>Pinnularia gibba</i>	-	25,000	-	-	35,000
76. <i>Pinnularia</i> sp.	-	-	-	-	17,000
77. <i>Pinnularia subanglica</i>	-	-	8,000	-	9,000
78. <i>Pinnularia viridis</i>	-	17,000	33,000	26,000	17,000
79. <i>Stauroneis anceps</i>	-	-	-	-	17,000
<b>Family Bacillariaceae</b>					
80. <i>Nitzschia lorenziana</i>	26,000	-	-	9,000	-
81. <i>Nitzschia obtusa</i>	9,000	-	-	-	-


**ตาราง ผลการวิเคราะห์แฟลงก์ตอนพืช** (เก็บตัวอย่างวันที่ 9 ตุลาคม 2567)  
 (ต่อ)

ชนิดแฟลงก์ตอนพืช	ปริมาณแฟลงก์ตอนพืช (หน่วยต่อลูกบาศก์เมตร)				
	24109680-1	24109680-2	24109680-3	24109680-4	24109680-5
82. <i>Nitzschia paleacea</i>	-	17,000	8,000	-	-
83. <i>Nitzschia reversa</i>	-	8,000	-	-	-
84. <i>Nitzschia sigmoidea</i>	-	8,000	16,000	-	-
85. <i>Nitzschia</i> sp.	-	-	16,000	-	78,000
86. <i>Tryblionella hungarica</i>	263,000	266,000	24,000	17,000	35,000
<b>Family Rhopalodiaceae</b>					
87. <i>Epithemia argus</i>	-	8,000	-	-	9,000
<b>Family Surirellaceae</b>					
88. <i>Surirella elegans</i>	18,000	-	8,000	-	9,000
89. <i>Surirella linearis</i>	-	-	-	26,000	9,000
90. <i>Surirella robusta</i>	18,000	8,000	16,000	26,000	26,000
<b>Class Cryosphyceae</b>					
<b>Order Synurales</b>					
<b>Family Mallomonadaceae</b>					
91. <i>Mallomonas litomesa</i>	-	-	90,000	-	-
<b>Class Dinophyceae</b>					
<b>Order Peridinales</b>					
<b>Family Peridiniaceae</b>					
92. <i>Peridinium aciculiferum</i>	-	-	-	-	87,000
93. <i>Peridinium quadridens</i>	-	-	-	-	70,000
94. <i>Peridinium</i> sp.	35,000	-	8,000	513,000	174,000
<b>ชนิดแฟลงก์ตอนพืช</b>	<b>29</b>	<b>39</b>	<b>38</b>	<b>39</b>	<b>56</b>
<b>ปริมาณแฟลงก์ตอนพืช</b>	<b>1,021,000</b>	<b>8,126,000</b>	<b>3,963,000</b>	<b>5,378,000</b>	<b>5,746,000</b>
<b>ดัชนีความหลากหลายแฟลงก์ตอนพืช</b>	<b>2.7803</b>	<b>1.7005</b>	<b>2.3651</b>	<b>2.2352</b>	<b>2.6538</b>
<b>ดัชนีความสม่ำเสมอแฟลงก์ตอนพืช</b>	<b>0.8257</b>	<b>0.4642</b>	<b>0.6502</b>	<b>0.6101</b>	<b>0.6593</b>

**Sample Location :**
 1. สถานี 24109680-1 : Bio1 : ห้วยมะนาว ก่อนไหลผ่านพื้นที่โครงการ  
 2. สถานี 24109680-2 : Bio2 : ห้วยสาธารณะ ก่อนไหลผ่านพื้นที่โครงการ  
 3. สถานี 24109680-3 : Bio3 : ห้วยพันเสด็จ ก่อนไหลผ่านพื้นที่โครงการ  
 4. สถานี 24109680-4 : Bio4 : ห้วยพันเสด็จ บริเวณจุดระบายน้ำทิ้งของโครงการ  
 5. สถานี 24109680-5 : Bio5 : ห้วยพันเสด็จ หลังผ่านพื้นที่โครงการ

**Condition of Sample :** contained in one plastic bottle, sample containers comply to pretreatment-preservation standards (APHA, USEPA)

  
 (นางสาวกนกวรรณ ขวาค้อน)  
 ผู้วิเคราะห์

  
 (นายอลงกต อินทรชาติ)  
 หัวหน้าสถานีวิจัยประมงศรีราชา



สถานีวิจัยประมงศรีราชา  
 101/12 หมู่ 9 ต. บางพระ  
 อ. ศรีราชา จ. ชลบุรี 20110  
 โทร./โทรสาร. (038) 311379

Client : Rojana Industrial Park Public Co., Ltd.  
 Address : 168 Moo 4 Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi, Thailand, 20230  
 Project Name : Chonburi Bowin

**รายงานผลการวิเคราะห์แฟลงก์ตอนสัตว์**  
**ตาราง ผลการวิเคราะห์แฟลงก์ตอนสัตว์** (เก็บตัวอย่างวันที่ 9 ตุลาคม 2567)

ชนิดแฟลงก์ตอนสัตว์	ปริมาณแฟลงก์ตอนสัตว์ (หน่วยต่อลูกบาศก์เมตร)				
	24109680-1	24109680-2	24109680-3	24109680-4	24109680-5
<b>Phylum Protozoa</b>					
<b>Subphylum Plasmodroma</b>					
<b>Class Sarcodina</b>					
<b>Subclass Rhizopoda</b>					
<b>Order Amoebida</b>					
<b>Family Amoebidae</b>					
1. <i>Amoeba proteus</i>	9,000	-	-	-	-
<b>Order Testacida</b>					
<b>Family Arcellidae</b>					
2. <i>Arcella</i> sp.	9,000	8,000	24,000	34,000	9,000
3. <i>Arcella vulgaris</i>	9,000	58,000	33,000	68,000	52,000
<b>Family Diffugiidae</b>					
4. <i>Centropixis aculeata</i>	-	8,000	8,000	-	-
5. <i>Diffugia acuminata</i>	-	8,000	16,000	9,000	9,000
6. <i>Diffugia lobostoma</i>	-	8,000	-	-	-

ตาราง ผลการวิเคราะห์แฟลงก์ตอนสัตว์ (เก็บตัวอย่างวันที่ 9 ตุลาคม 2567)

ชนิดแฟลงก์ตอนสัตว์	ปริมาณแฟลงก์ตอนสัตว์ (หน่วยต่อลูกบาศก์เมตร)				
	24109680-1	24109680-2	24109680-3	24109680-4	24109680-5
7. <i>Diffugia</i> sp.	9,000	17,000	-	17,000	9,000
Family Euglyphidae					
8. <i>Euglypha acanthophora</i>	-	33,000	33,000	43,000	17,000
9. <i>Euglypha rotunda</i>	44,000	25,000	24,000	137,000	61,000
10. <i>Euglypha</i> sp.	9,000	-	33,000	26,000	-
Subphylum Ciliophora					
Class Ciliata					
Subclass Holotricha					
Order Gymnostomatida					
11. <i>Coleps</i> sp.	9,000	8,000	-	9,000	-
Order Hymenostomatida					
12. <i>Paramecium</i> sp.	-	-	16,000	17,000	-
Subclass Peritricha					
Order Peritrichida					
13. <i>Epistylis</i> sp.	44,000	398,000	24,000	43,000	-
14. <i>Pyxicola</i> sp.	9,000	-	-	9,000	-
15. <i>Vorticella</i> sp.	35,000	8,000	24,000	128,000	-
Phylum Rotifera					
Class Monogononta					
Order Plouma					
Family Brachionidae					
16. <i>Anuraeopsis coelata</i>	-	-	-	9,000	-
17. <i>Anuraeopsis fissa</i>	9,000	-	-	-	9,000
18. <i>Brachionus angularis</i>	-	-	-	26,000	9,000
19. <i>Brachionus</i> sp.	-	25,000	16,000	-	-
20. <i>Colurella obtusa</i>	-	8,000	24,000	9,000	-
21. <i>Keratella valga</i>	9,000	-	-	-	-

ตาราง ผลการวิเคราะห์แฟลงก์ตอนสัตว์ (เก็บตัวอย่างวันที่ 9 ตุลาคม 2567)

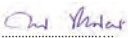
ชนิดแฟลงก์ตอนสัตว์	ปริมาณแฟลงก์ตอนสัตว์ (หน่วยต่อลูกบาศก์เมตร)				
	24109680-1	24109680-2	24109680-3	24109680-4	24109680-5
22. <i>Lepadella acuminata</i>	-	-	-	9,000	-
Family Lecanidae					
23. <i>Lecane bulla</i>	-	-	-	17,000	9,000
24. <i>Lecane elegans</i>	9,000	-	-	9,000	-
25. <i>Lecane inermis</i>	-	-	16,000	-	-
26. <i>Lecane lunaris</i>	-	8,000	-	-	-
27. <i>Lecane</i> sp.	-	-	-	17,000	17,000
Family Notommatidae					
28. <i>Cephalodella forficula</i>	-	930,000	-	239,000	9,000
29. <i>Cephalodella gibba</i>	-	-	8,000	-	9,000
Family Tricocercidae					
30. <i>Trichocerca capucina</i>	-	8,000	-	-	-
31. <i>Trichocerca pusilla</i>	-	-	-	-	17,000
Family Gastropodidae					
32. <i>Ascomorpha</i> sp.	-	-	8,000	9,000	-
Family Asplanchnidae					
33. <i>Asplanchna priodonta</i>	9,000	42,000	-	17,000	9,000
Order Flosculariacea					
Family Testudinellidae					
34. <i>Filinia longiseta</i>	-	33,000	-	-	-
35. <i>Filinia terminalis</i>	-	66,000	-	-	-
36. <i>Tripleuchlanis plicata</i>	-	-	8,000	-	-
Class Digononta					
Family Philodinidae					
37. <i>Philodina</i> sp.	-	8,000	-	9,000	9,000
38. <i>Rotaria rotatoria</i>	9,000	17,000	-	-	9,000


ตาราง ผลการวิเคราะห์แฟลงก์ตอนสัตว์ (เก็บตัวอย่างวันที่ 9 ตุลาคม 2567)

ชนิดแฟลงก์ตอนสัตว์	ปริมาณแฟลงก์ตอนสัตว์ (หน่วยต่อลูกบาศก์เมตร)				
	24109680-1	24109680-2	24109680-3	24109680-4	24109680-5
Phylum Arthropoda					
Class Crustacea					
Subclass Branchiopoda					
Order Diplostroca					
Suborder Cladocera					
Family Bosminidae					
39. <i>Bosminopsis</i> sp.	-	8,000	-	-	-
Subclass Copepoda					
40. Copepod nauplii	-	33,000	8,000	-	-
Order Cyclopoida					
41. Cyclopoid copepod	-	-	-	-	9,000
ชนิดแฟลงก์ตอนสัตว์	15	23	17	23	17
ปริมาณแฟลงก์ตอนสัตว์	231,000	1,765,000	323,000	910,000	272,000
ดัชนีความหลากหลายแฟลงก์ตอนสัตว์	2.4349	1.6998	2.7184	2.5030	2.5248
ดัชนีความสม่ำเสมอแฟลงก์ตอนสัตว์	0.8991	0.5421	0.9595	0.7983	0.8911

Sample Location : 1. สถานี 24109680-1 : Bio1 : ห้วยมะนาว ก่อนไหลผ่านพื้นที่โครงการ  
2. สถานี 24109680-2 : Bio2 : ห้วยสาธารณะ ก่อนไหลผ่านพื้นที่โครงการ  
3. สถานี 24109680-3 : Bio3 : ห้วยพันเสด็จ ก่อนไหลผ่านพื้นที่โครงการ  
4. สถานี 24109680-4 : Bio4 : ห้วยพันเสด็จ บริเวณจุดระบายน้ำทิ้งของโครงการ  
5. สถานี 24109680-5 : Bio5 : ห้วยพันเสด็จ หลังผ่านพื้นที่โครงการ

Condition of Sample : contained in one plastic bottle, sample containers comply to pretreatment-preservation standards (APHA, USEPA)

  
(นางสาวกนกวรรณ ขวาคอน)  
ผู้วิเคราะห์

  
(นางอลงกต อินทรชาติ)  
หัวหน้าสถานีวิจัยประมงห้วยราชา



สถานีวิทยุประมงศรีราชา  
101/12 หมู่ 9 ต. บางพระ อ. ศรีราชา จ. ชลบุรี 20110  
โทร./โทรสาร. (038) 311379

Client : Rojana Industrial Park Public Co., Ltd.  
Address : 168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi, Thailand, 20230  
Project Name : Chonburi Bowin

รายงานผลการวิเคราะห์สัตว์น้ำ  
ตาราง ผลการวิเคราะห์สัตว์น้ำ (Aquatic animal) (เก็บตัวอย่างเมื่อวันที่ 9 ตุลาคม 2567)

ชนิดสัตว์น้ำ	ปริมาณสัตว์น้ำ (ตัว)				ช่วงขนาด (ซม.)	น้ำหนักรวม (กรัม)
	24109680-1	24109680-2	24109680-3	24109680-4	24109680-5	
Phylum Chordata Class Actinopterygii Order Anabantiformes Family Osphronemidae <i>Trichopodus trichopterus</i> (ปลากระดี่หน่อ)	1	-	-	-	8.00	6.90



สถานีวิทยุประมงศรีราชา  
101/12 หมู่ 9 ต. บางพระ  
อ. ศรีราชา จ. ชลบุรี 20110  
โทร./โทรสาร. (038) 311379

Client : Rojana Industrial Park Public Co., Ltd.  
Address : 168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi, Thailand, 20230  
Project Name : Chonburi Bowin

รายงานผลการวิเคราะห์สัตว์หน้าดิน

ตาราง ผลการวิเคราะห์สัตว์หน้าดิน (เก็บตัวอย่างวันที่ 9 ตุลาคม 2567)


สกุลสัตว์หน้าดิน	ปริมาณสัตว์หน้าดิน (ตัวต่อตารางเมตร)				
	24109682-1	24109682-2	24109682-3	24109682-4	24109682-5
Phylum Annelida Class Clitellata Order Lumbriculida Family Lumbriculidae <i>Lumbriculus</i> sp. (ไส้เดือนน้ำ)	-	-	-	-	1,941
Phylum Arthropoda Class Insecta Order Diptera Family Chironomidae <i>Chironomus</i> sp. (หนอนใบเตย)	89	-	134	-	-
Phylum Mollusca Class Gastropoda Order Architaenioglossa Family Thiaridae <i>Melanoides</i> sp. (หอยเชอรี่)	-	-	-	89	-


ตาราง ผลการวิเคราะห์สัตว์หน้าดิน (เก็บตัวอย่างวันที่ 9 ตุลาคม 2567) (ต่อ)

สกุลสัตว์หน้าดิน	ปริมาณสัตว์หน้าดิน (ตัวต่อตารางเมตร)				
	24109682-1	24109682-2	24109682-3	24109682-4	24109682-5
<i>Tarebia</i> sp. (หอยเชอรี่)	356	267	89	267	-
<i>Thaيرا</i> sp. (หอยเชอรี่หนาม)	-	-	-	60	-
Order Neogastropoda					
Family Buccinidae					
<i>Clea</i> sp. (หอยเชอรี่)	-	-	-	-	15
สกุลสัตว์หน้าดิน	2	1	2	3	2
ปริมาณสัตว์หน้าดิน	445	267	223	416	1,956
ค่าดัชนีความหลากหลายสัตว์หน้าดิน	0.5004	0.0000	0.6726	0.8938	0.0450

Sample Location : 1. สถานี 24109682-1 : Bio1 : ห้วยมะนาว ก่อนไหลผ่านพื้นที่โครงการ  
2. สถานี 24109682-2 : Bio2 : ห้วยสาธารณะ ก่อนไหลผ่านพื้นที่โครงการ  
3. สถานี 24109682-3 : Bio3 : ห้วยพันเสด็จ ก่อนไหลผ่านพื้นที่โครงการ  
4. สถานี 24109682-4 : Bio4 : ห้วยพันเสด็จ บริเวณจุดระบายน้ำทิ้งของโครงการ  
5. สถานี 24109682-5 : Bio5 : ห้วยพันเสด็จ หลังผ่านพื้นที่โครงการ

Condition of Sample : contained in one plastic zip bag

  
.....  
(นายอรรณวุฒิ กันทะวงศ์)  
ผู้วิเคราะห์

  
.....  
(นายองกต อินทรชาติ)  
หัวหน้าสถานีวิจัยประมงศรีราชา

ภาคผนวก ค-7

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ผลการตรวจวิเคราะห์โลหะหนักในตะกอนดิน



## Analysis / Test Report

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 24109683**  
Date Received : Oct 09, 2024  
Date Reported : Oct 25, 2024  
Report Number : 3118539-1

Page 1 of 10

**Sample Number** 24109683-1  
**Sampled Date** Oct 09, 2024 10:07 AM  
**Sample Description** ตะกอนดิน  
**Location** SD1 : บริเวณบ่อกำจัดกากของเสียอันตราย  
**Date Analysis Commenced** Oct 10, 2024  
**Condition of Sample** Packed in one plastic bag and one glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Aluminium	mg/kg	-	1.00	358	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Arsenic	mg/kg	-	0.50	2.13	≤10	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Cadmium	mg/kg	-	0.50	<0.50	≤1	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Copper	mg/kg	-	1.00	<1.00	≤31.5	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Hexavalent Chromium	mg/kg	-	0.25	<0.25	No Standard	United States Environmental Protection Agency, EPA Method 3060 A and 7196 A	Bangkok
Mercury	mg/kg	-	0.10	<0.10	≤0.2	United States Environmental Protection Agency, EPA Method 7473	Bangkok
Nickel	mg/kg	-	1.00	<1.00	≤23	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Silver	mg/kg	-	1.00	<1.00	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Trivalent Chromium	mg/kg	-	1.00	<1.00	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Zinc	mg/kg	-	1.00	3.53	≤120	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
<b>Physical Parameters</b>							
Moisture	%	-	0.1	15.1	No Standard	In-house method based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 2540 G	Bangkok

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

Approved by

*Savitree N.*  
Savitree Noksiam  
Manager

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ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company



10905-31/1 EMAIL

S:\Reports\Refut\_Als\_SL\_rpt ( 8:38PM)



## Analysis / Test Report

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 24109683**  
Date Received : Oct 09, 2024  
Date Reported : Oct 25, 2024  
Report Number : 3118539-1

Page 2 of 10

**Guideline :** Notification of The National Environmental Board B.E.2565, for protect benthic animals  
**Note :** Analysis Results expressed on dry basis.

**Sampling By :** Phongthep Sittihoh

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

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

Approved by

*Savitree N.*  
Savitree Noksiam  
Manager

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## Analysis / Test Report

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 24109683**  
Date Received : Oct 09, 2024  
Date Reported : Oct 25, 2024  
Report Number : 3118539-1

Page 3 of 10

**Sample Number** 24109683-2  
**Sampled Date** Oct 09, 2024 10:34 AM  
**Sample Description** ตะกอนดิน  
**Location** SD2 : บริเวณบ่อกำจัดกากของเสียอันตราย  
**Date Analysis Commenced** Oct 10, 2024  
**Condition of Sample** Packed in one plastic bag and one glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Aluminium	mg/kg	-	1.00	679	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Arsenic	mg/kg	-	0.50	3.15	≤10	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Cadmium	mg/kg	-	0.50	<0.50	≤1	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Copper	mg/kg	-	1.00	4.47	≤31.5	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Hexavalent Chromium	mg/kg	-	0.25	<0.25	No Standard	United States Environmental Protection Agency, EPA Method 3060 A and 7196 A	Bangkok
Mercury	mg/kg	-	0.10	<0.10	≤0.2	United States Environmental Protection Agency, EPA Method 7473	Bangkok
Nickel	mg/kg	-	1.00	1.44	≤23	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Silver	mg/kg	-	1.00	<1.00	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Trivalent Chromium	mg/kg	-	1.00	<1.00	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Zinc	mg/kg	-	1.00	17.0	≤120	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
<b>Physical Parameters</b>							
Moisture	%	-	0.1	17.3	No Standard	In-house method based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 2540 G	Bangkok

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## Analysis / Test Report

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 24109683**  
Date Received : Oct 09, 2024  
Date Reported : Oct 25, 2024  
Report Number : 3118539-1

Page 4 of 10

**Guideline :** Notification of The National Environmental Board B.E.2565, for protect benthic animals  
**Note :** Analysis Results expressed on dry basis.

**Sampling By :** Phongthep Sittihoh

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

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## Analysis / Test Report

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20320  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 24109683**  
Date Received : Oct 09, 2024  
Date Reported : Oct 25, 2024  
Report Number : 3118539-1

Page 5 of 10

**Sample Number** 24109683-3  
**Sampled Date** Oct 09, 2024 12:10 PM  
**Sample Description** ตะกอนดิน  
**Location** SD3 : ทรัพย์สินสงฆ์ กองพัฒนาพื้นที่โครงการ  
**Date Analysis Commenced** Oct 10, 2024  
**Condition of Sample** Packed in one plastic bag and one glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Aluminium	mg/kg	-	1.00	572	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Arsenic	mg/kg	-	0.50	3.74	≤10	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Cadmium	mg/kg	-	0.50	<0.50	≤1	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Copper	mg/kg	-	1.00	2.84	≤31.5	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Hexavalent Chromium	mg/kg	-	0.25	<0.25	No Standard	United States Environmental Protection Agency, EPA Method 3060 A and 7196 A	Bangkok
Mercury	mg/kg	-	0.10	<0.10	≤0.2	United States Environmental Protection Agency, EPA Method 7473	Bangkok
Nickel	mg/kg	-	1.00	12.5	≤23	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Silver	mg/kg	-	1.00	<1.00	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Trivalent Chromium	mg/kg	-	1.00	<1.00	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Zinc	mg/kg	-	1.00	3.54	≤120	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
<b>Physical Parameters</b>							
Moisture	%	-	0.1	8.4	No Standard	In-house method based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 2540 G	Bangkok

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## Analysis / Test Report

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20320  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 24109683**  
Date Received : Oct 09, 2024  
Date Reported : Oct 25, 2024  
Report Number : 3118539-1

Page 6 of 10

**Guideline :** Notification of The National Environmental Board B.E.2565, for protect benthic animals  
**Note :** Analysis Results expressed on dry basis.  
**Sampling By :** Phongthep Sittihoh  
**Remark :**  
· LOD : Limit of Detection  
· "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

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## Analysis / Test Report

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20320  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 24109683**  
Date Received : Oct 09, 2024  
Date Reported : Oct 25, 2024  
Report Number : 3118539-1

Page 7 of 10

**Sample Number** 24109683-4  
**Sampled Date** Oct 09, 2024 11:35 AM  
**Sample Description** ตะกอนดิน  
**Location** SD4 : ทรัพย์สินสงฆ์ กองพัฒนาพื้นที่โครงการ  
**Date Analysis Commenced** Oct 10, 2024  
**Condition of Sample** Packed in one plastic bag and one glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Aluminium	mg/kg	-	1.00	1010	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Arsenic	mg/kg	-	0.50	4.22	≤10	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Cadmium	mg/kg	-	0.50	<0.50	≤1	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Copper	mg/kg	-	1.00	5.19	≤31.5	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Hexavalent Chromium	mg/kg	-	0.25	<0.25	No Standard	United States Environmental Protection Agency, EPA Method 3060 A and 7196 A	Bangkok
Mercury	mg/kg	-	0.10	<0.10	≤0.2	United States Environmental Protection Agency, EPA Method 7473	Bangkok
Nickel	mg/kg	-	1.00	11.4	≤23	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Silver	mg/kg	-	1.00	<1.00	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Trivalent Chromium	mg/kg	-	1.00	<1.00	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Zinc	mg/kg	-	1.00	16.3	≤120	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
<b>Physical Parameters</b>							
Moisture	%	-	0.1	23.9	No Standard	In-house method based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 2540 G	Bangkok

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## Analysis / Test Report

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20320  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 24109683**  
Date Received : Oct 09, 2024  
Date Reported : Oct 25, 2024  
Report Number : 3118539-1

Page 8 of 10

**Guideline :** Notification of The National Environmental Board B.E.2565, for protect benthic animals  
**Note :** Analysis Results expressed on dry basis.  
**Sampling By :** Phongthep Sittihoh  
**Remark :**  
· LOD : Limit of Detection  
· "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

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## Analysis / Test Report

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20330  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 24109683**  
Date Received : Oct 09, 2024  
Date Reported : Oct 25, 2024  
Report Number : 3118539-1

Page 9 of 10

<b>Sample Number</b>	24109683-5						
<b>Sampled Date</b>	Oct 09, 2024 11:05 AM						
<b>Sample Description</b>	ตะกอนดิน						
<b>Location</b>	SD5 : ทรัพย์สินสงฆ์ พระตำหนักหัวโขนกรม						
<b>Date Analysis Commenced</b>	Oct 10, 2024						
<b>Condition of Sample</b>	Packed in one plastic bag and one glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Aluminium	mg/kg	-	1.00	598	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Arsenic	mg/kg	-	0.50	3.19	≤10	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Cadmium	mg/kg	-	0.50	<0.50	≤1	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Copper	mg/kg	-	1.00	2.48	≤31.5	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Hexavalent Chromium	mg/kg	-	0.25	0.52	No Standard	United States Environmental Protection Agency, EPA Method 3060 A and 7196 A	Bangkok
Mercury	mg/kg	-	0.10	<0.10	≤0.2	United States Environmental Protection Agency, EPA Method 7473	Bangkok
Nickel	mg/kg	-	1.00	14.2	≤23	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Silver	mg/kg	-	1.00	<1.00	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Trivalent Chromium	mg/kg	-	1.00	<1.00	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Zinc	mg/kg	-	1.00	10.8	≤120	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
<b>Physical Parameters</b>							
Moisture	%	-	0.1	14.5	No Standard	In-house method based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 24th ed., 2023, part 2540 G	Bangkok

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## Analysis / Test Report

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20330  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 24109683**  
Date Received : Oct 09, 2024  
Date Reported : Oct 25, 2024  
Report Number : 3118539-1

Page 10 of 10

**Guideline :** Notification of The National Environmental Board B.E.2565, for protect benthic animals  
**Note :** Analysis Results expressed on dry basis.  
**Sampling By :** Phongthep Sitthiloh  
**Remark :**  
- LOD : Limit of Detection  
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

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## Analysis / Test Report

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20330  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498874**  
Date Received : Sep 13, 2024  
Date Reported : Oct 18, 2024  
Report Number : 3093675-1

Page 1 of 2

<b>Sample Number</b>	2498874-1						
<b>Sampled Date</b>	Sep 13, 2024 2:00 PM						
<b>Sample Description</b>	ตะกอนดิน						
<b>Location</b>	สวนพฤษภรณ์						
<b>Date Analysis Commenced</b>	Sep 16, 2024						
<b>Condition of Sample</b>	Packed in one plastic bag and one glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Aluminium	mg/kg	-	1.00	1239	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Cadmium	mg/kg	-	0.50	<0.50	≤1	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Copper	mg/kg	-	1.00	1.03	≤31.5	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Hexavalent Chromium	mg/kg	-	0.25	<0.25	No Standard	United States Environmental Protection Agency, EPA Method 3060 A and 7196 A	Bangkok
Iron	mg/kg	-	1.00	4218	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Lead	mg/kg	-	1.00	5.63	≤36	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Mercury	mg/kg	-	0.10	<0.10	≤0.2	United States Environmental Protection Agency, EPA Method 7473	Bangkok
Nickel	mg/kg	-	1.00	<1.00	≤23	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Silver	mg/kg	-	1.00	<1.00	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Zinc	mg/kg	-	1.00	2.71	≤120	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
<b>Physical Parameters</b>							
Moisture	%	-	0.1	20.0	No Standard	In-house method based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 G	Bangkok
<b>Soil Testing</b>							
pH aqueous phase 50% (w/v)							
		-	-	8.3	No Standard	United States Environmental Protection Agency, EPA Method 9045 D	Bangkok

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## Analysis / Test Report

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20330  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498874**  
Date Received : Sep 13, 2024  
Date Reported : Oct 18, 2024  
Report Number : 3093675-1

Page 2 of 2

<b>Sample Number</b>	2498874-1						
<b>Sampled Date</b>	Sep 13, 2024 2:00 PM						
<b>Sample Description</b>	ตะกอนดิน						
<b>Location</b>	สวนพฤษภรณ์						
<b>Date Analysis Commenced</b>	Sep 16, 2024						
<b>Condition of Sample</b>	Packed in one plastic bag and one glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Soil Testing</b>							
pH aqueous phase 50% (w/v)							
		-	-	8.3	No Standard	United States Environmental Protection Agency, EPA Method 9045 D	Bangkok

**Guideline :** Notification of The National Environmental Board B.E.2565, for protect benthic animals  
**Note :** Analysis Results expressed on dry basis.  
**Sampling By :** Kerdbundit Kitisupavant

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

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ผลการตรวจวิเคราะห์คุณภาพดิน



## Analysis / Test Report

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498876**  
Date Received : Sep 16, 2024  
Date Reported : Jan 15, 2025  
Report Number : 3093689-1

Page 1 of 16

**Sample Number** 2498876-1  
**Sampled Date** Sep 16, 2024 11:10 AM  
**Sample Description** Soil ความลึก 5 cm  
**Location** SW1 : พื้นที่เขี่ยในแนวหินของโครงการด้านทิศเหนือ  
**Date Analysis Commenced** Sep 17, 2024  
**Condition of Sample** Packed in one plastic bag and one glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Aluminium	mg/kg	-	1.00	6626	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Arsenic	mg/kg	-	0.50	13.9	≤25	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Barium	mg/kg	-	1.00	38.9	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Cadmium	mg/kg	-	0.50	<0.50	≤762	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Copper	mg/kg	-	1.00	6.02	≤35040	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Hexavalent Chromium	mg/kg	-	0.25	<0.25	≤212	United States Environmental Protection Agency, EPA Method 3060 A and 7196 A	Bangkok
Iron	mg/kg	-	1.00	16850	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Lead	mg/kg	-	1.00	6.99	≤800	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Manganese	mg/kg	-	1.00	92.1	≤19640	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Mercury	mg/kg	-	0.10	<0.10	≤263	United States Environmental Protection Agency, EPA Method 7473	Bangkok
Nickel	mg/kg	-	1.00	2.55	≤5205	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Selenium	mg/kg	-	0.50	<0.50	≤4380	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok

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## Analysis / Test Report

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498876**  
Date Received : Sep 16, 2024  
Date Reported : Jan 15, 2025  
Report Number : 3093689-1

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**Sample Number** 2498876-1  
**Sampled Date** Sep 16, 2024 11:10 AM  
**Sample Description** Soil ความลึก 5 cm  
**Location** SW1 : พื้นที่เขี่ยในแนวหินของโครงการด้านทิศเหนือ  
**Date Analysis Commenced** Sep 17, 2024  
**Condition of Sample** Packed in one plastic bag and one glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Silver	mg/kg	-	1.00	<1.00	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Trivalent Chromium	mg/kg	-	1.00	<1.00	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Zinc	mg/kg	-	1.00	1.99	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
<b>Physical Parameters</b>							
Moisture	%	-	0.1	32.9	No Standard	In-house method based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 G	Bangkok
<b>Soil Testing</b>							
pH aqueous phase 50% (w/v)	-	-	-	5.4	No Standard	United States Environmental Protection Agency, EPA Method 9045 D	Bangkok

**Guideline :** Notification of National Environmental Board B.E. 2564 (2021), published in the Royal Government Gazette No. 138 Special Part 54 D dated March 11, B.E.2564  
Class 2: Soil usage for commercial, agricultural and others.

**Note :**  
1. Analysis Results expressed on dry basis.  
2. This Analysis test report is reissued to supersede report No.3093689-1, Date Reported : Sep 24, 2024 due to revise guideline/specification

**Sampling By :** Surawit Narapong

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

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## Analysis / Test Report

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498876**  
Date Received : Sep 16, 2024  
Date Reported : Jan 15, 2025  
Report Number : 3093689-1

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**Sample Number** 2498876-2  
**Sampled Date** Sep 16, 2024 9:00 AM  
**Sample Description** Soil ความลึก 5 cm  
**Location** SW2 : พื้นที่เขี่ยในแนวหินของโครงการด้านทิศใต้  
**Date Analysis Commenced** Sep 17, 2024  
**Condition of Sample** Packed in one plastic bag and one glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Aluminium	mg/kg	-	1.00	4503	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Arsenic	mg/kg	-	0.50	5.26	≤25	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Barium	mg/kg	-	1.00	49.3	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Cadmium	mg/kg	-	0.50	<0.50	≤762	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Copper	mg/kg	-	1.00	4.11	≤35040	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Hexavalent Chromium	mg/kg	-	0.25	<0.25	≤212	United States Environmental Protection Agency, EPA Method 3060 A and 7196 A	Bangkok
Iron	mg/kg	-	1.00	5378	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Lead	mg/kg	-	1.00	8.83	≤800	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Manganese	mg/kg	-	1.00	234	≤19640	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Mercury	mg/kg	-	0.10	<0.10	≤263	United States Environmental Protection Agency, EPA Method 7473	Bangkok
Nickel	mg/kg	-	1.00	3.25	≤5205	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Selenium	mg/kg	-	0.50	<0.50	≤4380	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok

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## Analysis / Test Report

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498876**  
Date Received : Sep 16, 2024  
Date Reported : Jan 15, 2025  
Report Number : 3093689-1

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**Sample Number** 2498876-2  
**Sampled Date** Sep 16, 2024 9:00 AM  
**Sample Description** Soil ความลึก 5 cm  
**Location** SW2 : พื้นที่เขี่ยในแนวหินของโครงการด้านทิศใต้  
**Date Analysis Commenced** Sep 17, 2024  
**Condition of Sample** Packed in one plastic bag and one glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Silver	mg/kg	-	1.00	<1.00	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Trivalent Chromium	mg/kg	-	1.00	<1.00	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Zinc	mg/kg	-	1.00	11.6	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
<b>Physical Parameters</b>							
Moisture	%	-	0.1	9.8	No Standard	In-house method based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 G	Bangkok
<b>Soil Testing</b>							
pH aqueous phase 50% (w/v)	-	-	-	7.9	No Standard	United States Environmental Protection Agency, EPA Method 9045 D	Bangkok

**Guideline :** Notification of National Environmental Board B.E. 2564 (2021), published in the Royal Government Gazette No. 138 Special Part 54 D dated March 11, B.E.2564  
Class 2: Soil usage for commercial, agricultural and others.

**Note :**  
1. Analysis Results expressed on dry basis.  
2. This Analysis test report is reissued to supersede report No.3093689-1, Date Reported : Sep 24, 2024 due to revise guideline/specification

**Sampling By :** Surawit Narapong

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

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## Analysis / Test Report

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498876**  
Date Received : Sep 16, 2024  
Date Reported : Jan 15, 2025  
Report Number : 3093689-1

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**Sample Number** 2498876-3  
**Sampled Date** Sep 16, 2024 2:30 PM  
**Sample Description** Soil ความลึก 5 cm  
**Location** SW3 : พื้นที่เขี่ยในแนวหินขบของโครงการด้านทิศเหนือ  
**Date Analysis Commenced** Sep 17, 2024  
**Condition of Sample** Packed in one plastic bag and one glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Aluminium	mg/kg	-	1.00	5576	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Arsenic	mg/kg	-	0.50	5.15	≤25	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Barium	mg/kg	-	1.00	17.0	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Cadmium	mg/kg	-	0.50	<0.50	≤762	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Copper	mg/kg	-	1.00	3.15	≤35040	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Hexavalent Chromium	mg/kg	-	0.25	<0.25	≤212	United States Environmental Protection Agency, EPA Method 3060 A and 7196 A	Bangkok
Iron	mg/kg	-	1.00	3276	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Lead	mg/kg	-	1.00	12.0	≤800	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Manganese	mg/kg	-	1.00	118	≤19640	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Mercury	mg/kg	-	0.10	<0.10	≤263	United States Environmental Protection Agency, EPA Method 7473	Bangkok
Nickel	mg/kg	-	1.00	1.62	≤5205	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Selenium	mg/kg	-	0.50	<0.50	≤4380	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok

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## Analysis / Test Report

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498876**  
Date Received : Sep 16, 2024  
Date Reported : Jan 15, 2025  
Report Number : 3093689-1

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**Sample Number** 2498876-3  
**Sampled Date** Sep 16, 2024 2:30 PM  
**Sample Description** Soil ความลึก 5 cm  
**Location** SW3 : พื้นที่เขี่ยในแนวหินขบของโครงการด้านทิศเหนือ  
**Date Analysis Commenced** Sep 17, 2024  
**Condition of Sample** Packed in one plastic bag and one glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Silver	mg/kg	-	1.00	<1.00	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Trivalent Chromium	mg/kg	-	1.00	<1.00	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Zinc	mg/kg	-	1.00	9.76	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
<b>Physical Parameters</b>							
Moisture	%	-	0.1	21.5	No Standard	In-house method based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 G	Bangkok
<b>Soil Testing</b>							
pH aqueous phase 50% (w/v)	-	-	8.2	No Standard	United States Environmental Protection Agency, EPA Method 9045 D		Bangkok

**Guideline :** Notification of National Environmental Board B.E. 2564 (2021), published in the Royal Government Gazette No. 138 Special Part 54 D dated March 11, B.E.2564  
Class 2: Soil usage for commercial, agricultural and others.

**Note :**  
1. Analysis Results expressed on dry basis.  
2. This Analysis test report is reissued to supersede report No.3093689-1, Date Reported : Sep 24, 2024 due to revise guideline/specification

**Sampling By :** Surawit Narapong

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

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## Analysis / Test Report

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498876**  
Date Received : Sep 16, 2024  
Date Reported : Jan 15, 2025  
Report Number : 3093689-1

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**Sample Number** 2498876-4  
**Sampled Date** Sep 16, 2024 2:50 PM  
**Sample Description** Soil ความลึก 5 cm  
**Location** SW4 : พื้นที่เขี่ยในแนวหินขบของโครงการด้านทิศเหนือ  
**Date Analysis Commenced** Sep 17, 2024  
**Condition of Sample** Packed in one plastic bag and one glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Aluminium	mg/kg	-	1.00	7957	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Arsenic	mg/kg	-	0.50	46.0	≤25	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Barium	mg/kg	-	1.00	76.6	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Cadmium	mg/kg	-	0.50	<0.50	≤762	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Copper	mg/kg	-	1.00	11.5	≤35040	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Hexavalent Chromium	mg/kg	-	0.25	<0.25	≤212	United States Environmental Protection Agency, EPA Method 3060 A and 7196 A	Bangkok
Iron	mg/kg	-	1.00	19504	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Lead	mg/kg	-	1.00	10.6	≤800	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Manganese	mg/kg	-	1.00	445	≤19640	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Mercury	mg/kg	-	0.10	<0.10	≤263	United States Environmental Protection Agency, EPA Method 7473	Bangkok
Nickel	mg/kg	-	1.00	4.70	≤5205	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Selenium	mg/kg	-	0.50	0.91	≤4380	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok

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## Analysis / Test Report

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498876**  
Date Received : Sep 16, 2024  
Date Reported : Jan 15, 2025  
Report Number : 3093689-1

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**Sample Number** 2498876-4  
**Sampled Date** Sep 16, 2024 2:50 PM  
**Sample Description** Soil ความลึก 5 cm  
**Location** SW4 : พื้นที่เขี่ยในแนวหินขบของโครงการด้านทิศเหนือ  
**Date Analysis Commenced** Sep 17, 2024  
**Condition of Sample** Packed in one plastic bag and one glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Silver	mg/kg	-	1.00	<1.00	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Trivalent Chromium	mg/kg	-	1.00	<1.00	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Zinc	mg/kg	-	1.00	9.11	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
<b>Physical Parameters</b>							
Moisture	%	-	0.1	10.2	No Standard	In-house method based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 G	Bangkok
<b>Soil Testing</b>							
pH aqueous phase 50% (w/v)	-	-	6.1	No Standard	United States Environmental Protection Agency, EPA Method 9045 D		Bangkok

**Guideline :** Notification of National Environmental Board B.E. 2564 (2021), published in the Royal Government Gazette No. 138 Special Part 54 D dated March 11, B.E.2564  
Class 2: Soil usage for commercial, agricultural and others.

**Note :**  
1. Analysis Results expressed on dry basis.  
2. This Analysis test report is reissued to supersede report No.3093689-1, Date Reported : Sep 24, 2024 due to revise guideline/specification

**Sampling By :** Surawit Narapong

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

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## Analysis / Test Report

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498876**  
Date Received : Sep 16, 2024  
Date Reported : Jan 15, 2025  
Report Number : 3093689-1

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**Sample Number** 2498876-5  
**Sampled Date** Sep 16, 2024 11:15 AM  
**Sample Description** Soil ความลึก 30 cm  
**Location** SW1 : พื้นที่สีเขียวในแนว/ขอบของโครงการด้านทิศเหนือ  
**Date Analysis Commenced** Sep 17, 2024  
**Condition of Sample** Packed in one plastic bag and one glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Aluminium	mg/kg	-	1.00	7241	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Arsenic	mg/kg	-	0.50	24.6	≤25	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Barium	mg/kg	-	1.00	58.7	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Cadmium	mg/kg	-	0.50	<0.50	≤762	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Copper	mg/kg	-	1.00	8.44	≤35040	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Hexavalent Chromium	mg/kg	-	0.25	<0.25	≤212	United States Environmental Protection Agency, EPA Method 3060 A and 7196 A	Bangkok
Iron	mg/kg	-	1.00	23800	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Lead	mg/kg	-	1.00	9.76	≤800	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Manganese	mg/kg	-	1.00	252	≤19640	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Mercury	mg/kg	-	0.10	<0.10	≤263	United States Environmental Protection Agency, EPA Method 7473	Bangkok
Nickel	mg/kg	-	1.00	3.92	≤5205	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Selenium	mg/kg	-	0.50	0.69	≤4380	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok

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Approved by

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Chanattagam Inchom  
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10905-31/2 (BHAL) S:\Reports\AL\_SL\_opt (9-12AM)



## Analysis / Test Report

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498876**  
Date Received : Sep 16, 2024  
Date Reported : Jan 15, 2025  
Report Number : 3093689-1

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**Sample Number** 2498876-5  
**Sampled Date** Sep 16, 2024 11:15 AM  
**Sample Description** Soil ความลึก 30 cm  
**Location** SW1 : พื้นที่สีเขียวในแนว/ขอบของโครงการด้านทิศเหนือ  
**Date Analysis Commenced** Sep 17, 2024  
**Condition of Sample** Packed in one plastic bag and one glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Silver	mg/kg	-	1.00	<1.00	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Trivalent Chromium	mg/kg	-	1.00	<1.00	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Zinc	mg/kg	-	1.00	4.78	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
<b>Physical Parameters</b>							
Moisture	%	-	0.1	14.0	No Standard	In-house method based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 G	Bangkok
<b>Soil Testing</b>							
pH aqueous phase 50% (w/v)	-	-	-	5.4	No Standard	United States Environmental Protection Agency, EPA Method 9045 D	Bangkok

**Guideline :** Notification of National Environmental Board B.E. 2564 (2021), published in the Royal Government Gazette No. 138 Special Part 54 D dated March 11, B.E.2564  
Class 2: Soil usage for commercial, agricultural and others.

**Note :**  
1. Analysis Results expressed on dry basis.  
2. This Analysis test report is reissued to supersede report No.3093689-1, Date Reported : Sep 24, 2024 due to revise guideline/specification

**Sampling By :** Surawit Narapong

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

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ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company



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## Analysis / Test Report

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498876**  
Date Received : Sep 16, 2024  
Date Reported : Jan 15, 2025  
Report Number : 3093689-1

Page 11 of 16

**Sample Number** 2498876-6  
**Sampled Date** Sep 16, 2024 9:15 AM  
**Sample Description** Soil ความลึก 30 cm  
**Location** SW2 : พื้นที่สีเขียวในแนว/ขอบของโครงการด้านทิศใต้  
**Date Analysis Commenced** Sep 17, 2024  
**Condition of Sample** Packed in one plastic bag and one glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Aluminium	mg/kg	-	1.00	5799	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Arsenic	mg/kg	-	0.50	6.84	≤25	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Barium	mg/kg	-	1.00	54.4	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Cadmium	mg/kg	-	0.50	<0.50	≤762	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Copper	mg/kg	-	1.00	4.21	≤35040	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Hexavalent Chromium	mg/kg	-	0.25	<0.25	≤212	United States Environmental Protection Agency, EPA Method 3060 A and 7196 A	Bangkok
Iron	mg/kg	-	1.00	8792	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Lead	mg/kg	-	1.00	9.27	≤800	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Manganese	mg/kg	-	1.00	264	≤19640	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Mercury	mg/kg	-	0.10	<0.10	≤263	United States Environmental Protection Agency, EPA Method 7473	Bangkok
Nickel	mg/kg	-	1.00	6.88	≤5205	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Selenium	mg/kg	-	0.50	<0.50	≤4380	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok

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## Analysis / Test Report

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498876**  
Date Received : Sep 16, 2024  
Date Reported : Jan 15, 2025  
Report Number : 3093689-1

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**Sample Number** 2498876-6  
**Sampled Date** Sep 16, 2024 9:15 AM  
**Sample Description** Soil ความลึก 30 cm  
**Location** SW2 : พื้นที่สีเขียวในแนว/ขอบของโครงการด้านทิศใต้  
**Date Analysis Commenced** Sep 17, 2024  
**Condition of Sample** Packed in one plastic bag and one glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Silver	mg/kg	-	1.00	<1.00	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Trivalent Chromium	mg/kg	-	1.00	<1.00	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Zinc	mg/kg	-	1.00	10.4	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
<b>Physical Parameters</b>							
Moisture	%	-	0.1	10.5	No Standard	In-house method based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 G	Bangkok
<b>Soil Testing</b>							
pH aqueous phase 50% (w/v)	-	-	-	7.2	No Standard	United States Environmental Protection Agency, EPA Method 9045 D	Bangkok

**Guideline :** Notification of National Environmental Board B.E. 2564 (2021), published in the Royal Government Gazette No. 138 Special Part 54 D dated March 11, B.E.2564  
Class 2: Soil usage for commercial, agricultural and others.

**Note :**  
1. Analysis Results expressed on dry basis.  
2. This Analysis test report is reissued to supersede report No.3093689-1, Date Reported : Sep 24, 2024 due to revise guideline/specification

**Sampling By :** Surawit Narapong

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

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## Analysis / Test Report

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498876**  
Date Received : Sep 16, 2024  
Date Reported : Jan 15, 2025  
Report Number : 3093689-1

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**Sample Number** 2498876-7  
**Sampled Date** Sep 16, 2024 2:40 PM  
**Sample Description** Soil ความลึก 30 cm  
**Location** SW3 : พื้นที่เขื่อนในแนวหินของโครงการด้านทิศเหนือ  
**Date Analysis Commenced** Sep 17, 2024  
**Condition of Sample** Packed in one plastic bag and one glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Aluminium	mg/kg	-	1.00	5255	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Arsenic	mg/kg	-	0.50	3.32	≤25	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Barium	mg/kg	-	1.00	15.6	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Cadmium	mg/kg	-	0.50	<0.50	≤762	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Copper	mg/kg	-	1.00	3.59	≤35040	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Hexavalent Chromium	mg/kg	-	0.25	<0.25	≤212	United States Environmental Protection Agency, EPA Method 3060 A and 7196 A	Bangkok
Iron	mg/kg	-	1.00	2150	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Lead	mg/kg	-	1.00	12.3	≤800	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Manganese	mg/kg	-	1.00	174	≤19640	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Mercury	mg/kg	-	0.10	<0.10	≤263	United States Environmental Protection Agency, EPA Method 7473	Bangkok
Nickel	mg/kg	-	1.00	1.95	≤5205	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Selenium	mg/kg	-	0.50	<0.50	≤4380	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok

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## Analysis / Test Report

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498876**  
Date Received : Sep 16, 2024  
Date Reported : Jan 15, 2025  
Report Number : 3093689-1

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**Sample Number** 2498876-7  
**Sampled Date** Sep 16, 2024 2:40 PM  
**Sample Description** Soil ความลึก 30 cm  
**Location** SW3 : พื้นที่เขื่อนในแนวหินของโครงการด้านทิศเหนือ  
**Date Analysis Commenced** Sep 17, 2024  
**Condition of Sample** Packed in one plastic bag and one glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Silver	mg/kg	-	1.00	<1.00	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Trivalent Chromium	mg/kg	-	1.00	<1.00	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Zinc	mg/kg	-	1.00	12.0	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
<b>Physical Parameters</b>							
Moisture	%	-	0.1	12.3	No Standard	In-house method based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 G	Bangkok
<b>Soil Testing</b>							
pH aqueous phase 50% (w/v)	-	-	8.0	No Standard	United States Environmental Protection Agency, EPA Method 9045 D		Bangkok

**Guideline :** Notification of National Environmental Board B.E. 2564 (2021), published in the Royal Government Gazette No. 138 Special Part 54 D dated March 11, B.E.2564  
Class 2: Soil usage for commercial, agricultural and others.

**Note :**  
1. Analysis Results expressed on dry basis.  
2. This Analysis test report is reissued to supersede report No.3093689-1, Date Reported : Sep 24, 2024 due to revise guideline/specification

**Sampling By :** Surawit Narapong

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

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## Analysis / Test Report

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498876**  
Date Received : Sep 16, 2024  
Date Reported : Jan 15, 2025  
Report Number : 3093689-1

Page 15 of 16

**Sample Number** 2498876-8  
**Sampled Date** Sep 16, 2024 3:05 PM  
**Sample Description** Soil ความลึก 30 cm  
**Location** SW4 : พื้นที่เขื่อนในแนวหินของโครงการด้านทิศเหนือ  
**Date Analysis Commenced** Sep 17, 2024  
**Condition of Sample** Packed in one plastic bag and one glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Aluminium	mg/kg	-	1.00	7119	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Arsenic	mg/kg	-	0.50	92.6	≤25	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Barium	mg/kg	-	1.00	49.7	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Cadmium	mg/kg	-	0.50	<0.50	≤762	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Copper	mg/kg	-	1.00	7.63	≤35040	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Hexavalent Chromium	mg/kg	-	0.25	<0.25	≤212	United States Environmental Protection Agency, EPA Method 3060 A and 7196 A	Bangkok
Iron	mg/kg	-	1.00	22488	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Lead	mg/kg	-	1.00	11.0	≤800	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Manganese	mg/kg	-	1.00	199	≤19640	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Mercury	mg/kg	-	0.10	<0.10	≤263	United States Environmental Protection Agency, EPA Method 7473	Bangkok
Nickel	mg/kg	-	1.00	4.38	≤5205	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Selenium	mg/kg	-	0.50	0.62	≤4380	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok

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## Analysis / Test Report

**Client :** Rojana Industrial Park Public Co., Ltd.  
168 Moo 4, Sattahip-Chachoengsao Road., Bowin, Sriracha, Chonburi Thailand 20230  
**P/O :** RJN-BW009/66  
**Project Name :** Chonburi Bowin  
**Project Location :**

**Lot ID: 2498876**  
Date Received : Sep 16, 2024  
Date Reported : Jan 15, 2025  
Report Number : 3093689-1

Page 16 of 16

**Sample Number** 2498876-8  
**Sampled Date** Sep 16, 2024 3:05 PM  
**Sample Description** Soil ความลึก 30 cm  
**Location** SW4 : พื้นที่เขื่อนในแนวหินของโครงการด้านทิศเหนือ  
**Date Analysis Commenced** Sep 17, 2024  
**Condition of Sample** Packed in one plastic bag and one glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
<b>Metals Testing</b>							
Silver	mg/kg	-	1.00	<1.00	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Trivalent Chromium	mg/kg	-	1.00	<1.00	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
Zinc	mg/kg	-	1.00	5.99	No Standard	United States Environmental Protection Agency, EPA Method 3050 B and 6010 D	Bangkok
<b>Physical Parameters</b>							
Moisture	%	-	0.1	16.6	No Standard	In-house method based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 G	Bangkok
<b>Soil Testing</b>							
pH aqueous phase 50% (w/v)	-	-	6.2	No Standard	United States Environmental Protection Agency, EPA Method 9045 D		Bangkok

**Guideline :** Notification of National Environmental Board B.E. 2564 (2021), published in the Royal Government Gazette No. 138 Special Part 54 D dated March 11, B.E.2564  
Class 2: Soil usage for commercial, agricultural and others.

**Note :**  
1. Analysis Results expressed on dry basis.  
2. This Analysis test report is reissued to supersede report No.3093689-1, Date Reported : Sep 24, 2024 due to revise guideline/specification

**Sampling By :** Surawit Narapong

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

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ภาคผนวก ง

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ใบรับรองการสอบเทียบเครื่องมือ





ALS

MULTIPOINT CALIBRATION REPORT

Calibration Date: 5-Jul-24  
Manufacturer: HORIBA  
Serial No.: H083D0FA  
Calibrator Manufacturer: Teledyne API  
Serial No.: 847  
Std. Gas Concentration (PPM): 86.3  
Cylinder Pressure (psi): 1800  
Certified Date: 9-Feb-22

Equipment Name: 802 Analyzer  
Model: AFSBA-370  
Equipment ID: RYQ\_F80454  
Model: 700  
Cylinder No.: GN0027222  
Certified By: Alphas Inc.  
Expired Date: 9-Feb-30

Point	Ideal	Actual	Error	%Error
ZERO	0.00	0.10	0.10	0.10
1	100.00	98.30	-1.70	-1.70
2	200.00	200.80	0.80	0.40
3	300.00	299.20	-0.80	-0.26
4	400.00	399.70	-0.30	-0.08
AVERAGE (%)				
-0.18				

Calibrated By: (Mr. Arwud Salom) Field Environmental Scientist (S)  
Approved By: (Mr. Serwuth Jittrant) Assistant General Manager

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

ALS

MULTIPOINT CALIBRATION REPORT

Calibration Date: 5-Jul-24  
Manufacturer: HORIBA  
Serial No.: VAMFBLH  
Calibrator Manufacturer: Teledyne API  
Serial No.: 847  
Std. Gas Concentration (PPM): 86.3  
Cylinder Pressure (psi): 1800  
Certified Date: 9-Feb-22

Equipment Name: 802 Analyzer  
Model: AFSBA-370  
Equipment ID: RYQ\_F80450  
Model: 700  
Cylinder No.: GN0027222  
Certified By: Alphas Inc.  
Expired Date: 9-Feb-30

Point	Ideal	Actual	Error	%Error
ZERO	0.00	0.10	0.10	0.10
1	100.00	98.70	-1.30	-1.30
2	200.00	198.60	-1.20	-0.60
3	300.00	299.30	-0.70	-0.23
4	400.00	399.20	-0.80	-0.20
AVERAGE (%)				
-0.68				

Calibrated By: (Mr. Arwud Salom) Field Environmental Scientist (S)  
Approved By: (Mr. Serwuth Jittrant) Assistant General Manager

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

ALS

MULTIPOINT CALIBRATION REPORT

Calibration Date: 5-Jul-24  
Manufacturer: HORIBA  
Serial No.: XL20Y16B  
Calibrator Manufacturer: Teledyne API  
Serial No.: 847  
Std. Gas Concentration (PPM): 86.3  
Cylinder Pressure (psi): 1800  
Certified Date: 9-Feb-22

Equipment Name: 802 Analyzer  
Model: AFSBA-370  
Equipment ID: RYQ\_F80452  
Model: 700  
Cylinder No.: GN0027222  
Certified By: Alphas Inc.  
Expired Date: 9-Feb-30

Point	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	299.30	-0.70	-0.23
4	400.00	402.20	2.20	0.55
AVERAGE (%)				
-0.21				

Calibrated By: (Mr. Arwud Salom) Field Environmental Scientist (S)  
Approved By: (Mr. Serwuth Jittrant) Assistant General Manager

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

ALS

MULTIPOINT CALIBRATION REPORT

Calibration Date: 5-Jul-24  
Manufacturer: Teledyne API  
Serial No.: 6060  
Calibrator Manufacturer: Teledyne API  
Serial No.: 847  
Std. Gas Concentration (PPM): 86.3  
Cylinder Pressure (psi): 1800  
Certified Date: 9-Feb-22

Equipment Name: 802 Analyzer  
Model: T100  
Equipment ID: RYQ\_F80832  
Model: 700  
Cylinder No.: GN0027222  
Certified By: Alphas Inc.  
Expired Date: 9-Feb-30

Point	Ideal	Actual	Error	%Error
ZERO	0.00	0.10	0.10	0.10
1	100.00	98.80	-1.20	-1.20
2	200.00	198.60	-1.40	-0.70
3	300.00	298.70	-1.30	-0.43
4	400.00	399.60	-0.40	-0.10
AVERAGE (%)				
-0.47				

Calibrated By: (Mr. Arwud Salom) Field Environmental Scientist (S)  
Approved By: (Mr. Serwuth Jittrant) Assistant General Manager

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

J NAC

CERTIFICATE OF CALIBRATION

Calibration Date: 08-Aug-2024  
Measurement Date: 08-Aug-2024  
Issue Date: 08-Aug-2024

Equipment Name: 802 Analyzer  
Model: T100  
Equipment ID: RYQ\_F80832  
Model: 700  
Cylinder No.: GN0027222  
Certified By: Alphas Inc.  
Expired Date: 9-Feb-30

Point	Ideal	Actual	Error	%Error
ZERO	0.00	0.10	0.10	0.10
1	100.00	98.80	-1.20	-1.20
2	200.00	198.60	-1.40	-0.70
3	300.00	298.70	-1.30	-0.43
4	400.00	399.60	-0.40	-0.10
AVERAGE (%)				
-0.47				

Calibrated By: (Mr. Arwud Salom) Field Environmental Scientist (S)  
Approved By: (Mr. Serwuth Jittrant) Assistant General Manager

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

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3	300.00	298.70	-1.30	-0.43
4	400.00	399.60	-0.40	-0.10
AVERAGE (%)				
-0.47				

Calibrated By: (Mr. Arwud Salom) Field Environmental Scientist (S)  
Approved By: (Mr. Serwuth Jittrant) Assistant General Manager

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

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4	400.00	399.60	-0.40	-0.10
AVERAGE (%)				
-0.47				

Calibrated By: (Mr. Arwud Salom) Field Environmental Scientist (S)  
Approved By: (Mr. Serwuth Jittrant) Assistant General Manager

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

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CERTIFICATE OF CALIBRATION

Calibration Date: 08-Aug-2024  
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Issue Date: 08-Aug-2024

Equipment Name: 802 Analyzer  
Model: T100  
Equipment ID: RYQ\_F80832  
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Cylinder No.: GN0027222  
Certified By: Alphas Inc.  
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1	100.00	98.80	-1.20	-1.20
2	200.00	198.60	-1.40	-0.70
3	300.00	298.70	-1.30	-0.43
4	400.00	399.60	-0.40	-0.10
AVERAGE (%)				
-0.47				

Calibrated By: (Mr. Arwud Salom) Field Environmental Scientist (S)  
Approved By: (Mr. Serwuth Jittrant) Assistant General Manager

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

SITHIPORN ASSOCIATES CO., LTD.

CERTIFICATION LABORATORY

Calibration Date: 08-Aug-2024  
Measurement Date: 08-Aug-2024  
Issue Date: 08-Aug-2024

Equipment Name: 802 Analyzer  
Model: T100  
Equipment ID: RYQ\_F80832  
Model: 700  
Cylinder No.: GN0027222  
Certified By: Alphas Inc.  
Expired Date: 9-Feb-30

Point	Ideal	Actual	Error	%Error
ZERO	0.00	0.10	0.10	0.10
1	100.00	98.80	-1.20	-1.20
2	200.00	198.60	-1.40	-0.70
3	300.00	298.70	-1.30	-0.43
4	400.00	399.60	-0.40	-0.10
AVERAGE (%)				
-0.47				

Calibrated By: (Mr. Arwud Salom) Field Environmental Scientist (S)  
Approved By: (Mr. Serwuth Jittrant) Assistant General Manager

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

# SITHIPORN ASSOCIATES CO., LTD. CALIBRATION LABORATORY

409-409/1 Sorathorn Road, Bangpujima, Bangkok, 10250 Thailand  
Tel: +66 2453 8331 Email: calibration@sithiporn.com



Cert. No. : ACL34085  
Job No. : VC87ACB164  
Pages : 2 of 3

Calibration Procedure : CP-AC-03

## Calibration Method :

This equipment was calibrated by follow on IEC-60942:2003 Standard.

The sound pressure level, frequency and total distortion of the sound calibrator was measured using the reference microphone.

## Condition of this result of calibration :

### 1. Reference Standard Instruments :

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33511B	MY53202742	IF-0010-23	07-FEB-24
Digital Multimeter	33461A	MY53220104	EEL-BP 200267	13-FEB-24
Digital Multimeter	33461A	MY53220076	EEL-BP 200267	13-FEB-24
Digital Multimeter	33461A	MY60024273	EEL-BP 310268	14-FEB-24
Programmable Attenuator	MAT-1070	62100114	IF-0011-23	08-FEB-24
Condenser Microphone	4180	297900	AA-1001-23	14-FEB-24
Measuring Amplifier	NA-42KAI	34560895	AA-3001-23	14-FEB-24
Audio Analyzer	AVR-3360A	V348H069	EF-0012-23	10-FEB-24

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

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

- National Institute of Metrology (Thailand).
- Thailand Institute of Scientific and Technological Research (TISTR).

T. Petch.

# SITHIPORN ASSOCIATES CO., LTD. CALIBRATION LABORATORY

409-409/1 Sorathorn Road, Bangpujima, Bangkok, 10250 Thailand  
Tel: +66 2453 8331 Email: calibration@sithiporn.com



Cert. No. : ACC24088  
Job No. : VC87ACB168  
Pages : 3 of 3

## Result of calibration :

### 1. Sound pressure level

Specified sound pressure level (dB)	Measured value (dB)	Deviated value (dB)	Uncertainty (dB)	Acceptance limit (dB)
94	93.98	-0.02	0.14	0.40

### 2. Frequency

Specified Frequency (Hz)	Measured value (Hz)	Deviated value (%)	Uncertainty (%)	Acceptance limit (%)
1000	1000.0	0.0	0.1	1.0

### 3. Total distortion

Measured value (%)	Uncertainty (%)	Acceptance limit (%)
0.83	0.10	3.0

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor  $k = 2$ , or any value following calculation providing a level of confidence of approximately 95 %.

End of Calibration Certificate

T. Petch.

# SITHIPORN ASSOCIATES CO., LTD. CALIBRATION LABORATORY

409-409/1 Sorathorn Road, Bangpujima, Bangkok, 10250 Thailand  
Tel: +66 2453 8331 Email: calibration@sithiporn.com



Cert. No. : ACL34085  
Job No. : VC87ACB168  
Pages : 1 of 8

## Calibration Certificate

Equipment : SOUND LEVEL METER  
Manufacturer : RION  
Model : NL-42 / Microphone UC-52 / Pre-amplifier NH-24  
Serial No. : 0087109 / 171842 / 73483  
ID No. : RYU 730384

Condition As Found : GOOD

Customer : ALS LABORATORY GROUP (THAILAND) CO., LTD.  
104 PHATTHANAKAN ROAD,  
KIAPAEANG PHATTHANAKAN, KHET SUAN LUANG,  
BANGKOK, 10259 THAILAND.

Location :  
Ambient Temperature : ( 25.0 ± 3 ) °C  
Pressure : ( 101.3 ± 3 ) kPa  
Relative Humidity : ( 50.0 ± 20 ) %  
Received Date : 23 SEPTEMBER 2024  
Calibration Date : 09 OCTOBER 2024  
Date of Issue : 09 OCTOBER 2024

REVIEWED BY : P. Petch.  
APPROVED BY : T. Petch.  
NEXT CAL. DATE : 9/10/25

Calibrated by : Nathasorn Prasitpattana

Approved by : T. Petch.  
( Thanakul Petchini )

This certificate is issued in accordance with the requirements of ISO/IEC 17025 standard, may not be reproduced other than in full, except with the prior written approval of the head of Calibration Laboratory.

# SITHIPORN ASSOCIATES CO., LTD. CALIBRATION LABORATORY

409-409/1 Sorathorn Road, Bangpujima, Bangkok, 10250 Thailand  
Tel: +66 2453 8331 Email: calibration@sithiporn.com



Cert. No. : ACL34085  
Job No. : VC87ACB164  
Pages : 2 of 8

Calibration Procedure : CP-AC-03

## Calibration Method :

This equipment was calibrated by follow on IEC-61672-3 (30) Standard for sound level meter (SLM).

The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Anechoic chamber and Reference Standard Instruments.

For test results of each item was made by observation of each Instruments display and also with SLM's display.

## Condition of this result of calibration :

### 1. Reference Standard Instruments :

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33511B	MY53202742	IF-0009-24	09-FEB-25
Waveform Generator	33511B	MY53202742	IF-0007-24	05-FEB-25
Digital Multimeter	33461A	MY53220104	EEL-BP 210267	13-FEB-25
Digital Multimeter	33461A	MY53220076	EEL-BP 200267	15-FEB-25
Digital Multimeter	33461A	MY60024273	EEL-BP 310267	15-FEB-25
Programmable Attenuator	MAT-1070	62100114	IF-0008-24	05-FEB-25
Condenser Microphone	4180	297900	AA-1001-24	12-FEB-25
Measuring Amplifier	NA-42KAI	34560895	AA-3001-24	05-FEB-25

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

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

- National Institute of Metrology (Thailand).
- Thailand Institute of Scientific and Technological Research (TISTR).

T. Petch.

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409-409/1 Sorathorn Road, Bangpujima, Bangkok, 10250 Thailand  
Tel: +66 2453 8331 Email: calibration@sithiporn.com



Cert. No. : ACL34085  
Job No. : VC87ACB164  
Pages : 3 of 8

## Summary of Measurement Result 1.

Parameter	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	0.2	N/A
2. Self-generated noise	0.2	N/A
3. Acoustical signal tests of frequency weightings		
125 Hz	0.3	0.6
1000 Hz	0.3	0.6
1000 Hz	0.3	0.7
4. Electrical signal tests of frequency weightings		
For 10 Hz to 4 kHz	0.3	0.6
For > 4 kHz to 10 kHz	0.3	0.7
For > 10 kHz to 20 kHz	0.3	1.0
5. Frequency and time weightings at 1 kHz	0.2	0.2
6. Long-term stability	0.1	0.1
7. Level linearity on the reference level range	0.2	0.3
8. Level linearity including the level range control	0.2	0.3
9. Time burst response	0.2	0.3
10. Peak C sound level	0.2	0.35
11. Overload indication	0.2	0.25
12. High level stability	0.1	0.1

T. Petch.

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Tel: +66 2453 8331 Email: calibration@sithiporn.com



Cert. No. : ACL34085  
Job No. : VC87ACB164  
Page : 4 of 8

## Result of calibration :

### 1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.94)	93.9	0.0	±0.3

### 2. Self-generated noise

#### 2.1 Normal test

Measured Value (dB)
16.1

2.2 The microphone of the sound level meter was replaced by electrical signal input device.

Frequency Weighting (dB)	Measured Value (dB)
A-weight	-13.1
C-weight	-19.8
Flat	-25.1

### 3. Acoustical signal tests of frequency weightings

Meter free-field acoustic response in a level of 94 dB

Frequency (Hz)	Flat	C-weight	A-weight	Acceptance Limits (dB)
125	0.4	0.5	0.3	±1.5
1000	0.0	0.0	0.0	±1.0
8000	-1.4	-1.3	-1.3	±0.0

T. Petch.

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Cert. No. : ACL34085  
Job No. : VC87ACB164  
Pages : 5 of 8

## 4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz

Frequency (Hz)	Flat	C-weight	A-weight	Acceptance Limits
63	0.0	0.0	0.0	±2.0
125	0.1	0.1	0.0	±1.5
250	0.0	0.0	0.0	±1.5
500	0.0	0.1	0.0	±1.5
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.1	0.0	±2.0
4000	0.0	0.0	0.0	±3.0
8000	0.0	0.1	0.1	±5.0

## 5. Frequency and time weightings at 1 kHz

### 5.1 Frequency weightings at 1 kHz

Frequency Weighting (dB)	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	±0.2
C-weight	94.0	94.0	0.0	±0.2
Flat	94.0	94.0	0.0	±0.2

### 5.2 Time weighting at 1 kHz

Frequency Weighting (dB)	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	94.0	0.0	±0.1
Slow	94.0	94.0	0.0	±0.1
1 sec	94.0	94.0	0.0	±0.1

## 6. Long-term stability

Frequency Weighting (dB)	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	±0.3

T. Petch.

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409-409/1 Sorathorn Road, Bangpujima, Bangkok, 10250 Thailand  
Tel: +66 2453 8331 Email: calibration@sithiporn.com



Cert. No. : ACL34085  
Job No. : VC87ACB164  
Pages : 6 of 8

## 7. Level linearity on the reference level range

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	±1.3
136.0	136.0	0.0	±1.3
135.0	135.0	0.0	±1.3
134.0	134.0	0.0	±1.3
133.0	133.0	0.0	±1.3
132.0	132.0	0.0	±1.3
131.0	131.0	0.0	±1.3
129.0	129.0	0.0	±1.3
128.0	128.0	0.0	±1.3
127.0	127.0	0.0	±1.3
126.0	126.0	0.0	±1.3
125.0	125.0	0.0	±1.3
124.0	124.0	0.0	±1.3
123.0	123.0	0.0	±1.3
122.0	122.0	0.0	±1.3
121.0	121.0	0.0	±1.3
120.0	120.0	0.0	±1.3
119.0	119.0	0.0	±1.3
118.0	118.0	0.0	±1.3
117.0	117.0	0.0	±1.3
116.0	116.0	0.0	±1.3
115.0	115.0	0.0	±1.3
114.0	114.0	0.0	±1.3
113.0	113.0	0.0	±1.3
112.0	112.0	0.0	±1.3
111.0	111.0	0.0	±1.3
110.0	110.0	0.0	±1.3
109.0	109.0	0.0	±1.3
108.0	108.0	0.0	±1.3
107.0	107.0	0.0	±1.3
106.0	106.0	0.0	±1.3
105.0	105.0	0.0	±1.3
104.0	104.0	0.0	±1.3
103.0	103.0	0.0	±1.3
102.0	102.0	0.0	±1.3
101.0	101.0	0.0	±1.3
100.0	100.0	0.0	±1.3
99.0	99.0	0.0	±1.3
98.0	98.0	0.0	±1.3
97.0	97.0	0.0	±1.3
96.0	96.0	0.0	±1.3
95.0	95.0	0.0	±1.3
94.0	94.0	0.0	±1.3
93.0	93.0	0.0	±1.3
92.0	92.0	0.0	±1.3
91.0	91.0	0.0	±1.3
90.0	90.0	0.0	±1.3
89.0	89.0	0.0	±1.3
88.0	88.0	0.0	±1.3
87.0	87.0	0.0	±1.3
86.0	86.0	0.0	±1.3
85.0	85.0	0.0	±1.3
84.0	84.0	0.0	±1.3
83.0	83.0	0.0	±1.3
82.0	82.0	0.0	±1.3
81.0	81.0	0.0	±1.3
80.0	80.0	0.0	±1.3
79.0	79.0	0.0	±1.3
78.0	78.0	0.0	±1.3
77.0	77.0	0.0	±1.3
76.0	76.0	0.0	±1.3
75.0	75.0	0.0	±1.3
74.0	74.0	0.0	±1.3
73.0	73.0	0.0	±1.3
72.0	72.0	0.0	±1.3
71.0	71.0	0.0	±1.3
70.0	70.0	0.0	±1.3
69.0	69.0	0.0	±1.3
68.0	68.0	0.0	±1.3
67.0	67.0	0.0	±1.3
66.0	66.0	0.0	±1.3
65.0	65.0	0.0	±1.3
64.0	64.0	0.0	±1.3
63.0	63.0	0.0	±1.3
62.0	62.0	0.0	±1.3
61.0	61.0	0.0	±1.3
60.0	60.0	0.0	±1.3
59.0	59.0	0.0	±1.3
58.0	58.0	0.0	±1.3
57.0	57.0	0.0	±1.3
56.0	56.0	0.0	±1.3
55.0	55.0	0.0	±1.3
54.0	54.0	0.0	±1.3
53.0	53.0	0.0	±1.3
52.0	52.0	0.0	±1.3
51.0	51.0	0.0	±1.3
50.0	50.0	0.0	±1.3
49.0	49.0	0.0	±1.3
48.0	48.0	0.0	±1.3
47.0	47.0	0.0	±1.3
46.0	46.0	0.0	±1.3
45.0	45.0	0.0	±1.3
44.0	44.0	0.0	±1.3
43.0	43.0	0.0	±1.3
42.0	42.0	0.0	±1.3
41.0	41.0	0.0	±1.3
40.0	40.0	0.0	±1.3
39.0	39.0	0.0	±1.3
38.0	38.0	0.0	±1.3
37.0	37.0	0.0	±1.3
36.0	36.0	0.0	±1.3
35.0	35.0	0.0	±1.3
34.0	34.0	0.0	±1.3
33.0	33.0	0.0	±1.3
32.0	32.0	0.0	±1.3
31.0	31.0	0.0	±1.3
30.0	30.0	0.0	±1.3
29.0	29.0	0.0	±1.3
28.0	28.1	0.1	±1.3
27.0	27.2	0.2	±1.3
26.0	26.3	0.3	±1.3
25.0	25.5	0.5	±1.3
24.0	24.7	0.7	±1.3
23.0	23.7	0.7	±1.3
22.0	22.7	0.7	±1.3
21.0	21.7	0.7	±1.3
20.0	20.7	0.7	±1.3
19.0	19.7	0.7	±1.3
18.0	18.7	0.7	±1.3
17.0	17.7	0.7	±1.3
16.0	16.7	0.7	±1.3
15.0	15.7	0.7	±1.3
14.0	14.7	0.7	±1.3
13.0	13.7	0.7	±1.3
12.0	12.7	0.7	±1.3
11.0	11.7	0.7	±1.3
10.0	10.7	0.7	±1.3
9.0	9.7	0.7	±1.3
8.0	8.7	0.7	±1.3
7.0	7.7	0.7	±1.3
6.0	6.7	0.7	±1.3
5.0	5.7	0.7	±1.3
4.0	4.7	0.7	±1.3
3.0	3.7	0.7	±1.3
2.0	2.7	0.7	±1.3
1.0	1.7	0.7	±1.3
0.0	0.7	0.7	±1.3

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Cert. No. : ACL24008  
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**10. Peak C sound level**

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, Leq (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	132.0	132.0	0.0	±1.0
One	136.4	136.3	-0.2	±3.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	132.0	132.0	0.0	±2.0
Positive half cycle	133.4	135.1	+1.7	±2.0
Negative half cycle	135.4	135.1	-0.3	±2.0

**11. Overload indication**

Measured value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Positive one-half cycle	89.5	±1.5
Negative one-half cycle	89.6	±1.5

**12. High level stability**

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	137.0	137.0	0.0	±0.3

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor  $k = 2$  or any value following calculation providing a level of confidence of approximately 95 %

End of Calibration Certificate

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**Calibration Certificate**

Equipment : SOUND LEVEL METER  
Manufacturer : RION  
Model : NL-42 / Microphone UC-52 / Preamplifier N01-24  
Serial No. : 01178410 / 143465 / 226419  
ID No. : RYG\_F80389

Condition As Found : GOOD

Customer : ALS LABORATORY GROUP (THAILAND) CO., LTD.  
104 PHATTANAKAN 40, PHATTANAKAN ROAD,  
KHUANG PHATTANAKAN, KHUANG SUAN LUANG,  
BANGKOK, 10250 THAILAND.

Location : -  
Ambient Temperature : ( 23.0 ± 3 ) °C  
Pressure : ( 101.3 ± 3 ) kPa  
Relative Humidity : ( 90.0 ± 20 ) %

Received Date : 19 DECEMBER 2023  
Calibration Date : 08 JANUARY 2024  
Date of Issue : 09 JANUARY 2024

Calibrated by :

Nithiporn Petchurak

Approved by :

*T. Petch*  
( Thakul Petchurak )

This certificate is issued in accordance with the requirements of ISO/IEC 17025 standard, may not be reproduced other than in full, except with the prior written approval of the head of Calibration Laboratory.

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Job No. : VC67AC0044  
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Calibration Procedure : CP-AC-01

**Calibration Method :**

This equipment was calibrated by follow on IEC-61672-3 (2013) Standard for sound level meter (SLM). The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Acoustic chamber and Reference Standard Instruments.

For test results of each item were made by observation of each instrument display and also with SLM's display.

**Condition of this result of calibration :**

**1. Reference Standard Instruments :**

Instrument	Model	Serial No.	Cert. No.	Due Date
Woodsen Generator	3321BA	MY40077076	EP-0009-23	07-FEB-24
Woodsen Generator	3311B	MY5232742	EP-0010-23	07-FEB-24
Digital Multimeter	33461A	MY53220104	EEL_BP 3010266	13-FEB-24
Digital Multimeter	33461A	MY53220106	EEL_BP 3010266	13-FEB-24
Digital Multimeter	34461A	MY60024273	EEL_BP 3102066	14-FEB-24
Programmable Attenuator	MAT-1070	62100114	EP-0011-23	08-FEB-24
Condenser Microphone	4180	2977000	AA-1001-23	14-FEB-24
Measuring Amplifier	NA-42KAJ	3450495	AA-3002-23	14-FEB-24

2. This result of calibration was found accurate as shown on data and place of calibration for this calibrated item only.

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

3.1 National Institute of Metrology (Thailand).

3.2 Thailand Institute of Scientific and Technological Research (TISTR).

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Cert. No. : ACL24008  
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**Summary of Measurement Result :**

Parameter	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	0.2	N/A
2. Self-generated noise	0.2	N/A
3. Acoustical signal tests of frequency weightings		
125 Hz	0.3	0.6
1000 Hz	0.3	0.6
8000 Hz	0.3	0.7
4. Electrical signal tests of frequency weightings		
For 10 Hz to 4 kHz	0.3	0.6
For > 4 kHz to 10 kHz	0.3	0.7
For > 10 kHz to 20 kHz		1.0
5. Frequency and time weightings at 1 kHz	0.2	0.2
6. Long-term stability	0.1	0.1
7. Level linearity on the reference level range	0.2	0.3
8. Level linearity including the level range control	0.2	0.3
9. Tone burst response	0.2	0.3
10. Peak C sound level	0.2	0.35
11. Overload indication	0.2	0.25
12. High level stability	0.1	0.1

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**Result of calibration :**

**1. Absolute sensitivity**

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.98)	93.9	0.0	±0.3

**2. Self-generated noise**

**2.1 Normal test**

Measured Value (dB)
16.6

**2.2 The microphone of the sound level meter was replaced by electrical signal input device**

Frequency Weighting	Measured value (dB)
A-weight	16.2
C-weight	22.1
Flat	28.0

**3. Acoustical signal tests of frequency weightings**

Mean free-field acoustic response at a level of 94 dB

Frequency (Hz)	Flat	C-weight	A-weight	Acceptance Limits
125	0.4	0.5	0.5	±1.5
1000	0.0	0.0	0.0	±1.0
8000	0.5	0.5	0.6	±5.0

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Job No. : VC67AC0044  
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**4. Electrical signal tests of frequency weightings**

Weighting network response with relative to 1 kHz.

Frequency (Hz)	Flat	C-weight	A-weight	Acceptance Limits
63	-0.1	0.0	0.0	±2.0
125	0.0	0.0	0.0	±1.5
250	0.0	0.0	0.0	±1.5
500	0.0	0.0	0.0	±1.5
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.0	0.0	±2.0
4000	0.0	0.0	0.0	±3.0
8000	0.0	0.1	0.1	±5.0

**5. Frequency and time weightings at 1 kHz**

**5.1 Frequency weightings at 1 kHz**

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	±0.2
C-weight	94.0	94.0	0.0	±0.2
Flat	94.0	94.0	0.0	±0.2

**5.2 Time weighting at 1 kHz**

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	94.0	0.0	±0.1
Slow	94.0	94.0	0.0	±0.1
Log	94.0	94.0	0.0	±0.1

**6. Long-term stability**

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	±0.2

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**7. Level linearity on the reference level range**

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	±1.1
136.0	136.0	0.0	±1.1
135.0	135.0	0.0	±1.1
134.0	134.0	0.0	±1.1
133.0	133.0	0.0	±1.1
132.0	132.0	0.0	±1.1
131.0	131.0	0.0	±1.1
129.0	129.0	0.0	±1.1
124.0	124.0	0.0	±1.1
119.0	119.0	0.0	±1.1
114.0	114.0	0.0	±1.1
109.0	109.0	0.0	±1.1
104.0	104.0	0.0	±1.1
99.0	99.0	0.0	±1.1
94.0	94.0	0.0	±1.1
89.0	89.1	0.1	±1.1
84.0	84.3	0.3	±1.1
79.0	79.1	0.1	±1.1
74.0	74.3	0.3	±1.1
69.0	69.1	0.1	±1.1
64.0	64.0	0.0	±1.1
59.0	59.1	0.1	±1.1
54.0	54.0	0.0	±1.1
49.0	49.0	0.0	±1.1
44.0	44.0	0.0	±1.1
39.0	39.0	0.0	±1.1
34.0	34.1	0.1	±1.1
29.0	29.1	0.1	±1.1
24.0	24.2	0.2	±1.1
19.0	19.4	0.4	±1.1
14.0	14.3	0.3	±1.1
9.0	9.4	0.4	±1.1

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**8. Level linearity including the level range control**

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Auto	94.0	94.0	0.0	±1.1

**9. Tone burst response**

Time Weighting	True burst duration, T <sub>b</sub> (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	107.9	-0.1	1.5; -5.0
	2	8	117.6	117.0	-0.6	1.0; -2.5
	200	800	134.0	134.0	0.0	±1.0
Slow	2	8	108.0	108.0	0.0	1.5; -5.0
	200	800	127.6	127.6	0.0	±1.0
	0.25	1	99.0	98.9	-0.1	1.5; -5.0
SEL	2	8	108.0	108.0	0.0	1.0; -2.5
	200	800	128.0	128.0	0.0	±1.0

**10. Peak C sound level**

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, Leq (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	±3.0
One	136.4	135.7	-0.7	±3.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	±2.0
Positive half cycle	135.4	135.2	-0.2	±2.0
Negative half cycle	135.4	135.2	-0.2	±2.0

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**11. Overload indication**

Measured value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Positive one-half cycle	89.7	±1.5
Negative one-half cycle	89.6	±1.5

**12. High level stability**

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	137.0	137.0	0.0	±0.3

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor  $k = 2$  or any value following calculation providing a level of confidence of approximately 95 %

End of Calibration Certificate

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Cert. No.: ACL24018  
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## Calibration Certificate

Equipment: SOUND LEVEL METER  
Manufacturer: RION  
Model: NE-42A / Microphone UC-52 / Pre-amplifier NH-24  
Serial No.: 0062338 / 19863 / 26416  
ID No.: RYO\_J50813

Condition As Found: GOOD

Customer: ALS LABORATORY GROUP (THAILAND) CO., LTD.  
104 PHATTHANAKAN 40, PHATTHANAKAN ROAD,  
KHUANG PHATTHANAKAN, KHUANG SUAN LUANG,  
BANGKOK, 10250 THAILAND.

Location: -  
Ambient Temperature: ( 23.0 ± 3 ) °C  
Pressure: ( 101.3 ± 3 ) kPa  
Relative Humidity: ( 50.0 ± 20 ) %

Received Date: 19 DECEMBER 2023  
Calibration Date: 05-08 JANUARY 2024  
Date of Issue: 09 JANUARY 2024

Calibrated by: Nattakorn Pongpattana

Approved by: *T. Petch*  
( Thamsak Petchai )

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Cert. No.: ACL24018  
Job No.: VC67AC0044  
Pages: 2 of 8

Calibration Procedure: CP-AC-01

## Calibration Method:

The equipment was calibrated by follow on IEC-61675-3 (2013) Standard for sound level meter (SLM).  
The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Acoustic chamber and Reference  
Standard Instruments.

For test results of each item were made by observation of each Instruments display and also with SLM's display.

## Condition of this result of calibration:

### 1. Reference Standard Instruments:

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	EF-0009-23	07-FEB-24
Waveform Generator	33511B	MY52302342	EF-0010-23	07-FEB-24
Digital Multimeter	33461A	MY5220004	EEL-0010-23	13-FEB-24
Digital Multimeter	33461A	MY5220006	EEL-0010-23	13-FEB-24
Digital Multimeter	33461A	MY6002473	EEL-0010-23	14-FEB-24
Programmable Attenuator	MAT-1070	62100114	EF-0011-23	08-FEB-24
Condenser Microphone	4180	2977900	AA-1001-23	14-FEB-24
Measuring Amplifier	NA-62KAJ	3450495	AA-1002-23	14-FEB-24

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

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

- National Institute of Metrology (Thailand).
- Thailand Institute of Scientific and Technological Research (TISTR).

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Cert. No.: ACL24018  
Job No.: VC67AC0044  
Pages: 3 of 8

## Summary of Measurement Result:

Parameter	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	0.2	N/A
2. Self-generated noise	0.2	N/A
3. Acoustical signal tests of frequency weightings		
125 Hz	0.3	0.6
1000 Hz	0.3	0.6
8000 Hz	0.3	0.7
4. Electrical signal tests of frequency weightings		
For 10 Hz to 4 kHz	0.3	0.6
For > 4 kHz to 10 kHz	0.3	0.7
For > 10 kHz to 20 kHz	-	1.0
5. Frequency and time weightings at 1 kHz	0.2	0.2
6. Long-term stability	0.1	0.1
7. Level linearity on the reference level range	0.2	0.3
8. Level linearity including the level range control	0.2	0.3
9. Time burst response	0.2	0.3
10. Peak C sound level	0.2	0.35
11. Overload indication	0.2	0.25
12. High level stability	0.1	0.1

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## Result of calibration:

### 1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limits (dB)
93.9 (93.98)	93.9	0.0	±0.1

### 2. Self-generated noise

#### 2.1 Normal test

Measured Value (dB)
14.6

2.2 The microphone of the sound level meter was replaced by electrical signal input device.

Frequency Weighting	Measured value (dB)
A-weight	10.8
C-weight	17.1
Flat	23.0

### 3. Acoustical signal tests of frequency weightings:

More free-field acoustic response at a level of 94 dB

Frequency (Hz)	Flat	C-weight	A-weight	Acceptance Limits (dB)
125	0.3	0.3	0.4	±1.5
1000	0.0	0.0	0.0	±1.0
8000	1.0	1.1	1.1	±5.0

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## 4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz.

Frequency (Hz)	Flat	C-weight	A-weight	Acceptance Limits
63	-0.1	-0.1	0.0	±2.0
125	0.0	0.0	0.0	±1.5
250	0.0	0.0	0.0	±1.5
500	0.0	0.0	0.0	±1.5
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.0	0.0	±2.0
4000	0.0	0.0	0.0	±3.0
8000	0.0	0.1	0.1	±5.0

## 5. Frequency and time weightings at 1 kHz

### 5.1 Frequency weightings at 1 kHz

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	±0.2
C-weight	94.0	94.0	0.0	±0.2
Flat	94.0	94.0	0.0	±0.2

### 5.2 Time weighting at 1 kHz

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	94.0	0.0	±0.1
Slow	94.0	94.0	0.0	±0.1
Log	94.0	94.0	0.0	±0.1

## 6. Long-term stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	±0.3

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## 7. Level linearity on the reference level range

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	±1.1
136.0	136.0	0.0	±1.1
135.0	135.0	0.0	±1.1
134.0	134.0	0.0	±1.1
133.0	133.0	0.0	±1.1
132.0	132.0	0.0	±1.1
131.0	131.0	0.0	±1.1
129.0	129.0	0.0	±1.1
128.0	128.0	0.0	±1.1
119.0	119.0	0.0	±1.1
114.0	114.0	0.0	±1.1
109.0	109.0	0.0	±1.1
104.0	104.0	0.0	±1.1
99.0	99.0	0.0	±1.1
94.0	94.0	0.0	±1.1
89.0	89.0	0.0	±1.1
84.0	84.0	0.0	±1.1
79.0	79.0	0.0	±1.1
74.0	74.0	0.0	±1.1
69.0	69.0	0.0	±1.1
64.0	64.0	0.0	±1.1
59.0	59.0	0.0	±1.1
54.0	53.9	-0.1	±1.1
49.0	48.9	-0.1	±1.1
44.0	44.0	0.0	±1.1
39.0	38.9	-0.1	±1.1
34.0	33.9	-0.1	±1.1
29.0	29.0	0.0	±1.1
24.0	23.9	-0.1	±1.1
19.0	18.9	-0.1	±1.1
14.0	13.9	-0.1	±1.1
9.0	8.9	-0.1	±1.1
4.0	3.9	-0.1	±1.1

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## 8. Level linearity including the level range control

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Auto	94.0	94.0	0.0	±1.1

## 9. Time burst response

Time Weighting	Time burst duration, T <sub>b</sub> (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	107.9	-0.1	1.5 ; -5.0
	2	8	117.0	117.0	0.0	1.0 ; -2.5
	200	800	134.0	134.0	0.0	±1.0
Slow	2	8	108.0	108.0	0.0	1.5 ; -5.0
	200	800	127.6	127.6	0.0	±1.0
	0.25	1	99.0	98.9	-0.1	1.5 ; -5.0
SEL	2	8	108.0	108.0	0.0	1.0 ; -2.5
	200	800	128.0	128.0	0.0	±1.0

## 10. Peak C sound level

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	±3.0
One	136.4	136.3	-0.1	±3.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	±2.0
Positive half cycle	135.4	135.2	-0.2	±2.0
Negative half cycle	130.4	135.2	-0.2	±2.0

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Cert. No.: ACL24018  
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## 11. Overload indication

Measured value ( dB )		Deviated Value- ( dB )	Acceptance Limits ( dB )
Positive one-half cycle	Negative one-half cycle		
89.6	89.6	0.0	±1.5

## 12. High level stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	137.0	137.0	0.0	±0.3

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor  $k = 2$   
or any value following calculation, providing a level of confidence of approximately 95 %.

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Cert. No.: ACL24018  
Job No.: VC67AC0044  
Pages: 1 of 8

## Calibration Certificate

Equipment: SOUND LEVEL METER  
Manufacturer: RION  
Model: NE-42A / Microphone UC-52 / Pre-amplifier NH-24  
Serial No.: 0062338 / 19864 / 26422  
ID No.: RYO\_J50819

Condition As Found: GOOD

Customer: ALS LABORATORY GROUP (THAILAND) CO., LTD.  
104 PHATTHANAKAN 40, PHATTHANAKAN ROAD,  
KHUANG PHATTHANAKAN, KHUANG SUAN LUANG,  
BANGKOK, 10250 THAILAND.

Location: -  
Ambient Temperature: ( 23.0 ± 3 ) °C  
Pressure: ( 101.3 ± 3 ) kPa  
Relative Humidity: ( 50.0 ± 20 ) %

Received Date: 05 JANUARY 2024  
Calibration Date: 12-15 JANUARY 2024  
Date of Issue: 16 JANUARY 2024

Calibrated by: Nattakorn Pongpattana

Approved by: *T. Petch*  
( Thamsak Petchai )

This certificate is issued in accordance with the requirements of ISO/IEC 17025 standard, may not be reproduced  
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Cert. No. : ACL24035  
Job No. : VC87AC0852  
Pages : 2 of 8

Calibration Procedure : CP-AC-01

## Calibration Method :

This equipment was calibrated by follow on IEC-61672-3 (2013) Standard for sound level meter (SLM).  
The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Acoustic chamber and Reference Standard Instruments.

For test results of each item were made by observation of each Instruments display and also with SLM's display.

## Condition of this result of calibration :

1. Reference Standard Instruments :

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	EF-0009-23	07-FEB-24
Waveform Generator	33311B	MY52302742	EF-0010-23	07-FEB-24
Digital Multimeter	33461A	MY51220104	EEL-RP 2010267	13-FEB-24
Digital Multimeter	33461A	MY51220076	EEL-RP 2010267	13-FEB-24
Digital Multimeter	34461A	MY60024273	EEL-RP 2110266	14-FEB-24
Programmable Attenuator	MAT-1070	62100114	EF-0011-23	08-FEB-24
Condenser Microphone	4180	2977900	AA-1001-23	14-FEB-24
Measuring Amplifier	NA-42KAJ	34560495	AA-3002-23	14-FEB-24

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

3. This certificate is traceable to the international system of unit maintained as :

- 3.1 National Institute of Metrology (Thailand).
- 3.2 Thailand Institute of Scientific and Technological Research (TISTR).

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Cert. No. : ACL24035  
Job No. : VC87AC0852  
Pages : 3 of 8

## Summary of Measurement Result :

Parameter	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	0.2	N/A
2. Self-generated noise	0.2	N/A
3. Acoustical signal tests of frequency weightings		
125 Hz	0.3	0.6
1000 Hz	0.3	0.6
8000 Hz	0.3	0.7
4. Electrical signal tests of frequency weightings		
For 10 Hz to 4 kHz	0.3	0.6
For > 4 kHz to 10 kHz	0.3	0.7
For > 10 kHz to 20 kHz	0.3	1.0
5. Frequency and time weightings at 1 kHz	0.2	0.2
6. Long - term stability	0.1	0.1
7. Level linearity on the reference level range	0.2	0.3
8. Level linearity including the level range control	0.2	0.3
9. Tone burst response	0.2	0.3
10. Peak C sound level	0.2	0.35
11. Overload indication	0.2	0.25
12. High level stability	0.1	0.1

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Cert. No. : ACL24035  
Job No. : VC87AC0852  
Pages : 4 of 8

## Result of calibration :

### 1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.90)	93.9	0.0	±0.3

### 2. Self-generated noise

#### 2.1 Normal test

Measured Value (dB)
14.6

2.2 The microphone of the sound level meter was replaced by electrical signal input device.

Frequency Weighting	Measured Value (dB)
A-weight	10.8
C-weight	17.1
Flat	22.9

### 3. Acoustical signal tests of frequency weightings

Meter free-field acoustic response at a level of 84 dB

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
125	0.1	0.1	0.1	±1.5
1000	0.0	0.0	0.0	±1.0
8000	0.1	0.1	0.2	±5.0

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Cert. No. : ACL24035  
Job No. : VC87AC0852  
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## 4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz:

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)				Acceptance Limits:
	Flat	C-weight	A-weight		
63	0.0	-0.1	0.0		±2.0
125	0.0	0.0	0.0		±1.5
250	0.0	0.0	0.0		±1.5
500	0.0	0.1	0.0		±1.5
1000	0.0	0.0	0.0		±1.0
2000	0.0	0.1	0.0		±2.0
4000	0.0	0.0	0.0		±3.0
8000	0.0	0.1	0.1		±5.0

## 5. Frequency and time weightings at 1 kHz

### 5.1 Frequency weightings at 1 kHz:

Frequency Weighting	Assigned Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	±0.2
C-weight	94.0	94.0	0.0	±0.2
Flat	94.0	94.0	0.0	±0.2

### 5.2 Time weighting at 1 kHz:

Frequency Weighting	Assigned Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	94.0	0.0	±0.1
Slow	94.0	94.0	0.0	±0.1
Imp	94.0	94.0	0.0	±0.1

## 6. Long - term stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	±0.3

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Job No. : VC87AC0852  
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## 7. Level linearity on the reference level range

Assigned Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	±1.1
136.0	136.0	0.0	±1.1
135.0	135.0	0.0	±1.1
134.0	134.0	0.0	±1.1
133.0	133.0	0.0	±1.1
132.0	132.0	0.0	±1.1
131.0	131.0	0.0	±1.1
129.0	129.0	0.0	±1.1
124.0	124.0	0.0	±1.1
119.0	119.0	0.0	±1.1
114.0	114.0	0.0	±1.1
109.0	109.0	0.0	±1.1
104.0	104.0	0.0	±1.1
99.0	99.0	0.0	±1.1
94.0	94.0	0.0	±1.1
89.0	89.0	0.0	±1.1
84.0	84.0	0.0	±1.1
79.0	79.0	0.0	±1.1
74.0	74.0	0.0	±1.1
69.0	69.0	0.0	±1.1
64.0	64.0	0.0	±1.1
59.0	59.0	0.0	±1.1
54.0	54.0	0.0	±1.1
49.0	49.0	0.0	±1.1
44.0	44.0	0.0	±1.1
39.0	39.0	0.0	±1.1
34.0	34.0	0.0	±1.1
29.0	29.0	-0.1	±1.1
24.0	24.0	-0.1	±1.1
19.0	19.0	-0.1	±1.1
14.0	14.0	-0.1	±1.1
9.0	9.0	-0.2	±1.1

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Cert. No. : ACL24035  
Job No. : VC87AC0852  
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## 8. Level linearity including the level range control

Range	Assigned Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Auto	94.0	94.0	0.0	±1.1

## 9. Tone burst response

Time Weighting	Tone burst duration, T <sub>b</sub> (ms)	Cycle	Assigned Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	107.9	-0.1	1.5; -5.0
	2	8	117.0	117.0	0.0	1.0; -2.5
	200	800	134.0	134.1	0.1	±1.0
Slow	2	8	108.0	108.0	0.0	1.5; -5.0
	200	800	127.6	127.6	0.0	±1.0
	0.25	1	99.0	98.9	-0.1	1.5; -5.0
SEL	2	8	108.0	108.0	0.0	1.0; -2.5
	200	800	128.0	128.1	0.1	±1.0

## 10. Peak C sound level

Number of cycle in test signal	Assigned Value (dB)	Measured Value, Leq <sub>pk</sub> (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	±0.9
One	136.0	135.6	-0.4	±3.0

Number of cycle in test signal	Assigned Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	±0.9
Positive half cycle	135.4	135.2	-0.2	±2.0
Negative half cycle	135.4	135.2	-0.2	±2.0

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Cert. No. : ACL24037  
Job No. : VC87AC0844  
Pages : 8 of 8

## 11. Overload indication

Measured value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Positive one-half cycle	89.5	-0.2
Negative one-half cycle	89.5	±1.5

## 12. High level stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	137.0	137.0	0.0	±0.3

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor k = 2 or any value following calculation providing a level of confidence of approximately 95 %

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Cert. No. : ACL24037  
Pages : 1 of 8

## Calibration Certificate

Equipment : SOUND LEVEL METER  
Manufacturer : RION  
Model : NR-42 / Microphone UC-52 / Pre-amplifier NH-04  
Serial No.: 01073423 / 169513 / 77684  
ID No.: RYG, F50386

Condition As Found : GOOD

Customer : ALS LABORATORY GROUP (THAILAND) CO., LTD.  
104 PIATTHANAKAN 40, PIATTHANAKAN ROAD,  
KHAO WANG PIATTHANAKAN, KHAO KHAN LUANG,  
BANGKOK, 10250 THAILAND.

Location :  
Ambient Temperature : ( 23.0 ± 3 ) °C  
Pressure : ( 101.3 ± 3 ) kPa  
Relative Humidity : ( 50.0 ± 20 ) %  
Received Date : 21 SEPTEMBER 2024  
Calibration Date : 09 OCTOBER 2024  
Date of Issue : 09 OCTOBER 2024

REVIEW BY : *[Signature]*  
APPROVED BY : *[Signature]*  
NEXT CAL DATE : 01/10/26

Calibrated by : Nattakorn Petchu

Approved by : *T. Petchu*  
( Thakul Petchu )

This certificate is issued in accordance with the requirements of ISO/IEC 17025 standard, may not be reproduced other than in full, except with the prior written approval of the head of Calibration Laboratory.

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Cert. No. : ACL24037  
Job No. : VC87AC0844  
Pages : 2 of 8

Calibration Procedure : CP-AC-01

## Calibration Method :

This equipment was calibrated by follow on IEC-61672-3 (2013) Standard for sound level meter (SLM).  
The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Acoustic chamber and Reference Standard Instruments.

For test results of each item were made by observation of each Instruments display and also with SLM's display.

## Condition of this result of calibration :

1. Reference Standard Instruments :

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	EF-0009-24	05-FEB-25
Waveform Generator	33311B	MY52302742	EF-0010-24	05-FEB-25
Digital Multimeter	33461A	MY51220104	EEL-RP 210267	13-FEB-25
Digital Multimeter	33461A	MY51220076	EEL-RP 2010267	15-FEB-25
Digital Multimeter	34461A	MY60024273	EEL-RP 220267	15-FEB-25
Programmable Attenuator	MAT-1070	62100114	EF-0008-24	05-FEB-25
Condenser Microphone	4180	2977900	AA-1001-24	12-FEB-25
Measuring Amplifier	NA-42KAJ	34560495	AA-3001-24	05-FEB-25

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

3. This certificate is traceable to the international system of unit maintained as :

- 3.1 National Institute of Metrology (Thailand).
- 3.2 Thailand Institute of Scientific and Technological Research (TISTR).

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Tel: +66 2453 8338 Email: calibration@sithiporn.com



Cert. No. : ACL24007  
Job No. : VC87ACB04  
Page : 3 of 8

## Summary of Measurement Result 1

Parameter	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	0.2	N/A
2. Self-generated noise	0.2	N/A
3. Acoustical signal tests of frequency weightings		
125 Hz	0.3	0.6
1000 Hz	0.3	0.6
8000 Hz	0.2	0.7
4. Electrical signal tests of frequency weightings		
For 10 Hz to 4 kHz	0.3	0.6
For > 4 kHz to 10 kHz	0.3	0.7
For > 10 kHz to 20 kHz	0.3	1.0
5. Frequency and time weightings at 1 kHz	0.2	0.2
6. Long-term stability	0.1	0.1
7. Level linearity on the reference level range	0.2	0.3
8. Level linearity including the level range control	0.2	0.3
9. Tone burst response	0.2	0.3
10. Peak C sound level	0.2	0.35
11. Overload indication	0.2	0.25
12. High level stability	0.1	0.1

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Cert. No. : ACL24007  
Job No. : VC87ACB04  
Page : 4 of 8

## Result of calibration 1

### 1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.94)	93.8	0.0	±0.3

### 2. Self-generated noise

#### 2.1 Normal test

Measured Value (dB)
15.7

#### 2.2 The atmosphere of the sound level meter was replaced by electrical signal input device.

Frequency Weighting	Weighting (dB)
A-weight	14.8
C-weight	21.2
Flat	26.6

### 3. Acoustical signal tests of frequency weightings

#### Mean free-field acoustic response at a level of 94 dB

Frequency (Hz)	Flat	C-weight	A-weight	Acceptance Limits
125	0.1	0.1	0.1	±1.2
1000	0.0	0.0	0.0	±1.0
8000	0.3	0.4	0.4	±0.0

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Cert. No. : ACL24007  
Job No. : VC87ACB04  
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## 4. Electrical signal tests of frequency weightings

### Weighting network response with relative to 1 kHz

Frequency (Hz)	Flat	C-weight	A-weight	Acceptance Limits
63	0.0	0.0	-0.1	±2.0
125	0.0	0.0	0.0	±1.5
250	0.0	0.0	0.0	±1.5
500	0.0	0.0	-0.1	±1.5
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.0	0.0	±2.0
4000	0.0	0.0	0.0	±1.0
8000	0.0	0.1	0.1	±5.0

## 5. Frequency and time weightings at 1 kHz

### 5.1 Frequency weightings at 1 kHz

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	±0.2
C-weight	94.0	94.0	0.0	±0.2
Flat	94.0	94.0	0.0	±0.2

### 5.2 Time weighting at 1 kHz

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	94.0	0.0	±0.1
Slow	94.0	94.0	0.0	±0.1
Leq	94.0	94.0	0.0	±0.1

## 6. Long-term stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	±0.3

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Cert. No. : ACL24007  
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## 7. Level linearity on the reference level range

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	±1.1
136.0	136.0	0.0	±1.1
135.0	135.0	0.0	±1.1
134.0	134.0	0.0	±1.1
133.0	133.0	0.0	±1.1
132.0	132.0	0.0	±1.1
131.0	131.0	0.0	±1.1
129.0	129.0	0.0	±1.1
124.0	124.0	0.0	±1.1
119.0	119.0	0.0	±1.1
114.0	114.0	0.0	±1.1
109.0	109.0	0.0	±1.1
104.0	104.0	0.0	±1.1
99.0	99.0	0.0	±1.1
94.0	94.0	0.0	±1.1
89.0	89.0	0.0	±1.1
84.0	84.0	0.0	±1.1
79.0	79.0	0.0	±1.1
74.0	74.0	0.0	±1.1
69.0	69.0	0.0	±1.1
64.0	64.0	0.0	±1.1
59.0	59.0	0.0	±1.1
54.0	54.0	0.0	±1.1
49.0	49.0	0.0	±1.1
44.0	44.0	0.0	±1.1
39.0	39.0	0.0	±1.1
34.0	34.0	0.1	±1.1
29.0	29.0	0.0	±1.1
24.0	24.0	0.1	±1.1
19.0	19.0	0.2	±1.1
14.0	14.0	0.2	±1.1
9.0	9.0	0.3	±1.1

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Cert. No. : ACL24007  
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## 8. Level linearity including the level range control

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
130	94.0	94.0	0.0	±1.1

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
130	30.0	29.9	-0.1	±1.1

## 9. Tone burst response

Time Weighting	Tone burst duration, T <sub>b</sub> (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	107.9	-0.1	1.5; -5.0
	2	8	117.0	117.0	0.0	1.0; -2.5
	200	800	124.0	124.0	0.0	±0.0
Slow	2	8	108.0	108.0	0.0	1.5; -5.0
	200	800	127.6	127.6	0.0	±1.0
	0.25	1	99.0	98.9	-0.1	1.5; -5.0
SEL	2	8	108.0	108.0	0.0	1.0; -2.5
	200	800	128.0	128.0	0.0	±1.0

T. Petch

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Cert. No. : ACL24007  
Job No. : VC87ACB04  
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## 10. Peak C sound level

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, Leq <sub>pk</sub> (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	±0.0
One	136.4	136.3	-0.1	±0.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	±2.0
Positive half cycle	135.4	135.2	-0.2	±2.0
Negative half cycle	135.4	135.2	-0.2	±2.0

## 11. Overload indication

Measured value ( dB )		Deviated Value ( dB )	Acceptance Limit ( dB )
Positive one-half cycle	Negative one-half cycle		
89.5	89.5	0.0	±1.5

## 12. High level stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	137.0	137.0	0.0	±0.3

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor k = 2 or any value following calculation, providing a level of confidence of approximately 95 %

End of Calibration Certificate

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Cert. No. : ACL24007  
Page : 1 of 8

## Calibration Certificate

Equipment : SOUND LEVEL METER  
Manufacturer : RION  
Model : NL-42 / Microphone UC-52 / Pre-amplifier NH-24  
Serial No. : 01173699 / 172170 / 74021  
ID No. : RYO\_F80088

Condition As Found : GOOD

Customer : ALS LABORATORY GROUP (THAILAND) CO., LTD.  
104 PHATTHANAKAN 40, PHATTHANAKAN ROAD,  
KHWAENG PHATTHANAKAN, KHET SIAM LUANG,  
BANGKOK, 10250 THAILAND.

Location :  
Ambient Temperature : ( 23.0 ± 3.1 ) °C  
Pressure : ( 101.3 ± 0.3 ) kPa  
Relative Humidity : ( 50.0 ± 2.0 ) %

Received Date : 19 DECEMBER 2023  
Calibration Date : 05-06 JANUARY 2024  
Date of Issue : 09 JANUARY 2024

Calibrated by : Natsakorn Pitsakulchai

Approved by : T. Petch  
( Thanakul Petchursi )

This certificate is issued in accordance with the requirements of ISO/IEC 17025 standard, may not be reproduced other than in full, except with the prior written approval of the Lead of Calibration Laboratory.

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Cert. No. : ACL24007  
Job No. : VC87ACB04  
Page : 2 of 8

Calibration Procedure : CP-AC-01

## Calibration Method :

The equipment was calibrated by follow on IEC-61672-1 (2013) Standard for sound level meter (SLM).  
The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Acoustic chamber and Reference Standard Instruments.  
For both results of each item were made by observation of each Instruments display and also with SLM's display.

## Condition of this result of calibration :

### 1. Reference Standard Instruments :

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	EF-0009-23	07-FEB-24
Waveform Generator	33511B	MY52302742	EF-0010-23	07-FEB-24
Digital Multimeter	33461A	MY53220104	EEL-BP 290286	13-FEB-24
Digital Multimeter	33461A	MY53220078	EEL-BP 290286	13-FEB-24
Digital Multimeter	34461A	MY60024771	EEL-BP 311096	14-FEB-24
Programmable Attenuator	MAT-1070	82100114	EP-0011-23	08-FEB-24
Condenser Microphone	4180	2977900	AA-1001-23	14-FEB-24
Measuring Amplifier	NA-42KAI	34560895	AA-3002-23	14-FEB-24

2. This result of calibration was found accurate as shown in date and place of calibration for this calibrated item only.

3. This certificate is transferable to the international system of unit maintained at :

- National Institute of Metrology (Thailand),
- Thailand Institute of Scientific and Technological Research (TISTR).

T. Petch

# SITHIPORN ASSOCIATES CO., LTD. CALIBRATION LABORATORY

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Cert. No. : ACL24007  
Job No. : VC87ACB04  
Page : 3 of 8

## Summary of Measurement Result 2

Parameter	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	0.2	N/A
2. Self-generated noise	0.2	N/A
3. Acoustical signal tests of frequency weightings		
125 Hz	0.3	0.6
1000 Hz	0.3	0.6
8000 Hz	0.3	0.7
4. Electrical signal tests of frequency weightings		
For 10 Hz to 4 kHz	0.3	0.6
For > 4 kHz to 10 kHz	0.3	0.7
For > 10 kHz to 20 kHz	0.3	1.0
5. Frequency and time weightings at 1 kHz	0.2	0.2
6. Long-term stability	0.1	0.1
7. Level linearity on the reference level range	0.2	0.3
8. Level linearity including the level range control	0.2	0.3
9. Tone burst response	0.2	0.3
10. Peak C sound level	0.2	0.35
11. Overload indication	0.2	0.25
12. High level stability	0.1	0.1

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Cert. No. : ACL24007  
Job No. : VC67AC0044  
Pages : 4 of 8

## Result of calibration :

### 1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.98)	93.9	0.0	±0.3

### 2. Self-generated noise

#### 2.1 Normal test

Measured Value (dB)
15.1

#### 2.2 The microphone of the sound level meter was replaced by electrical signal input device.

Frequency Weighting	Measured value (dB)
A-weight	13.4
C-weight	19.9
Flat	25.5

### 3. Acoustical signal tests of frequency weightings

More free-field acoustic response at a level of 84 dB

Frequency (Hz)	Flat	C-weight	A-weight	Acceptance Limits
125	0.3	0.3	0.3	±1.5
1000	0.1	0.1	0.3	±1.0
8000	0.8	0.9	0.9	±5.0

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Cert. No. : ACL24007  
Job No. : VC67AC0044  
Pages : 5 of 8

## 4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz.

Frequency (Hz)	Flat	C-weight	A-weight	Acceptance Limits
63	-0.1	-0.1	0.0	±2.0
125	0.0	0.0	0.0	±1.5
250	0.0	0.0	0.0	±1.5
500	0.0	0.0	-0.1	±1.5
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.0	0.0	±2.0
4000	0.0	0.0	0.0	±5.0
8000	0.0	0.1	0.1	±5.0

## 5. Frequency and time weightings at 1 kHz

### 5.1 Frequency weightings at 1 kHz

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	±0.2
C-weight	94.0	94.0	0.0	±0.2
Flat	94.0	94.0	0.0	±0.2

### 5.2 Time weighting at 1 kHz

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	94.0	0.0	±0.1
Slow	94.0	94.0	0.0	±0.1
Log	94.0	94.0	0.0	±0.1

## 6. Long-term stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	±0.2

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Cert. No. : ACL24007  
Job No. : VC67AC0044  
Pages : 7 of 8

## 8. Level linearity including the level range control

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits
Auto	94.0	94.0	0.0	±1.1

## 9. Time burst response

Time Weighting	True burst duration, $T_b$ (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	106.0	107.9	-0.1	1.5 > -5.0
	2	8	117.6	117.0	0.6	1.0 > -2.5
	200	800	134.0	134.0	0.0	±1.0
Slow	2	8	106.0	106.0	0.0	1.5 > -5.0
	200	800	127.6	127.6	0.0	±1.0
	SEL	0.25	1	96.0	96.9	-0.1
2		8	106.0	106.0	0.0	1.0 > -2.5
200		800	128.0	128.0	0.0	±1.0

## 10. Peak C sound level

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, Leqpk (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	±3.0
One	136.4	136.3	-0.1	±3.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	±2.0
Positive half cycle	135.4	135.2	-0.2	±2.0
Negative half cycle	135.4	135.2	-0.2	±2.0

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Cert. No. : ACL24007  
Job No. : VC67AC0044  
Pages : 8 of 8

## 11. Overload indication

Measured value (dB)	Deviated Value (dB)	Acceptance Limits
Positive one-half cycle	-0.1	±1.5
Negative one-half cycle	-0.1	±1.5

## 12. High level stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	137.0	137.0	0.0	±0.1

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor  $k = 2$  or any value following calculation, providing a level of confidence of approximately 95 %

## End of Calibration Certificate

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Cert. No. : ACL24007  
Job No. : VC67AC0044  
Pages : 9 of 8

## 7. Level linearity on the reference level range

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	±1.1
136.0	136.0	0.0	±1.1
135.0	135.0	0.0	±1.1
134.0	134.0	0.0	±1.1
133.0	133.0	0.0	±1.1
132.0	132.0	0.0	±1.1
131.0	131.0	0.0	±1.1
129.0	129.0	0.0	±1.1
124.0	124.0	0.0	±1.1
119.0	119.0	0.0	±1.1
114.0	114.0	0.0	±1.1
109.0	109.0	0.0	±1.1
104.0	104.0	0.0	±1.1
99.0	99.0	0.0	±1.1
94.0	94.0	0.0	±1.1
89.0	89.0	0.0	±1.1
84.0	84.0	0.0	±1.1
79.0	79.0	0.0	±1.1
74.0	74.0	0.0	±1.1
69.0	69.0	0.0	±1.1
64.0	64.0	0.0	±1.1
59.0	59.0	0.0	±1.1
54.0	54.0	0.0	±1.1
49.0	49.0	0.0	±1.1
44.0	44.0	0.0	±1.1
39.0	39.0	0.0	±1.1
34.0	34.0	0.0	±1.1
29.0	29.0	0.0	±1.1
24.0	24.0	0.0	±1.1
19.0	19.0	0.0	±1.1
14.0	14.0	0.0	±1.1

## Calibration Certificate

Equipment : SOUND LEVEL METER  
Manufacturer : RION  
Model : NL-42A / Microphone UC-52 / Pre-amplifier NH-24  
Serial No. : 0862389 / 198638 / 26417  
ID No. : RTG, F30014

Condition As Found : GOOD

Customer : AES LABORATORY GROUP (THAILAND) CO., LTD.  
104 PHATHANAKAN 40, PHATHANAKAN ROAD,  
KHWAENG PHATHANAKAN, KHUET SAN LEANG,  
BANGKOK, 10250 THAILAND.

Location : -  
Ambient Temperature : ( 23.0 ± 3 ) °C  
Pressure : ( 1013 ± 3 ) hPa  
Relative Humidity : ( 30.0 ± 20 ) %

Received Date : 19 DECEMBER 2023  
Calibration Date : 05-08 JANUARY 2024  
Date of Issue : 09 JANUARY 2024

Calibrated by : Natthakorn Petchumai

Approved by : T. Petchumai  
( Natthakorn Petchumai )

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Cert. No. : ACL24011  
Job No. : VC67AC0044  
Pages : 2 of 8

## Calibration Procedure : CP-AC-01

## Calibration Method :

This equipment was calibrated by follow on (IEC-61673-3 (2013) Standard for sound level meter (SLM).  
The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Acoustic chamber and Reference Standard Instrument.

For this result of each item were made by observation of each instrument display and also with SLM's display.

## Condition of this result of calibration :

### 1. Reference Standard Instruments :

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	EF-6009-23	07-FEB-24
Waveform Generator	33311B	MY52302742	EF-4010-23	07-FEB-24
Digital Multimeter	33461A	MY53200104	EEL-00 305026	13-FEB-24
Digital Multimeter	33461A	MY53200106	33L-00 305036	13-FEB-24
Digital Multimeter	34401A	MY6004273	EEL-00 310256	14-FEB-24
Programmable Attenuator	MAT-1070	62100114	EF-0011-23	08-FEB-24
Condenser Microphone	4180	2977900	AA-1001-23	14-FEB-24
Measuring Amplifier	NA-42KA	34560495	AA-3002-23	14-FEB-24

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

3. This certificate is receivable to the international system of unit maintained as :

3.1 National Institute of Metrology (Thailand).

3.2 Thailand Institute of Scientific and Technological Research (TISTR).

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Cert. No. : ACL24011  
Job No. : VC67AC0044  
Pages : 3 of 8

## Summary of Measurement Result :

Parameter	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	0.2	N/A
2. Self-generated noise	0.2	N/A
3. Acoustical signal tests of frequency weightings	0.3	0.6
125 Hz	0.3	0.6
1000 Hz	0.3	0.6
8000 Hz	0.3	0.7
4. Electrical signal tests of frequency weightings	0.3	0.6
For 10 Hz to 4 kHz	0.3	0.6
For > 4 kHz to 10 kHz	0.3	0.7
For > 10 kHz to 20 kHz	-	1.0
5. Frequency and time weightings at 1 kHz	0.2	0.2
6. Long-term stability	0.1	0.1
7. Level linearity on the reference level range	0.2	0.3
8. Level linearity including the level range control	0.2	0.3
9. Time burst response	0.2	0.3
10. Peak C sound level	0.2	0.35
11. Overload indication	0.2	0.25
12. High level stability	0.1	0.1

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Cert. No. : ACL24011  
Job No. : VC67AC0044  
Pages : 4 of 8

## Result of calibration :

### 1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.98)	93.9	0.0	±0.3

### 2. Self-generated noise

#### 2.1 Normal test

Measured Value (dB)
14.2

#### 2.2 The microphone of the sound level meter was replaced by electrical signal input device.

Frequency Weighting	Measured value (dB)
A-weight	9.9
C-weight	16.7
Flat	22.4

### 3. Acoustical signal tests of frequency weightings

More free-field acoustic response at a level of 84 dB

Frequency (Hz)	Flat	C-weight	A-weight	Acceptance Limits
125	0.1	0.1	0.1	±1.5
1000	-0.1	-0.1	-0.1	±1.0
8000	1.3	1.3	1.3	±5.0

## 4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz:

Frequency (Hz)	Flat	C-weight	A-weight	Acceptance Limits
63	0.0	0.0	0.0	±2.0
125	0.0	0.0	0.0	±1.5
250	0.0	0.0	0.0	±1.5
500	0.0	0.0	0.0	±1.5
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.1	0.0	±2.0
4000	0.0	0.0	0.0	±3.0
8000	0.0	0.1	0.1	±5.0

## 5. Frequency and time weightings at 1 kHz

## 5.1 Frequency weightings at 1 kHz

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	±0.2
C-weight	94.0	94.0	0.0	±0.2
Flat	94.0	94.0	0.0	±0.2

## 5.2 Time weighting at 1 kHz

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	94.0	0.0	±0.1
Slow	94.0	94.0	0.0	±0.1
1sec	94.0	94.0	0.0	±0.1

## 6. Long-term stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	±0.3

T. Petch...

## 7. Level linearity on the reference level range

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	±1.1
136.0	136.0	0.0	±1.1
135.0	135.0	0.0	±1.1
134.0	134.0	0.0	±1.1
133.0	133.0	0.0	±1.1
132.0	132.0	0.0	±1.1
131.0	131.0	0.0	±1.1
129.0	129.0	0.0	±1.1
124.0	124.0	0.0	±1.1
119.0	119.0	0.0	±1.1
114.0	114.0	0.0	±1.1
109.0	109.0	0.0	±1.1
104.0	104.0	0.0	±1.1
99.0	99.0	0.0	±1.1
94.0	94.0	0.0	±1.1
89.0	89.0	0.0	±1.1
84.0	84.0	0.0	±1.1
79.0	79.0	0.0	±1.1
74.0	74.0	0.0	±1.1
69.0	69.0	0.0	±1.1
64.0	64.0	0.0	±1.1
59.0	59.0	0.0	±1.1
54.0	54.0	0.0	±1.1
49.0	49.0	0.0	±1.1
44.0	44.0	0.0	±1.1
39.0	39.0	-0.1	±1.1
34.0	34.0	0.0	±1.1
30.0	30.0	0.0	±1.1
29.0	28.9	-0.1	±1.1
28.0	27.9	-0.1	±1.1
27.0	26.9	-0.1	±1.1
26.0	25.9	-0.1	±1.1
25.0	24.8	-0.2	±1.1

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## 8. Level linearity including the level range control

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Auto	94.0	94.0	0.0	±1.1

## 9. Tone burst response

Time Weighting	Tone burst duration, T <sub>b</sub> (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	107.9	-0.1	1.5; -5.0
	2	8	117.0	117.0	0.0	1.0; -2.5
	200	800	124.0	124.1	0.1	±1.0
Slow	2	8	108.0	108.0	0.0	1.5; -5.0
	200	800	127.0	127.6	0.6	±1.0
	0.25	1	99.0	98.9	-0.1	1.5; -5.0
SEL	2	8	108.0	108.0	0.0	1.0; -2.5
	200	800	128.0	128.1	0.1	±1.0

## 10. Peak C sound level

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, Leq (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	±3.0
One	136.0	136.0	-0.4	±3.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	±2.0
Positive half cycle	135.4	135.2	-0.2	±2.0
Negative half cycle	135.4	135.2	-0.2	±2.0

T. Petch...

## 11. Overall indication

Measured value ( dB )		Deviated Value ( dB )	Acceptance Limits ( dB )
Positive one-half cycle	Negative one-half cycle		
89.6	89.5	-0.1	±1.5

## 12. High level stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	137.0	137.0	0.0	±0.3

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor  $k=2$  or any value following calculation, providing a level of confidence of approximately 95 %

End of Calibration Certificate

T. Petch...

## Calibration Certificate

Equipment: SOUND LEVEL METER  
Manufacturer: RION  
Model: NL-42A / Microphone UC-52 / Pre-amplifier N1-24  
Serial No.: 00621392 / 106439 / 26420  
ID No.: RYO, F50617

Condition As Found: GOOD

Customer: ALS LABORATORY GROUP (THAILAND) CO., LTD.  
104 PHATTANAKAN 40, PHATTANAKAN ROAD,  
KJWANG PHATTANAKAN, KJWANG SUBURB, UANG,  
BANGKOK, 10250, THAILAND.

Location: ( 23.0 ± 3.5 ) °C  
Ambient Temperature: ( 101.3 ± 1.3 ) kPa  
Pressure: ( 30.0 ± 2.9 ) %  
Relative Humidity: %

Received Date: 05 JANUARY 2024  
Calibration Date: 12-13 JANUARY 2024  
Date of Issue: 16 JANUARY 2024



Calibrated by: Nishakorn Petchsri

Approved by: T. Petch...  
( Thumthak Petchsri )

This certificate is issued in accordance with the requirements of ISO/IEC 17025 standard, may not be reproduced other than in full, except with the prior written approval of the head of Calibration Laboratory.

T. Petch...

## Calibration Procedure: CPAC-01

## Calibration Method:

This equipment was calibrated by follow on IEC-6167-1 (2013) Standard for sound level meter (SLM). The SLM had been tested to Acoustical and Electrical signal tests of frequency weighting with Acoustic chamber and Reference Standard Instruments.

For test results of each item were made by observation of each instrument display and also with SLM's display.

## Condition of this result of calibration:

## 1. Reference Standard Instruments:

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017016	IF-0009-23	07-FEB-24
Waveform Generator	33511B	MY52702742	IF-0010-23	07-FEB-24
Digital Multimeter	34461A	MY53220104	EEL-IP 301206	13-FEB-24
Digital Multimeter	34461A	MY53220104	EEL-IP 301206	13-FEB-24
Digital Multimeter	34461A	MY6004275	EEL-IP 3110264	14-FEB-24
Programmable Attenuator	MAT-1070	62100114	IF-0011-23	08-FEB-24
Condenser Microphone	4180	2977000	AA-1001-23	14-FEB-24
Measuring Amplifier	NA-42KA	34540495	AA-5002-23	14-FEB-24

2. This result of calibration was found accurate to shown on date and place of calibration for this calibration item only.

3. This certificate is traceable to the international system of unit maintained as:

- 3.1 National Institute of Metrology (Thailand).
- 3.2 Thailand Institute of Scientific and Technological Research (TISTR).

T. Petch...

## Summary of Measurement Result:

Parameter	Uncertainty (dB)	Maximum permitted uncertainty of measurement (dB)
1. Absolute sensitivity	0.2	N/A
2. Self-generated noise	0.2	N/A
3. Acoustical signal tests of frequency weightings		
125 Hz	0.3	0.6
1000 Hz	0.3	0.6
8000 Hz	0.3	0.7
4. Electrical signal tests of frequency weightings		
For 10 Hz to 4 kHz	0.3	0.6
For 4 kHz to 10 kHz	0.3	0.7
For > 10 kHz to 20 kHz	-	-
5. Frequency and time weightings at 1 kHz	0.2	0.2
6. Long-term stability	0.1	0.1
7. Level linearity on the reference level range	0.2	0.3
8. Level linearity including the level range control	0.2	0.3
9. Tone burst response	0.2	0.3
10. Peak C sound level	0.2	0.35
11. Overall indication	0.2	0.25
12. High level stability	0.1	0.1

T. Petch...

## Result of calibration:

## 1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limit (dB)
93.9 (93.0)	93.9	0.0	±0.3

## 2. Self-generated noise

## 2.1 Normal test

Measured Value (dB)
14.8

## 2.2 The microphone of the sound level meter was replaced by electrical signal input device.

Frequency Weighting	Measured value (dB)
A-weight	13.6
C-weight	20.6
Flat	26.1

## 3. Acoustical signal tests of frequency weightings

Meter free-field acoustic response at a level of 84 dB

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)
	Flat C-weight A-weight Acceptance Limits
125	0.1 0.1 0.1 ±1.5
1000	0.0 0.0 0.0 ±1.0
8000	1.2 1.3 1.3 ±5.0

T. Petch...

## 4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz:

Frequency (Hz)	Flat	C-weight	A-weight	Acceptance Limits
63	0.0	0.0	0.0	±2.0
125	0.0	0.1	0.1	±1.5
250	0.0	0.0	0.0	±1.5
500	0.0	0.1	0.0	±1.5
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.1	0.0	±2.0
4000	0.0	0.0	0.0	±3.0
8000	0.0	0.1	0.1	±5.0

## 5. Frequency and time weightings at 1 kHz

## 5.1 Frequency weightings at 1 kHz

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	±0.2
C-weight	94.0	94.0	0.0	±0.2
Flat	94.0	94.0	0.0	±0.2

## 5.2 Time weighting at 1 kHz

Frequency Weighting	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	94.0	0.0	±0.1
Slow	94.0	94.0	0.0	±0.1
Log	94.0	94.0	0.0	±0.1

## 6. Long-term stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.1	0.1	±0.3

T. Petch...

## 7. Level linearity on the reference level range

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
127.0	127.0	0.0	±1.1
136.0	136.0	0.0	±1.1
135.0	135.0	0.0	±1.1
134.0	134.0	0.0	±1.1
133.0	133.0	0.0	±1.1
132.0	132.0	0.0	±1.1
131.0	131.0	0.0	±1.1
129.0	129.0	0.0	±1.1
124.0	124.0	0.0	±1.1
119.0	119.0	0.0	±1.1
114.0	114.0	0.0	±1.1
109.0	109.0	0.0	±1.1
104.0	104.0	0.0	±1.1
99.0	99.0	0.0	±1.1
94.0	94.0	0.0	±1.1
89.0	89.0	0.0	±1.1
84.0	84.0	0.0	±1.1
79.0	79.0	0.0	±1.1
74.0	74.0	0.0	±1.1
69.0	69.0	0.0	±1.1
64.0	64.0	0.0	±1.1
59.0	59.0	0.0	±1.1
54.0	54.0	0.0	±1.1
49.0	49.0	0.0	±1.1
44.0	44.0	0.0	±1.1
39.0	39.0	0.0	±1.1
34.0	34.0	0.0	±1.1
29.0	29.0	0.0	±1.1
24.0	24.0	0.0	±1.1
19.0	19.0	0.0	±1.1
14.0	14.0	0.0	±1.1
9.0	9.0	0.0	±1.1

T. R. R.

## 8. Level linearity including the level range control

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Auto	94.0	94.0	0.0	±1.1

## 9. Tone burst response

Time Weighting	Tone burst duration, T <sub>b</sub> (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	108.0	0.0	1.5 - 5.0
	2	8	117.0	117.0	0.0	1.0 - 2.5
	200	800	134.0	134.0	0.0	±1.0
Slow	2	2	108.0	108.0	0.0	1.5 - 5.0
	200	800	127.0	127.0	0.0	±1.0
	0.25	1	99.0	99.0	-0.1	1.5 - 5.0
SEL	2	8	108.0	108.0	0.0	1.0 - 2.5
	200	800	128.0	128.0	0.0	±1.0

## 10. Peak C-weight level

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, Leq (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	±3.0
One	136.4	136.0	-0.4	±3.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	±2.0
Positive half cycle	135.4	135.1	-0.3	±2.0
Negative half cycle	135.4	135.1	-0.3	±2.0

T. R. R.

## 11. Overload indication

Measured value ( dB )		Deviated Value ( dB )	Acceptance Limits ( dB )
Positive one-half cycle	Negative one-half cycle		
89,7	89,7	0,0	±1,3

## 12. High level stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	137.9	137.0	0.0	±0.3

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor  $k = 2$  or any value following calculation, providing a level of confidence of approximately 95 %.

End of Calibration Certificate

T. R. R.



## Certificate of Calibration

Equipment: SPECTROPHOTOMETER  
Model: DR6000  
Serial No. (or ID.): 1627945 (RYG\_EN0037)  
Manufacturer: HACH  
Condition: In Condition

Customer: ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)  
816/10 Moo 5 T. Maenam Khu,  
A. Phukdaeng, Rayong 21140, Thailand.

Environment Condition: Temperature 23.9 °C ± 0.2  
Humidity 65.3 %RH ± 0.2

Calibration Place: ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch) (Wet Chemistry)  
816/10 Moo 5 T. Maenam Khu,  
A. Phukdaeng, Rayong 21140, Thailand.

Calibration By: Mr. Nattapol Rungruang  
Calibration Date: 18 September 2023  
The Method used: In house method, CAL-W6-34, based on ASTM E 275-08 and ASTM E 367-04  
Traceability: This certificate is traceable to the CRM maintained by National Institute of Standards and Technology (NIST) through Sigma Scientific Limited.  
The standard for Wavelength Certificate No. 111583 and 111584  
The standard for Photometric Certificate No. 9114984 and 111588  
The standard for Slit light Certificate No. 111586 and 111585  
The standard for Spectral resolution Certificate No. 111587

REVIEW BY: N. Runguang  
APPROVED BY: N. Runguang  
NEXT CAL DATE: 28/12/25

(Mr. Nattapol Rungruang)  
Person in charge

(Mr. Nitum Sirawan)  
Authorized signatory

This certificate is issued for the use of measurement according to the International System of Units (SI). It provides traceability of measurement to international standard or other recognized national standard.

The measurement uncertainty stated in 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 expressed in accordance with the Guide to Expression of Uncertainty in Measurement (GUM).

This result may be affected by deviations from specified conditions. The results may only be the item tested, calibrated or sampled. The report shall be representative of the actual condition of the item tested.

407-401 Station Road, Bangkok, Bangkok 10700 Thailand  
Tel: +66 2433 8331 Email: calibration@sithiporn.com

Delivering Growth - In Asia and Beyond.

CAL/PS-026-18-12 Sep 2022

Certificate No.: C06230411 Page 2 of 3

## Calibration Results:

## Without Adjustment

Wavelength Accuracy (nm). The spectral bandwidths of BM at 2 nm and UUG at 2 nm				
Standard Wavelength	Unit Under Calibration	Correction	Uncertainty	
418.61	418.3	0.31	0.13	
536.66	536.6	0.06	0.13	
637.96	638.3	-0.32	0.13	
748.48	748.7	-0.22	0.13	
807.03	807.4	-0.37	0.13	

Photometric Accuracy (Absorbance)				
Wavelength	Standard absorbance	Unit Under Calibration	Correction	Uncertainty
420 nm	0.0000	0.0000	0.0000	0.0048
	0.2930	0.288	0.0040	0.0048
	0.5168	0.519	-0.0022	0.0045
	1.0286	1.028	0.0006	0.0045
440 nm	0.0000	0.0000	0.0000	0.0045
	0.2887	0.283	0.0057	0.0045
	0.6073	0.609	-0.0017	0.0045
	1.0083	1.007	0.0013	0.0045
465 nm	0.0000	0.0000	0.0000	0.0045
	0.2919	0.290	0.0019	0.0045
	0.4685	0.462	0.0063	0.0045
	0.9324	0.933	-0.0004	0.0048
546.1 nm	0.0000	0.0000	0.0000	0.0045
	0.2481	0.245	0.0031	0.0045
	0.4682	0.468	-0.0008	0.0045
	0.9488	0.948	0.0008	0.0045
580 nm	0.0000	0.0000	0.0000	0.0045
	0.2994	0.299	0.0004	0.0045
	0.6040	0.608	-0.0040	0.0045
	1.0032	1.002	0.0012	0.0045
635 nm	0.0000	0.0000	0.0000	0.0045
	0.2979	0.297	0.0009	0.0045
	0.4971	0.497	0.0001	0.0045
	0.9720	0.971	0.0010	0.0045

407-401 Station Road, Bangkok, Bangkok 10700 Thailand  
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CAL/PS-026-18-12 Sep 2022

Certificate No.: C06230411 Page 3 of 3

## Calibration Results:

## Without Adjustment

Photometric Accuracy (At Aiance)				
Wavelength	Standard absorbance	Unit Under Calibration	Correction	Uncertainty
235 nm	0.0000	0.000	0.0000	0.0080
	0.7359	0.737	-0.0015	0.0080
257 nm	0.0000	0.000	0.0000	0.0080
	0.8574	0.857	0.0004	0.0080
313 nm	0.0000	0.000	0.0000	0.0080
	0.2864	0.290	-0.0036	0.0080
350 nm	0.0000	0.000	0.0000	0.0080
	0.8374	0.837	0.0004	0.0080
Slit light *				
Standard cut-off	UUC: Wavelength (nm)	UUC: Transmission (NT)	Absorbance (A)	
280.62 ± 0.11 nm	280.6	1.3	1.886	
391.44 ± 0.11 nm	391.4	1.3	1.886	
Spectral Resolution *				
Normal Concentration 0.02 % w/v	Peak	Through	Ratio	SRW
Standard Wavelength (nm)	288.68	288.69	1.38	2.00
UUC: Wavelength (nm)	288.2	288.1		
Std Absorbance (A)	0.4386	0.2780		
Absorbance (A)	0.413	0.300		

\* Calibration Marked "Not TSI Accredited" in this Certificate have been included for completeness.

The End of Certificate

407-401 Station Road, Bangkok, Bangkok 10700 Thailand  
Tel: +66 2433 8331 Email: calibration@sithiporn.com

Delivering Growth - In Asia and Beyond.

CAL/PS-026-18-12 Sep 2022



## ใบตรวจสอบสภาพเครื่องวัดสิ่งแวดล้อม

เครื่องมือวัด: SPECTROPHOTOMETER No. DR6000

วันที่ตรวจ: WO-0005382

หมายเลขเครื่อง: 1627945

ตรวจสอบ (No)	ตรวจสอบ (No)	ตรวจสอบ (No)
18 Sep 2023	18 Sep 2023	18 Sep 2023
วันที่	วันที่	วันที่
General	General	General
1. การสอบเทียบ (Calibration)	1. การสอบเทียบ (Calibration)	1. การสอบเทียบ (Calibration)
2. การสอบเทียบ (Calibration)	2. การสอบเทียบ (Calibration)	2. การสอบเทียบ (Calibration)
3. การสอบเทียบ (Calibration)	3. การสอบเทียบ (Calibration)	3. การสอบเทียบ (Calibration)
4. การสอบเทียบ (Calibration)	4. การสอบเทียบ (Calibration)	4. การสอบเทียบ (Calibration)
5. การสอบเทียบ (Calibration)	5. การสอบเทียบ (Calibration)	5. การสอบเทียบ (Calibration)
Spectrophotometer	Spectrophotometer	Spectrophotometer
6. การสอบเทียบ (Calibration)	6. การสอบเทียบ (Calibration)	6. การสอบเทียบ (Calibration)
7. การสอบเทียบ (Calibration)	7. การสอบเทียบ (Calibration)	7. การสอบเทียบ (Calibration)
8. การสอบเทียบ (Calibration)	8. การสอบเทียบ (Calibration)	8. การสอบเทียบ (Calibration)
9. การสอบเทียบ (Calibration)	9. การสอบเทียบ (Calibration)	9. การสอบเทียบ (Calibration)
10. การสอบเทียบ (Calibration)	10. การสอบเทียบ (Calibration)	10. การสอบเทียบ (Calibration)
11. การสอบเทียบ (Calibration)	11. การสอบเทียบ (Calibration)	11. การสอบเทียบ (Calibration)
pH Meter and Conductivity Meter	pH Meter and Conductivity Meter	pH Meter and Conductivity Meter
12. การสอบเทียบ (Calibration)	12. การสอบเทียบ (Calibration)	12. การสอบเทียบ (Calibration)
13. การสอบเทียบ (Calibration)	13. การสอบเทียบ (Calibration)	13. การสอบเทียบ (Calibration)
14. การสอบเทียบ (Calibration)	14. การสอบเทียบ (Calibration)	14. การสอบเทียบ (Calibration)
15. การสอบเทียบ (Calibration)	15. การสอบเทียบ (Calibration)	15. การสอบเทียบ (Calibration)
Turbidimeter	Turbidimeter	Turbidimeter
16. การสอบเทียบ (Calibration)	16. การสอบเทียบ (Calibration)	16. การสอบเทียบ (Calibration)
17. การสอบเทียบ (Calibration)	17. การสอบเทียบ (Calibration)	17. การสอบเทียบ (Calibration)
Automatic titrator	Automatic titrator	Automatic titrator
18. การสอบเทียบ (Calibration)	18. การสอบเทียบ (Calibration)	18. การสอบเทียบ (Calibration)
19. การสอบเทียบ (Calibration)	19. การสอบเทียบ (Calibration)	19. การสอบเทียบ (Calibration)
20. การสอบเทียบ (Calibration)	20. การสอบเทียบ (Calibration)	20. การสอบเทียบ (Calibration)

เครื่องวัดสภาพแวดล้อม: 1627945, 1627945, 1627945

Mr. Nattapol Rungruang  
Service Engineer

407-401 Station Road, Bangkok, Bangkok 10700 Thailand  
Tel: +66 2433 8331 Email: calibration@sithiporn.com

Delivering Growth - In Asia and Beyond.

CAL/PS-026-18-12 Sep 2022

TECHNOLOGY PROMOTION ASSOCIATION (THAILAND) LTD.  
PROMOTE THE USE OF TECHNOLOGY IN THE INDUSTRIAL SECTOR  
THAILAND TECHNOLOGY PROMOTION ASSOCIATION (THAILAND) LTD.  
PROMOTE THE USE OF TECHNOLOGY IN THE INDUSTRIAL SECTOR

Cert. No.: 24C190

Page: 1 of 3

## Certificate of Calibration

Equipment: pH Meter  
Manufacturer: Mettler Toledo  
Model: SevenCompact 3200  
Serial No.: C140054807  
ID No.: RYC\_EN0163  
Condition As-Received: Used Item  
Received Date: 18 January 2024  
Calibration Date: 19 January 2024  
Reference: 24C190-02  
Submitted by: ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)  
616/10 Moo 5, T. Maenam Khu,  
A. Phukdaeng, Rayong 21140, Thailand

Ambient Temperature: (25 ± 2.5) °C  
Relative Humidity: (50 ± 15) %  
Calibration Procedure: In-house method  
- CP-CMS by direct measurement with standard voltage calibrator and direct measurement with certified reference material (CRM)  
- CP-CMS by comparison with temperature standard

Calibrated by: Wansorn Lungsangrakul

Approved by: Wansorn Lungsangrakul

Issue Date: 24 January 2024

The Uncertainty is for a confidence probability of approximately 95%

Approved by: Wansorn Lungsangrakul

A 052254

Cert. No.: 24C190

Page: 3 of 3

## Condition of this calibration result

- Reference Standard Instrument (In-house)
- Reference Standard Instrument (In-house)

This certification is traceable to the International System of Units (SI) measured through:  
- Technology Promotion Association (Thailand) Ltd.  
The measurement results are traceable to SI through CRM (NIST SRM-4852) having measurement data Accepted by NIST.

Buffer Solution: pH 4.008, pH 6.86, pH 9.507  
Manufacturer: CNA Chem, CNA Chem, CNA Chem  
Lot No.: 880104, 880104, 880104  
Exp. Date: 27 Nov 2023, 02 Nov 2024, 02 Nov 2024

This certificate is valid only for the item calibrated or date test date of calibration.

## Calibration Result

Function: mV Measurement  
Performing standard curve by Fluor at pH (4.7, 10)

Unit Under Calibration	Nominal Value	Standard Voltage Input	Actual Reading	Uncertainty of Measurement (mV)	Coverage factor
pH Meter	pH	mV	mV	pH	k
Serial: C140554807	4.000	177.46	177.4	0.009	2.00
	7.000	3.00	3.0	0.008	2.00
	10.000	-177.45	-177.5	0.008	2.00

A 119827



TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES
154/1 PATTANAKARN ROAD 10/10, SUKUMVIT, BANGKOK 10250
TEL. 0-2717-3900-29 FAX. 0-2717-3900-29

Cert. No.: 23/M125
Page: 1 of 2

### Certificate of Calibration

Equipment: DO Meter with Sensor
Manufacturer: YSI
Model: 5000-115V
Serial No.: 15E102796
ID No.: RYQ\_EN0032
Submitted by: ALS Laboratory Group (Thailand) Co., Ltd.
Rayong Branch
616/10 Moo 5 T. Maenam Khu. A. Phatthanaeng
Rayong 21140 Thailand
Location: TPA On Site Calibration Laboratory
Received Order: 25 July 2023
Calibrated Date: 27 July 2023
Ambient Temperature: (28 ± 10) °C
Relative Humidity: (50 ± 30) %
AC Line Voltage: (220 ± 22) V
Calibrated by: Preecha Hahit
Approved by: [Signature]
Approved Signatory: ( ) Pornthippa Tamayakul
( ) Maken Buthiruea
(✓) Suwit Injai
Issue Date: 31 July 2023

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

A 0055615

TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES
154/1 PATTANAKARN ROAD 10/10, SUKUMVIT, BANGKOK 10250
TEL. 0-2717-3900-29 FAX. 0-2717-3900-29

Cert. No.: 23/M125
Page: 2 of 2

### Certificate of Calibration

Equipment: DO Meter with Sensor
Condition As-Received: Used Item
Reference: 2307-071305C-2
Procedure Used: Calibration were conducted using in-house calibration procedure CP-OT01 according to comparison with Industrial Platinum Resistance Thermometer ( IPRT ) into Temperature Bath.
The temperature scale used was based on ITS-90.
Condition of this result of calibration: 1. Reference standard instrument-
Instrument Serial No. Cert. No. Traceable Due Date
1) Digital Thermometer 218000 221285 TPA 21 Oct 2023
2. This certificate is valid only to the item calibrated on date and place of calibration.
3. This certification is traceable to the International System of Unit.
Remark: TPA : Technology Promotion Association ( Thailand - Japan )
Result of Calibration: ( \* ) Without Adjustment
Function of UUC: Temperature measurement.
This instrument was connected with temperature sensor, SN: 1229472367
Calibration Point Immersion Depth Standard Temperature UUC Reading Error Uncertainty Coverage
( °C ) ( mm ) ( °C ) ( °C ) ( ± °C ) %
20.00 100 20.011 19.91 -0.101 6.15 2.00
UUC: Unit Under Calibration
The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k, providing a level of confidence of approximately 95 %.

A 1159515

TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES
154/1 PATTANAKARN ROAD 10/10, SUKUMVIT, BANGKOK 10250
TEL. 0-2717-3900-29 FAX. 0-2717-3900-29

Cert. No.: 23/M062
Page: 1 of 3

### Certificate of Calibration

Equipment: Low Temp. Incubator
Manufacturer: Memmert
Model: IPP750
Serial No.: V818.0084
ID No.: RYQ\_EN0154
Submitted by: ALS Laboratory Group (Thailand) Co., Ltd.
(Rayong Branch)
616/10 Moo 5 T. Maenam Khu. A. Phatthanaeng, Rayong 21140 Thailand
Location: BOO Room
Received Order: 29 May 2023
Calibration Date: 29 May 2023
Ambient Temperature: (28 ± 10) °C
Relative Humidity: (50 ± 30) %
Calibrated by: Man Patanasongkittom
Approved by: [Signature]
Approved Signatory: ( ) Pornthippa Tamayakul
( ) Maken Buthiruea
(✓) Suwit Injai
Issue Date: 7 June 2023

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

A 0054967

TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES
154/1 PATTANAKARN ROAD 10/10, SUKUMVIT, BANGKOK 10250
TEL. 0-2717-3900-29 FAX. 0-2717-3900-29

Cert. No.: 23/TM02
Page: 2 of 3

### Certificate of Calibration

Equipment: Low Temp. Incubator
Condition As-Received: Used Item
Reference: 2305-0880C-2
Procedure Used: Calibration were conducted using calibration procedure CP-OT02 according to direct measurement method with Data Acquisition which connected with Resistance Temperature Detector ( RTD ).
The temperature scale used was based on ITS-90.
Condition of this result of calibration: 1. Reference standard instrument-
Instrument Model Serial No. Cert. No. Due Date
1) Data Acquisition 34872A MYS7013711 221M03 02 Jul 2023
2. This certificate is valid only to the item calibrated on date and place of calibration.
3. This certification is traceable to the International System of Unit.
Result of Calibration: ( \* ) Without Adjustment
Function of UUC: Temperature Source
Fresh air setting: Close
Environment during calibration
Temp. ( °C ) Beginning Finished
REL Humid. ( % ) 54 50
AC Supply ( Volt ) 223 222
Position: Ref. Std. ID No.:
1 18-18RTD-01
2 18-18RTD-02
3 18-18RTD-03
4 18-18RTD-04
5 18-18RTD-05
6 18-18RTD-10
7 18-18RTD-07
8 22-18RTD-08
9 (ref.) 18-18RTD-09
Probe Installation Details: Dimension of Chamber:
a = 39 cm D = 0.80 m
b = 39 cm W = 1.6 m
c = 39 cm H = 1.2 m
Capacity = 0.75 m³

A 1165130

TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES
154/1 PATTANAKARN ROAD 10/10, SUKUMVIT, BANGKOK 10250
TEL. 0-2717-3900-29 FAX. 0-2717-3900-29

Cert. No.: 23/TM02
Page: 3 of 3

### Certificate of Calibration

Equipment: Low Temp. Incubator
Condition As-Received: Used Item
Reference: 2305-0880C-2
Result of Calibration: ( \* ) Without Adjustment
Function of UUC: Temperature Source
Fresh air setting: Close
Calibration Point UUC Setting UUC Reading Temperature stability Temperature uniformity Overall Variation Coverage
( °C ) ( °C ) ( °C ) ( ± °C ) ( °C ) ( °C ) %
20.0 20.0 20.0 0.019 19.487 19.529 19.408 20.139 20.112 20.406 20.116 0.30
Average: The average of 30 values in each position.
Temperature stability: One-half of the greatest maximum difference of measured temperature at any one sensor.
Temperature uniformity: The maximum difference of measured temperatures at any sensors and the measured temperature at the reference location which are observed at the same time or at as close an observation time as possible to determine the temperature pattern or homogeneity within the chamber under steady-state conditions.
Overall Variation: The Difference of the maximum and minimum measured temperatures throughout observation.
UUC: Unit Under Calibration
Note: The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k, providing a level of confidence of approximately 95 %.

A 1165129

TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES
154/1 PATTANAKARN ROAD 10/10, SUKUMVIT, BANGKOK 10250
TEL. 0-2717-3900-29 FAX. 0-2717-3900-29

Cert. No.: 24/TM1663
Page: 1 of 3

### Certificate of Calibration

Equipment: Low Temp. Incubator
Manufacturer: Memmert
Model: IPP750
Serial No.: V818.0084
ID No.: RYQ\_EN0154
Submitted by: ALS Laboratory Group (Thailand) Co., Ltd. Rayong Branch
616/10 Moo 5 T. Maenam Khu. A. Phatthanaeng, Rayong 21140, Thailand
Location: BOO Room
Received Order: 01 November 2024
Calibration Date: 01 November 2024
Ambient Temperature: (28 ± 10) °C
Relative Humidity: (50 ± 30) %
AC Line Voltage: (220 ± 22) V
Calibrated by: Krisda Malee
Approved by: [Signature]
Approved Signatory: ( ) Ponpan Paipin
( ) Suwit Injai
(✓) Kunchit Promptat
Issue Date: 07 November 2024

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

TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES
154/1 PATTANAKARN ROAD 10/10, SUKUMVIT, BANGKOK 10250
TEL. 0-2717-3900-29 FAX. 0-2717-3900-29

Cert. No.: 24/TM1663
Page: 2 of 3

### Certificate of Calibration

Equipment: Low Temp. Incubator
Condition As-Received: Used Item
Reference: 2411-0002C-1
Procedure Used: Calibration were conducted using calibration procedure CP-OT02 based on TLAS G-20 according to direct measurement method with Data Acquisition which connected with Resistance Temperature Detector ( RTD ).
The temperature scale used was based on ITS-90.
Condition of this result of calibration: 1. Reference standard instrument-
Instrument Model Serial No. Cert. No. Traceable Due Date
1) Data Acquisition M4407381 24LM73 TPA 16 May 2025
2. This certificate is valid only to the item calibrated on date and place of calibration.
3. This certification is traceable to the International System of Unit.
Remark: TPA : Technology Promotion Association ( Thailand - Japan )
Result of Calibration: ( \* ) Without Adjustment
Function of UUC: Temperature Source
Fresh air setting: Close
Environment during calibration
Temp. ( °C ) Beginning Finished
REL Humid. ( % ) 55 53
AC Supply ( Volt ) 220 221
Position: Ref. Std. ID No.:
1 18RTD-21
2 18RTD-22
3 22-01RTD-03
4 18RTD-24
5 18RTD-25
6 18RTD-26
7 23-01RTD-07
8 18RTD-28
9 (ref.) 23-01RTD-09
Probe Installation Details: Dimension of Chamber:
a = 10 cm D = 0.60 m
b = 10 cm W = 1.0 m
c = 10 cm H = 1.2 m
Capacity = 0.72 m³

TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES
154/1 PATTANAKARN ROAD 10/10, SUKUMVIT, BANGKOK 10250
TEL. 0-2717-3900-29 FAX. 0-2717-3900-29

Cert. No.: 24/TM1663
Page: 3 of 3

### Certificate of Calibration

Equipment: Low Temp. Incubator
Condition As-Received: Used Item
Reference: 2411-0002C-1
Result of Calibration: ( \* ) Without Adjustment
Function of UUC: Temperature Source
Fresh air setting: Close
Calibration Point UUC Setting UUC Reading Temperature stability Temperature uniformity Overall Variation Coverage
( °C ) ( °C ) ( °C ) ( ± °C ) ( °C ) ( °C ) %
20.0 20.0 20.0 0.028 19.977 19.782 20.056 20.026 20.033 0.30
Average: The average of 30 values in each position.
Temperature stability: One-half of the greatest maximum difference of measured temperature at any one sensor.
Temperature uniformity: The maximum difference of measured temperatures at any sensors and the measured temperature at the reference location which are observed at the same time or at as close an observation time as possible to determine the temperature pattern or homogeneity within the chamber under steady-state conditions.
Overall Variation: The Difference of the maximum and minimum measured temperatures throughout observation.
UUC: Unit Under Calibration
Note: The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k, providing a level of confidence of approximately 95 %.

TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES
154/1 PATTANAKARN ROAD 10/10, SUKUMVIT, BANGKOK 10250
TEL. 0-2717-3900-29 FAX. 0-2717-3900-29

Cert. No.: 23/T178
Page: 1 of 2

### Certificate of Calibration

Equipment: Digital Thermometer
Manufacturer: Teco
Model: 158
Serial No.: 0457786501
ID No.: RYQ\_F00571
Condition As-Received: Used Item
Received Date: 04 October 2023
Calibration Date: 04 October 2023
Reference: 2310-011000C-2
Ambient Temperature: (28 ± 3) °C
Relative Humidity: (50 ± 20) %
Submitted by: ALS Laboratory Group (Thailand) Co., Ltd. Rayong Branch
616/10 Moo 5 T. Maenam Khu. A. Phatthanaeng, Rayong 21140, Thailand
Procedure used: Calibration were conducted using in-house calibration procedure CP-OT01 according to comparison with Industrial Platinum Resistance Thermometer ( IPRT ) into liquid bath temperature controller.
The temperature scale used was based on ITS-90.
Condition of this result of calibration: 1. Reference standards instruments:
Instrument Model Serial No. Certificate No. Due Date
1) Black Block Thermometer 1580 80654 238600 30 May 2024
2) PRT Scanner Module 2562 401303 238600 30 May 2024
3) Industrial Platinum Resistance Thermometer 5827-12 571871 238600 30 May 2024
2. This certificate is valid only to the item calibrated on date and place of calibration.
3. This Certification is traceable to the International System of Unit measured through:
Technology Promotion Association (Thailand-Japan), NIS-CHNAC Accredited No. Calibration 0068
Calibrated by: Winron Sontanon
Issue Date: 12 October 2023
Approved Signatory: ( ) Pornthippa Tamayakul
( ) Chaitheeran Khongkai
(✓) Winron Sontanon

A 0326173

Result of Calibration: Without Adjustment  
Function: Temperature measurement  
Dimension of probe: Diameter 3 mm, Length 55 mm, Sheath material: Stainless Steel

Immersion Depth (mm)	Standard Temperature (°C)	Reading (°C)	Error (°C)	Uncertainty of Measurement (°C)
50	25.0025	24.9	-0.1025	0.12
50	30.0018	29.9	-0.1018	0.12
50	40.0034	40.0	-0.0034	0.12

UUC: Unit Under Calibration  
The reported uncertainty of measurement was based on standard uncertainty multiplied by a coverage factor k = 2, providing a level of confidence of approximately 95%.

Calibrated by: Yossapan Poljan  
Issue Date: 10 October 2024

Approved Signature: [Signature]

Next Cal Date: 08/10/25

TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)  
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES  
5344 PATANAKARN ROAD SOI 18, SUANLIANG, SUANLIANG, BANGKOK 10250  
TEL 0-2717-880-24/FAX 0-2718-9484

Certificate No.: 2471733  
Page: 1 of 2

Equipment: Digital Thermometer  
Manufacturer: Testo  
Model: 106  
Serial No.: 8351788/0321  
ID No.: RYG\_F50271

Condition As-Received: Used Item  
Received Date: 30 September 2024  
Calibration Date: 08 October 2024  
Reference: 2405-100/030C  
Ambient Temperature: (25 ± 3) °C  
Relative Humidity: (50 ± 20) %

Submitted by: ALS Laboratory Group (Thailand) Co., Ltd. Ruyong Branch  
616/10 Moo 5, T.Maanam Khu, A.Pluakdaeng, Ruyong 21140, Thailand

Procedure used: Calibration was conducted using in-house calibration procedure CP-T01 according to comparison with Industrial Platinum Resistance Thermometer (PRT) into liquid bath temperature controller. The temperature scale used was based on ITS-90.

Condition of this result of calibration

Instrument	Model	Serial No.	Certificate No.	Exp. Date
1) Digital Thermometer	1029	A24009	231245	19 Oct 2024
2) Industrial Platinum Resistance Thermometer	5027-12	071975	231245	19 Oct 2024

2. The certificate is valid only to the item calibrated on date and place of calibration.  
3. This Certification is traceable to the International System of Unit maintained through:  
- Technology Promotion Association (Thailand-Japan), NISQ-NAC Accredited No. Calibration 0008

Calibrated by: Yossapan Poljan  
Issue Date: 10 October 2024

Approved Signature: [Signature]

Next Cal Date: 08/10/25

Result of Calibration: Without Adjustment  
Function: Temperature measurement  
Dimension of probe: Diameter 3 mm, Length 55 mm, Sheath material: Stainless Steel

Immersion Depth (mm)	Standard Temperature (°C)	Reading (°C)	Error (°C)	Uncertainty of Measurement (°C)
50	25.0033	25.0	-0.0033	0.12
50	30.0050	29.9	-0.1050	0.12
50	40.0027	40.0	-0.0027	0.12

UUC: Unit Under Calibration  
The reported uncertainty of measurement was based on standard uncertainty multiplied by a coverage factor k = 2, providing a level of confidence of approximately 95%.

Calibrated by: Yossapan Poljan  
Issue Date: 10 October 2024

Approved Signature: [Signature]

Next Cal Date: 08/10/25

TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)  
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES  
5344 PATANAKARN ROAD SOI 18, SUANLIANG, SUANLIANG, BANGKOK 10250  
TEL 0-2717-880-24/FAX 0-2718-9484

Certificate No.: 23CH1088  
Page: 1 of 2

Equipment: Conductivity Meter  
Manufacturer: Mettler Toledo  
Model: S230  
Serial No.: 8241407147  
ID No.: RYG\_EN0029  
Condition As-Received: Used Item  
Received Date: 01 September 2023  
Calibration Date: 04 September 2023  
Reference: 2306-0010/030C-7  
Submitted by: ALS Laboratory Group (Thailand) Co., Ltd. Ruyong Branch  
616/10 Moo 5, T.Maanam Khu, A.Pluakdaeng, Ruyong 21140, Thailand

Ambient Temperature: (25 ± 2.5) °C  
Relative Humidity: (50 ± 15) %  
Calibration Procedure: In-house method: CP-CH6 - based on direct measurement by using certified reference material (CRM)

Calibrated by: Watsorn Lomgagaku  
Approved Signature: [Signature]

Issue Date: 7 September 2023

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

Calibrated by: Watsorn Lomgagaku  
Approved Signature: [Signature]

Issue Date: 7 September 2023

Condition of this result of calibration

Instrument	ID No.	Certificate No.	Exp. Date
1) Thermometer	9549224	130RC003	23435

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

Conductivity Solution	Manufacturer	Lot No.	Exp. Date
84.000 µS/cm	CPA Chem	865120	28 Mar 2024
1413.0 µS/cm	CPA Chem	915596	14 July 2024
12.880 mS/cm	CPA Chem	865123	28 Mar 2024

3. This certificate is valid only to the item calibrated on date and place of calibration.  
Calibration result:  
Function: Conductivity Measurement  
(\*) After Adjustment at 1413.0 µS/cm  
Conductivity Electrode Serial No.: 5823251000

Standard Conductivity Solution	Before Adjustment UUC Reading	After Adjustment UUC Reading	Uncertainty of Measurement (±)	Coverage factor k
84.000 µS/cm	83.8 µS/cm	85.3 µS/cm	0.62 µS/cm	2.00
1413.0 µS/cm	1388 µS/cm	1413 µS/cm	9.2 µS/cm	2.00
12.880 mS/cm	12.41 mS/cm	12.63 mS/cm	0.088 mS/cm	2.00

Remark: UUC: Unit Under Calibration  
Cell constant = 0.545371 cm<sup>-1</sup>

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

Sartorius (Thailand) Co., Ltd.  
101 Moo 1 Road, Industrial Estate, Bangkok 10110  
Tel: 02-024-6241-4, Email: sarthai@thailand.sartorius.com

Certificate of Calibration

Model Number: M22245-100-GU  
Description: Analytical Balance  
Serial Number: 0020070318  
ID No.: RYG\_EN0029  
Manufacturer: Sartorius

Calibration Date: Thursday, February 22, 2024  
Calibration Result: The calibration was conducted by using in-house calibration procedure number: 001-003, based on UKAS LAB 14: 2013

Measurement Method: UKAS Publication Ref: Lab 14

Traceability: The required uncertainty used in the reported uncertainty when a standard from UKAS is used is 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 the Expression of Uncertainty in Measurement (GUM). The calibration certificate documents this traceability to National Standards, which remain the unit of measurement according to the International System of Units (SI). Report of Tolerance came from test of Sartorius Metrological Specifications.

Calibration Date: Thursday, February 22, 2024  
Calibration Result: The calibration was conducted by using in-house calibration procedure number: 001-003, based on UKAS LAB 14: 2013

Measurement Method: UKAS Publication Ref: Lab 14

Traceability: The required uncertainty used in the reported uncertainty when a standard from UKAS is used is 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 the Expression of Uncertainty in Measurement (GUM). The calibration certificate documents this traceability to National Standards, which remain the unit of measurement according to the International System of Units (SI). Report of Tolerance came from test of Sartorius Metrological Specifications.

Sartorius (Thailand) Co., Ltd.  
101 Moo 1 Road, Industrial Estate, Bangkok 10110  
Tel: 02-024-6241-4, Email: sarthai@thailand.sartorius.com

Certificate of Calibration

Model Number: M22245-100-GU  
Description: Analytical Balance  
Serial Number: 0020070318  
ID No.: RYG\_EN0029  
Manufacturer: Sartorius

Calibration Results: Without Adjustment

Repeatability: The repeatability is the ability of a weighing instrument to deliver nearly identical results under identical conditions when the same sample and method of measurement are used repeatedly on the weighing place in the same plant. The repeatability is used to determine the repeatability of the weighing instrument.

Eccentricity (Off-center loading error): The eccentricity loading error is caused by the difference between the center of the load and the center of the weighing pan. The eccentricity loading error is caused by the difference between the center of the load and the center of the weighing pan.

Linearity: The linearity is the ability of a weighing instrument to deliver nearly identical results under identical conditions when the same sample and method of measurement are used repeatedly on the weighing place in the same plant. The linearity is used to determine the linearity of the weighing instrument.

Calibrated by: Watsorn Lomgagaku  
Approved Signature: [Signature]

Issue Date: 7 September 2023

TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)  
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES  
5344 PATANAKARN ROAD SOI 18, SUANLIANG, SUANLIANG, BANGKOK 10250  
TEL 0-2717-880-24/FAX 0-2718-9484

Certificate of Calibration

Equipment: Hot Air Oven  
Manufacturer: Memmert  
Model: UFE 500  
Serial No.: G511.1572  
ID No.: RYG\_EN0010

Submitted by: ALS Laboratory Group (Thailand) Co., Ltd. (Ruyong Branch)  
616/10 Moo 5, T.Maanam Khu, A. Pluakdaeng, Ruyong 21140 Thailand  
Oven Room

Received Order: 21 March 2024  
Calibration Date: 21 March 2024  
Ambient Temperature: (26 ± 1) °C  
Relative Humidity: (50 ± 30) %

Calibrated by: Man Pattanapongsaiboon  
Approved Signature: [Signature]

Issue Date: 22 March 2024

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

Equipment: Hot Air Oven  
Condition As-Received: Used Item  
Reference: 2403-055C-01

Procedure Used: Calibration was conducted using calibration procedure CP-OT02 according to direct measurement method with Data Acquisition which connected with Resistance Temperature Detector (RTD) and Thermocouple Type T.

Condition of this result of calibration

Reference standard instrument	Serial No.	Cert. No.	Traceable	Exp. Date
1) Data Acquisition	MY57013711	23LM115	TPA	11 Jul 2024

2. This certificate is valid only to the item calibrated on date and place of calibration.  
3. This certification is traceable to the International System of Unit.  
Remark: TPA: Technology Promotion Association (Thailand - Japan)

Result of Calibration: (\*) Without Adjustment  
Function of UUC: Temperature Source  
Fresh air setting: Close

Environment during calibration

Position	(180 °C)	(104 °C)
1	18-18TC-01	18-18RTD-01
2	18-18TC-02	18-18RTD-02
3	18-18TC-03	18-18RTD-03
4	18-18TC-04	18-18RTD-04
5	18-18TC-05	18-18RTD-05
6	18-18TC-06	23-18RTD-06
7	18-18TC-07	18-18RTD-07
8	18-18TC-08	22-18RTD-08
9 (ref.)	18-18TC-09	18-18RTD-09

Probe Installation Details: a = 5.0 cm, b = 5.0 cm, c = 5.0 cm, D = 0.40 m, W = 0.56 m, H = 0.48 m, Capacity = 0.11 m³

Equipment : Hot Air Oven  
Condition As-Received : Used Item  
Reference : 2403-0563OC-1  
Result of Calibration : (\*) Without Adjustment  
Function of UUC\* : Temperature Source  
Fresh air setting : Close

Calibration Point (°C)	UUC* Setting (°C)	UUC* Reading (°C)	Temperature stability (± °C)	Temperature uniformity (°C)	Overall Variation (°C)	Coverage Factor k
104.0	104.0	104.0	0.051	0.59	0.62	2
180.0	180.0	180.0	0.15	1.3	1.7	2

Calibration Point (°C) 1 2 3 4 5 6 7 8 9 (ref.) (± °C)

104.0 104.169 103.786 103.757 103.759 103.850 103.817 104.213 103.873 103.673 0.42

180.0 179.814 179.270 179.145 179.589 180.001 180.420 180.293 180.629 179.429 1.1

Average\* : The average of 30 values in each position.  
Temperature stability : One-half of the greatest maximum difference of measured temperature at any one sensor.  
Temperature uniformity : The maximum difference of measured temperatures at any sensors and the measured temperature at the reference location, which are observed at the same time or at as close an observation time as possible to determine the temperature pattern or homogeneity within the chamber under steady-state conditions.  
Overall Variation : The Difference of the maximum and minimum measured temperatures throughout observation.  
UUC\* : Unit Under Calibration  
Note : The reported uncertainty of measurement was included stability and excluded uniformity .  
The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k, providing a level of confidence of approximately 95 %.

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TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)  
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES  
534/9 PATTANANGKARN ROAD 500-18, SUANLUANG, SUANLUANG BANGKOK 10250  
TEL 0-2717-3000-29 FAX 0-2719-9494

Cert. No.: 24TM832  
Page : 3 of 3

### Certificate of Calibration

Cert. No.: 24TM834  
Page : 1 of 3

Equipment : Hot Air Oven  
Manufacturer : Memmert  
Model : UF 110  
Serial No. : B423.0853  
ID No. : RYG\_EN0213  
Submitted by : ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)  
Location : 616/10 Moo 5 T. Maenam Khui, A. Phukdaeng, Rayong 21140 Thailand  
Oven Room  
Received Order : 21 March 2024  
Calibration Date : 21 - 22 March 2024  
Ambient Temperature : (26 ± 10) °C  
Relative Humidity : (50 ± 30) %  
Calibrated by : Man Pattanapongsaiboon  
Approved by :  
( ) Pornthippa Tamayakul  
( ) Uroonphol Harachai  
(✓) Suwit Injai  
Issue Date : 23 March 2024

The Uncertainties are for a confidence probability of approximately 95%  
This certificate may not be reproduced other than in full, except with the prior written Approval of the Head of Corporate Services 3: Equipment Calibration and Testing Services.

Equipment : Hot Air Oven  
Condition As-Received : Used Item  
Reference : 2403-0563OC-3  
Procedure Used :  
Calibration were conducted using calibration procedure CP-OT02 according to direct measurement method with Data Acquisition which connected with Resistance Temperature Detector (RTD) and Thermocouple Type T.  
The temperature scale used was based on ITS-90.  
Condition of this result of calibration  
1. Reference standard instrument-  
Instrument Serial No. Cert. No. Traceable Due Date  
1) Data Acquisition MY57013711 23LM115 TPA 11 Jul 2024  
2. This certificate is valid only to the item calibrated on date and place of calibration.  
3. This certification is traceable to the International System of Unit.  
Remark : TPA : Technology Promotion Association (Thailand - Japan)  
Result of Calibration : (\*) Without Adjustment  
Function of UUC\* : Temperature Source  
Fresh air setting : Close

Environment during calibration  
Temp. (°C) Beginning Finished  
REL Humid. (%) 59 59  
AC Supply (V) 224 223

Ref. Std. ID No.: @ Calibration Point  
Position : (180) °C (104) °C  
1 18-18TC-01 18-18RTD-01  
2 18-18TC-02 18-18RTD-02  
3 18-18TC-03 18-18RTD-03  
4 18-18TC-04 18-18RTD-04  
5 18-18TC-05 18-18RTD-05  
6 18-18TC-06 23-18RTD-06  
7 18-18TC-07 18-18RTD-07  
8 18-18TC-08 22-18RTD-08  
9 (ref.) 18-18TC-09 18-18RTD-09

Probe Installation Details : Dimension of Chamber :  
a = 5.0 cm D = 0.40 m  
b = 5.0 cm W = 0.56 m  
c = 5.0 cm H = 0.48 m  
Capacity = 0.11 m³

Equipment : Hot Air Oven  
Condition As-Received : Used Item  
Reference : 2403-0563OC-3  
Result of Calibration : (\*) Without Adjustment  
Function of UUC\* : Temperature Source  
Fresh air setting : Close

Calibration Point (°C)	UUC* Setting (°C)	UUC* Reading (°C)	Temperature stability (± °C)	Temperature uniformity (°C)	Overall Variation (°C)	Coverage Factor k
104.0	104.0	104.0	0.065	0.52	0.90	2
180.0	180.0	180.0	0.20	1.2	2.0	2

Calibration Point (°C) 1 2 3 4 5 6 7 8 9 (ref.) (± °C)

104.0 104.169 103.506 103.898 103.712 103.772 103.730 104.289 103.805 103.788 0.42

180.0 180.701 179.239 179.935 179.995 180.127 180.138 180.895 179.313 180.211 1.1

Average\* : The average of 30 values in each position.  
Temperature stability : One-half of the greatest maximum difference of measured temperature at any one sensor.  
Temperature uniformity : The maximum difference of measured temperatures at any sensors and the measured temperature at the reference location, which are observed at the same time or at as close an observation time as possible to determine the temperature pattern or homogeneity within the chamber under steady-state conditions.  
Overall Variation : The Difference of the maximum and minimum measured temperatures throughout observation.  
UUC\* : Unit Under Calibration  
Note : The reported uncertainty of measurement was included stability and excluded uniformity .  
The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k, providing a level of confidence of approximately 95 %.

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TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)  
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES  
534/9 PATTANANGKARN ROAD 500-18, SUANLUANG, SUANLUANG BANGKOK 10250  
TEL 0-2717-3000-29 FAX 0-2719-9494

Cert. No.: 24TM835  
Page : 3 of 3

### Certificate of Calibration

Cert. No.: 24TM835  
Page : 1 of 3

Equipment : Water Bath  
Manufacturer : Memmert  
Model : WNB22  
Serial No. : L513.0648  
ID No. : RYG\_EN0061  
Submitted by : ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)  
Location : 616/10 Moo 5 T. Maenam Khui, A. Phukdaeng, Rayong 21140, Thailand  
Wet Chemistry Lab  
Received Order : 21 March 2024  
Calibration Date : 21 March 2024  
Ambient Temperature : (26 ± 10) °C  
Relative Humidity : (50 ± 30) %  
Calibrated by : Man Pattanapongsaiboon  
Approved by :  
( ) Pornthippa Tamayakul  
( ) Uroonphol Harachai  
(✓) Suwit Injai  
Issue Date : 23 March 2024

The Uncertainties are for a confidence probability of approximately 95%  
This certificate may not be reproduced other than in full, except with the prior written Approval of the Head of Corporate Services 3: Equipment Calibration and Testing Services.

Equipment : Water Bath  
Condition As-Received : Used Item  
Reference : 2403-0563OC-4  
Procedure Used :  
Calibration were conducted using in-house calibration procedure CP-OT04 Based on ASTM E715 according to direct measurement method with Data Acquisition which connected with Industrial Platinum Resistance Thermometer (PRT).  
The temperature scale used was based on ITS-90.  
Condition of this result of calibration  
1. Reference standard instrument-  
Instrument Serial No. Cert. No. Traceable Due Date  
1) Data Acquisition MY57013711 23LM115 TPA 11 Jul 2024  
2. This certificate is valid only to the item calibrated on date and place of calibration.  
3. This certification is traceable to the International System of Unit.  
Remark : TPA : Technology Promotion Association (Thailand - Japan)  
Result of Calibration : (\*) Without Adjustment  
Function of UUC\* : Temperature Source  
Heat transfer medium used : Water

Environmental (°C) AC Voltage Supply (V)  
Beginning of Calibration 25 222  
Finished of Calibration 25 57 223

Position : Ref. Std. ID No.:  
1 4803988-001  
2 4803988-002  
3 4803988-003  
4 4803988-004  
5 (ref.) 4803988-005

Equipment : Water Bath  
Condition As-Received : Used Item  
Reference : 2403-0563OC-4  
Result of Calibration : (\*) Without Adjustment  
Function of UUC\* : Temperature Source

Calibration point (°C)	UUC* Setting (°C)	UUC* Reading (°C)	Average* Standard Reading (°C)	Uncertainty (± °C)
85.0	85.0	85.0	84.426 84.424 84.489 84.507 84.477	0.18

Calibration point (°C) Uniformity Stability Coverage Factor k

85.0 0.19 0.11 2

Average\* : The average of 30 values in each position.  
Uniformity : The maximum difference of measured temperatures at any sensors and the measured temperature at the reference location, which are observed at the same time or at as close an observation time as possible to determine the temperature pattern or homogeneity within the chamber under steady-state conditions.  
Stability : One-half of the greatest maximum difference of measured temperature at any one probe.  
UUC\* : Unit Under Calibration  
Note : The reported uncertainty of measurement was included stability and excluded uniformity .  
The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k, providing a level of confidence of approximately 95 %.

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DKSH

### Certificate of Calibration

Represent to Certificate of Calibration No. C29240007

Equipment : Black Digestion Unit  
Model : KT-206  
Manufacturer : Gethard  
Condition : In Condition  
Customer : ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)  
616/10 Moo 5 T. Maenam Khui, A. Phukdaeng, Rayong 21140, Thailand  
Environment Condition : Temperature : 25 °C ± 0.7 °C  
Humidity : 54 %RH ± 4.1 %RH  
Voltage : 225 VAC ± 1.7 VAC  
Calibration Place : ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)  
(Wet Chemistry Lab)  
616/10 Moo 5 T. Maenam Khui, A. Phukdaeng, Rayong 21140, Thailand  
Calibration By : Mr. Thirathorn Phurong  
Calibration Date : 17 March 2024  
The Method used : In house method, test or by comparison with standard  
Traceability : This certificate is traceable to the SI Units maintained by National Institute of Metrology (NIMT), Thailand through N.M. Technical Center Laboratory (N.T.L.) Certificate No. TC229099

Definitions  
- Including Temperature : The average reading of laboratory device which having the highest value of the displayed value.  
- Excluding Temperature : The average reading of working standard to any position of the device.

DKSH

Confidential No.: C29240011 Page: 2 of 4

Fig. 1: Front view

Fig. 2: Digestion Unit

Fig. 3: Digestion Unit

## Calibration Results:

Certificate No.: C20040211

Page: 3 of 4

Location	Desired (°C)	Setting (°C)	Indicating (°C)	Measured Temperature (°C)	Correction of UUC (°C)	Uncertainty of UUC (°C)
A1				611.5	71.5	1.5
A2				611.2	71.2	1.5
A3				595.1	55.1	1.5
A4				593.9	53.9	1.5
A5				585.1	45.1	1.5
B1				246.6	16.6	1.5
B2				246.1	16.1	1.5
B3				242.9	12.9	1.5
B4				241.0	11.0	1.5
B5				240.3	10.3	1.5
C1				235.5	5.5	1.5
C2				235.5	5.5	1.5
C3				232.8	2.8	1.5
C4				231.7	1.7	1.5
C5				230.3	0.3	1.5
D1				227.9	-1.1	1.5
D2				226.8	-2.2	1.5
D3				225.0	-4.0	1.5
D4				224.3	-4.7	1.5
D5				223.6	-5.4	1.5

## Calibration Results:

Certificate No.: C20040211

Page: 4 of 4

Location	Desired (°C)	Setting (°C)	Indicating (°C)	Measured Temperature (°C)	Correction of UUC (°C)	Uncertainty of UUC (°C)
A1				562.2	12.2	1.5
A2				562.4	12.4	1.5
A3				562.1	12.1	1.5
A4				572.7	14.7	1.5
A5				578.3	15.3	1.5
B1				285.1	15.1	1.5
B2				285.1	15.1	1.5
B3				275.5	5.5	1.5
B4				278.3	7.3	1.5
B5				278.1	7.1	1.5
C1				266.1	-1.1	1.5
C2				265.1	-2.1	1.5
C3				278.9	13.9	1.5
C4				278.2	13.2	1.5
C5				277.3	12.3	1.5
D1				265.0	5.0	1.5
D2				264.6	4.6	1.5
D3				278.1	13.1	1.5
D4				278.7	13.7	1.5
D5				277.7	12.7	1.5

The End of Certificate

## ใบตรวจสอบสภาพเครื่องควบคุมอุณหภูมิ

จุดประสงค์: Block Digester Unit.  
หมายเลขเครื่อง: 3720210008/372000073

ยว. RT-204

เลขที่ใบรวม: WO-00020429

ตรวจสอบ (ปี)	ตรวจสอบโดย	ตรวจสอบวันที่	หมายเหตุ
11 Mar 2024	ไม่พบ	11 Mar 2024	ไม่พบ
General			
1	1. สภาพทั่วไป	OK	
2	2. การทำงาน Main Switch	OK	
3	3. การทำงาน Selector Key	OK	
4	4. การทำงาน Emergency	OK	
5	5. การทำงาน Alarm	OK	
6	6. การทำงาน Interlock	OK	
7	7. การทำงาน Lock	OK	
8	8. การทำงานอื่น ๆ ตามที่ระบุไว้	OK	

Remarks:

M. Thirumathi Phrasakul  
Service Engineer

## Certificate of Calibration

Certificate No.: Z30304

Page: 1 of 2

Equipment: pH Meter  
Manufacturer: Metro-Tec  
Model: 5500/01000  
Serial No.: 8834291445  
ID No.: RYD\_KN0152  
Condition As-Received: Used Item  
Received Date: 08 December 2023  
Calibration Date: 14 December 2023  
Reference: JIS S 4151:2016  
Ambient Temperature: 22 ± 2.5 °C  
Relative Humidity: 50 ± 10 %  
Procedure used: Calibration was performed using calibration procedure for pH-6.7 according to JIS S 4151:2016

## Condition of this result of calibration

1) Multi-Point Calibration  
2) The result of calibration was made on request at the date specified by customer.  
3) This certificate is valid only in the form indicated on title and place of calibration.  
4) This Calibration is traceable to the International System of Unit maintained through Technology Promotion Association (Thailand-Japan).

RECEIVED BY: M. Thirumathi Phrasakul  
APPROVED BY: M. Thirumathi Phrasakul  
NEXT CAL DATE: 14 Dec 2024  
SIGNATURE: (Signature)

Calibrated by: M. Thirumathi Phrasakul  
Issue Date: 14 December 2023  
Approved Signature: M. Thirumathi Phrasakul  
Approved Signature: M. Thirumathi Phrasakul

a 0331105



Cert. No.: Z30304

Page: 2 of 2

Standard Value	UUC Reading	Error	Uncertainty
(mV)	(mV)	(mV)	(mV)
-200.0000	-198.6	0.1	0.8
-150.0000	-150.0	0.0	0.5
-100.0000	-100.0	0.0	0.5
-50.0000	-50.0	0.0	0.5
0.0000	0.0	0.0	0.5
50.0000	50.0	0.0	0.5
100.0000	100.0	0.0	0.5
150.0000	150.0	0.0	0.5
200.0000	198.6	-0.1	0.8

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

UUC= Unit Under Calibration

-0.0-

a 1193422

TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)  
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES  
5344 PATTANAKARN ROAD SOI 18, SUAN LUANG, SUAN LUANG BANGKOK 10250  
TEL. 0-2715-8888 FAX. 0-2715-9404

Cert. No.: Z30H1574

Page: 1 of 3

## Certificate of Calibration

Equipment: pH Meter  
Manufacturer: Metro-Tec  
Model: 5500/01000  
Serial No.: 8834291445  
ID No.: RYD\_KN0152  
Condition As-Received: Used Item  
Received Date: 08 December 2023  
Calibration Date: 14 December 2023  
Reference: JIS S 4151:2016  
Submitted by: ALS Laboratory Group (Thailand) Co., Ltd. Rongkarn Branch  
616/10 Moo 5, T. Maenam Kru, A. Phrasakul, Rayong 21140, Thailand  
Ambient Temperature: 25 ± 2.5 °C  
Relative Humidity: 50 ± 10 %  
Calibration Procedure: CP-CMS by direct measurement with standard voltage controller and direct measurement with certified reference material (CRM)  
CP-CMS by comparison with standard thermometer  
Calibrated by: Watsakorn Lomphrasakul  
Approved by: M. Thirumathi Phrasakul  
Issue Date: 14 December 2023

The Concentration is for a confidence probability of approximately 95%  
This certificate may not be reproduced other than in full, except with the prior written approval of the head of Corporate Services 3: Equipment Calibration and Testing Services.

a 0101536



Cert. No.: Z30H1574

Page: 2 of 3

## Condition of this calibration result

1) Instrument: pH Meter  
2) Reference: Standard Thermometer  
3) The measurement results are traceable to SI through CIPM (L4) and BIPM (L5) National Accredited System. Accredited by: BIPM (L5)

Unit Under Calibration	Nominal Value	Standard Voltage Input	Actual Reading	Uncertainty of Measurement	Coverage Factor
pH Meter	4.000	177.48	177.2	0.006	2.00
pH Meter	7.000	0.00	-0.1	0.006	2.00
pH Meter	10.000	-177.48	-177.5	0.006	2.00

a 1193853



Cert. No.: Z30H1574

Page: 3 of 3

## Calibration Results

Unit Under Calibration	Standard pH Buffer Solution	Actual pH Reading	Uncertainty of pH measurement	Coverage Factor
pH Electrode	4.008	4.013	0.005	2.00
pH Electrode	6.860	6.948	0.008	2.00
pH Electrode	9.997	10.002	0.005	2.11

Calibration Point (°C)	Standard Temperature (°C)	UUC Reading (°C)	Error (°C)	Uncertainty of measurement (°C)	Coverage Factor
25.0	25.003	24.3	-0.703	0.13	2.00

Remark: UUC= Unit Under Calibration

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

-0.0-

a 1193851

TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)  
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES  
5344 PATTANAKARN ROAD SOI 18, SUAN LUANG, SUAN LUANG BANGKOK 10250  
TEL. 0-2715-8888 FAX. 0-2715-9404

## Certificate of Calibration

Cert. No.: Z40G952

Page: 1 of 2

Equipment: Burette  
Capacity: 50 mL  
Serial No.: -  
ID No.: BKK-EN0171  
Manufacturer: Wileg  
Made in: Germany  
Submitted by: ALS Laboratory Group (Thailand) Co., Ltd.  
104 Phatthananak 40, Phatthananak Rd., Khwaeng Phatthananak, Khet Suan Luang, Bangkok 10250 Thailand  
Ambient Temperature: 20 ± 2.5 °C  
Relative Humidity: 50 ± 10 %  
Barometric Pressure: 760 mmHg  
Calibration Procedure: ASTM E 542 - 01  
Calibrated by: Natcha Chayyichew  
Approved by: M. Thirumathi Phrasakul  
Issue Date: 27 February 2024

The Uncertainties are for a confidence probability of approximately 95%  
This certificate may not be reproduced other than in full, except with the prior written approval of the head of Corporate Services 3: Equipment Calibration and Testing Services.



Certificate No. T2321676

Page 6 of 6

## Calibration Report

### Measurement Results:

HEATING BLOCK			Temperature Distribution	
Setting (°C)	Reading (°C)		Stability (°C)	Uncertainty (°C)
	Min	Average		
100.0	100.3	100.4	0.20	0.87
107.0	107.0	107.1	0.19	0.78

\* The quoted uncertainty includes ± uncertainty

The calibration result apply only the above calibration item

The result of test was found accurate as shown on date and place of test only

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k which for a t-distribution, providing a level of confidence of approximately 95 %.

Approved By: \_\_\_\_\_

TMA13 00000000-07

Certificate No. T2321680

Page 1 of 4

## Certificate of Calibration

**Equipment** : Chamber (Cooling Room)  
**Manufacturer** : KOLITECH  
**Model** : KM 320  
**Serial No.** : TBN-102061-05  
**Customer Code** : BKXJ\_E0107  
**ID No.** : T2463A3  
**Customer** : ALS Laboratory Group (Thailand) Co., Ltd.  
104 Phatthanakorn 40, Phatthanakorn Rd., Khwaeng Phatthanakorn,  
Khet Suan Luang, Bangkok 10250  
**Customer Location** : Laboratory  
**Date of Receipt** : 29 November 2023  
**Calibrated By** : Apichpong Rongrat (Technician)  
**Approved By** : [Signature] / Boonchai Surayawong (Site Calibration Manager)  
**Date of Issue** : 05 JAN 2024

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

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

TMA13 00000000-07

Certificate No. T2321680

Page 2 of 4

## Calibration Report

**Equipment** : Chamber (Cooling Room)  
**Date of Calibration** : 6 December 2023  
**Environment** : Temperature : 23.4-24.9 °C  
Line Voltage : 221.4-230.3 V  
Relative Humidity : 55-65 %RH

### Condition of this results of calibration :

1. This equipment was calibrated by using 16 standard thermocouples type-T into the chamber. The above are standard thermocouples type T use for ambient temperature measurement. The calibration was done in accordance with ISO 17025 (based on ASTM E145-94 (Reapproved 2001) and AS2353-1996). All data shown below were final values and the final data from customer request. The temperature uncertainty was based on ITS-90.
2. Reference Standard Instrument :  
Instrument Model Instrument No. Certificate No. Due Date  
TC T1N1-T1N10 T230773 10 April 2024  
TC T1N1-T1N10 T230773 10 April 2024  
DATA LOGGER 14970A 14970A T230773 10 April 2024
3. This certificate is traceable to:  
National Institute of Metrology (Thailand) through Metrology Center (NMI-TIS-TIS 13025 CALIBRATION 004).
4. Condition of calibrated item : good  
Equipment Description :  
Type : Chamber  
Temp Control : On Min Medium Max  
Fresh Air : On  
Circulation : On  
X Not Available
5. Adjustment :  
X X X : primary adjustment  
 : after adjustment

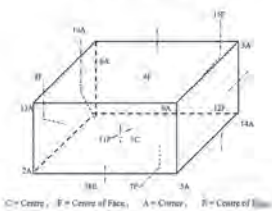
Approved By: [Signature]

TMA13 00000000-07

Certificate No. T2321680

Page 3 of 4

## Calibration Report



C = Center, F = Center of Face, A = Corner, S = Corner of Side

1C = T23164	12F = T23172
2A = T23162	13A = T23173
3A = T23163	14A = T23174
4F = T23164	15F = T23175
5A = T23165	16A = T23176
6A = T23166	17F = T23177
7F = T23167	18A = T23178
8F = T23168	19A = T23179
9A = T23169	20F = T23180
10A = T23170	21F = T23181

Approved By: [Signature]

TMA13 00000000-07

Certificate No. T2321680

Page 4 of 4

## Calibration Report

### Measurement Results:

Average Standard Reading at each position (°C)											
Calibration Point	T1N1	T1N2	T1N3	T1N4	T1N5	T1N6	T1N7	T1N8	T1N9	T1N10	T1N11
1.0	2.61	2.54	2.51	2.46	2.41	2.36	2.33	2.28	2.23	2.18	2.12
	2.13	2.08	2.03	1.97	1.91	1.85	1.79	1.73	1.67	1.61	1.55

Chamber (Cooling Room)			Temperature Distribution	
Setting (°C)	Reading (°C)		Stability (°C)	Uncertainty (°C)
	Min	Average		
2.0	2.0	2.0	1.0	0.10
2.0	2.0	2.0	1.0	0.10

The calibration result apply only the above calibration item.

The result of test was found accurate as shown on date and place of test only.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k which for a t-distribution, providing a level of confidence of approximately 95 %.

Approved By: [Signature]

TMA13 00000000-07

**Certificate of Calibration**

Certificate No. BSCC-UV-36723  
Equipment: UVVis Spectrophotometer  
Model: UV-1800  
Manufacturer: Shimadzu  
Serial No.: A115400533C2  
ID No.: BKXJ\_E0108  
Date of receipt: 15 September 2023  
Date of issue: 22 September 2023

Customer name: ALS Laboratory Group (Thailand) Co., Ltd.  
Address: 104 Soi Phatthanakorn 40, Phatthanakorn Road, Phatthanakorn, Suan Luang, Bangkok 10250

Temperature: (23.4 - 24.7) °C (On site)  
Humidity: (55.4 - 61.2) %RH (On site)

Equipment condition: Good Operation  
Calibration Location: Organic Prep  
Calibration Procedure: In-house method (W-UV-702-01) based on ASTM E275-01

Traceability: Wavelength Accuracy is traceable to certificate No. 106372 and 106371  
Photometric Accuracy is traceable to certificate No. 106372 and 106371  
The above certificate are traceable to SI unit through Bureau Scientific Ltd.  
(UKAS accredited calibration laboratory No. 0699)

Calibrated by: Mr Wanchana Jaranyo

Approved by: [Signature]  
Mr Kanich Choochong  
Technician Manager

The above results are valid exclusively for the calibrated item(s) as mentioned in this report / certificate.  
Advertising the report / Certificate and validity of the results are planned and any other use will be considered except in full, without written approval of the Bureau Scientific Co., Ltd.

**Certificate of Calibration**

Certificate No. BSCC-UV-36723  
Equipment: UVVis Spectrophotometer  
Model: UV-1800  
Manufacturer: Shimadzu  
Serial No.: A115400533C2  
ID No.: BKXJ\_E0108  
Date of receipt: 13 September 2024  
Date of calibration: 13 September 2024  
Date of issue: 13 SEP 2024

Customer name: ALS Laboratory Group (Thailand) Co., Ltd.  
Address: 104 Soi Phatthanakorn 40, Phatthanakorn Road, Phatthanakorn, Suan Luang, Bangkok 10250

Temperature: (23.4 - 24.7) °C (On site)  
Humidity: (55.4 - 61.2) %RH (On site)

Equipment condition: Good Operation  
Calibration Location: Organic Preparation Lab  
Calibration Procedure: In-house method (W-UV-702-01) based on ASTM E275-01

Traceability: Wavelength Accuracy is traceable to certificate No. 106372 and 106371  
Photometric Accuracy is traceable to certificate No. 106372 and 106371  
The above certificate are traceable to SI unit through Bureau Scientific Ltd.  
(UKAS accredited calibration laboratory No. 0699)

Calibrated by: Mr Wanchana Jaranyo

Approved by: [Signature]  
Mr. Suthi Tumbokasakul  
Service Manager

The above results are valid exclusively for the calibrated item(s) as mentioned in this report / certificate.  
Advertising the report / Certificate and validity of the results are planned and any other use will be considered except in full, without written approval of the Bureau Scientific Co., Ltd.

**Certificate of Calibration**

Certificate No. BSCC-UV-36723  
Equipment: UVVis Spectrophotometer  
Model: UV-1800  
Manufacturer: Shimadzu  
Serial No.: A115400533C2  
ID No.: BKXJ\_E0108  
Date of receipt: 13 September 2024  
Date of calibration: 13 September 2024  
Date of issue: 13 SEP 2024

Customer name: ALS Laboratory Group (Thailand) Co., Ltd.  
Address: 104 Soi Phatthanakorn 40, Phatthanakorn Road, Phatthanakorn, Suan Luang, Bangkok 10250

Temperature: (23.4 - 24.7) °C (On site)  
Humidity: (55.4 - 61.2) %RH (On site)

Equipment condition: Good Operation  
Calibration Location: Organic Preparation Lab  
Calibration Procedure: In-house method (W-UV-702-01) based on ASTM E275-01

Traceability: Wavelength Accuracy is traceable to certificate No. 106372 and 106371  
Photometric Accuracy is traceable to certificate No. 106372 and 106371  
The above certificate are traceable to SI unit through Bureau Scientific Ltd.  
(UKAS accredited calibration laboratory No. 0699)

Calibrated by: Mr Wanchana Jaranyo

Approved by: [Signature]  
Mr. Suthi Tumbokasakul  
Service Manager

The above results are valid exclusively for the calibrated item(s) as mentioned in this report / certificate.  
Advertising the report / Certificate and validity of the results are planned and any other use will be considered except in full, without written approval of the Bureau Scientific Co., Ltd.

**Certificate of Calibration**

Certificate No. BSCC-UV-37424  
Equipment: UVVis Spectrophotometer  
Model: UV-1800  
Manufacturer: Shimadzu  
Serial No.: A115400533C2  
ID No.: BKXJ\_E0108  
Date of receipt: 13 September 2024  
Date of calibration: 13 September 2024  
Date of issue: 13 SEP 2024

Customer name: ALS Laboratory Group (Thailand) Co., Ltd.  
Address: 104 Soi Phatthanakorn 40, Phatthanakorn Road, Phatthanakorn, Suan Luang, Bangkok 10250

Temperature: (23.4 - 24.7) °C (On site)  
Humidity: (55.4 - 61.2) %RH (On site)


Equipment condition: Good Operation  
Calibration Location: Organic Preparation Lab  
Calibration Procedure: In-house method (W-UV-702-01) based on ASTM E275-01

Traceability: Wavelength Accuracy is traceable to certificate No. 106372 and 106371  
Photometric Accuracy is traceable to certificate No. 106372 and 106371  
The above certificate are traceable to SI unit through Bureau Scientific Ltd.  
(UKAS accredited calibration laboratory No. 0699)


Calibrated by: Mr Wanchana Jaranyo

Approved by: [Signature]  
Mr. Suthi Tumbokasakul  
Service Manager

The above results are valid exclusively for the calibrated item(s) as mentioned in this report / certificate.  
Advertising the report / Certificate and validity of the results are planned and any other use will be considered except in full, without written approval of the Bureau Scientific Co., Ltd.



**Barata Scientific Co., Ltd.**  
 808 U Chi Ling Building Floor 7 Room 704D  
 Shawang Road Bangkok Bangkok 10150  
 Tel : (62-6334300 Fax : (62-6337486-7)  
[www.baratascientific.com](http://www.baratascientific.com)



## Certificate of Calibration

Certificate No. **BSCC-UV-37424**
Number of Page(s) **2 of 3**

Calibration Results:

**1. Wavelength Accuracy**

Certified Wavelength (nm)	UUC (nm)	Error (nm)	Uncertainty (nm)
241.70	241.55	-0.15	0.18
354.02	353.85	-0.17	0.18
415.53	415.57	0.04	0.18
572.99	572.97	-0.02	0.18
879.41	879.17	-0.24	0.18

**2. Photometric Accuracy (UV)**


Wavelength (nm)	Certified Absorbance (A)	UUC (A)	Error (A)	Uncertainty (±A)
235	0.0000	0.0000	0.0000	0.0075
	0.7171	0.7169	-0.0002	0.0075
251	0.0000	0.0000	0.0000	0.0075
	0.8354	0.8345	-0.0009	0.0075
313	0.0000	0.0000	0.0000	0.0013
	0.2786	0.2781	-0.0005	0.0075
350	0.0000	0.0000	0.0000	0.0075
	0.6199	0.6194	-0.0005	0.0075

\*CNR = Customer not request

The above results are valid exclusively for the calibrated item(s) as mention in this report / certificate.



Advertising the report / Certificate and validity of the results are prohibited and also shall not be reproduced except in full, without written approval of the Barata Scientific, Co., Ltd.

FM-UV-708-02 Rev.01 (2020)



**Bara Scientific**  
www.barascientific.com

**Bara Scientific Co., Ltd.**  
 308 U Chi Liang Building Floor 14 Road  
 Sheng Sheng Bangkok Thailand 10150  
 Tel : (66) 84330 31 Fax : (66) 8374596-7  
 www.barascientific.com

# Certificate of Calibration

**Certificate No.** BSCC-UV-37424

**3-Party Accuracy (Visible)**

**Number of Page(s)** 3 of 3

Wavelength (nm)	Certified Absorbance (A)	UUC or (A)	Error (A)	Uncertainty (±A)
430.0	0.0000	0.0000	0.0000	0.0042
	0.0781	0.0785	-0.0004	0.0043
	0.7119	0.7105	-0.0014	0.0042
	1.0189	1.0174	-0.0015	0.0043
440.0	0.0000	0.0000	0.0000	0.0042
	0.5810	0.5813	0.0003	0.0042
	0.7901	0.8884	-0.0917	0.0042
	1.0026	1.0011	-0.0015	0.0042
465.0	0.0000	0.0000	0.0000	0.0042
	0.0235	0.0232	-0.0003	0.0042
	0.0814	0.0808	-0.0012	0.0042
	0.9456	0.9444	-0.0012	0.0042
546.1	0.0000	0.0000	0.0000	0.0042
	0.5249	0.5245	-0.0004	0.0042
	0.9875	0.9800	-0.0075	0.0042
	1.0009	0.9994	-0.0015	0.0042
590.0	0.0000	0.0000	0.0000	0.0042
	0.5880	0.5888	0.0004	0.0042
	0.7735	0.7708	-0.0017	0.0042
	1.1125	1.1114	-0.0011	0.0042
635.0	0.0000	0.0000	0.0000	0.0042
	0.5666	0.5666	0.0000	0.0042
	0.7635	0.7604	-0.0016	0.0042
	1.0882	1.0971	-0.0111	0.0042

\*CNR = Customer meter readout

**4-Party Light\***

Standard	Unit Under Calibration (UUC)		
cut-off wavelength (nm)	Wavelength (nm)	Transmission (%)	Absorbance (A)
ISO 8542 1 nm	590.68	0.8920	0.0517

The Dry Light transmission is less than 1% and Dry Light absorbance difference is greater than 2.00A  
 \*Dry Light meter NIST-42000-1990-008

The measurement uncertainty is based on a standard uncertainty provided by a coverage factor k=1 providing a level of confidence of approximately 68%.

**\*\*End of Certificate\*\***

The above results are valid exclusively for the calibrated item(s) as mentioned in this report / certificate.  
 Advertising the report / Certificate and publicly displaying the results are prohibited and also shall not be reproduced  
 except in full, without written approval of the Bara Scientific Co., Ltd.

PHN-768-02 Rev 01 (230)


PHN-768-02 Rev 01 (230)

 <b>Scientist Instrument</b>	REVISED BY <i>Charat S.</i> APPROVED BY <i>Samrit J.</i> EFFECTIVE DATE <i>31/12/24</i>	
	<h2 style="text-align: center;">Performance Verification Certificate</h2> <h3 style="text-align: center;">for Mercury Analyzer</h3>	
PRODUCT ID	Quiktrace M-8000 , Teledyne Leman Labs	
Equipment ID	BKK_EI0128 Mercury Analyzer S/N: 022133002	
	BKK_EI0129 Autosampler S/N : 052223A540	
Customer Name	ALS Laboratory Group (Thailand) Co., Ltd.	
Address	104 Soi Pattana 40, Pattana Rd, Suan Luang, Suan Luang Bangkok 10250 Thailand	
Date of Qualified	December 6, 2023	
Next Due date	December 6, 2024	
This certificate for products which was performed in acceptable criteria specifications		
Autosampler & Sample Introduction	PASSED	
Analyzer	PASSED	
Gas Liquid Separator & Drier	PASSED	
CVA/S Detector	PASSED	
Electronic/Mechanical	PASSED	
Data station/PC	PASSED	
Analytical test	PASSED	
Provided by	 Thanuraph Sakdayas	
Scientist Instrument Co., Ltd. 113 So Ekkarat 44, Daraburi Road Khlong Bang Yuen, Bangkok Bangkok 10130 Thailand		
Certified by	 Thanuraph Sakdayas Service Engineer	

 <p><b>Scientist Instrument</b></p>	<p>BKK_EL0128</p>
<h2 style="text-align: center;">Performance Verification Certificate</h2> <p style="text-align: center;">for Mercury Analyzer</p>	
<p><b>PRODUCT ID</b></p> <p><b>Equipment ID</b></p>	<p><b>Quicktrace M-8000 - Telsydne Leeman Labs</b></p> <p><b>BKK_EL0128 Mercury Analyzer</b> S/N: UN22133005</p>
<p><b>Customer Name</b></p> <p><b>Address</b></p>	<p><b>BKK_EL0129 Autosampler</b> S/N: 052222A360</p> <p><b>ALS Laboratory Group (Thailand) Co., Ltd.</b> 104 Soi Pattana 40, Pattana Rd. Suan Luang, Suan Luang Bangkok 10250 Thailand</p>
<p><b>Date of Quailed</b></p> <p><b>Next Due date</b></p>	<p><b>December 6, 2024</b></p> <p><b>December 6, 2025</b></p>
<p>This certifies for products which are produced in accordance to acceptance criteria specifications</p>	
<p><b>Autosampler &amp; Sample Introduction Analyzer</b></p> <p><b>Gas Liquid Separator &amp; Dryer</b></p> <p><b>CFAFS Detector</b></p> <p><b>Electronics/Mechanical</b></p> <p><b>Data station/PC</b></p> <p><b>Analyst test</b></p>	<p><b>PASSED</b></p> <p><b>PASSED</b></p> <p><b>PASSED</b></p> <p><b>PASSED</b></p> <p><b>PASSED</b></p> <p><b>PASSED</b></p>
<p><b>Provided by</b></p> <p><b>Scientist Instrument Co., Ltd.</b> 113 Rai Kharhai 44, Khaoth Road Khlong Bang Phuen, Bangkok Bangkok 10150 Thailand</p>	<p><b>Certified by</b></p> <p><i>(Signature)</i> <b>Thunraphol Sakdanyas</b> <b>Service Engineer</b></p>



**TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)**  
**CORPORATE SERVICES & EQUIPMENT CALIBRATION AND TESTING SERVICES**  
 1006 PATTANAKARN ROAD WU 14, JONGKARNOI, BANGKOK 10110, THAILAND  
 TEL. 011-2713-8860-29 FAX 011-2713-8864

Cert. No.: 23TJM1408  
 Page : 1 of 4

## Certificate of Calibration

<b>Equipment :</b>	Autodiave
<b>Manufacturer :</b>	TOMY
<b>Model :</b>	SX-700
<b>Serial No. :</b>	48154190
<b>ID No. :</b>	BROK_ML0041
<b>Submitted by :</b>	A&S Laboratory Group (Thailand) Co. Ltd. 104 Phattanakarn 40, Phattanakarn Rd., Khwaeng Phattanakarn, Khet Suan Luang, Bangkok 10250 Thailand
<b>Location :</b>	Media Preparation Room

**REVIEW BY :** *Sutthik*

**APPROVED BY :** *[Signature]*

**NEXT CAL. DATE :** 05/06/25  
05/06/26

WU/SA

<b>Received Order :</b>	03 October 2023
<b>Calibration Date :</b>	04 October 2023
<b>Ambient Temperature :</b>	( 26 ± 1 ) °C
<b>Relative Humidity :</b>	( 50 ± 30 ) %

**Calibrated by :**

*[Signature]*

**Approved by :**

( ) Permpittra Tanayakul  
 (✓) Pannaporn Jaipoom  
 ( ) Suneil Injai

**Khil Rullantisrapachai**

*[Signature]*

**Approved Signatory**


**Issue Date :**

11 October 2023

**The Uncertainties are for a confidence probability of approximately 95%**

This certificate may be used as supporting other data to build, except with the given system.

Approval of the head of Corporate Services 29 Equipment Calibration and Testing Services



**Equipment :** Autoclave  
**Condition As-Received :** Used Item  
**Reference :** 2310-0355G-6

**Cert. No.:** 23TM1408  
**Page :** 2 of 4

**Procedure Used >**

Calibration were conducted using in-house calibration procedure CP-OT03 according to direct measurement method with Data Acquisition which connected with Thermocouple Type T

The temperature scale used were based on ITS-90.

**Condition of this result of calibration**

1. Reference standard instrument -

Instrument	Serial No.	Cert. No.	Traceable	Due Date
1.) Data Acquisition	MY0703823	23JMS	TPA	25 Mar 2024

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

3. This certification is traceable to the International System of Unit.

4. This result of calibration covers laboratory authorizes for the sterilization of goods and material which should be infected with organisms categorized as Hazard Group 1, 2 and 3\*

(\* = Categorization of pathogen according to hazard and categories of containment, second edition, 1990 )


5. does not cover autoclaves for use with material infect with organisms in Hazard Group 4, for which complete containment and sterilization of infectious contaminants is considered to be essential.

This result of calibration does not apply to sterilizers or disinfectors used for medical, dental, pharmaceutical or veterinary purposes which are directly concerned with patient care, or those used for fabrics subjected to sterilization which are required to be dry at the end of cycle.

**Remark :** TPA : Technology Promotion Association ( Thailand - Japan )


**Result of Calibration :** ( ) Without Adjustment


**Function of UUC :** Temperature Source



		Environmental		
		( °C )	( %RH )	( Vist )
Beginning of Calibration	26	64	221	
	27	67	222	

Position	Description	Ref. Std. ID No.
1 =	Center of chamber	19-17TC-08
2 =	Temperature sensor	19-17TC-08
3 =	Exhaust port	19-17TC-10





**Cert. No. : 23TM1408**

**Page : 3 of 4**

**Equipment :** Autoclave

**Condition As-Received :** Used Item

**Reference :** 2310-0005OC-6

**Result of Calibration :-** (\*) Without Adjustment

**Function of UUC\* :** Temperature Source

**Operating parameter Set : Temperature =** 108 °C

**Sterilization period =** 10 minute

UUC* Setting (°C)	UUC* Reading (°C)	Position	Average* Standard Reading (°C)	Stability (± °C)	Pressure Reading (MPa)	Uncertainty (± °C)	Coverage Factor A
108	108	1	108.302	0.12	0.04	0.90	2
		2	108.263				
		3	108.140				

**Operating parameter Set : Temperature =** 115 °C

**Sterilization period =** 20 minute

**UUC\*  
Setting  
(°C)**

**UUC\*  
Reading  
(°C)**

**Position**

**Average\*  
Standard Reading  
(°C)**

**Stability  
(± °C)**

**Pressure  
Reading  
(MPa)**

**Uncertainty  
(± °C)**

**Coverage  
Factor  
A**

115	115	1	115.376	0.13	0.06	0.90	2
		2	115.297				
		3	115.157				

**Operating parameter Set : Temperature =** 118 °C

**Sterilization period =** 10 minute

**UUC\*  
Setting  
(°C)**

**UUC\*  
Reading  
(°C)**

**Position**

**Average\*  
Standard Reading  
(°C)**

**Stability  
(± °C)**

**Pressure  
Reading  
(MPa)**

**Uncertainty  
(± °C)**

**Coverage  
Factor  
A**

118	118	1	118.083	0.11	0.09	0.90	2
		2	118.017				
		3	117.954				


  

**Average\* :** The average of 30 values in each position.


**Stability :** One-half of the greatest maximum differences of temperature at any one probe.

**UUC\* :** Unit Under Calibration

**Note :** The reported uncertainty of measurement was included stability and excluded uniformity.



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		<b>Cert. No.:</b> 23TM1408	
<b>Equipment :</b> Autoclave		<b>Page :</b> 4 of 4	
<b>Conditions As-Received :</b> Used Item			
<b>Reference :</b> 2310-0306OC-8.			
<b>Result of Calibration &gt; :</b> [ * ] Without Adjustment			
<b>Function of UUC* :</b> Temperature Source			
<b>Operating parameter Set :</b> Temperature = 121 °C			
<b>Sterilization period =</b> 30 minute			

UUC* Setting (°C)	UUC* Reading (°C)	Position	Average* Standard Reading (°C)	Stability (± °C)	Pressure Reading (MPa)	Uncertainty (± °C)	Coverage Factor k
121	121	1	121.180	0.17	0.11	0.01	2
		2	121.082				
		3	120.980				


**Average\* :** The average of 30 values in each position.

**Stability :** One-half of the greatest maximum difference of measured temperature at any one probe.

**UUC\* :** Unit Under Calibration.

**Note :** The reported uncertainty of measurement was excluded stability.

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



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**TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)**  
 COMPANY OF SERVICES & EQUIPMENT CALIBRATION AND TESTING SERVICES  
 544/4 PATTANASIRI ROAD, RD. 18, BANGKANG, BANGKOK AND BANGKOK 10250  
 TEL. 0-2375-3880-25 FAX. 0-2375-0444




ILAC-UKA  
 ILAC-UKA  
 ILAC-UKA

**Cert. No. : 22TH1468**  
**Page : 1 of 3**

## Certificate of Calibration

<b>Equipment :</b>	Incubator
<b>Manufacturer :</b>	SHEL-LAB
<b>Model :</b>	1915A
<b>Serial No. :</b>	0200599
<b>ID No. :</b>	BKK_ML0210
<b>Submitted by :</b>	ALS Laboratory Group (Thailand) Co., Ltd. 104 Phrasarakorn Rd., Phrasarakorn Rd., Khomeng Phrasarakorn, Khom Suan Luang, Bangkok, 10250 Thailand Incubation & Micrological Reading
<b>Location :</b>	
<b>Received Under :</b>	17 July 2023
<b>Calibration Date :</b>	17 July 2023
<b>Ambient Temperature :</b>	( 28 ± 10 ) °C
<b>Relative Humidity :</b>	( 50 ± 30 ) %
<b>Calibrated by :</b>	Man Pattanasongpatton
<b>Approved by :</b>	<div style="text-align: center;">                   Approved Signatory             </div>
( ) Porntippa Tameykit ( ) Malesudkua ( ) Suwiri Jirpa	
<b>Issue Date :</b>	24 July 2023

**The Uncertainties are for a confidence probability of approximately 95%**

The certificate may not be separated other than in full, except with the prior writing  
 Approval of the Head of Calibration Division, 1. Signature, Calibration and Testing Service

Equipment : Incubator  
Condition As-Received : Used Item  
Reference : 2307-0289OC-1  
Procedure Used : Calibration was conducted using calibration procedure CP-OT02 according to direct measurement method with Data Acquisition which connected with Resistance Temperature Detector (RTD).  
The temperature scale used was based on ITS-90.  
Condition of this result of calibration  
1. Reference standard instrument-  
Instrument Serial No. Cert. No. Traceable Due Date  
1) Data Acquisition MY49001451 23LM27 TPA 25 Feb 2024  
2. This certificate is valid only to the item calibrated on date and place of calibration.  
3. This certification is traceable to the International System of Unit.  
Remark : TPA : Technology Promotion Association (Thailand - Japan)  
Result of Calibration : (\*) Without Adjustment  
Function of UUC : Temperature Source  
Fresh air setting : Close

Environment during calibration  
Temp. (°C) 24 24  
REL.Humid. (%) 54 56  
AC Supply (Volt) 221 223

Position : Ref. Std. ID No.  
1 19RTO-211  
2 19RTO-212  
3 19RTO-213  
4 19RTO-214  
5 19RTO-215  
6 19RTO-216  
7 19RTO-217  
8 19RTO-218  
9 (ref.) 19RTO-219

Probe Installation Details : Dimension of Chamber :  
a = 10 cm D = 0.50 m  
b = 10 cm W = 0.75 m  
c = 10 cm H = 1.2 m  
Capacity = 0.45 m³

Equipment : Incubator  
Condition As-Received : Used Item  
Reference : 2307-0289OC-1  
Result of Calibration : (\*) Without Adjustment  
Function of UUC : Temperature Source  
Fresh air setting : Close

Calibration Point Setting Reading Temperature stability Temperature uniformity Overall Coverage  
30.0 30.0 30.0 0.009 0.30 0.44 2

Calibration Point Measured Temperature (°C) Uncertainty  
1 2 3 4 5 6 7 8 9 (ref.)  
30.0 34.089 34.023 34.815 34.813 35.054 35.019 35.156 35.141 35.087 0.30

Average : The average of 30 values in each position.  
Temperature stability : One-half of the greatest maximum difference of measured temperature at any one sensor.  
Temperature uniformity : The maximum difference of measured temperatures at any sensors and the measured temperature at the reference location which are observed at the same time or at as close an observation time as possible to determine the temperature pattern or homogeneity within the chamber under steady-state conditions.  
Overall Variation : The Difference of the maximum and minimum measured temperatures throughout observation.  
UUC : Unit Under Calibration  
Note : The reported uncertainty of measurement was included stability and excluded uniformity.  
The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k, providing a level of confidence of approximately 95 %.

TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)  
CORPORATE SERVICES 2: EQUIPMENT CALIBRATION AND TESTING SERVICES  
5344 PATHANAKARN ROAD 501 18, SUANLUANG, SUANLUANG BANGKOK 10250  
TEL. 0-2717-3000-29 FAX.0-2719-9484

Certificate of Calibration  
Cert. No.: 24TM667  
Page : 1 of 3

Equipment : Hot Air Oven  
Manufacturer : Binder  
Model : ED 240/E2  
Serial No. : 00-15533  
ID No. : BKK\_ML0013

Submitted by : ALS Laboratory Group (Thailand) Co., Ltd.  
104 Phatthanakan Rd.,  
Khweng Phatthanakan, Khet Suan Luang,  
Bangkok 10250 Thailand  
Location : Media Preparation Room

Received Order : 23 April 2024  
Calibration Date : 23 April 2024  
Ambient Temperature : (26 ± 10) °C  
Relative Humidity : (50 ± 30) %  
Calibrated by : Tawatchai Pama

Approved by :  
( ) Ponpan Pajaim  
(✓) Suwit Imjai  
( ) Kunchit Promrat

Issue Date : 26 April 2024

The Uncertainties are for a confidence probability of approximately 95%  
This certificate may not be reproduced other than in full, except with the prior written approval of the head of Corporate Services 2: Equipment Calibration and Testing Services.

Equipment : Hot Air Oven  
Condition As-Received : Used Item  
Reference : 2404-04390C-8  
Procedure Used : Calibration was conducted using calibration procedure CP-OT02 based on TLAS G-20 according to direct measurement method with Data Acquisition which connected with Thermocouple Type T.  
The temperature scale used was based on ITS-90.  
Condition of this result of calibration  
1. Reference standard instrument-  
Instrument Serial No. Cert. No. Traceable Due Date  
1) Data Acquisition MY49001451 24LM44 TPA 17 Mar 2025  
2. This certificate is valid only to the item calibrated on date and place of calibration.  
3. This certification is traceable to the International System of Unit.  
Remark : TPA : Technology Promotion Association (Thailand - Japan)  
Result of Calibration : (\*) Without Adjustment  
Function of UUC : Temperature Source  
Fresh air setting : Close

Environment during calibration  
Temp. (°C) 24 23  
REL.Humid. (%) 65 65  
AC Supply (V Volt) 223 222

Position : Ref. Std. ID No.  
1 24-19TC-01  
2 24-19TC-02  
3 24-19TC-03  
4 24-19TC-04  
5 24-19TC-05  
6 24-19TC-06  
7 24-19TC-07  
8 24-19TC-08  
9 (ref.) 24-19TC-09

Probe Installation Details : Dimension of Chamber :  
a = 10 cm D = 0.50 m  
b = 10 cm W = 0.80 m  
c = 10 cm H = 0.60 m  
Capacity = 0.24 m³

Equipment : Hot Air Oven  
Condition As-Received : Used Item  
Reference : 2404-04390C-8  
Result of Calibration : (\*) Without Adjustment  
Function of UUC : Temperature Source  
Fresh air setting : Close

Calibration Point Setting Reading Temperature stability Temperature uniformity Overall Coverage  
180 180 180 0.64 2.7 3.7 2

Calibration Point Measured Temperature (°C) Uncertainty  
1 2 3 4 5 6 7 8 9 (ref.)  
180 181.009 181.511 180.922 181.359 181.217 183.659 181.694 181.986 181.474 1.5

Average : The average of 30 values in each position.  
Temperature stability : One-half of the greatest maximum difference of measured temperature at any one sensor.  
Temperature uniformity : The maximum difference of measured temperatures at any sensors and the measured temperature at the reference location which are observed at the same time or at as close an observation time as possible to determine the temperature pattern or homogeneity within the chamber under steady-state conditions.  
Overall Variation : The Difference of the maximum and minimum measured temperatures throughout observation.  
UUC : Unit Under Calibration  
Note : The reported uncertainty of measurement was included stability and excluded uniformity .  
The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k, providing a level of confidence of approximately 95 %.

TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)  
CORPORATE SERVICES 2: EQUIPMENT CALIBRATION AND TESTING SERVICES  
5344 PATHANAKARN ROAD 501 18, SUANLUANG, SUANLUANG BANGKOK 10250  
TEL. 0-2717-3000-29 FAX.0-2719-9484

Certificate of Calibration  
Cert. No.: 24TM669  
Page : 1 of 3

Equipment : Water Bath  
Manufacturer : Memmert  
Model : WNE 45  
Serial No. : L712 0429  
ID No. : BKK\_ML0056

Submitted by : ALS Laboratory Group (Thailand) Co., Ltd.  
104 Phatthanakan Rd.,  
Khweng Phatthanakan, Khet Suan Luang,  
Bangkok 10250 Thailand  
Location : Incubation & Microbiological Reading

Received Order : 01 March 2024  
Calibration Date : 01 March 2024  
Ambient Temperature : (26 ± 10) °C  
Relative Humidity : (50 ± 30) %  
Calibrated by : Krisda Malee

Approved by :  
( ) Pornthippa Tamayakul  
( ) Ungrasit Haratchai  
(✓) Suwit Imjai

Issue Date : 4 March 2024

The Uncertainties are for a confidence probability of approximately 95%  
This certificate may not be reproduced other than in full, except with the prior written approval of the head of Corporate Services 2: Equipment Calibration and Testing Services.

Equipment : Water Bath  
Condition As-Received : Used Item  
Reference : 2403-0091OC-1  
Procedure Used : Calibration was conducted using in-house calibration procedure CP-OT04 based on ASTM E715 according to direct measurement method with Data Acquisition which connected with Industrial Platinum Resistance Thermometer (PRT).  
The temperature scale used was based on ITS-90.  
Condition of this result of calibration  
1. Reference standard instrument-  
Instrument Serial No. Cert. No. Traceable Due Date  
1) Data Acquisition MY57013711 23LM115 TPA 11 Jul 2024  
2. This certificate is valid only to the item calibrated on date and place of calibration.  
3. This certification is traceable to the International System of Unit.  
Remark : TPA : Technology Promotion Association (Thailand - Japan)  
Result of Calibration : (\*) Without Adjustment  
Function of UUC : Temperature Source  
Heat transfer medium used : Water

Environment AC Voltage Supply  
Temp. (°C) (°SR.H.) (Volt)  
Beginning of Calibration 24 55 221  
Finished of Calibration 23 56 220

Position : Ref. Std. ID No.  
1 4803989-001  
2 4803989-002  
3 4803989-003  
4 4803989-004  
5(ref.) 4803989-005

Front

Equipment : Water Bath  
Condition As-Received : Used Item  
Reference : 2403-0091OC-1  
Result of Calibration : (\*) Without Adjustment  
Function of UUC : Temperature Source

Calibration point UUC Setting UUC Reading Average Standard Reading (°C) Uncertainty  
44.5 44.5 44.5 44.469 44.492 44.492 44.510 44.496 0.15  
45.0 45.0 45.0 44.975 44.974 45.007 45.023 44.999 0.15

Calibration point Uniformity Stability Coverage  
44.5 0.087 0.028 2  
45.0 0.069 0.031 2

Average : The average of 30 values in each position.  
Uniformity : The maximum difference of measured temperatures at any sensors and the measured temperature at the reference location which are observed at the same time or at as close an observation time as possible to determine the temperature pattern or homogeneity within the chamber under steady-state conditions.  
Stability : One-half of the greatest maximum difference of measured temperature at any one probe.  
UUC : Unit Under Calibration  
Note : The reported uncertainty of measurement was included stability and excluded uniformity.  
The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k, providing a level of confidence of approximately 95 %.

Sartorius (Thailand) Co., Ltd.  
101 Nuan Nuan, Nuan Nuan, Bangkok, Thailand  
TEL. 02-626-6664 E-MAIL: info@sartorius-thailand.com

Certificate of Calibration  
Model Number : MS2245-100-BU  
Description : Analytical Balance  
Serial Number : 003795956  
ID No. : BKK\_110003  
Manufacturer : Sartorius  
Customer Name : ALS Laboratory Group (Thailand) Co., Ltd.  
104 Phatthanakan Rd.,  
Khweng Phatthanakan, Khet Suan Luang, Bangkok 10250

Calibrated Place : Lab room

Calibrated By : Mr.Chuchai Inthana  
Calibration Date : Friday, August 02, 2024

Calibration Procedure No. : This calibration was conducted by using in-house calibration procedure number 001-0001  
Based on UKAS LAB 14:2018

Measurement data:  
Capacity : 220 g Resolvability : 0.0001 g  
Temperature : 23.0 °C  
Humidity : 55.0 % RH  
Pressure :  
Assess for calibration :  
New Instruments : Serial / Measur : Incubated / Measur : Calibration Conditions : User Operator : TPA

Measurement Method : UKAS Publication Ref.14 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%, this determined in accordance with the Guide to Expression of Uncertainty in Measurement (GUM). The calibration certificate documents the traceability to National Standards, which reduce the risk of measurement error in the International Standard System of Units (SI). Report of Uncertainty can be found in Sartorius Metrological Specifications.

Traceability:  
Model Number Description Traceability Certificate No. Due Date  
YC5011-522-00 Sartorius weight set Temp : 1000g 51.07011-522-00 M20018195 25-Aug-2025  
Ecoth TPA II Thermo-Hygrometer, Trade 1748 ENTECH MET 6013031061140 13-Nov-2024

This certificate refers and apply this equipment only.  
This certificate may not be reproduced other than in full, except with the prior written approval of the head of Corporate Services 2: Equipment Calibration and Testing Services (Thailand) Co., Ltd.

Sartorius (Thailand) Co., Ltd.  
Sartorius (Thailand) Co., Ltd.





TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)  
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES  
534/4 PATTANAKARN ROAD ECH 18, SUANLUANG, SUANLUANG BANGKOK 10250  
TEL. 0-2717-3000-29 FAX 0-2717-3464

**Certificate of Calibration**

Cert.No.: 23CH1369  
Page: 1 of 3

Equipment: pH Meter  
Manufacturer: Hach  
Model: HQ411d  
Serial No.: 200100031163  
ID No.: BKK\_EN0342  
Condition As-Received: Used Item  
Received Date: 26 October 2023  
Calibration Date: 27 October 2023  
Reference: 2310-068DSC-3  
Submitted by: ALS Laboratory Group (Thailand) Co., Ltd.  
104 Phatthanakan 40, Phatthanakan Rd.,  
Khuang Phatthanakan, Khet Suan Luang,  
Bangkok 10250 Thailand

Ambient Temperature: (25 ± 2.5) °C  
Relative Humidity: (50 ± 15) %  
Calibration Procedure: In-house method:  
- CP-CH5 by direct measurement with standard voltage calibrator and direct measurement with certified reference material (CRM)  
- CP-CH5 by comparison with standard thermometer

Calibrated by: Warakorn Lemgagrakul  
Approved by: Sathip Meangmai  
( ) Unnopphol Harachai  
( ) Porpan Pajin  
(✓) Sathip Meangmai  
Issue Date: 31 October 2023

The Uncertainties are for a confidence probability of approximately 95%  
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Cert.No.: 23CH1369  
Page: 2 of 3

**Condition of this calibration result**

1. Reference Standard Instrument: -  
Instrument: 480254 110RC044 23008  
2. Certified Reference Materials: The measurement results are traceable to SI through CPA chem Ltd., ANSLASQ National Accreditation Board, Accredited No. AR-1835

Buffer Solution Manufacturer Lot No. Exp. date  
pH 4.008 CPA chem 913599 14 July 2025  
pH 6.865 CPA chem 913599 14 July 2024  
pH 9.997 CPA chem 931961 30 Sep 2024

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

**Calibration Results**  
Function: pH Measurement  
Performing three buffers standard curve by using buffer nominal pH (4.7,18)

Unit Under Calibration	Standard pH Buffer Solution	Actual pH Reading	Actual mV Reading (mV)	Uncertainty of pH measurement (±)	Coverage factor k
pH Electrode	4.008	4.002	196.5	0.0044	2.00
	6.985	6.987	-10.4	0.0084	2.00
	9.997	10.005	-189.3	0.0071	2.00

Remark: - Can not connect the BNC because the plug does not match with the socket.

Cert.No.: 23CH1369  
Page: 3 of 3

**Calibration Results**  
Function: Temperature Measurement  
(\*) Without adjustment  
This equipment was connected with Temperature Probe:  
- Model: PHC281  
- Serial No.: 230473042902  
Dimension of probe:  
- Length: 103 mm  
- Diameter: 12 mm  
- Immersion Depth: 90 mm

Calibration Point (°C)	Standard Temperature (°C)	UUC* Reading (°C)	Error (°C)	Uncertainty of measurement (± °C)	Coverage factor k
25.0	25.002	25.1	0.096	0.13	2.00

Remark: - UUC\* = Unit Under Calibration

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

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TEL. 0-2717-3000-29 FAX 0-2717-3464

**Certificate of Calibration**

Cert.No.: 24CH1295  
Page: 1 of 3

Equipment: pH Meter  
Manufacturer: Hach  
Model: HQ411d  
Serial No.: 200100031163  
ID No.: BKK\_EN0342  
Condition As-Received: Used Item  
Received Date: 16 October 2024  
Calibration Date: 17 October 2024  
Reference: 2410-0548DSC-5  
Submitted by: ALS Laboratory Group (Thailand) Co., Ltd.  
104 Phatthanakan 40, Phatthanakan Rd.,  
Khuang Phatthanakan, Khet Suan Luang,  
Bangkok 10250 Thailand

Ambient Temperature: (25 ± 2.5) °C  
Relative Humidity: (50 ± 15) %  
Calibration Procedure: In-house method:  
- CP-CH5 by direct measurement with certified reference material (CRM)  
- CP-CH5 by comparison with temperature standard

Calibrated by: Warakorn Lemgagrakul  
Approved by: Sathip Meangmai  
( ) Unnopphol Harachai  
( ) Porpan Pajin  
(✓) Sathip Meangmai  
Issue Date: 21 October 2024

The Uncertainties are for a confidence probability of approximately 95%  
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Approval of the Head of Corporate Services 3: Equipment Calibration and Testing Services

Cert.No.: 24CH1295  
Page: 2 of 3

**Condition of this calibration result**

1. Reference Standard Instrument: -  
Instrument: 2188080 130RC044 241022 16 Sep 2025  
2. Certified Reference Materials: The measurement results are traceable to SI through Hach Lange GmbH Ltd. Deutsche Akkreditierungsstelle, Accredited No. D-PAK-15184-01-00  
The measurement results are traceable to SI through CPA chem Ltd., ANSLASQ National Accreditation Board, Accredited No. AR-1835

Buffer Solution Manufacturer Lot No. Exp. date  
pH 4.008 CPA chem 1034203 27 Sep 2026  
pH 6.999 Hach Lange GmbH C03145 28 Feb 2026  
pH 10.010 CPA chem 1034205 27 Sep 2025

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

**Calibration Results**  
Function: pH Measurement  
Performing three buffers standard curve by using buffer nominal pH (4.7,18)

Unit Under Calibration	Standard pH Buffer Solution	Actual pH Reading	Actual mV Reading (mV)	Uncertainty of pH Measurement (±)	Coverage factor k
pH Electrode	4.008	4.028	174.6	0.0044	2.00
	6.999	7.014	1.4	0.0084	2.05
	10.010	10.018	-172.8	0.0068	2.00

Remark: - Can not connect the BNC because the plug does not match with the socket.

Cert.No.: 24CH1295  
Page: 3 of 3

**Calibration Results**  
Function: Temperature Measurement  
(\*) Without adjustment  
This equipment was connected with Temperature Probe:  
- Model: PHC281  
- Serial No.: 230473042902  
Dimension of probe:  
- Length: 103 mm  
- Diameter: 12 mm  
- Immersion Depth: 90 mm

Calibration Point (°C)	Standard Temperature (°C)	UUC* Reading (°C)	Error (°C)	Uncertainty of measurement (± °C)	Coverage factor k
25.0	25.002	25.0	-0.002	0.13	2.00

Remark: - UUC\* = Unit Under Calibration

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

ภาคผนวก จ

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สำเนาหนังสืออนุญาตขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน

กรมโรงงานอุตสาหกรรม  
ถนนพระรามที่ ๖ แขวงทุ่งพญาไท  
เขตราชเทวี กรุงเทพฯ ๑๐๔๐๐



๗๕) นายประเสริฐ สุระชัย  
๗๖) นายบุญล จันทะนิม  
๗๗) นายพิรพงษ์ ทองอุบลปริดา  
๗๘) นายณัฐพล ทองบุ  
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๑๔๘) นายสิรินันท์ ทองอิน  
๑๔๙) นายอเนชา ทิมสมัย  
๑๕๐) นายอติวัฒน์ วัฒน

๑๕๑) นางสาวณัฐพล คุ้มสุทธี

๑๕๑) นางสาวณัฐพล คุ้มสุทธี  
๑๕๒) นางสาวณัฐพงศ์ ปัวแดง  
๑๕๓) นางสาวณัฐพงษ์ ฐปัทม  
๑๕๔) นางสาวณัฐพล คุ้มสุทธี  
๑๕๕) นายอติวัฒน์ ม่วงเพชร  
๑๕๖) นายเจตคุรรักษ์ ปิณฑะมะ  
๑๕๗) นายภูษิต สหายธรรม  
๑๕๘) นายพิชัย บุญยงค์  
๑๕๙) นายภาณุพงศ์ โสมวงศ์  
๑๖๐) นายสมานารถ คูณลี  
๑๖๑) นายสิริชัย โกศลวิกรม  
๑๖๒) นายณัฐวุฒิ ศรีประเสริฐ  
๑๖๓) นายชวติชัย นาคพรม  
๑๖๔) นายพชรชัย ชัยทรัพย์  
๑๖๕) นายสิทธิโชค ทาสีลา  
๑๖๖) นายณนกร อินสุตา  
๑๖๗) นางสาววรรณิษา ขวดีวันชัย  
๑๖๘) นางสาวพิมพ์ขวัญ มีมากุล  
๑๖๙) นางสาวเพ็ญรัตน์ สิงห์สมบุญ  
๑๗๐) นางสาวชญาพร นามจินา  
๑๗๑) นายกรัตน์ ทวีราช  
๑๗๒) นายจักริน วัฒนวิศา  
๑๗๓) นายฉัตรชัย สุขเปือย  
๑๗๔) นายณฐกร สันทน  
๑๗๕) นายทศนัย อุบลศรี  
๑๗๖) นายณัฐพร นามะคุณนา  
๑๗๗) นายณัฐพงศ์ ปัวแดง  
๑๗๘) นายณัฐพงษ์ ฐปัทม  
๑๗๙) นายณัฐพล คุ้มสุทธี  
๑๘๐) นายณัฐวัฒน์ สาริน  
๑๘๑) นายณัฐวิทย์ พลชนะศรี  
๑๘๒) นายพชรชัย โสมชัย  
๑๘๓) นายพิรพัฒน์ คำคำ  
๑๘๔) นายภาณุพงศ์ มาณิตย์  
๑๘๕) นายณนกร ผลทรัพย์  
๑๘๖) นายสิรินันท์ ทองอิน  
๑๘๗) นายอเนชา ทิมสมัย  
๑๘๘) นายอติวัฒน์ วัฒน

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๑๕๒) นางสาวณัฐพงศ์ ปัวแดง  
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๑๕๕) นายอติวัฒน์ ม่วงเพชร  
๑๕๖) นายเจตคุรรักษ์ ปิณฑะมะ  
๑๕๗) นายภูษิต สหายธรรม  
๑๕๘) นายพิชัย บุญยงค์  
๑๕๙) นายภาณุพงศ์ โสมวงศ์  
๑๖๐) นายสมานารถ คูณลี  
๑๖๑) นายสิริชัย โกศลวิกรม  
๑๖๒) นายณัฐวุฒิ ศรีประเสริฐ  
๑๖๓) นายชวติชัย นาคพรม  
๑๖๔) นายพชรชัย ชัยทรัพย์  
๑๖๕) นายสิทธิโชค ทาสีลา  
๑๖๖) นายณนกร อินสุตา  
๑๖๗) นางสาววรรณิษา ขวดีวันชัย  
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๑๗๐) นางสาวชญาพร นามจินา  
๑๗๑) นายกรัตน์ ทวีราช  
๑๗๒) นายจักริน วัฒนวิศา  
๑๗๓) นายฉัตรชัย สุขเปือย  
๑๗๔) นายณฐกร สันทน  
๑๗๕) นายทศนัย อุบลศรี  
๑๗๖) นายณัฐพร นามะคุณนา  
๑๗๗) นายณัฐพงศ์ ปัวแดง  
๑๗๘) นายณัฐพงษ์ ฐปัทม  
๑๗๙) นายณัฐพล คุ้มสุทธี  
๑๘๐) นายณัฐวัฒน์ สาริน  
๑๘๑) นายณัฐวิทย์ พลชนะศรี  
๑๘๒) นายพชรชัย โสมชัย  
๑๘๓) นายพิรพัฒน์ คำคำ  
๑๘๔) นายภาณุพงศ์ มาณิตย์  
๑๘๕) นายณนกร ผลทรัพย์  
๑๘๖) นายสิรินันท์ ทองอิน  
๑๘๗) นายอเนชา ทิมสมัย  
๑๘๘) นายอติวัฒน์ วัฒน

๑๘๙) นายณัฐพล คุ้มสุทธี

เอกสารแนบท้ายหนังสือรับข้ออาชญากรรมทะเบียนห้องปฏิบัติการวิเคราะห์เอกสาร  
บริษัท เอแอลเอส แล็บอโรทอรี่ กรุ๊ป (ประเทศไทย) จำกัด เลขทะเบียน ๖-๒๐๔  
ที่ อก ๐๓๑๐(๑)/ ๑๖ ๑๖ ๘ ลงวันที่ ๒๐ พฤศจิกายน ๒๕๖๖

๓. ขอบข่ายสารมลพิษที่ได้รับขึ้นทะเบียนจากกรมโรงงานอุตสาหกรรม จำนวน ๑๙๔ รายการ

น้ำเสีย จำนวน 60 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Aldicarb	High-Performance Liquid Chromatographic Method <sup>(1)</sup>
2	Aldicarb Sulfone	High-Performance Liquid Chromatographic Method <sup>(1)</sup>
3	Aldicarb Sulfoxide	High-Performance Liquid Chromatographic Method <sup>(1)</sup>
4	Aldrin	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(1)</sup>
5	Arsenic	1) Digestion, Inductively Coupled Plasma Method <sup>(1)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(1)</sup>
6	Barium	1) Digestion, Inductively Coupled Plasma Method <sup>(1)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(1)</sup>
7	α-BHC	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(1)</sup>
8	β-BHC	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(1)</sup>
9	δ-BHC	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(1)</sup>
10	γ-BHC	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(1)</sup>
11	Biochemical Oxygen Demand	1) 5-Day BOD Test, Azide Modification Method <sup>(1)</sup> 2) 5-Day BOD Test, Membrane Electrode Method <sup>(1)</sup>
12	Carbaryl	High-Performance Liquid Chromatographic Method <sup>(1)</sup>
13	Carbofuran	High-Performance Liquid Chromatographic Method <sup>(1)</sup>
14	Cadmium	1) Digestion, Inductively Coupled Plasma Method <sup>(1)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(1)</sup>
15	Chemical Oxygen Demand	1) Closed Reflux, Colorimetric Method <sup>(1)</sup> 2) Closed Reflux, Titrimetric Method <sup>(1)</sup>
16	Chlordane	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(1)</sup>
17	Chromium	1) Digestion, Inductively Coupled Plasma Method <sup>(1)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(1)</sup>
18	Color	ADMI Weighted-Ordinate Spectrophotometric Method <sup>(1)</sup>

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
19	Copper	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>
20	Cyanide	Distillation, Colorimetric Method <sup>(4)</sup>
21	2,4'-DDD	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
22	4,4'-DDD	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
23	2,4'-DDE	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
24	4,4'-DDE	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
25	2,4'-DDT	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
26	4,4'-DDT	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
27	Dieldrin	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
28	Endosulfan Sulfate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
29	Endosulfan I	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
30	Endosulfan II	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
31	Endrin	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
32	Endrin Aldehyde	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
33	Formaldehyde	Distillation, Colorimetric Method <sup>(3)</sup>
34	Free Chlorine	1) DPD Ferrous Titrimetric Method <sup>(3)</sup> 2) DPD Colorimetric Method <sup>(4)</sup>
35	Heptachlor	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
36	Heptachlor Epoxide	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
37	Hexavalent Chromium	Colorimetric Method <sup>(4)</sup>
38	3-Hydroxycarbofuran	High-Performance Liquid Chromatographic Method <sup>(4)</sup>
39	Lead	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>

40 Manganese...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
40	Manganese	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>
41	Mercury	1) Digestion, Cold-Vapor Atomic Absorption Spectrometric Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>
42	Methiocarb	High-Performance Liquid Chromatographic Method <sup>(4)</sup>
43	Methoxychlor	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
44	Methomyl	High-Performance Liquid Chromatographic Method <sup>(4)</sup>
45	Nickel	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>
46	Oil & Grease	1) Liquid-Liquid, Partition-Gravimetric Method <sup>(4)</sup> 2) Soxhlet Extraction Method <sup>(4)</sup>
47	Oxamyl	High-Performance Liquid Chromatographic Method <sup>(4)</sup>
48	Propoxur	High-Performance Liquid Chromatographic Method <sup>(4)</sup>
49	pH	Electrometric Method <sup>(3)</sup>
50	Phenols	1) Distillation, Chloroform Extraction Method <sup>(4)</sup> 2) Distillation, Direct Photometric Method <sup>(4)</sup>
51	Selenium	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>
52	Sulfide	Iodometric Method <sup>(4)</sup>
53	Temperature	Laboratory and Field Methods <sup>(4)</sup>
54	Total Dissolved Solids	Dried at 180 °C <sup>(4)</sup>
55	Total Kjeldahl Nitrogen	Semi-Micro Kjeldahl Method <sup>(4)</sup>
56	Total Phosphorous	Digestion, Colorimetric Method <sup>(4)</sup>
57	Total Suspended Solids	Dried from 103-105 °C <sup>(4)</sup>
58	Toxaphene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
59	Trivalent Chromium	1) Digestion, Inductively Coupled Plasma Method; Colorimetric Method; Calculation <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method; Colorimetric Method; Calculation <sup>(4)</sup>
60	Zinc	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(4)</sup>

น้ำใต้ดิน...

## น้ำใต้ดิน จำนวน 126 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Acenaphthene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
2	Acetone	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
3	Aldrin	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
4	Anthracene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
5	Antimony	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>
6	Arsenic	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>
7	Atrazine	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
8	Barium	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>
9	Benz(a)anthracene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
10	Benzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
11	Benzo(b)fluoranthene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
12	Benzo(k)fluoranthene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
13	Benzoic Acid	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
14	Benzo(a)pyrene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
15	Benzo(g,h,i)perylene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
16	Beryllium	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>
17	Bis(2-chloroethyl)ether	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>

18 Bis(2-ethylhexyl)phthalate...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
18	Bis(2-ethylhexyl)phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
19	Bromodichloromethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
20	Bromoform	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
21	Butanol	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
22	Butyl benzyl phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
23	Cadmium	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>
24	Carbazole	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
25	Carbon disulfide	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
26	Carbon tetrachloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
27	Chlordane	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
28	p-Chloroaniline	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
29	Chlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
30	Chlorodibromomethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
31	Chloroform	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
32	2-Chlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
33	Chromium	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>
34	Chromium (III)	1) Digestion, Inductively Coupled Plasma Method; Colorimetric Method; Calculation <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method; Colorimetric Method; Calculation <sup>(4)</sup>
35	Chromium (VI)	Colorimetric Method <sup>(4)</sup>

36 Chrysene...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
36	Chrysene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
37	Cyanide	Distillation, Colorimetric Method <sup>(4)</sup>
38	2,4-D	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
39	DDD	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
40	DDE	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
41	DDT	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
42	Dibenz(a,h)anthracene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
43	Di-n-Butyl Phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
44	1,2-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
45	1,3-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
46	1,4-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
47	3,3-Dichlorobenzidine	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
48	1,1-Dichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
49	1,2-Dichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
50	1,1-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
51	cis-1,2-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
52	trans-1,2-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
53	2,4-Dichlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
54	1,2-Dichloropropane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
55	1,3-Dichloropropane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>

56 1,3-Dichloropropene...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
56	1,3-Dichloropropene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
57	Dieldrin	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
58	Diethyl Phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
59	2,4-Dimethylphenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
60	2,4-Dinitrophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
61	2,4-Dinitrotoluene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
62	2,6-Dinitrotoluene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
63	Di-n-octyl phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
64	Endosulfan	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
65	Endrin	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
66	Ethylbenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
67	Fluoranthene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
68	Fluorene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
69	Heptachlor	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
70	Heptachlor epoxide	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
71	Hexachlorobenzene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
72	Hexachloro-1,3-butadiene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
73	n-Hexane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
74	α-HCH	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
75	β-HCH	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>

76 γ-HCH...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
76	γ-HCH	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
77	Hexachlorocyclopentadiene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
78	Hexachloroethane	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
79	Indeno(1,2,3-cd)pyrene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
80	Isophorone	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
81	Lead	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>
82	Manganese	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>
83	Mercury	1) Digestion, Cold Vapor Atomic Absorption Spectrometric Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>
84	Methanol	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
85	Methoxychlor	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
86	Methyl bromide	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
87	Methylene chloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
88	2-Methylphenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
89	2-Methylnaphthalene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
90	Methyl tert-butyl Ether	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
91	Naphthalene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
92	Nickel	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>
93	Nitrobenzene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>

94 N-Nitrosodiphenylamine...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
94	N-Nitrosodiphenylamine	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
95	N-Nitrosodi-n-Propylamine	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
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 <sup>(4)</sup>
97	Pentachlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
98	pH	Electrometric Method <sup>(4)</sup>
99	Phenanthrene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
100	Phenol	1) Distillation, Chloroform Extraction Method <sup>(4)</sup> 2) Distillation, Direct Photometric Method <sup>(4)</sup> 3) Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
101	Pyrene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
102	Selenium	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>
103	Silver	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(4)</sup>
104	Styrene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
105	1,1,2,2-Tetrachloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
106	Tetrachloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
107	Toluene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
108	Toxaphene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(4)</sup>
109	TPH (C <sub>9</sub> -C <sub>14</sub> )	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(4,25)</sup>

110 TPH (C<sub>10</sub>-C<sub>19</sub>)...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
110	TPH (C <sub>10</sub> -C <sub>16</sub> )	Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic Method <sup>(9,22)</sup>
111	TPH (C <sub>11</sub> -C <sub>15</sub> )	Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic Method <sup>(9,22)</sup>
112	1,2,4-Trichlorobenzene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(4)</sup>
113	1,1,1-Trichloroethane	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(4)</sup>
114	1,1,2-Trichloroethane	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(4)</sup>
115	Trichloroethylene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(4)</sup>
116	2,4,5-Trichlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(4)</sup>
117	2,4,6-Trichlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(4)</sup>
118	1,3,5-Trimethylbenzene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(4)</sup>
119	Vanadium	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(4)</sup>
120	Vinyl acetate	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(4)</sup>
121	Vinyl chloride	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(4)</sup>
122	m-Xylene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(4)</sup>
123	o-Xylene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(4)</sup>
124	p-Xylene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(4)</sup>
125	Xylene (Total)	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(4)</sup>
126	Zinc	1) Digestion, Inductively Coupled Plasma Method <sup>(4)</sup> 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(4)</sup>

จากผลเสีย

จากผลเสีย (ปล่อยรวม) จำนวน 28 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Antimony	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>(5)</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(5)</sup>
2	Arsenic	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>(5)</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(5)</sup>
3	Beryllium	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>(5)</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(5)</sup>
4	Cadmium	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>(5)</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(5)</sup>
5	Carbon Monoxide	1) Instrumental Analyzer Method <sup>(5)</sup> 2) Sampling Bag Non-Dispersive Infrared Method <sup>(5)</sup>
6	Chlorine	1) Adsorption Sampling, Ion Chromatographic Method <sup>(5)</sup> 2) Isokinetic Sampling, Ion Chromatographic Method <sup>(5)</sup>
7	Chromium	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>(5)</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(5)</sup>
8	Cobalt	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>(5)</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(5)</sup>
9	Copper	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>(5)</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(5)</sup>
10	Cresol	Adsorption Sampling, Gas Chromatographic Method <sup>(5)</sup>
11	Dioxins	Isokinetic Sampling <sup>(5)</sup>
12	Hydrogen Chloride	1) Adsorption Sampling, Ion Chromatographic Method <sup>(5)</sup> 2) Isokinetic Sampling, Ion Chromatographic Method <sup>(5)</sup>
13	Hydrogen Fluoride	1) Adsorption Sampling, Ion Chromatographic Method <sup>(5)</sup> 2) Isokinetic Sampling, Ion Chromatographic Method <sup>(5)</sup>
14	Hydrogen Sulfide	Absorption Sampling, Iodometric Method <sup>(5)</sup>

15 Lead...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
15	Lead	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>(5)</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(5)</sup>
16	Manganese	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>(5)</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(5)</sup>
17	Mercury	1) Isokinetic Sampling, Digestion, Cold-Vapor Atomic Absorption Spectrometric Method <sup>(5)</sup> 2) Isokinetic Sampling, Digestion, Cold-Vapor Atomic Fluorescence Spectrometric Method <sup>(5)</sup>
18	Nickel	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>(5)</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(5)</sup>
19	Opacity	Ringelmann's Method <sup>(5)</sup>
20	Oxides of Nitrogen	1) Absorption Sampling, Phenoldisulfonic Acid Method <sup>(5)</sup> 2) Absorption Sampling, Alkaline Permanganate/Colorimetric Method <sup>(5)</sup> 3) Instrumental Analyzer Method <sup>(5)</sup>
21	Selenium	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>(5)</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(5)</sup>
22	Sulfur Dioxide	1) Absorption Sampling, Barium-Thorin Titrimetric Method <sup>(5)</sup> 2) Instrumental Analyzer Method <sup>(5)</sup>
23	Sulfuric Acid	Isokinetic Sampling, Barium-Thorin Titrimetric Method <sup>(5)</sup>
24	Tellurium	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>(5)</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(5)</sup>
25	Tin	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>(5)</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(5)</sup>
26	Total Suspended Particulate	1) Isokinetic Sampling, Gravimetric Method <sup>(5)</sup> 2) Paired Train, Isokinetic Sampling, Gravimetric Method <sup>(5)</sup>

27 Vanadium...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
27	Vanadium	1) Isokinetic Sampling, Digestion, Inductively Coupled Plasma Method <sup>(5)</sup> 2) Isokinetic Sampling, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(5)</sup>
28	Xylene	Adsorption Sampling, Gas Chromatographic Method <sup>(5)</sup>

สิ่งปลูกสร้างหรือวัตถุที่ไม่ใช่พื้นผิว จำนวน 35 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Aldrin	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1,9,26)</sup> 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(9,26)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1,26)</sup>
2	Antimony	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1,16)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1,17)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7,16)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7,17)</sup>
3	Arsenic	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1,16)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1,17)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7,16)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7,17)</sup>
4	Barium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1,16)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1,17)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7,16)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7,17)</sup>

5 Beryllium...

ลำดับที่	สารพิษ	วิธีวิเคราะห์
5	Beryllium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1.6.14)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1.6.17)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7.14)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7.17)</sup>
6	Cadmium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1.6.14)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1.6.17)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7.14)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7.17)</sup>
7	Chlordane	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1.9.24)</sup> 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10.28)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11.26)</sup>
8	Chromium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1.6.14)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1.6.17)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7.14)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7.17)</sup>
9	Chromium (III)	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method; Waste Extraction, Colorimetric Method; Calculation Method <sup>(1.6.16,19)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method; Waste Extraction, Colorimetric Method; Calculation Method <sup>(1.6.17,19)</sup> 3) Digestion, Inductively Coupled Plasma Method; Alkaline Digestion, Colorimetric Method; Calculation Method <sup>(7.16,19)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method; Alkaline Digestion, Colorimetric Method; Calculation Method <sup>(7.17,19)</sup>

10 Chromium (VI)...

ลำดับที่	สารพิษ	วิธีวิเคราะห์
10	Chromium (VI)	1) Waste Extraction, Colorimetric Method <sup>(1.6.19)</sup> 2) Alkaline Digestion, Colorimetric Method <sup>(8.40)</sup>
11	Cobalt	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1.6.14)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1.6.17)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7.14)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7.17)</sup>
12	Copper	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1.6.14)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1.6.17)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7.14)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7.17)</sup>
13	2,4-D	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1.9.24)</sup> 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10.28)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11.26)</sup>
14	DDD	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1.9.24)</sup> 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10.28)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11.26)</sup>
15	DDE	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1.9.24)</sup> 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10.28)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11.26)</sup>
16	DDT	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1.9.24)</sup>

2) Soxhlet...

ลำดับที่	สารพิษ	วิธีวิเคราะห์
17	Dieldrin	2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10.28)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11.26)</sup> 1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1.9.24)</sup> 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10.28)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11.26)</sup>
18	Endrin	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1.9.24)</sup> 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10.28)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11.26)</sup>
19	Heptachlor	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1.9.24)</sup> 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10.28)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11.26)</sup>
20	Lead	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1.6.14)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1.6.17)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7.14)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7.17)</sup>
21	Lindane	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1.9.24)</sup> 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10.28)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11.26)</sup>

22 Mercury...

ลำดับที่	สารพิษ	วิธีวิเคราะห์
22	Mercury	1) Waste Extraction, Digestion, Cold-Vapor Atomic Absorption Spectrometric Method <sup>(1.6.20)</sup> 2) Waste Extraction, Digestion, Cold-Vapor Atomic Fluorescence Spectrometric Method <sup>(1.6.20)</sup> 3) Digestion, Cold-Vapor Atomic Absorption Spectrometric Method <sup>(28)</sup> 4) Digestion, Cold-Vapor Atomic Fluorescence Spectrometric Method <sup>(29)</sup> 5) Thermal Decomposition Amalgamation and Atomic Absorption Spectrometric Method <sup>(21)</sup>
23	Methoxychlor	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1.9.24)</sup> 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10.28)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11.26)</sup>
24	Mirex	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1.9.24)</sup> 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10.28)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11.26)</sup>
25	Molybdenum	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1.6.14)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1.6.17)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7.14)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7.17)</sup>
26	Nickel	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1.6.14)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1.6.17)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7.14)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7.17)</sup>
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 <sup>(1.9.24)</sup> 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10.28)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11.26)</sup>

- 2-Chlorobiphenyl...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
28	- 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',5,5',6-Nonachlorobiphenyl Pentachlorophenol	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1,9,24)</sup> 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10,26)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11,26)</sup> Electrometric Method <sup>(25,25)</sup> 4) Digestion, Inductively Coupled Plasma Method <sup>(7,14)</sup> 5) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1,6,17)</sup> 6) Digestion, Inductively Coupled Plasma Method <sup>(7,14)</sup> 7) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1,6,17)</sup>
29	pH	
30	Selenium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1,6,14)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1,6,17)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7,14)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7,17)</sup>

31 Silver...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
31	Silver	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1,6,14)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1,6,17)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7,14)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7,17)</sup>
32	Thallium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1,6,14)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1,6,17)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7,14)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7,17)</sup>
33	Toxaphene	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(1,9,24)</sup> 2) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10,26)</sup> 3) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11,26)</sup>
34	Vanadium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1,6,14)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1,6,17)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7,14)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7,17)</sup>
35	Zinc	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method <sup>(1,6,14)</sup> 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(1,6,17)</sup> 3) Digestion, Inductively Coupled Plasma Method <sup>(7,14)</sup> 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7,17)</sup>

31...

สืบ จำนวน 125 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Acenaphthene	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11,26)</sup>
2	Acetone	1) Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(15,25)</sup> 2) Equilibrium Headspace, Gas Chromatographic/Mass Spectrometric Method <sup>(13,23)</sup>
3	Aldrin	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11,26)</sup>
4	Anthracene	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11,26)</sup>
5	Antimony	1) Digestion, Inductively Coupled Plasma Method <sup>(7,14)</sup> 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7,17)</sup>
6	Arsenic	1) Digestion, Inductively Coupled Plasma Method <sup>(7,14)</sup> 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7,17)</sup>
7	Atrazine	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11,26)</sup>
8	Barium	1) Digestion, Inductively Coupled Plasma Method <sup>(7,14)</sup> 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7,17)</sup>
9	Benz(a)anthracene	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11,26)</sup>
10	Benzene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(15,25)</sup>

11 Benzol(b)fluoranthene

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
11	Benzol(b)fluoranthene	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11,26)</sup>
12	Benzol(k)fluoranthene	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11,26)</sup>
13	Benzoic acid	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11,26)</sup>
14	Benzo(a)pyrene	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11,26)</sup>
15	Benzo(g,h,i)perylene	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11,26)</sup>
16	Beryllium	1) Digestion, Inductively Coupled Plasma Method <sup>(7,14)</sup> 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method <sup>(7,17)</sup>
17	Bis(2-chloroethyl)ether	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11,26)</sup>
18	Bis(2-ethylhexyl)phthalate	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11,26)</sup>
19	Bromodichloromethane	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(15,25)</sup>
20	Bromoform	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method <sup>(15,25)</sup>
21	Butanol	Equilibrium Headspace, Gas Chromatographic/Mass Spectrometric Method <sup>(13,23)</sup>
22	Butyl Benzyl Phthalate	1) Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method <sup>(11,26)</sup>

23 Cadmium...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
23	Cadmium	1) Digestion, Inductively Coupled Plasma Method <sup>(7,14)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(7,17)</sup>
24	Carbazole	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
25	Carbon Disulfide	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,23)</sup>
26	Carbon tetrachloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,23)</sup>
27	Chlordane	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
28	p-Chloroaniline	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
29	Chlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,23)</sup>
30	Chlorodibromomethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,23)</sup>
31	Chloroform	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,23)</sup>
32	2-Chlorophenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
33	Chromium	1) Digestion, Inductively Coupled Plasma Method <sup>(7,14)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(7,17)</sup>
34	Chromium (III)	1) Digestion, Inductively Coupled Plasma Method; Alkaline Digestion, Colorimetric Method; Calculation Method <sup>(7,8,16,19)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method; Alkaline Digestion, Colorimetric Method; Calculation Method <sup>(7,8,17,19)</sup>
35	Chromium (VI)	Alkaline Digestion, Colorimetric Method <sup>(8,19)</sup>

36 Chrysene...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
36	Chrysene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
37	Cyanide	Extraction, Distillation, Colorimetric Method <sup>(27,28,29)</sup>
38	2,4-D	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
39	DDD	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
40	DDE	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
41	DDT	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
42	Dibenz(a,h)anthracene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
43	Di-n-Butyl Phthalate	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
44	1,2-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,23)</sup>
45	1,3-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,23)</sup>
46	1,4-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,23)</sup>
47	3,3-Dichlorobenzidine	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
48	1,1-Dichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,23)</sup>

49 1,2-Dichloroethane...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
49	1,2-Dichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,23)</sup>
50	1,1-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,23)</sup>
51	cis-1,2-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,23)</sup>
52	trans-1,2-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,23)</sup>
53	2,4-Dichlorophenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
54	1,2-Dichloropropane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,23)</sup>
55	1,3-Dichloropropane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,23)</sup>
56	1,3-Dichloropropene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,23)</sup>
57	Dieldrin	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
58	Diethyl Phthalate	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
59	2,4-Dimethylphenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
60	2,4-Dinitrophenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
61	2,4-Dinitrotoluene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
62	2,6-Dinitrotoluene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>

63 Di-n-Octyl Phthalate...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
63	Di-n-Octyl Phthalate	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
64	Endosulfan	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
65	Endrin	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
66	Ethylbenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,23)</sup>
67	Fluoranthene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
68	Fluorene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
69	Heptachlor	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
70	Heptachlor epoxide	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
71	Hexachlorobenzene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
72	Hexachloro-1,3-butadiene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,23)</sup>
73	n-Hexane	1) Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,23)</sup> 2) Equilibrium Headspace, Gas Chromatographic/ Mass Spectrometric Method <sup>(13)</sup>

73 n-Hexane...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
74	$\alpha$ -HCH	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
75	$\beta$ -HCH	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
76	$\gamma$ -HCH	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
77	Hexachlorocyclopentadiene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
78	Hexachloroethane	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
79	Indeno(1,2,3-cd)pyrene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
80	Isophorone	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
81	Lead	1) Digestion, Inductively Coupled Plasma Method <sup>(7,16)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(7,17)</sup>
82	Manganese	1) Digestion, Inductively Coupled Plasma Method <sup>(7,16)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(7,17)</sup>
83	Mercury	1) Digestion, Cold-Vapor Atomic Absorption Spectrometric Method <sup>(20)</sup> 2) Thermal Decomposition, Amalgamation, and Atomic Absorption Spectrophotometry <sup>(21)</sup> 3) Digestion, Cold-Vapor Atomic Fluorescence Spectrometric Method <sup>(20)</sup>

85 Methanol...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
84	Methanol	1) Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,23)</sup> 2) Equilibrium Headspace, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,23)</sup>
85	Methoxychlor	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
86	Methyl Bromide	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,23)</sup>
87	Methylene Chloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,23)</sup>
88	2-methylphenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
89	2-Methylnaphthalene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
90	Methyl tert-Butyl Ether	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,23)</sup>
91	Naphthalene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
92	Nickel	1) Digestion, Inductively Coupled Plasma Method <sup>(7,16)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(7,17)</sup>
93	Nitrobenzene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
94	N-Nitrosodiphenylamine	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
95	N-Nitrosodi-n-propylamine	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>

96 Polychlorinated biphenyls (PCBs)

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',5,5',6'-Heptachlorobiphenyl - 2,2',3,3',4,4',5,5',6'-Nonachlorobiphenyl	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
97	Pentachlorophenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
98	Phenanthrene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>

99 Phenol...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
99	Phenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
100	Pyrene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
101	Selenium	1) Digestion, Inductively Coupled Plasma Method <sup>(7,16)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(7,17)</sup>
102	Silver	1) Digestion, Inductively Coupled Plasma Method <sup>(7,16)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(7,17)</sup>
103	Styrene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,23)</sup>
104	1,1,2,2-Tetrachloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,23)</sup>
105	Tetrachloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,23)</sup>
106	Toluene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,23)</sup>
107	Toxaphene	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(10,26)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,26)</sup>
108	TPH (C <sub>5</sub> -C <sub>8</sub> )	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,23)</sup>
109	TPH (C <sub>8</sub> -C <sub>15</sub> )	1) Automate Extraction, Gas Chromatographic Method <sup>(11,22)</sup> 2) Solvent Extraction, Gas Chromatographic Method <sup>(12,22)</sup> 3) Ultrasonic Extraction, Gas Chromatographic Method <sup>(22,3)</sup>
110	TPH (C <sub>16</sub> -C <sub>35</sub> )	1) Automate Extraction, Gas Chromatographic Method <sup>(11,22)</sup> 2) Solvent Extraction, Gas Chromatographic Method <sup>(12,22)</sup> 3) Ultrasonic Extraction, Gas Chromatographic Method <sup>(22,3)</sup>
111	1,2,4-Trichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,23)</sup>
112	1,1,1-Trichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,23)</sup>
113	1,1,2-Trichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,23)</sup>
114	Trichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,23)</sup>

115 2,4,5-Trichlorophenol...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
115	2,4,5-Trichlorophenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,16)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,20)</sup>
116	2,4,6-Trichlorophenol	1) Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,20)</sup> 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method <sup>(11,20)</sup>
117	1,3,5-Trimethylbenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,21)</sup>
118	Vanadium	1) Digestion, Inductively Coupled Plasma Method <sup>(7,16)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(7,17)</sup>
119	Vinyl Acetate	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,21)</sup>
120	Vinyl Chloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,21)</sup>
121	m-Xylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,21)</sup>
122	o-Xylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,21)</sup>
123	p-Xylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,21)</sup>
124	Xylene (Total)	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method <sup>(15,21)</sup>
125	Zinc	1) Digestion, Inductively Coupled Plasma Method <sup>(7,16)</sup> 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method <sup>(7,17)</sup>

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ที่ ๒๓ ๐๓๑๐๑/ ๔๑๒๑

กรมโรงงานอุตสาหกรรม  
ถนนพหลโยธินที่ ๒ แขวงทุ่งพญาไท  
เขตราชเทวี กรุงเทพฯ ๑๐๕๐๐

๒๕ เมษายน ๒๕๖๗

เรื่อง เปลี่ยนแปลงบุคลากรของห้องปฏิบัติการวิเคราะห์

เรียน กรรมการผู้จัดการ บริษัท แอลแอล แลบราทอรี กรุ๊ป (ประเทศไทย) จำกัด

อ้างถึง คำขอขึ้นทะเบียน/ต่ออายุ/เปลี่ยนแปลงบุคลากร และขอขึ้นรายการของห้องปฏิบัติการวิเคราะห์เอกชน  
ลงวันที่ ๒๔ มีนาคม ๒๕๖๗

พจนาคำขออ้างถึง บริษัท แอลแอล แลบราทอรี กรุ๊ป (ประเทศไทย) จำกัด ห้องปฏิบัติการ  
วิเคราะห์เอกชน เลขทะเบียน ๖-๒๐๔-๙-๐๑๔๓๓-๑๐๔ ขอพัฒนาการ ๔๐ ถนนพัฒนาการ แขวงพัฒนาการ  
เขตสวนหลวง กรุงเทพมหานคร ขอเปลี่ยนแปลงบุคลากร ความละเอียดแจ้งแล้ว นั้น

กรมโรงงานอุตสาหกรรมพิจารณาแล้ว มีความเห็นดังนี้

๑. ให้ยกเลิกเจ้าหน้าที่ประจำห้องปฏิบัติการวิเคราะห์ จำนวน ๓ ราย

๑) นางสาวพรณิศา หุ่นคง ทะเบียนเลขที่ ๖-๒๐๔-๙-๐๐๒๕

๒) นายกำชัย สุทธะ ทะเบียนเลขที่ ๖-๒๐๔-๙-๐๑๒๓

๓) นางสาวศุภรดา ปิ่นมูรา ทะเบียนเลขที่ ๖-๒๐๔-๙-๐๑๓๘

๒. ให้เพิ่มเจ้าหน้าที่ห้องปฏิบัติการวิเคราะห์เอกชน จำนวน ๑๒ ราย

๑) นางสาวฐานิดา กสินเชื้อ ทะเบียนเลขที่ ๖-๒๐๔-๙-๐๑๔๒

๒) นางสาวกัญญ์วิมล สายคำ ทะเบียนเลขที่ ๖-๒๐๔-๙-๐๑๔๓

๓) นางสาวณัฐนันทน์ กิตติวงค์ ทะเบียนเลขที่ ๖-๒๐๔-๙-๐๑๔๔

๔) นายธนากร วงษาคน ทะเบียนเลขที่ ๖-๒๐๔-๙-๐๑๔๕

๕) นายฤทธิพล ปัญญาวัฒน์ ทะเบียนเลขที่ ๖-๒๐๔-๙-๐๑๔๖

๖) นายณัฐกร หาราชา ทะเบียนเลขที่ ๖-๒๐๔-๙-๐๑๔๗

๗) นายวิรัตน์ ผ่องใสสวน ทะเบียนเลขที่ ๖-๒๐๔-๙-๐๑๔๘

๘) นายณัฐพงศ์ โสภา ทะเบียนเลขที่ ๖-๒๐๔-๙-๐๑๔๙

๙) นายดิเรกพร ปานเพ็ง ทะเบียนเลขที่ ๖-๒๐๔-๙-๐๑๕๐

๑๐) นายณัฐพล ชุ่มชื่น ทะเบียนเลขที่ ๖-๒๐๔-๙-๐๑๕๑

๑๑) นายธนา สุภาพบุรินทร์ ทะเบียนเลขที่ ๖-๒๐๔-๙-๐๑๕๒

๑๒) นายณรรณ นันทวงษ์ชา ทะเบียนเลขที่ ๖-๒๐๔-๙-๐๑๕๓

อนึ่ง หนังสือฉบับนี้

(๕๒) นายพชรกร...

(๕๒) นายพรกร เจ็งเจริญ  
(๕๓) นายวิภากร เขื่อนมาก  
(๕๔) นายอนุรักษ์ ทองขจรศักดิ์  
(๕๕) นายอภิชาติ วิลาศ  
(๕๖) นายจรัสศรี ศรีรักษา  
(๕๗) นายประสานมิตร เขื่อนเพชร  
(๕๘) นายภาณุวัฒน์ วัชร  
(๖๐) นายสันติ ชัยชนะ  
(๖๑) นายทินกร กุลชาติ

ทะเบียนเลขที่ ว-๑๒๓-จ-๐๐๕๔  
ทะเบียนเลขที่ ว-๑๒๓-จ-๐๐๕๕  
ทะเบียนเลขที่ ว-๑๒๓-จ-๐๐๕๖  
ทะเบียนเลขที่ ว-๑๒๓-จ-๐๐๕๗  
ทะเบียนเลขที่ ว-๑๒๓-จ-๐๐๕๘  
ทะเบียนเลขที่ ว-๑๒๓-จ-๐๐๕๙  
ทะเบียนเลขที่ ว-๑๒๓-จ-๐๐๖๐  
ทะเบียนเลขที่ ว-๑๒๓-จ-๐๐๖๑  
ทะเบียนเลขที่ ว-๑๒๓-จ-๐๐๖๒

ค. ขอบข่ายชนิดสารมลพิษที่ได้รับขึ้นทะเบียนให้วิเคราะห์ในน้ำเสีย น้ำใต้ดิน อากาศเสีย ตามสิ่งที่ส่งมาด้วย

หนังสือฉบับนี้จะหมดอายุในวันที่ ๒๘ มิถุนายน ๒๕๖๓ หากประสงค์จะต่ออายุหนังสือ รับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน ให้ยื่นคำขอต่ออายุพร้อมเอกสารประกอบคำขอต่อกรมโรงงานอุตสาหกรรมภายใน ๖๐ วัน ก่อนวันสิ้นอายุของหนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน

จึงเรียนมาเพื่อทราบ

ขอแสดงความนับถือ

  
(นายพรศ กัณกรอง)  
รองเลขาธิการ  
สำนักงานโรงงานอุตสาหกรรม

ศูนย์วิจัยและเคอีนกัมลพิษโรงงานภาคตะวันออก  
โทร. ๐ ๓๓๓๓ ๖๐๕๙ ต่อ ๕๐๐๑-๒  
ไปรษณีย์อิเล็กทรอนิกส์ [eww@dw.mae.go.th](mailto:eww@dw.mae.go.th)



"อุตสาหกรรมก้าวไกล ประเทศไทยก้าวหน้า ร่วมกันพัฒนา อุตสาหกรรมสีเขียว"



เอกสารแนบท้ายหนังสือเปลี่ยนแปลงสารมลพิษของห้องปฏิบัติการวิเคราะห์เอกชน  
บริษัท เอแอลเอส แลบลอจิสติกส์ จำกัด เลขทะเบียน ว-๑๒๓  
ที่ กก ๐๓๒๐/ ๗๕๓๘ ลงวันที่ ๐๔ สิงหาคม ๒๕๖๗

ขอขยายสารมลพิษที่ได้รับขึ้นทะเบียนจากกรมโรงงานอุตสาหกรรม จำนวน ๒๔ รายการ  
น้ำเสีย จำนวน 14 รายการ

ลำดับ ที่	สารมลพิษ	วิธีวิเคราะห์
1	Biochemical Oxygen Demand	1) 5-Day BOD Test, Membrane Electrode Method <sup>[2]</sup> 2) 5-Day BOD Test, Azide Modification Method <sup>[2]</sup>
2	Chemical Oxygen Demand	1) Open Reflux, Titrimetric Method <sup>[2]</sup> 2) Closed Reflux, Colorimetric Method <sup>[2]</sup> 3) Closed Reflux, Titrimetric Method <sup>[2]</sup>
3	Color	ADMI Weighted-Ordinate Spectrophotometric Method <sup>[2]</sup>
4	Cyanide	Distillation, Colorimetric Method <sup>[2]</sup>
5	Formaldehyde	Distillation, Colorimetric Method <sup>[1]</sup>
6	Free Chlorine	DPD Ferrous Titrimetric Method <sup>[2]</sup>
7	Oil and Grease	Liquid-Liquid, Partition-Gravimetric Method <sup>[2]</sup>
8	pH	Electrometric Method <sup>[2]</sup>
9	Phenols	1) Distillation, Chloroform Extraction Method <sup>[2]</sup> 2) Distillation, Direct Photometric Method <sup>[2]</sup>
10	Sulfide	ZnS Precipitation, Iodometric Method <sup>[2]</sup>
11	Temperature	Field Method <sup>[2]</sup>
12	Total Dissolved Solids	Dried at 180 °C <sup>[2]</sup>
13	Total Kjeldahl Nitrogen	Semi-Macro Kjeldahl Method <sup>[2]</sup>
14	Total Suspended Solids	Dried at 103-105 °C <sup>[2]</sup>

น้ำใต้ดิน จำนวน 3 รายการ

ลำดับ ที่	สารมลพิษ	วิธีวิเคราะห์
1	Cyanide	Distillation, Colorimetric Method <sup>[2]</sup>
2	pH	Electrometric Method <sup>[2]</sup>
3	Phenols	Distillation, Direct Photometric Method <sup>[2]</sup>

อากาศเสีย...

อากาศเสีย (ปล่อยระบาย) จำนวน 7 รายการ

ลำดับ ที่	สารมลพิษ	วิธีวิเคราะห์
1	Carbon Monoxide	1) Sampling Bag, Non-Dispersive Infrared Method <sup>[3]</sup> 2) Instrumental Analyzer Method <sup>[2]</sup>
2	Hydrogen Sulfide	Absorption Sampling, Iodometric Method <sup>[2]</sup>
3	Opacity	Ringelmann's Method <sup>[4]</sup>
4	Oxide of Nitrogen	1) Absorption Sampling, Phenoldisulfonic Acid Method <sup>[4]</sup> 2) Instrumental Analyzer Method <sup>[10]</sup>
5	Sulfur Dioxide	1) Absorption Sampling, Barium-Thorin Titrimetric Acid Method <sup>[9]</sup> 2) Instrumental Analyzer Method <sup>[11]</sup>
6	Sulfuric Acid	Isokinetic Sampling, Barium-Titrimetric Method <sup>[6]</sup>
7	Total Suspended Particulate	Isokinetic Sampling, Gravimetric Method <sup>[7]</sup>

เอกสารอ้างอิง

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10. United States Environmental Protection Agency. Determination of Oxide of Nitrogen Emission from Stationary Sources; Instrumental Analyzer Procedure. 40 CFR 60, Appendix A Method 7E, 2023.
11. United States Environmental Protection Agency. Determination of Sulfur dioxide Emission from Stationary Sources; Instrumental Analyzer Procedure. 40 CFR 60, Appendix A Method 6C, 2017.



๐๙ ตุลาคม ๒๕๖๗

เรื่อง แก้ไขรายชื่อเจ้าหน้าที่ห้องปฏิบัติการวิเคราะห์เอกชน

เรียน กรรมการผู้จัดการ บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด

อ้างถึง หนังสือ บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด เลขที่ Env.2024/005  
ลงวันที่ ๓๐ สิงหาคม ๒๕๖๗

ตามหนังสือที่อ้างถึง บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด ห้องปฏิบัติการ  
วิเคราะห์เอกชน เลขทะเบียน ว-๓๒๓ สถานที่ตั้งเลขที่ ๖๑๖/๑๐ หมู่ที่ ๕ ตำบลแม่ไม้กู่ อำเภอปลวกแดง  
จังหวัดระยอง ขอแก้ไขชื่อเจ้าหน้าที่ห้องปฏิบัติการวิเคราะห์เอกชน เนื่องจากมีความคลาดเคลื่อน ความละเอียด  
แจ้งแล้ว นั้น

กรมโรงงานอุตสาหกรรม ได้รับทราบและดำเนินการแก้ไขรายชื่อเจ้าหน้าที่ห้องปฏิบัติการ  
วิเคราะห์เอกชน จำนวน ๕ ราย ตามที่แจ้งเรียบร้อยแล้ว เป็นดังนี้

- ลำดับที่ ๒๗ นางพจนา สีดา
- ลำดับที่ ๒๘ นางสาวธนิศา กุลสุริวงศ์
- ลำดับที่ ๓๐ นางชลธิชา สิบงกช
- ลำดับที่ ๓๖ นายสุทธิศักดิ์ โชคปิตินันท์
- ลำดับที่ ๔๒ นายกันตภณ มณีสัมพันธ์

จึงเรียนมาเพื่อทราบ

ขอแสดงความนับถือ

  
(นายพรยศ กลิ่นกรอง)  
รองอธิบดี ปฏิบัติราชการแทน  
อธิบดีกรมโรงงานอุตสาหกรรม

ศูนย์วิจัยและเตือนภัยมลพิษโรงงานภาคตะวันออก  
โทร. ๐ ๓๓๓๓ ๖๐๕๔ ต่อ ๕๐๐๑-๒  
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ติดต่อเรา

