

ภาคผนวก ค

ใบรับรองผลการตรวจวิเคราะห์

ภาคผนวก ค.1

ผลการตรวจสอบความถูกต้องของ CEMS ประจำปี พ.ศ. 2565



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chachoengsao Thailand 24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 2214525
Date Received : May 27, 2022
Date Reported : Jun 22, 2022
Report Number : 2220839-1

Page 1 of 2

Sample Number : 2214525-1
Sampled Date : May 27, 2022
Sample Description : Emission from Stationary Source
Location : ปลาย HRSG 11
Parameter : NOx

Relative Accuracy Test Audit Report

Run No.	Date	Time		Raw Data at Actual O2		Corrected Value at 7% O2		Difference
		Start	Stop	CEMs (ppm)	RM (ppm)	CEMs (ppm)	RM (ppm)	
1	27 May 22	10:00	10:20	13.48	13.18	29.61	27.52	-2.09
2	27 May 22	10:21	10:41	13.29	13.15	29.15	27.38	-1.77
3	27 May 22	10:42	11:02	13.59	12.96	29.86	27.03	-2.82
4	27 May 22	11:03	11:23	13.18	12.55	28.94	26.17	-2.77
5	27 May 22	11:24	11:44	13.00	12.27	28.53	25.59	-2.95
6	27 May 22	11:45	12:05	13.03	12.24	28.63	25.54	-3.09
7*	27 May 22	12:06	12:26	13.13	12.15	28.99	25.44	-3.55
8	27 May 22	12:27	12:47	13.09	12.36	28.76	25.85	-2.92
9*	27 May 22	12:48	13:08	13.16	12.31	28.81	25.63	-3.18
10*	27 May 22	13:09	13:29	13.08	12.23	28.67	25.48	-3.19
11	27 May 22	13:30	13:50	13.00	12.22	28.50	25.47	-3.03
12	27 May 22	13:51	14:11	12.46	11.74	27.13	24.40	-2.73
Average						28.79	26.10	-2.69
Confidence Coefficient (CC)								0.35
Relative Accuracy (Compared with Emission Standard : 60 ppm) (%)								5.06
Relative Accuracy Criteria ^{1/} (Compared with Emission Standard)								≤ 10%

Reference Method : US EPA Method 7E

Remark: * Sample with * is a rejected data

^{1/} Relative Accuracy Criteria of NOx is refer to 40 CFR Part 60 Appendix B : Performance Specification Test 2 (PS-2) compared with Emission Standard 60 ppm at 7%O2

RA Result is within Criteria

Technical Management

Wichan Choonharat

Manager
โทรศัพท์ 204-4-6113

Approved by

Sarayuth Jitranont

Assistant General Manager
โทรศัพท์ 204-4-4702

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. Part of the ALS Group

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/EMAIL

S:\Reports\Stock_CEMs1.rpt



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chachoengsao Thailand 24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 2214525
Date Received : May 27, 2022
Date Reported : Jun 22, 2022
Report Number : 2220839-1

Page 2 of 2

Sample Number : 2214525-1
Sampled Date : May 27, 2022
Sample Description : Emission from Stationary Source
Location : ปลาย HRSG 11
Parameter : O2

Relative Accuracy Test Audit Report

Run No.	Date	Time		Raw Data at Actual		Difference
		Start	Stop	CEMs (%)	RM (%)	
1	27 May 22	10:00	10:20	14.57	14.25	-0.33
2*	27 May 22	10:21	10:41	14.56	14.23	-0.34
3*	27 May 22	10:42	11:02	14.57	14.23	-0.34
4	27 May 22	11:03	11:23	14.57	14.24	-0.33
5	27 May 22	11:24	11:44	14.56	14.24	-0.33
6	27 May 22	11:45	12:05	14.57	14.24	-0.33
7*	27 May 22	12:06	12:26	14.60	14.26	-0.34
8	27 May 22	12:27	12:47	14.58	14.25	-0.32
9	27 May 22	12:48	13:08	14.55	14.22	-0.33
10	27 May 22	13:09	13:29	14.56	14.23	-0.33
11	27 May 22	13:30	13:50	14.56	14.23	-0.32
12	27 May 22	13:51	14:11	14.52	14.21	-0.31
Average				14.56	14.23	-0.33
Confidence Coefficient (CC)						-
Relative Accuracy (Compared in Actual) (%)						0.33
Relative Accuracy Criteria ^{1/} (%)						≤ 1%

Reference Method : US EPA Method 3A

Remark: * Sample with * is a rejected data

^{1/} Relative Accuracy Criteria of O2 is refer to 40 CFR Part 60 Appendix B : Performance Specification Test 3 (PS-3)

RA Result is within Criteria

Sampled By : Anurat Mounpair

Technical Management

Wichan Choonharat

Manager
โทรศัพท์ 204-4-6113

Approved by

Sarayuth Jitranont

Assistant General Manager
โทรศัพท์ 204-4-4702

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. Part of the ALS Group

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/EMAIL

S:\Reports\Stock_CEMs1.rpt



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chachoengsao Thailand 24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 2214526
Date Received : May 27, 2022
Date Reported : Jun 22, 2022
Report Number : 2220840-1

Page 1 of 2

Sample Number : 2214526-1
Sampled Date : May 26, 2022
Sample Description : Emission from Stationary Source
Location : ปล่อย HRSG 12
Parameter : NOx

Relative Accuracy Test Audit Report

Run No.	Date	Time		Raw Data at Actual O2		Corrected Value at 7% O2		Difference
		Start	Stop	CEMs (ppm)	RM (ppm)	CEMs (ppm)	RM (ppm)	
1	26 May 22	10:15	10:35	14.13	13.65	30.77	28.25	-2.53
2	26 May 22	10:36	10:56	14.50	13.85	31.51	28.55	-2.96
3	26 May 22	10:57	11:17	14.60	13.90	31.71	28.66	-3.06
4	26 May 22	11:18	11:38	14.51	13.90	31.52	28.65	-2.87
5	26 May 22	11:39	11:59	14.43	13.88	31.37	28.64	-2.73
6	26 May 22	12:00	12:20	14.61	14.30	31.93	29.61	-2.33
7*	26 May 22	12:21	12:41	16.70	15.32	36.37	31.66	-4.71
8*	26 May 22	12:42	13:02	20.64	19.93	44.99	41.18	-3.81
9	26 May 22	13:03	13:23	19.49	20.31	42.55	41.91	-0.63
10	26 May 22	13:24	13:44	14.38	15.01	31.39	30.96	-0.43
11*	26 May 22	13:45	14:05	14.99	13.89	32.84	28.76	-4.08
12	26 May 22	14:06	14:26	14.75	14.42	32.32	29.92	-2.40
Average						32.79	30.57	-2.22
Confidence Coefficient (CC)								0.76
Relative Accuracy (Compared with Emission Standard : 60 ppm) (%)								4.96
Relative Accuracy Criteria ^{1/} (Compared with Emission Standard)								≤ 10%

Reference Method : US EPA Method 7E

Remark : * Sample with * is a rejected data

^{1/} Relative Accuracy Criteria of NOx is refer to 40 CFR Part 60 Appendix B : Performance Specification Test 2 (PS-2) compared with Emission Standard 60 ppm at 7%O2

RA Result is within Criteria

Technical Management

Wichan Choonharat
Manager
ทะเบียนเลขที่ ว-204-ก-6113

Approved by

Sarayuth Jittrant
Assistant General Manager
ทะเบียนเลขที่ ว-204-ก-4702

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. Part of the ALS Group

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports\Stack_CEMS\I.rpt



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chachoengsao Thailand 24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 2214526
Date Received : May 27, 2022
Date Reported : Jun 22, 2022
Report Number : 2220840-1

Page 2 of 2

Sample Number : 2214526-1
Sampled Date : May 26, 2022
Sample Description : Emission from Stationary Source
Location : ปล่อย HRSG 12
Parameter : O2

Relative Accuracy Test Audit Report

Run No.	Date	Time		Raw Data at Actual		Difference
		Start	Stop	CEMs (%)	RM (%)	
1	26 May 22	10:15	10:35	14.52	14.19	-0.33
2	26 May 22	10:36	10:56	14.50	14.16	-0.34
3	26 May 22	10:57	11:17	14.50	14.16	-0.34
4	26 May 22	11:18	11:38	14.50	14.15	-0.35
5	26 May 22	11:39	11:59	14.51	14.17	-0.34
6	26 May 22	12:00	12:20	14.54	14.19	-0.36
7	26 May 22	12:21	12:41	14.52	14.17	-0.34
8	26 May 22	12:42	13:02	14.52	14.17	-0.35
9*	26 May 22	13:03	13:23	14.53	14.17	-0.37
10*	26 May 22	13:24	13:44	14.53	14.16	-0.37
11*	26 May 22	13:45	14:05	14.56	14.18	-0.37
12	26 May 22	14:06	14:26	14.56	14.20	-0.36
Average				14.52	14.17	-0.35
Confidence Coefficient (CC)						-
Relative Accuracy (Compared in Actual) (%)						0.35
Relative Accuracy Criteria ^{1/} (%)						≤ 1%

Reference Method : US EPA Method 3A

Remark : * Sample with * is a rejected data

^{1/} Relative Accuracy Criteria of O2 is refer to 40 CFR Part 60 Appendix B : Performance Specification Test 3 (PS-3)

RA Result is within Criteria

Sampled By : Anuvat Mungpair

Technical Management

Wichan Choonharat
Manager
ทะเบียนเลขที่ ว-204-ก-6113

Approved by

Sarayuth Jittrant
Assistant General Manager
ทะเบียนเลขที่ ว-204-ก-4702

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. Part of the ALS Group

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports\Stack_CEMS\I.rpt

ภาคผนวก ค.2

คุณภาพอากาศในบรรยากาศ



Analysis / Test Report



TESTING
No.0009

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand
24000

P/O : สัตถยาพร 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294951

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2393240-1

Page 1 of 1

Sample Description Air Quality
Location บ้านนาบึง (GPS 47P 0714336, 1518888)
Date Analysis Commenced Oct 01, 2022
Condition of Sample Drawn into one quartz filter paper (8x10 inch) placed in plastic bag and one glass 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)
2294951-22	Sep 22 - Sep 23, 2022	0.022	0.019	755	31
2294951-23	Sep 23 - Sep 24, 2022	0.031	0.024	755	29
2294951-24	Sep 24 - Sep 25, 2022	0.029	0.022	755	29
2294951-25	Sep 25 - Sep 26, 2022	0.023	0.017	755	29
2294951-26	Sep 26 - Sep 27, 2022	0.022	0.015	755	28
2294951-27	Sep 27 - Sep 28, 2022	0.024	0.018	755	30
2294951-28	Sep 28 - Sep 29, 2022	0.028	0.021	755	30
Guideline		0.33	0.12	-	-

Reference Method

Total Suspended Particulate : US EPA 40 CFR Part 50 Appendix B

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

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

Sampled By : Teeravut Sukdee

Remark :

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

Approved by

Saranya C.

Saranya Chalermthamrong
Scientist (4)

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22 / EMAIL

S:\Reports_Air Ambient7Days.rpt (10:21AM)



Analysis / Test Report



TESTING
No.0009

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand
24000

P/O : สัตถยาพร 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294951

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458520-1

Page 1 of 1

Sample Description Air Quality
Location บ้านคลองคาง (GPS 47P 0721913, 1520772)
Date Analysis Commenced Oct 01, 2022
Condition of Sample Drawn into one quartz filter paper (8x10 inch) placed in plastic bag and one glass 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)
2294951-1	Sep 22 - Sep 23, 2022	0.022	0.011	755	31
2294951-2	Sep 23 - Sep 24, 2022	0.027	0.019	755	30
2294951-3	Sep 24 - Sep 25, 2022	0.025	0.015	755	30
2294951-4	Sep 25 - Sep 26, 2022	0.020	0.012	755	29
2294951-5	Sep 26 - Sep 27, 2022	0.018	0.012	755	28
2294951-6	Sep 27 - Sep 28, 2022	0.025	0.017	755	30
2294951-7	Sep 28 - Sep 29, 2022	0.020	0.012	755	30
Guideline		0.33	0.12	-	-

Reference Method

Total Suspended Particulate : US EPA 40 CFR Part 50 Appendix B

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

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

Sampled By : Teeravut Sukdee

Remark :

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

Approved by

Saranya C.

Saranya Chalermthamrong
Scientist (4)

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22 / EMAIL

S:\Reports_Air Ambient7Days.rpt (10:21AM)



Analysis / Test Report



TESTING
No.0009

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294951

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458523-1

Page 1 of 1

Sample Description Air Quality
Location บ้านท่าเรือ (GPS 47P 0721473, 1518740)
Date Analysis Commenced Oct 01, 2022
Condition of Sample Drawn into one quartz filter paper (8x10 inch) placed in plastic bag and one glass 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)
2294951-8	Sep 22 - Sep 23, 2022	0.023	0.015	755	31
2294951-9	Sep 23 - Sep 24, 2022	0.031	0.022	755	30
2294951-10	Sep 24 - Sep 25, 2022	0.027	0.018	755	30
2294951-11	Sep 25 - Sep 26, 2022	0.022	0.016	755	29
2294951-12	Sep 26 - Sep 27, 2022	0.021	0.016	755	28
2294951-13	Sep 27 - Sep 28, 2022	0.034	0.023	755	30
2294951-14	Sep 28 - Sep 29, 2022	0.023	0.016	755	30
Guideline		0.33	0.12	-	-

Reference Method

Total Suspended Particulate : US EPA 40 CFR Part 50 Appendix B

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

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

Sampled By : Teeravut Sukdee

Remark :

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

Approved by

Saranya C.

Saranya Chalermthamrong
Scientist (4)

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22 / EMAIL

S:\Reports\Air Ambient7Days.rpt (10:21AM)



Analysis / Test Report



TESTING
No.0009

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294951

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458529-1

Page 1 of 1

Sample Description Air Quality
Location บ้านคลองลาว (GPS 47P 0713923, 1517012)
Date Analysis Commenced Oct 01, 2022
Condition of Sample Drawn into one quartz filter paper (8x10 inch) placed in plastic bag and one glass 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)
2294951-15	Sep 22 - Sep 23, 2022	0.079	0.028	755	31
2294951-16	Sep 23 - Sep 24, 2022	0.060	0.030	755	30
2294951-17	Sep 24 - Sep 25, 2022	0.056	0.024	755	30
2294951-18	Sep 25 - Sep 26, 2022	0.037	0.020	755	29
2294951-19	Sep 26 - Sep 27, 2022	0.052	0.034	755	28
2294951-20	Sep 27 - Sep 28, 2022	0.109	0.067	755	30
2294951-21	Sep 28 - Sep 29, 2022	0.133	0.052	755	30
Guideline		0.33	0.12	-	-

Reference Method

Total Suspended Particulate : US EPA 40 CFR Part 50 Appendix B

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

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

Sampled By : Teeravut Sukdee

Remark :

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

Approved by

Saranya C.

Saranya Chalermthamrong
Scientist (4)

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22 / EMAIL

S:\Reports\Air Ambient7Days.rpt (10:22AM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สภุมณณ์ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294943

Date Received : Sep 30, 2022

Date Reported : Oct 05, 2022

Report Number: 2393222-1

Page 1 of 1

Sample Description Air Quality

Location บ้านคลองกลาง (GPS 47P 0721913, 1520772)

Parameter Nitrogen dioxide (ppm)

Measurement Date Sep 22, 2022 - Sep 29, 2022

Measurement by Teeravut Sukdee

Time	2294943-1 Sep 22, 2022	2294943-2 Sep 23, 2022	2294943-3 Sep 24, 2022	2294943-4 Sep 25, 2022	2294943-5 Sep 26, 2022	2294943-6 Sep 27, 2022	2294943-7 Sep 28, 2022
01:00 PM - 02:00 PM	0.002	0.005	0.003	0.002	0.005	0.002	0.005
02:00 PM - 03:00 PM	0.001	0.002	0.002	0.002	0.004	0.004	0.005
03:00 PM - 04:00 PM	0.002	0.002	0.002	0.002	0.005	0.005	0.005
04:00 PM - 05:00 PM	0.002	0.004	0.003	0.002	0.004	0.008	0.004
05:00 PM - 06:00 PM	0.002	0.003	0.002	0.002	0.003	0.011	0.005
06:00 PM - 07:00 PM	0.002	0.005	0.003	0.002	0.003	0.007	0.007
07:00 PM - 08:00 PM	0.002	0.004	0.004	0.002	0.002	0.006	0.008
08:00 PM - 09:00 PM	0.002	0.003	0.004	0.004	0.002	0.006	0.011
09:00 PM - 10:00 PM	0.001	0.008	0.004	0.004	0.002	0.009	0.009
10:00 PM - 11:00 PM	0.002	0.012	0.007	0.003	0.002	0.018	0.003
11:00 PM - 12:00 AM	0.002	0.008	0.008	0.003	0.002	0.017	0.004
12:00 AM - 01:00 AM	0.002	0.007	0.007	0.004	0.003	0.015	0.002
01:00 AM - 02:00 AM	0.001	0.003	0.007	0.003	0.002	0.017	0.002
02:00 AM - 03:00 AM	0.002	0.004	0.006	0.001	0.002	0.015	0.002
03:00 AM - 04:00 AM	0.001	0.004	0.003	0.001	0.006	0.013	0.002
04:00 AM - 05:00 AM	0.002	0.004	0.002	0.002	0.008	0.012	0.002
05:00 AM - 06:00 AM	0.002	0.004	0.003	0.001	0.008	0.009	0.001
06:00 AM - 07:00 AM	0.001	0.004	0.003	<0.001	0.009	0.004	0.001
07:00 AM - 08:00 AM	<0.001	0.005	0.003	<0.001	0.006	0.004	0.002
08:00 AM - 09:00 AM	<0.001	0.005	0.003	<0.001	0.003	0.005	0.002
09:00 AM - 10:00 AM	0.004	0.006	0.002	<0.001	0.002	0.005	0.003
10:00 AM - 11:00 AM	0.002	0.005	0.003	0.002	0.002	0.004	0.002
11:00 AM - 12:00 PM	0.002	0.005	0.003	0.004	0.003	0.005	0.003
12:00 PM - 01:00 PM	0.002	0.005	0.003	0.004	0.002	0.005	0.004
Average	0.002	0.005	0.004	0.002	0.004	0.009	0.004
1hr - Maximum	0.004	0.012	0.008	0.004	0.009	0.018	0.011
Standard 1hr - Average	0.170	0.170	0.170	0.170	0.170	0.170	0.170

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

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

Approved by

Saranya C.

Saranya Chalermthamrong
Scientist (4)

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732/22/EMAIL

S:\Reports_Air SOxNOx.rpt (10:48AM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สภุมณณ์ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294943

Date Received : Sep 30, 2022

Date Reported : Oct 05, 2022

Report Number: 2454677-1

Page 1 of 1

Sample Description Air Quality

Location บ้านท่าไร่ (GPS 47P 0721473, 1518740)

Parameter Nitrogen dioxide (ppm)

Measurement Date Sep 22, 2022 - Sep 29, 2022

Measurement by Teeravut Sukdee

Time	2294943-8 Sep 22, 2022	2294943-9 Sep 23, 2022	2294943-10 Sep 24, 2022	2294943-11 Sep 25, 2022	2294943-12 Sep 26, 2022	2294943-13 Sep 27, 2022	2294943-14 Sep 28, 2022
12:00 PM - 01:00 PM	0.005	0.003	0.002	0.002	0.003	0.002	0.003
01:00 PM - 02:00 PM	0.004	0.002	0.002	0.002	0.003	0.003	0.003
02:00 PM - 03:00 PM	0.004	0.002	0.002	0.002	0.003	0.004	0.003
03:00 PM - 04:00 PM	0.004	0.004	0.002	0.002	0.003	0.006	0.004
04:00 PM - 05:00 PM	0.003	0.005	0.002	0.002	0.002	0.006	0.004
05:00 PM - 06:00 PM	0.003	0.004	0.003	0.002	0.002	0.006	0.004
06:00 PM - 07:00 PM	0.002	0.004	0.003	0.002	0.002	0.006	0.004
07:00 PM - 08:00 PM	0.003	0.004	0.003	0.002	0.001	0.005	0.005
08:00 PM - 09:00 PM	0.002	0.007	0.003	0.002	0.001	0.004	0.005
09:00 PM - 10:00 PM	0.003	0.007	0.003	0.002	0.002	0.005	0.003
10:00 PM - 11:00 PM	0.002	0.005	0.003	0.002	0.002	0.005	0.003
11:00 PM - 12:00 AM	0.002	0.004	0.003	0.002	0.002	0.005	0.002
12:00 AM - 01:00 AM	0.002	0.003	0.003	0.001	0.002	0.005	0.002
01:00 AM - 02:00 AM	0.002	0.003	0.002	0.001	0.002	0.004	0.002
02:00 AM - 03:00 AM	0.002	0.003	0.002	0.001	0.002	0.004	0.002
03:00 AM - 04:00 AM	0.003	0.003	0.002	<0.001	0.002	0.003	0.002
04:00 AM - 05:00 AM	0.002	0.004	0.003	<0.001	0.002	0.003	0.001
05:00 AM - 06:00 AM	0.002	0.003	0.002	0.001	0.002	0.003	0.001
06:00 AM - 07:00 AM	0.001	0.003	0.002	<0.001	0.002	0.003	0.002
07:00 AM - 08:00 AM	0.002	0.003	0.004	<0.001	0.002	0.004	0.003
08:00 AM - 09:00 AM	0.002	0.004	0.004	0.002	0.002	0.004	0.004
09:00 AM - 10:00 AM	0.002	0.004	0.004	0.003	0.002	0.005	0.004
10:00 AM - 11:00 AM	0.003	0.003	0.004	0.003	0.003	0.004	0.004
11:00 AM - 12:00 PM	0.003	0.003	0.003	0.003	0.002	0.004	0.005
Average	0.003	0.004	0.003	0.002	0.002	0.004	0.003
1hr - Maximum	0.005	0.007	0.004	0.003	0.003	0.006	0.005
Standard 1hr - Average	0.170	0.170	0.170	0.170	0.170	0.170	0.170

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

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

Approved by

Saranya C.

Saranya Chalermthamrong
Scientist (4)

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732/22/EMAIL

S:\Reports_Air SOxNOx.rpt (10:48AM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัตถกานนท์4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294943

Date Received : Sep 30, 2022

Date Reported : Oct 05, 2022

Report Number: 2454678-1

Page 1 of 1

Sample Description Air Quality

Location บ้านคลองจอก (GPS 47P 0713923, 1517012)

Parameter Nitrogen dioxide (ppm)

Measurement Date Sep 22, 2022 - Sep 29, 2022

Measurement by Teeravut Sukdee

Time	2294943-15 Sep 22, 2022	2294943-16 Sep 23, 2022	2294943-17 Sep 24, 2022	2294943-18 Sep 25, 2022	2294943-19 Sep 26, 2022	2294943-20 Sep 27, 2022	2294943-21 Sep 28, 2022
11:00 AM - 12:00 PM	0.006	0.005	0.007	0.004	0.006	0.006	0.007
12:00 PM - 01:00 PM	0.005	0.004	0.005	0.004	0.006	0.006	0.007
01:00 PM - 02:00 PM	0.006	0.005	0.005	0.005	0.006	0.006	0.006
02:00 PM - 03:00 PM	0.006	0.005	0.005	0.004	0.008	0.009	0.007
03:00 PM - 04:00 PM	0.006	0.008	0.003	0.005	0.009	0.011	0.009
04:00 PM - 05:00 PM	0.006	0.008	0.004	0.004	0.008	0.011	0.008
05:00 PM - 06:00 PM	0.009	0.007	0.006	0.006	0.008	0.015	0.012
06:00 PM - 07:00 PM	0.010	0.014	0.007	0.009	0.009	0.010	0.012
07:00 PM - 08:00 PM	0.005	0.017	0.007	0.009	0.009	0.009	0.008
08:00 PM - 09:00 PM	0.005	0.019	0.007	0.008	0.006	0.008	0.007
09:00 PM - 10:00 PM	0.008	0.020	0.007	0.006	0.006	0.012	0.006
10:00 PM - 11:00 PM	0.009	0.008	0.006	0.005	0.007	0.013	0.006
11:00 PM - 12:00 AM	0.003	0.007	0.005	0.004	0.006	0.014	0.004
12:00 AM - 01:00 AM	0.004	0.005	0.005	0.003	0.006	0.013	0.003
01:00 AM - 02:00 AM	0.004	0.005	0.006	0.003	0.005	0.011	0.004
02:00 AM - 03:00 AM	0.003	0.005	0.004	0.003	0.004	0.010	0.004
03:00 AM - 04:00 AM	0.003	0.005	0.005	0.003	0.004	0.008	0.003
04:00 AM - 05:00 AM	0.008	0.005	0.005	0.003	0.005	0.008	0.003
05:00 AM - 06:00 AM	0.007	0.005	0.004	0.003	0.006	0.008	0.002
06:00 AM - 07:00 AM	0.007	0.007	0.003	0.003	0.005	0.008	0.004
07:00 AM - 08:00 AM	0.010	0.009	0.003	0.003	0.006	0.008	0.007
08:00 AM - 09:00 AM	0.008	0.009	0.004	0.004	0.005	0.008	0.007
09:00 AM - 10:00 AM	0.007	0.008	0.004	0.005	0.005	0.008	0.007
10:00 AM - 11:00 AM	0.005	0.007	0.005	0.007	0.006	0.009	0.008
Average	0.006	0.008	0.005	0.005	0.006	0.010	0.006
1hr - Maximum	0.010	0.020	0.007	0.009	0.009	0.015	0.012
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)

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

Approved by

Saranya C.

Saranya Chalermthamrong
Scientist (4)

ADDRESS 104 Phatthanakan Rd., Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732/22/EMAIL

S:\Reports_Air SOxNOx.rpt (10:48AM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัตถกานนท์4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294943

Date Received : Sep 30, 2022

Date Reported : Oct 05, 2022

Report Number: 2454680-1

Page 1 of 1

Sample Description Air Quality

Location บ้านบางปลาหมึก (GPS 47P 0714336, 1518888)

Parameter Nitrogen dioxide (ppm)

Measurement Date Sep 22, 2022 - Sep 29, 2022

Measurement by Teeravut Sukdee

Time	2294943-22 Sep 22, 2022	2294943-23 Sep 23, 2022	2294943-24 Sep 24, 2022	2294943-25 Sep 25, 2022	2294943-26 Sep 26, 2022	2294943-27 Sep 27, 2022	2294943-28 Sep 28, 2022
10:00 AM - 11:00 AM	0.003	0.007	0.006	0.004	0.003	0.005	0.006
11:00 AM - 12:00 PM	0.005	0.004	0.004	0.005	0.005	0.004	0.005
12:00 PM - 01:00 PM	0.004	0.004	0.004	0.003	0.003	0.005	0.005
01:00 PM - 02:00 PM	0.004	0.004	0.004	0.003	0.004	0.006	0.005
02:00 PM - 03:00 PM	0.004	0.004	0.003	0.003	0.004	0.008	0.005
03:00 PM - 04:00 PM	0.004	0.006	0.003	0.003	0.006	0.011	0.006
04:00 PM - 05:00 PM	0.004	0.004	0.004	0.004	0.005	0.011	0.006
05:00 PM - 06:00 PM	0.007	0.004	0.004	0.004	0.007	0.010	0.008
06:00 PM - 07:00 PM	0.008	0.006	0.005	0.005	0.007	0.007	0.010
07:00 PM - 08:00 PM	0.009	0.010	0.005	0.007	0.006	0.008	0.010
08:00 PM - 09:00 PM	0.008	0.016	0.005	0.005	0.005	0.010	0.007
09:00 PM - 10:00 PM	0.007	0.012	0.005	0.005	0.004	0.012	0.006
10:00 PM - 11:00 PM	0.007	0.006	0.006	0.004	0.005	0.012	0.006
11:00 PM - 12:00 AM	0.008	0.005	0.006	0.004	0.006	0.012	0.004
12:00 AM - 01:00 AM	0.005	0.004	0.007	0.004	0.006	0.011	0.004
01:00 AM - 02:00 AM	0.009	0.004	0.006	0.004	0.005	0.010	0.004
02:00 AM - 03:00 AM	0.005	0.005	0.006	0.003	0.004	0.008	0.004
03:00 AM - 04:00 AM	0.009	0.005	0.006	0.002	0.004	0.008	0.003
04:00 AM - 05:00 AM	0.010	0.004	0.005	0.002	0.004	0.007	0.003
05:00 AM - 06:00 AM	0.009	0.005	0.004	0.002	0.005	0.007	0.002
06:00 AM - 07:00 AM	0.009	0.004	0.004	0.002	0.005	0.007	0.004
07:00 AM - 08:00 AM	0.010	0.008	0.003	0.003	0.005	0.007	0.005
08:00 AM - 09:00 AM	0.013	0.008	0.003	0.003	0.005	0.007	0.006
09:00 AM - 10:00 AM	0.012	0.007	0.002	0.003	0.005	0.007	0.007
Average	0.007	0.006	0.005	0.004	0.005	0.008	0.005
1hr - Maximum	0.013	0.016	0.007	0.007	0.007	0.012	0.010
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)

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

Approved by

Saranya C.

Saranya Chalermthamrong
Scientist (4)

ADDRESS 104 Phatthanakan Rd., Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732/22/EMAIL

S:\Reports_Air SOxNOx.rpt (10:48AM)



Analysis / Test Report

Client : Gulf JP NNN Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungso Thailand
24000

P/O : สกฤดาพร 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294948

Date Received : Sep 30, 2022

Date Reported : Oct 05, 2022

Report Number: 2393229-1

Page 1 of 1

Sample Description Air Quality

Location บ้านคลองนาง (GPS 47P 0721913, 1520772)

Parameter Sulfur Dioxide (ppm)

Measurement Date Sep 22, 2022 - Sep 29, 2022

Measurement by Teeravut Sukdee

Time	2294948-1 Sep 22, 2022	2294948-2 Sep 23, 2022	2294948-3 Sep 24, 2022	2294948-4 Sep 25, 2022	2294948-5 Sep 26, 2022	2294948-6 Sep 27, 2022	2294948-7 Sep 28, 2022
01:00 PM - 02:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
02:00 PM - 03:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
03:00 PM - 04:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
04:00 PM - 05:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
05:00 PM - 06:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
06:00 PM - 07:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
07:00 PM - 08:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
08:00 PM - 09:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
09:00 PM - 10:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
10:00 PM - 11:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
11:00 PM - 12:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
12:00 AM - 01:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
01:00 AM - 02:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
02:00 AM - 03:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
03:00 AM - 04:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
04:00 AM - 05:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
05:00 AM - 06:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
06:00 AM - 07:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
07:00 AM - 08:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
08:00 AM - 09:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
09:00 AM - 10:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
10:00 AM - 11:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
11:00 AM - 12:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
12:00 PM - 01:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Average	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1hr - Maximum	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Standard 1hr - Average	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Standard 24 hrs - Average	0.12	0.12	0.12	0.12	0.12	0.12	0.12

Standard : Notification of the National Environment Board No.10, 1995 (B.E.2538), No. 21, 2001 (B.E.2544) and No.24, 2004 (B.E.2547).

Reference Method : US EPA Method Part 53 and 58

Approved by

Saranya C.

Saranya Chalerthamrong
Scientist (4)

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732/22/ EML

S:\Reports_Air SOxNOx.rpt (10:51AM)



Analysis / Test Report

Client : Gulf JP NNN Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungso Thailand
24000

P/O : สกฤดาพร 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294948

Date Received : Sep 30, 2022

Date Reported : Oct 05, 2022

Report Number: 2454682-1

Page 1 of 1

Sample Description Air Quality

Location บ้านท่าเรือ (GPS 47P 0721473, 1518740)

Parameter Sulfur Dioxide (ppm)

Measurement Date Sep 22, 2022 - Sep 29, 2022

Measurement by Teeravut Sukdee

Time	2294948-8 Sep 22, 2022	2294948-9 Sep 23, 2022	2294948-10 Sep 24, 2022	2294948-11 Sep 25, 2022	2294948-12 Sep 26, 2022	2294948-13 Sep 27, 2022	2294948-14 Sep 28, 2022
12:00 PM - 01:00 PM	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
01:00 PM - 02:00 PM	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
02:00 PM - 03:00 PM	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
03:00 PM - 04:00 PM	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
04:00 PM - 05:00 PM	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
05:00 PM - 06:00 PM	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
06:00 PM - 07:00 PM	0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
07:00 PM - 08:00 PM	0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
08:00 PM - 09:00 PM	0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
09:00 PM - 10:00 PM	0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
10:00 PM - 11:00 PM	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
11:00 PM - 12:00 AM	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
12:00 AM - 01:00 AM	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
01:00 AM - 02:00 AM	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
02:00 AM - 03:00 AM	0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
03:00 AM - 04:00 AM	0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
04:00 AM - 05:00 AM	0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
05:00 AM - 06:00 AM	0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
06:00 AM - 07:00 AM	0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
07:00 AM - 08:00 AM	0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
08:00 AM - 09:00 AM	0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
09:00 AM - 10:00 AM	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
10:00 AM - 11:00 AM	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
11:00 AM - 12:00 PM	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Average	0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
1hr - Maximum	0.002	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
Standard 1hr - Average	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Standard 24 hrs - Average	0.12	0.12	0.12	0.12	0.12	0.12	0.12

Standard : Notification of the National Environment Board No.10, 1995 (B.E.2538), No. 21, 2001 (B.E.2544) and No.24, 2004 (B.E.2547).

Reference Method : US EPA Method Part 53 and 58

Approved by

Saranya C.

Saranya Chalerthamrong
Scientist (4)

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732/22/ EML

S:\Reports_Air SOxNOx.rpt (10:51AM)



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand
24000

P/O : สัญญาเลขที่4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294948

Date Received : Sep 30, 2022

Date Reported : Oct 05, 2022

Report Number: 2454683-1

Page 1 of 1

Sample Description	Air Quality						
Location	บ้านคลองกร (GPS 47P 0713923, 1517012)						
Parameter	Sulfur Dioxide (ppm)						
Measurement Date	Sep 22, 2022 - Sep 29, 2022						
Measurement by	Teeravut Sukdee						
	2294948-15	2294948-16	2294948-17	2294948-18	2294948-19	2294948-20	2294948-21
Time	Sep 22, 2022	Sep 23, 2022	Sep 24, 2022	Sep 25, 2022	Sep 26, 2022	Sep 27, 2022	Sep 28, 2022
11:00 AM - 12:00 PM	0.001	0.001	0.001	0.001	0.001	0.001	0.001
12:00 PM - 01:00 PM	0.001	0.001	0.001	0.001	0.001	0.001	0.001
01:00 PM - 02:00 PM	0.001	0.001	0.001	0.001	0.001	0.001	0.001
02:00 PM - 03:00 PM	0.001	0.001	0.001	0.001	0.001	0.001	0.001
03:00 PM - 04:00 PM	0.001	0.001	0.001	0.001	0.001	0.001	0.001
04:00 PM - 05:00 PM	0.001	0.001	0.001	0.001	0.001	0.001	0.001
05:00 PM - 06:00 PM	0.001	0.001	0.001	0.001	0.001	0.001	0.001
06:00 PM - 07:00 PM	0.001	0.001	0.001	0.001	0.001	0.001	0.001
07:00 PM - 08:00 PM	0.001	0.001	0.001	0.001	0.001	0.001	0.001
08:00 PM - 09:00 PM	0.001	0.001	0.001	0.001	0.001	0.001	0.001
09:00 PM - 10:00 PM	0.001	0.001	0.001	0.001	0.001	0.001	0.001
10:00 PM - 11:00 PM	0.001	0.001	0.001	0.001	0.001	0.001	0.001
11:00 PM - 12:00 AM	0.001	0.001	0.001	0.001	0.001	0.001	0.001
12:00 AM - 01:00 AM	0.001	0.001	0.001	0.001	0.001	0.001	0.001
01:00 AM - 02:00 AM	0.001	0.001	0.001	0.001	0.001	0.001	0.001
02:00 AM - 03:00 AM	0.001	0.001	0.001	0.001	0.001	0.001	0.001
03:00 AM - 04:00 AM	0.001	0.001	0.001	0.001	0.001	0.001	0.001
04:00 AM - 05:00 AM	0.001	0.001	0.001	0.001	0.001	0.001	0.001
05:00 AM - 06:00 AM	0.001	0.001	0.001	0.001	0.001	0.001	0.001
06:00 AM - 07:00 AM	0.001	0.001	0.001	0.001	0.001	0.001	0.001
07:00 AM - 08:00 AM	0.001	0.001	0.001	0.001	0.001	0.001	0.001
08:00 AM - 09:00 AM	0.001	0.001	0.001	0.001	0.001	0.001	0.001
09:00 AM - 10:00 AM	0.001	0.001	0.001	0.001	0.001	0.001	0.001
10:00 AM - 11:00 AM	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Average	0.001	0.001	0.001	0.001	0.001	0.001	0.001
1hr - Maximum	0.001	0.001	0.001	0.001	0.001	0.001	0.001
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

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

Approved by

Saranya C.

Saranya Chalermthamrong
Scientist (4)

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732/22/EMAIL

S:\Reports_Air SOxNOx.rpt (10:51AM)



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand
24000

P/O : สัญญาเลขที่4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294948

Date Received : Sep 30, 2022

Date Reported : Oct 05, 2022

Report Number: 2454684-1

Page 1 of 1

Sample Description	Air Quality						
Location	บ้านบางปลาหมึก (GPS 47P 0714336, 1518888)						
Parameter	Sulfur Dioxide (ppm)						
Measurement Date	Sep 22, 2022 - Sep 29, 2022						
Measurement by	Teeravut Sukdee						
	2294948-22	2294948-23	2294948-24	2294948-25	2294948-26	2294948-27	2294948-28
Time	Sep 22, 2022	Sep 23, 2022	Sep 24, 2022	Sep 25, 2022	Sep 26, 2022	Sep 27, 2022	Sep 28, 2022
10:00 AM - 11:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
11:00 AM - 12:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
12:00 PM - 01:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
01:00 PM - 02:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
02:00 PM - 03:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
03:00 PM - 04:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001
04:00 PM - 05:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001
05:00 PM - 06:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001
06:00 PM - 07:00 PM	<0.001	<0.001	<0.001	<0.001	0.001	0.001	<0.001
07:00 PM - 08:00 PM	<0.001	<0.001	<0.001	<0.001	0.001	0.001	<0.001
08:00 PM - 09:00 PM	<0.001	<0.001	<0.001	<0.001	0.001	0.001	0.001
09:00 PM - 10:00 PM	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.001
10:00 PM - 11:00 PM	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001
11:00 PM - 12:00 AM	<0.001	<0.001	<0.001	0.001	<0.001	0.001	0.001
12:00 AM - 01:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.002
01:00 AM - 02:00 AM	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.002
02:00 AM - 03:00 AM	0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.002
03:00 AM - 04:00 AM	0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.002
04:00 AM - 05:00 AM	0.001	0.002	<0.001	<0.001	0.001	<0.001	0.001
05:00 AM - 06:00 AM	0.001	0.002	<0.001	<0.001	0.001	<0.001	<0.001
06:00 AM - 07:00 AM	<0.001	0.002	<0.001	<0.001	<0.001	0.001	0.001
07:00 AM - 08:00 AM	<0.001	0.002	<0.001	<0.001	<0.001	0.001	0.001
08:00 AM - 09:00 AM	<0.001	0.002	<0.001	<0.001	<0.001	0.001	0.001
09:00 AM - 10:00 AM	<0.001	0.002	<0.001	<0.001	<0.001	0.001	0.002
Average	<0.001	0.001	<0.001	<0.001	<0.001	0.001	0.001
1hr - Maximum	0.001	0.002	<0.001	0.001	0.001	0.001	0.002
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

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

Approved by

Saranya C.

Saranya Chalermthamrong
Scientist (4)

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732/22/EMAIL

S:\Reports_Air SOxNOx.rpt (10:52AM)



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID : 2294955
Date Received : Sep 30, 2022
Date Reported : Oct 07, 2022
Report Number : 2393244-1

Page 1 of 2

Sample Number : 2294955-1 to 7
Parameter : Wind Speed / Wind Direction
Location : พื้นที่โครงการ (GPS 47P 0718066, 1519266)
Sampling Date : Sep 22 - Sep 29, 2022
Sampling by : Teeravut Sukdee

Time	Sep 22 - Sep 23, 2022			Sep 23 - Sep 24, 2022			Sep 24 - Sep 25, 2022			Sep 25 - Sep 26, 2022			Sep 26 - Sep 27, 2022			Sep 27 - Sep 28, 2022			Sep 28 - Sep 29, 2022		
	WS (m/s)	WD (deg)		WS (m/s)	WD (deg)		WS (m/s)	WD (deg)		WS (m/s)	WD (deg)		WS (m/s)	WD (deg)		WS (m/s)	WD (deg)		WS (m/s)	WD (deg)	
11:00 AM - 12:00 PM	1.1	234.0	SW	1.9	44.0	NE	1.1	37.0	NE	0.5	197.0	SSW	0.6	233.0	SW	1.1	319.0	NW	3.3	320.0	NW
12:00 PM - 01:00 PM	0.9	243.0	WSW	2.2	16.0	NNE	0.3	46.0	NE	0.6	136.0	SE	1.2	268.0	W	1.3	322.0	NW	2.6	266.0	W
01:00 PM - 02:00 PM	0.5	242.0	WSW	1.2	298.0	WNW	1.2	331.0	NNW	0.0	-	-	1.0	268.0	W	3.2	236.0	SW	2.1	293.0	WNW
02:00 PM - 03:00 PM	0.6	187.0	S	0.1	-	-	0.4	321.0	NW	1.1	114.0	ESE	0.4	33.0	NNE	1.8	298.0	WNW	2.7	306.0	NW
03:00 PM - 04:00 PM	1.1	97.0	E	4.2	268.0	W	1.6	197.0	SSW	0.0	-	-	0.5	106.0	ESE	2.2	257.0	WSW	1.5	306.0	NW
04:00 PM - 05:00 PM	0.9	77.0	ENE	1.5	276.0	W	2.3	248.0	WSW	0.7	155.0	SSE	0.0	-	-	2.5	245.0	WSW	2.4	305.0	NW
05:00 PM - 06:00 PM	0.7	322.0	NW	0.7	181.0	S	0.9	168.0	SSE	0.6	149.0	SSE	0.6	97.0	E	4.8	311.0	NW	0.8	320.0	NW
06:00 PM - 07:00 PM	0.7	321.0	NW	0.3	119.0	ESE	1.1	188.0	S	0.3	121.0	ESE	0.2	-	-	1.3	306.0	NW	1.1	273.0	W
07:00 PM - 08:00 PM	0.6	265.0	W	0.2	-	-	1.2	161.0	SSE	0.5	97.0	E	0.7	98.0	E	1.9	264.0	W	0.5	254.0	WSW
08:00 PM - 09:00 PM	0.6	35.0	NE	0.2	-	-	1.5	178.0	S	0.3	107.0	ESE	1.2	113.0	ESE	1.1	216.0	SW	1.7	285.0	WNW
09:00 PM - 10:00 PM	1.0	47.0	NE	0.7	116.0	ESE	0.9	174.0	S	1.0	94.0	E	2.1	108.0	ESE	1.3	276.0	W	1.9	329.0	NNW
10:00 PM - 11:00 PM	1.1	132.0	SE	1.4	117.0	ESE	1.1	174.0	S	1.1	88.0	E	0.6	111.0	ESE	1.5	269.0	W	1.5	253.0	WSW
11:00 PM - 12:00 AM	1.0	143.0	SE	1.4	183.0	S	1.2	190.0	S	1.0	94.0	E	1.1	106.0	ESE	2.1	272.0	W	4.0	286.0	WNW
12:00 AM - 01:00 AM	0.9	171.0	S	1.6	326.0	NW	0.5	169.0	S	0.3	69.0	ENE	0.8	178.0	S	1.5	281.0	W	1.8	277.0	W
01:00 AM - 02:00 AM	0.6	166.0	SSE	1.8	274.0	W	0.4	80.0	E	0.6	98.0	E	1.2	184.0	S	0.9	304.0	NW	0.8	311.0	NW
02:00 AM - 03:00 AM	0.8	178.0	S	2.5	279.0	W	0.8	92.0	E	0.8	108.0	ESE	0.0	-	-	0.9	305.0	NW	4.1	280.0	W
03:00 AM - 04:00 AM	0.8	166.0	SSE	1.8	246.0	WSW	0.7	323.0	NW	0.9	88.0	E	0.6	23.0	NNE	1.3	263.0	W	2.4	324.0	NW
04:00 AM - 05:00 AM	0.9	156.0	SSE	1.4	285.0	WNW	0.1	-	-	0.7	84.0	E	0.2	-	-	1.6	284.0	WNW	3.7	264.0	W
05:00 AM - 06:00 AM	0.9	189.0	S	0.9	248.0	WSW	0.5	250.0	WSW	1.3	73.0	ENE	0.0	-	-	1.1	277.0	W	4.6	273.0	W
06:00 AM - 07:00 AM	1.1	190.0	S	0.0	-	-	0.0	-	-	1.2	87.0	E	0.0	-	-	1.6	263.0	W	3.6	271.0	W
07:00 AM - 08:00 AM	1.2	190.0	S	0.0	-	-	0.3	164.0	SSE	1.4	116.0	ESE	0.0	-	-	1.7	287.0	WNW	1.2	266.0	W
08:00 AM - 09:00 AM	1.3	176.0	S	0.1	-	-	0.0	-	-	1.4	246.0	WSW	0.9	16.0	NNE	2.0	332.0	NNW	2.7	271.0	W
09:00 AM - 10:00 AM	1.4	90.0	E	1.1	317.0	NW	0.9	171.0	S	1.9	199.0	SSW	0.4	32.0	NNE	3.6	281.0	W	1.7	235.0	SW
10:00 AM - 11:00 AM	1.5	82.0	E	0.2	-	-	1.4	198.0	SSW	1.8	166.0	SSE	1.2	323.0	NW	3.9	315.0	NW	2.3	280.0	W

Reference Method : Cup Anemometer & Anodized Aluminium Vane Method

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

Approved by

Sarayuth Jittrant
Assistant General Manager

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

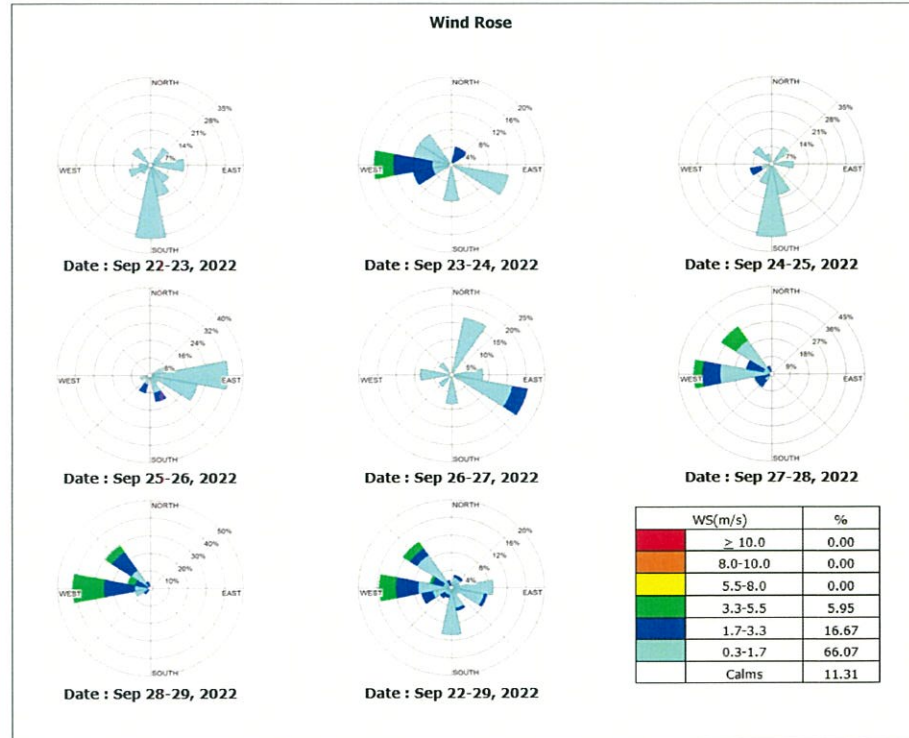


Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID : 2294955
Date Received : Sep 30, 2022
Date Reported : Oct 07, 2022
Report Number : 2393244-1

Page 2 of 2



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

Approved by

Sarayuth Jittrant
Assistant General Manager

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

ภาคผนวก ค.3

คุณภาพอากาศจากปล่องระบายอากาศ



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000
P/O : สัตตยาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 2294960
Date Received : Sep 23, 2022
Date Reported : Sep 29, 2022
Report Number : 2393255-1

Page 1 of 1

Sample Number 2294960-1
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 11
Measurement Date Sep 23, 2022

Stack Description							
Ambient Temperature	30	°C	Diameter	3.00	m	Oxygen	14.25 %
Ambient Pressure	756	mmHg	Shape	Circle		Carbon dioxide	3.72 %
Type of Process	Combustion		Stack Temperature	103	°C	Gas Velocity	19.91 m/s
Type of Fuel	Natural Gas		Moisture	9.45	%	Flow Rate	362194 Nm3/hr

Run No.	Sampling Time	Oxygen (%)	Carbon Dioxide (%)	Oxides of Nitrogen (ppm)		Sulfur Dioxide (ppm)	
				at Actual O ₂	at 7% O ₂	at Actual O ₂	at 7% O ₂
1	12:45 PM - 01:05 PM	14.28	3.71	21.44	44.99	0.03	0.07
2	01:06 PM - 01:26 PM	14.25	3.73	21.31	44.55	0.03	0.06
3	01:27 PM - 01:47 PM	14.22	3.71	21.30	44.35	0.03	0.06
Average (ppm)		14.25	3.72	21.35	44.63	0.03	0.06
Guideline ^{1/} (ppm)				-	60	-	6
Guideline ^{2/} (ppm)				-	120	-	20
Guideline ^{3/} (ppm)				-	120	-	20
Result (mg/Nm ³)				40.17	83.97	0.08	0.17
Emission Rate at Actual O ₂ (g/s)				4.0414		0.0081	
Guideline ^{1/} (g/s)				6.18		0.86	
Method				US EPA Method 7E		US EPA Method 6C	

Sampled By : Navaphut Sriviriya

Guideline : ^{1/} Environmental Impact Assessment Report of Gulf JP NNK Co., Ltd.

^{2/} Notification of the Ministry of Industry on determining pollutant contents in air emitted from electric power generation, transmission and distribution plant, 2004 (B.E. 2547), dated September, 2004 (B.E. 2547).

^{3/} Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Technical Management

Wichan Choonharat
Wichan Choonharat
Manager
ทะเบียนเลขที่ ว-204-ก-6113

Approved by

Sarayuth Jittrantont
Sarayuth Jittrantont
Assistant General Manager
ทะเบียนเลขที่ ว-204-ก-4702

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250, THAILAND | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000
P/O : สัตตยาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 2294960
Date Received : Sep 23, 2022
Date Reported : Sep 29, 2022
Report Number : 2393255-1

Page 1 of 1

Sample Number 2294960-1
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 11
Measurement Date Sep 23, 2022

Stack Description							
Ambient Temperature	30	°C	Diameter	3.00	m	Oxygen	14.25 %
Ambient Pressure	756	mmHg	Shape	Circle		Carbon dioxide	3.72 %
Type of Process	Combustion		Stack Temperature	103	°C	Gas Velocity	19.91 m/s
Type of Fuel	Natural Gas		Moisture	9.45	%	Flow Rate	362194 Nm3/hr

Run No.	Sampling Time	Oxygen (%)	Carbon Dioxide (%)	Carbon Monoxide (ppm)	
				at Actual O ₂	At 7% O ₂
1	12:45 PM - 01:05 PM	14.28	3.71	0.33	0.70
2	01:06 PM - 01:26 PM	14.25	3.73	0.22	0.46
3	01:27 PM - 01:47 PM	14.22	3.71	0.17	0.36
Average (ppm)		14.25	3.72	0.24	0.50
Guideline (ppm)				-	690
Result (mg/Nm ³)				0.28	0.58
Emission Rate at Actual O ₂ (g/s)				0.0278	
Method				US EPA Method 10	

Sampled By : Navaphut Sriviriya

Guideline : Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)

Technical Management

Wichan Choonharat
Wichan Choonharat
Manager
ทะเบียนเลขที่ ว-204-ก-6113

Approved by

Sarayuth Jittrantont
Sarayuth Jittrantont
Assistant General Manager
ทะเบียนเลขที่ ว-204-ก-4702

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250, THAILAND | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER



Analysis / Test Report



TESTING
No.0009

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สดก.บจก.4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294963

Date Received : Sep 23, 2022

Date Reported : Oct 01, 2022

Report Number: 2393261-1

Page 1 of 2

Sample Number 2294963-1
Sampled Date Sep 23, 2022
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 11
Date Analysis Commenced Sep 27, 2022
Condition of Sample Extracted into one filter paper placed in plastic petri dish

Stack Description

Ambient Pressure	756	mmHg	Diameter	3.00	m	Oxygen	14.2	%
Ambient Temperature	30.0	°C	Shape	Circle		Carbon Dioxide	3.7	%
Type of Process	Combustion		Stack Temperature	103	°C	Gas Velocity	19.9	m/s
Type of Fuel	Natural Gas		Moisture	9.43	%	Flow Rate (Actual O2)	361761	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result at 7 % O ₂	Result at 14.2 % O ₂	Guideline (1)	Guideline (2)	Method	Testing Location
Air Testing										
Total Suspended Particulate	12:45 PM - 01:21 PM	mg/m3	-	0.5	<0.5	<0.5	60	30	US EPA, Method 5	Bangkok

Guideline :

Guideline (1) Notification of the Ministry of Industry on determining pollutant contents in air emitted from electric power generation, transmission and distribution plant, 2004 (B.E. 2547), dated September, 2004 (B.E. 2547).

Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Guideline (2) Environmental Impact Assessment Report of Gulf JP NNK Co., Ltd.

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

ทะเบียนเลขที่ ร-204-จ-4717

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager

ทะเบียนเลขที่ ร-204-ก-6111

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air_Stack_O2_2GL.rpt (1:04PM)



Analysis / Test Report



TESTING
No.0009

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สดก.บจก.4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294963

Date Received : Sep 23, 2022

Date Reported : Oct 01, 2022

Report Number: 2393261-1

Page 2 of 2

Sample Number 2294963-1
Sampled Date Sep 23, 2022
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 11
Date Analysis Commenced Sep 27, 2022
Condition of Sample Extracted into one filter paper placed in plastic petri dish

Stack Description

Ambient Pressure	756	mmHg	Diameter	3.00	m	Oxygen	14.2	%
Ambient Temperature	30.0	°C	Shape	Circle		Carbon Dioxide	3.7	%
Type of Process	Combustion		Stack Temperature	103	°C	Gas Velocity	19.9	m/s
Type of Fuel	Natural Gas		Moisture	9.43	%	Flow Rate (Actual O2)	361761	Nm3/hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline (1)	Guideline (2)	Method	Testing Location
Air Testing									
Total Suspended Particulate *	12:45 PM - 01:21 PM	g/s	-	-	<0.05	-	-	Calculated	Bangkok

Sampled By : AnechaTansamai

Remark :

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

ทะเบียนเลขที่ ร-204-จ-4717

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager

ทะเบียนเลขที่ ร-204-ก-6111

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air_Stack_O2_2GL.rpt (1:04PM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000
P/O : สักฤดาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 2294961
Date Received : Sep 23, 2022
Date Reported : Sep 29, 2022
Report Number : 2393251-1

Page 1 of 1

Sample Number : 2294961-1
Sample Description : Emission from Stationary Source
Location : โรงงาน HRSG 12
Measurement Date : Sep 23, 2022

Stack Description							
Ambient Temperature	30	°C	Diameter	3.00	m	Oxygen	14.26 %
Ambient Pressure	756	mmHg	Shape	Circle		Carbon dioxide	3.75 %
Type of Process	Combustion		Stack Temperature	103	°C	Gas Velocity	19.92 m/s
Type of Fuel	Natural Gas		Moisture	9.62	%	Flow Rate	361052 Nm ³ /hr

Run No.	Sampling Time	Oxygen (%)	Carbon Dioxide (%)	Oxides of Nitrogen (ppm)		Sulfur Dioxide (ppm)	
				at Actual O ₂	at 7% O ₂	at Actual O ₂	at 7% O ₂
1	10:45 AM - 11:05 AM	14.23	3.74	15.75	32.80	0.02	0.04
2	11:06 AM - 11:26 AM	14.28	3.75	15.59	32.74	0.03	0.06
3	11:27 AM - 11:47 AM	14.26	3.75	16.08	33.67	0.02	0.04
Average (ppm)		14.26	3.75	15.81	33.07	0.02	0.05
Guideline ^{1/2} (ppm)				-	60	-	6
Guideline ^{3/} (ppm)				-	120	-	20
Guideline ^{3/} (ppm)				-	120	-	20
Result (mg/Nm ³)				29.74	62.22	0.06	0.13
Emission Rate at Actual O ₂ (g/s)				2.9826		0.0061	
Guideline ^{1/2} (g/s)				6.18		0.86	
Method				US EPA Method 7E		US EPA Method 6C	

Sampled By : Navaphut Sriviriya

Guideline : ^{1/} Environmental Impact Assessment Report of Gulf JP NNK Co., Ltd.

^{2/} Notification of the Ministry of Industry on determining pollutant contents in air emitted from electric power generation, transmission and distribution plant, 2004 (B.E. 2547), dated September, 2004 (B.E. 2547).

^{3/} Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.

Technical Management

Wichan Choonharat
Manager
ทะเบียนเลขที่ 2-204-ก-6113

Approved by

Sarayuth Jittrantont
Assistant General Manager
ทะเบียนเลขที่ 2-204-ก-4702

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250, THAILAND | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000
P/O : สักฤดาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 2294961
Date Received : Sep 23, 2022
Date Reported : Sep 29, 2022
Report Number : 2393251-1

Page 1 of 1

Sample Number : 2294961-1
Sample Description : Emission from Stationary Source
Location : โรงงาน HRSG 12
Measurement Date : Sep 23, 2022

Stack Description							
Ambient Temperature	30	°C	Diameter	3.00	m	Oxygen	14.26 %
Ambient Pressure	756	mmHg	Shape	Circle		Carbon dioxide	3.75 %
Type of Process	Combustion		Stack Temperature	103	°C	Gas Velocity	19.92 m/s
Type of Fuel	Natural Gas		Moisture	9.62	%	Flow Rate	361052 Nm ³ /hr

Run No.	Sampling Time	Oxygen (%)	Carbon Dioxide (%)	Carbon Monoxide (ppm)	
				at Actual O ₂	At 7% O ₂
1	10:45 AM - 11:05 AM	14.23	3.74	0.86	1.78
2	11:06 AM - 11:26 AM	14.28	3.75	0.73	1.53
3	11:27 AM - 11:47 AM	14.26	3.75	0.60	1.26
Average (ppm)		14.26	3.75	0.73	1.53
Guideline (ppm)				-	690
Result (mg/Nm ³)				0.84	1.75
Emission Rate at Actual O ₂ (g/s)				0.0838	
Method				US EPA Method 10	

Sampled By : Navaphut Sriviriya

Guideline : Notification of the Ministry of Industry 2006 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)

Technical Management

Wichan Choonharat
Manager
ทะเบียนเลขที่ 2-204-ก-6113

Approved by

Sarayuth Jittrantont
Assistant General Manager
ทะเบียนเลขที่ 2-204-ก-4702

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250, THAILAND | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER



Analysis / Test Report



TESTING
No.0009

Client : Gulf JP NNK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungso Thailand 24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 2294964
Date Received : Sep 23, 2022
Date Reported : Oct 01, 2022
Report Number: 2393260-1

Page 1 of 2

Sample Number 2294964-1
Sampled Date Sep 23, 2022
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 12
Date Analysis Commenced Sep 27, 2022
Condition of Sample Extracted into one filter paper placed in plastic petri dish

Stack Description									
Ambient Pressure	756	mmHg	Diameter	3.00	m	Oxygen	14.3	%	
Ambient Temperature	30.0	°C	Shape	Circle		Carbon Dioxide	3.8	%	
Type of Process	Combustion		Stack Temperature	103	°C	Gas Velocity	19.9	m/s	
Type of Fuel	Natural Gas		Moisture	9.64	%	Flow Rate (Actual O2)	360511	Nm3/hr	

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result at 7 % O ₂	Result at 14.3 % O ₂	Guideline (1)	Guideline (2)	Method	Testing Location
Air Testing										
Total Suspended Particulate	10:45 AM - 11:21 AM	mg/m3	-	0.5	<0.5	<0.5	60	30	US EPA, Method 5	Bangkok

Guideline :

- Guideline (1) Notification of the Ministry of Industry on determining pollutant contents in air emitted from electric power generation, transmission and distribution plant, 2004 (B.E. 2547), dated September, 2004 (B.E. 2547).
Notification of the Ministry of Natural Resources and Environment, 2010 (B.E. 2553) on Emission Standard from New Power Plants.
Guideline (2) Environmental Impact Assessment Report of Gulf JP NNK Co., Ltd.

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)
ทะเบียนเลขที่ 2-204-2-4717

Approved by

Kanok Korn Anek

Kanok Korn Anek
Senior Manager
ทะเบียนเลขที่ 2-204-2-6111

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports\Air Stack_O2_2GL.rpt (1:07PM)



Analysis / Test Report



TESTING
No.0009

Client : Gulf JP NNK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungso Thailand 24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 2294964
Date Received : Sep 23, 2022
Date Reported : Oct 01, 2022
Report Number: 2393260-1

Page 2 of 2

Sample Number 2294964-1
Sampled Date Sep 23, 2022
Sample Description Emission from Stationary Source
Location ปล่อง HRSG 12
Date Analysis Commenced Sep 27, 2022
Condition of Sample Extracted into one filter paper placed in plastic petri dish

Stack Description									
Ambient Pressure	756	mmHg	Diameter	3.00	m	Oxygen	14.3	%	
Ambient Temperature	30.0	°C	Shape	Circle		Carbon Dioxide	3.8	%	
Type of Process	Combustion		Stack Temperature	103	°C	Gas Velocity	19.9	m/s	
Type of Fuel	Natural Gas		Moisture	9.64	%	Flow Rate (Actual O2)	360511	Nm3/hr	

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result Emission Rate	Guideline (1)	Guideline (2)	Method	Testing Location
Air Testing									
Total Suspended Particulate *	10:45 AM - 11:21 AM	g/s	-	-	<0.05	-	-	Calculated	Bangkok

Sampled By : AnechaTansamail

Remark :

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)
ทะเบียนเลขที่ 2-204-2-4717

Approved by

Kanok Korn Anek

Kanok Korn Anek
Senior Manager
ทะเบียนเลขที่ 2-204-2-6111

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports\Air Stack_O2_2GL.rpt (1:07PM)

ภาคผนวก ค.4

ระดับเสียง



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัตตยาเลขา 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294958

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458439-1

Page 1 of 1

Sample Number 2294958-1
Parameter Noise (Leq 24 hrs.)
Location บ้านคลองกลาง (GPS 47P 0721889, 1520717)
Measurement Date Sep 22 - Sep 23, 2022
Measurement by Teeravut Sukdee
Sound Level meter Serial No. 658242

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	45.9	69.1	40.2
11:00 AM - 12:00 PM	43.0	69.5	39.6
12:00 PM - 01:00 PM	42.5	58.6	39.2
01:00 PM - 02:00 PM	51.8	80.3	40.5
02:00 PM - 03:00 PM	45.8	64.3	41.4
03:00 PM - 04:00 PM	53.7	79.1	41.7
04:00 PM - 05:00 PM	54.5	76.4	47.4
05:00 PM - 06:00 PM	49.0	75.7	45.1
06:00 PM - 07:00 PM	54.0	87.8	48.4
07:00 PM - 08:00 PM	67.8	97.0	49.9
08:00 PM - 09:00 PM	67.8	96.7	62.6
09:00 PM - 10:00 PM	63.7	70.4	60.3
10:00 PM - 11:00 PM	61.5	76.9	57.8
11:00 PM - 12:00 AM	58.8	71.3	56.7
12:00 AM - 01:00 AM	60.0	66.6	56.9
01:00 AM - 02:00 AM	59.2	65.8	54.4
02:00 AM - 03:00 AM	53.4	77.4	43.9
03:00 AM - 04:00 AM	48.2	69.3	42.9
04:00 AM - 05:00 AM	50.3	72.8	42.9
05:00 AM - 06:00 AM	51.6	67.5	44.2
06:00 AM - 07:00 AM	47.7	69.1	42.7
07:00 AM - 08:00 AM	48.6	67.6	44.4
08:00 AM - 09:00 AM	50.3	65.5	42.0
09:00 AM - 10:00 AM	48.5	77.5	39.8

Leq Average 24 hrs. (dB(A))

59.3

Lmax (dB(A))

97.0

L90 (dB(A))

43.9

Ldn (dB(A))

64.1

Standard (dB(A))

70

115

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan Rd., Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise rpt (9.00AM)



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัตตยาเลขา 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294958

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458440-1

Page 1 of 1

Sample Number 2294958-2
Parameter Noise (Leq 24 hrs.)
Location บ้านคลองกลาง (GPS 47P 0721889, 1520717)
Measurement Date Sep 23 - Sep 24, 2022
Measurement by Teeravut Sukdee
Sound Level meter Serial No. 658242

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	43.9	69.6	39.7
11:00 AM - 12:00 PM	49.3	66.6	40.1
12:00 PM - 01:00 PM	50.4	64.5	48.7
01:00 PM - 02:00 PM	50.5	67.6	48.3
02:00 PM - 03:00 PM	49.7	78.9	40.4
03:00 PM - 04:00 PM	46.7	68.3	41.2
04:00 PM - 05:00 PM	51.0	70.7	48.2
05:00 PM - 06:00 PM	50.7	67.9	49.7
06:00 PM - 07:00 PM	51.1	69.0	49.5
07:00 PM - 08:00 PM	50.6	75.4	48.6
08:00 PM - 09:00 PM	53.0	74.6	45.7
09:00 PM - 10:00 PM	63.2	74.0	59.6
10:00 PM - 11:00 PM	57.9	71.3	54.4
11:00 PM - 12:00 AM	56.3	74.7	54.8
12:00 AM - 01:00 AM	59.2	74.5	55.9
01:00 AM - 02:00 AM	52.2	78.6	46.0
02:00 AM - 03:00 AM	48.5	72.7	45.1
03:00 AM - 04:00 AM	46.5	67.1	42.9
04:00 AM - 05:00 AM	50.7	77.7	42.5
05:00 AM - 06:00 AM	52.4	72.9	43.7
06:00 AM - 07:00 AM	58.0	73.5	45.3
07:00 AM - 08:00 AM	52.5	67.3	44.5
08:00 AM - 09:00 AM	46.9	71.1	43.2
09:00 AM - 10:00 AM	46.1	66.0	42.0

Leq Average 24 hrs. (dB(A))

54.4

Lmax (dB(A))

78.9

L90 (dB(A))

45.3

Ldn (dB(A))

61.6

Standard (dB(A))

70

115

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan Rd., Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise rpt (9.00AM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chachoengsao Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294958

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458441-1

Page 1 of 1

Sample Number 2294958-3
Parameter Noise (Leq 24 hrs.)
Location บ้านคลองกลาง (GPS 47P 0721889, 1520717)
Measurement Date Sep 24 - Sep 25, 2022
Measurement by Teeravut Sukdee
Sound Level meter Serial No. 658242

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	53.3	68.7	51.4
11:00 AM - 12:00 PM	55.4	71.2	54.4
12:00 PM - 01:00 PM	50.9	67.7	42.4
01:00 PM - 02:00 PM	48.7	71.2	42.1
02:00 PM - 03:00 PM	46.7	60.8	41.5
03:00 PM - 04:00 PM	50.2	58.4	48.2
04:00 PM - 05:00 PM	49.9	57.4	49.1
05:00 PM - 06:00 PM	50.3	67.5	48.3
06:00 PM - 07:00 PM	50.8	74.2	46.3
07:00 PM - 08:00 PM	47.3	64.2	45.5
08:00 PM - 09:00 PM	45.8	66.3	44.2
09:00 PM - 10:00 PM	46.6	74.9	43.0
10:00 PM - 11:00 PM	50.0	66.6	44.0
11:00 PM - 12:00 AM	48.5	66.3	46.4
12:00 AM - 01:00 AM	51.3	68.3	48.4
01:00 AM - 02:00 AM	53.1	79.7	43.2
02:00 AM - 03:00 AM	47.8	69.2	41.9
03:00 AM - 04:00 AM	49.2	73.5	42.2
04:00 AM - 05:00 AM	52.3	69.8	44.2
05:00 AM - 06:00 AM	51.7	71.2	42.7
06:00 AM - 07:00 AM	50.7	73.4	42.4
07:00 AM - 08:00 AM	52.8	80.8	42.1
08:00 AM - 09:00 AM	48.9	72.8	44.3
09:00 AM - 10:00 AM	46.8	69.4	42.8

Leq Average 24 hrs. (dB(A)) 50.6
Lmax (dB(A)) 80.8
L90 (dB(A)) 44.0
Ldn (dB(A)) 57.2
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise.rpt (9:01AM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chachoengsao Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294958

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458442-1

Page 1 of 1

Sample Number 2294958-4
Parameter Noise (Leq 24 hrs.)
Location บ้านคลองกลาง (GPS 47P 0721889, 1520717)
Measurement Date Sep 25 - Sep 26, 2022
Measurement by Teeravut Sukdee
Sound Level meter Serial No. 658242

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	54.3	81.3	45.5
11:00 AM - 12:00 PM	47.7	66.8	45.9
12:00 PM - 01:00 PM	48.9	68.1	46.0
01:00 PM - 02:00 PM	47.6	68.9	45.6
02:00 PM - 03:00 PM	48.8	69.3	46.2
03:00 PM - 04:00 PM	49.6	69.0	48.3
04:00 PM - 05:00 PM	49.3	68.3	47.1
05:00 PM - 06:00 PM	48.6	65.5	47.4
06:00 PM - 07:00 PM	50.4	64.4	47.2
07:00 PM - 08:00 PM	51.2	73.9	46.3
08:00 PM - 09:00 PM	46.8	61.2	45.2
09:00 PM - 10:00 PM	47.5	63.5	45.1
10:00 PM - 11:00 PM	48.4	63.7	45.2
11:00 PM - 12:00 AM	52.4	65.8	49.1
12:00 AM - 01:00 AM	50.6	64.0	46.2
01:00 AM - 02:00 AM	47.9	72.7	43.2
02:00 AM - 03:00 AM	47.0	70.1	41.8
03:00 AM - 04:00 AM	48.2	65.8	42.5
04:00 AM - 05:00 AM	59.1	81.4	50.2
05:00 AM - 06:00 AM	51.4	75.7	44.5
06:00 AM - 07:00 AM	53.6	71.7	50.5
07:00 AM - 08:00 AM	55.0	81.7	46.4
08:00 AM - 09:00 AM	52.6	79.4	46.7
09:00 AM - 10:00 AM	51.8	77.3	46.5

Leq Average 24 hrs. (dB(A)) 51.6
Lmax (dB(A)) 81.7
L90 (dB(A)) 46.2
Ldn (dB(A)) 59.0
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise.rpt (9:01AM)



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294958

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458443-1

Page 1 of 1

Sample Number 2294958-5
Parameter Noise (Leq 24 hrs.)
Location บ้านคลองกลาง (GPS 47P 0721889, 1520717)
Measurement Date Sep 26 - Sep 27, 2022
Measurement by Teeravut Sukdee
Sound Level meter Serial No. 658242

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	55.4	69.1	53.1
11:00 AM - 12:00 PM	53.1	68.1	50.6
12:00 PM - 01:00 PM	55.6	80.9	50.6
01:00 PM - 02:00 PM	46.4	76.6	41.6
02:00 PM - 03:00 PM	44.5	68.7	41.2
03:00 PM - 04:00 PM	47.0	59.4	43.3
04:00 PM - 05:00 PM	51.7	63.3	49.1
05:00 PM - 06:00 PM	51.0	60.4	47.6
06:00 PM - 07:00 PM	51.6	65.1	46.9
07:00 PM - 08:00 PM	50.5	66.2	47.5
08:00 PM - 09:00 PM	52.0	67.6	47.2
09:00 PM - 10:00 PM	50.6	66.6	47.4
10:00 PM - 11:00 PM	53.5	67.8	47.3
11:00 PM - 12:00 AM	54.0	68.9	48.2
12:00 AM - 01:00 AM	50.4	68.8	43.7
01:00 AM - 02:00 AM	49.1	73.4	42.3
02:00 AM - 03:00 AM	47.8	72.2	42.1
03:00 AM - 04:00 AM	49.7	70.1	43.5
04:00 AM - 05:00 AM	47.6	70.0	43.1
05:00 AM - 06:00 AM	52.3	77.9	41.9
06:00 AM - 07:00 AM	48.7	73.5	42.2
07:00 AM - 08:00 AM	51.1	75.8	43.7
08:00 AM - 09:00 AM	56.6	79.0	43.5
09:00 AM - 10:00 AM	56.3	80.3	43.7
Leq Average 24 hrs. (dB(A))	52.2		
Lmax (dB(A))		80.9	
L90 (dB(A))			43.7
Ldn (dB(A))	57.7		
Standard (dB(A))	70	115	

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.
Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.
Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise.rpt (9:01AM)



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294958

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458444-1

Page 1 of 1

Sample Number 2294958-6
Parameter Noise (Leq 24 hrs.)
Location บ้านคลองกลาง (GPS 47P 0721889, 1520717)
Measurement Date Sep 27 - Sep 28, 2022
Measurement by Teeravut Sukdee
Sound Level meter Serial No. 658242

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	46.5	65.7	43.4
11:00 AM - 12:00 PM	46.8	63.9	43.1
12:00 PM - 01:00 PM	49.5	80.9	43.5
01:00 PM - 02:00 PM	49.5	75.2	43.8
02:00 PM - 03:00 PM	47.6	73.5	44.1
03:00 PM - 04:00 PM	50.5	72.3	46.7
04:00 PM - 05:00 PM	50.0	69.3	47.1
05:00 PM - 06:00 PM	54.5	79.1	47.2
06:00 PM - 07:00 PM	49.3	63.8	47.1
07:00 PM - 08:00 PM	47.7	64.4	45.8
08:00 PM - 09:00 PM	49.4	72.8	45.5
09:00 PM - 10:00 PM	48.8	69.0	45.4
10:00 PM - 11:00 PM	47.2	64.7	45.5
11:00 PM - 12:00 AM	46.6	65.1	44.5
12:00 AM - 01:00 AM	46.1	64.8	44.1
01:00 AM - 02:00 AM	51.4	79.3	45.0
02:00 AM - 03:00 AM	48.5	70.3	44.6
03:00 AM - 04:00 AM	49.3	71.7	46.1
04:00 AM - 05:00 AM	53.3	79.8	45.1
05:00 AM - 06:00 AM	48.3	70.1	44.6
06:00 AM - 07:00 AM	62.4	84.3	45.3
07:00 AM - 08:00 AM	52.0	76.2	45.4
08:00 AM - 09:00 AM	52.0	80.9	43.5
09:00 AM - 10:00 AM	46.4	63.4	43.7
Leq Average 24 hrs. (dB(A))	52.2		
Lmax (dB(A))		84.3	
L90 (dB(A))			45.0
Ldn (dB(A))	60.3		
Standard (dB(A))	70	115	

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.
Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.
Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise.rpt (9:01AM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chachoengsao Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294958

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458445-1

Page 1 of 1

Sample Number 2294958-7
Parameter Noise (Leq 24 hrs.)
Location บ้านคลองกลาง (GPS 47P 0721889, 1520717)
Measurement Date Sep 28 - Sep 29, 2022
Measurement by Teeravut Sukdee
Sound Level meter Serial No. 658242

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	46.9	64.3	43.5
11:00 AM - 12:00 PM	50.7	77.0	43.4
12:00 PM - 01:00 PM	47.0	63.8	42.5
01:00 PM - 02:00 PM	48.1	76.1	42.8
02:00 PM - 03:00 PM	49.6	71.4	43.8
03:00 PM - 04:00 PM	48.3	69.5	46.5
04:00 PM - 05:00 PM	49.7	65.5	46.4
05:00 PM - 06:00 PM	50.3	63.0	46.8
06:00 PM - 07:00 PM	59.9	73.9	49.9
07:00 PM - 08:00 PM	61.7	69.4	53.7
08:00 PM - 09:00 PM	62.4	83.0	52.5
09:00 PM - 10:00 PM	52.4	80.0	45.2
10:00 PM - 11:00 PM	57.8	77.0	43.6
11:00 PM - 12:00 AM	50.1	67.2	43.8
12:00 AM - 01:00 AM	53.4	82.7	43.0
01:00 AM - 02:00 AM	52.2	80.7	43.5
02:00 AM - 03:00 AM	50.4	82.3	43.7
03:00 AM - 04:00 AM	50.5	71.6	43.2
04:00 AM - 05:00 AM	49.3	72.4	42.4
05:00 AM - 06:00 AM	50.4	76.9	41.9
06:00 AM - 07:00 AM	49.3	81.0	42.5
07:00 AM - 08:00 AM	50.1	74.5	43.6
08:00 AM - 09:00 AM	51.5	76.6	42.1
09:00 AM - 10:00 AM	50.1	67.2	43.8

Leq Average 24 hrs. (dB(A))

54.6

Lmax (dB(A))

83.0

L90 (dB(A))

43.6

Ldn (dB(A))

59.5

Standard (dB(A))

70

115

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise.rpt (9:01AM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chachoengsao Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294958

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458446-1

Page 1 of 1

Sample Number 2294958-8
Parameter Noise (Leq 24 hrs.)
Location บ้านท่าไผ่ (GPS 47P 0721473, 1518765)
Measurement Date Sep 22 - Sep 23, 2022
Measurement by Teeravut Sukdee
Sound Level meter Serial No. 858520

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	53.2	75.3	42.9
01:00 PM - 02:00 PM	51.0	74.7	43.5
02:00 PM - 03:00 PM	51.5	77.4	43.7
03:00 PM - 04:00 PM	58.6	87.8	43.6
04:00 PM - 05:00 PM	52.6	78.1	42.6
05:00 PM - 06:00 PM	66.0	99.0	46.1
06:00 PM - 07:00 PM	59.9	77.9	48.8
07:00 PM - 08:00 PM	56.1	75.9	52.7
08:00 PM - 09:00 PM	57.6	81.9	52.8
09:00 PM - 10:00 PM	62.0	90.3	54.2
10:00 PM - 11:00 PM	68.4	100.5	57.8
11:00 PM - 12:00 AM	59.5	72.4	57.0
12:00 AM - 01:00 AM	61.2	74.4	58.7
01:00 AM - 02:00 AM	59.7	72.0	57.8
02:00 AM - 03:00 AM	55.0	67.5	52.4
03:00 AM - 04:00 AM	52.8	61.5	50.9
04:00 AM - 05:00 AM	52.0	74.3	47.9
05:00 AM - 06:00 AM	52.8	76.5	46.8
06:00 AM - 07:00 AM	54.2	77.4	47.4
07:00 AM - 08:00 AM	53.7	84.5	45.4
08:00 AM - 09:00 AM	50.1	77.7	43.6
09:00 AM - 10:00 AM	53.0	74.9	43.9
10:00 AM - 11:00 AM	51.6	83.1	45.4
11:00 AM - 12:00 PM	52.3	73.8	44.6

Leq Average 24 hrs. (dB(A))

59.4

Lmax (dB(A))

100.5

L90 (dB(A))

46.8

Ldn (dB(A))

67.0

Standard (dB(A))

70

115

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise.rpt (10:00AM)



Analysis / Test Report

Client : Gulf JP NNN Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungso Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294958

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458447-1

Page 1 of 1

Sample Number 2294958-9
Parameter Noise (Leq 24 hrs.)
Location บ้านท่าไกร (GPS 47P 0721473, 1518765)
Measurement Date Sep 23 - Sep 24, 2022
Measurement by Teeravut Sukdee
Sound Level meter Serial No. 858520

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	53.0	81.1	44.1
01:00 PM - 02:00 PM	52.6	77.0	44.6
02:00 PM - 03:00 PM	52.4	73.5	46.1
03:00 PM - 04:00 PM	50.8	72.5	48.9
04:00 PM - 05:00 PM	52.6	81.0	48.0
05:00 PM - 06:00 PM	54.5	66.8	53.4
06:00 PM - 07:00 PM	53.6	79.3	46.7
07:00 PM - 08:00 PM	52.9	69.1	45.2
08:00 PM - 09:00 PM	63.4	77.9	59.9
09:00 PM - 10:00 PM	59.0	85.6	52.5
10:00 PM - 11:00 PM	56.6	67.6	52.5
11:00 PM - 12:00 AM	56.2	63.4	52.5
12:00 AM - 01:00 AM	50.8	73.4	46.6
01:00 AM - 02:00 AM	54.1	78.9	47.9
02:00 AM - 03:00 AM	52.5	79.6	46.4
03:00 AM - 04:00 AM	52.9	71.9	45.7
04:00 AM - 05:00 AM	51.4	74.3	45.7
05:00 AM - 06:00 AM	55.2	80.9	43.5
06:00 AM - 07:00 AM	53.8	78.2	41.9
07:00 AM - 08:00 AM	57.3	87.9	41.5
08:00 AM - 09:00 AM	51.6	80.0	42.9
09:00 AM - 10:00 AM	53.3	78.0	42.2
10:00 AM - 11:00 AM	66.5	84.3	41.6
11:00 AM - 12:00 PM	48.0	73.0	46.4

Leq Average 24 hrs. (dB(A))

57.1

Lmax (dB(A))

87.9

L90 (dB(A))

46.1

Ldn (dB(A))

61.4

Standard (dB(A))

70

115

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supt S.

Supt Salamteh
Section Head

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise.rpt (9:04AM)



Analysis / Test Report

Client : Gulf JP NNN Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungso Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294958

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458448-1

Page 1 of 1

Sample Number 2294958-10
Parameter Noise (Leq 24 hrs.)
Location บ้านท่าไกร (GPS 47P 0721473, 1518765)
Measurement Date Sep 24 - Sep 25, 2022
Measurement by Teeravut Sukdee
Sound Level meter Serial No. 858520

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	50.4	76.4	47.3
01:00 PM - 02:00 PM	49.9	73.6	45.5
02:00 PM - 03:00 PM	48.4	67.1	46.3
03:00 PM - 04:00 PM	47.6	69.6	45.0
04:00 PM - 05:00 PM	48.9	69.9	47.4
05:00 PM - 06:00 PM	49.9	68.4	48.1
06:00 PM - 07:00 PM	48.1	68.2	44.8
07:00 PM - 08:00 PM	53.4	80.0	43.0
08:00 PM - 09:00 PM	54.4	82.5	43.9
09:00 PM - 10:00 PM	55.2	81.3	46.7
10:00 PM - 11:00 PM	50.8	83.5	45.1
11:00 PM - 12:00 AM	55.8	83.3	45.9
12:00 AM - 01:00 AM	51.0	76.3	46.7
01:00 AM - 02:00 AM	50.2	69.5	44.8
02:00 AM - 03:00 AM	51.2	73.2	43.8
03:00 AM - 04:00 AM	48.3	70.6	43.8
04:00 AM - 05:00 AM	51.7	80.0	45.4
05:00 AM - 06:00 AM	51.4	78.3	43.7
06:00 AM - 07:00 AM	52.4	79.0	44.9
07:00 AM - 08:00 AM	51.3	73.3	48.7
08:00 AM - 09:00 AM	49.1	66.9	47.9
09:00 AM - 10:00 AM	54.7	63.5	48.3
10:00 AM - 11:00 AM	48.5	67.5	44.2
11:00 AM - 12:00 PM	47.0	64.1	43.5

Leq Average 24 hrs. (dB(A))

51.5

Lmax (dB(A))

83.5

L90 (dB(A))

45.1

Ldn (dB(A))

58.2

Standard (dB(A))

70

115

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supt S.

Supt Salamteh
Section Head

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise.rpt (9:47AM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัตถกานนท์4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294958

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458449-1

Page 1 of 1

Sample Number 2294958-11
Parameter Noise (Leq 24 hrs.)
Location บ้านท่าไร่ (GPS 47P 0721473, 1518765)
Measurement Date Sep 25 - Sep 26, 2022
Measurement by Teeravut Sukdee
Sound Level meter Serial No. 858520

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	46.6	64.5	43.3
01:00 PM - 02:00 PM	49.0	69.6	46.8
02:00 PM - 03:00 PM	48.2	73.1	46.8
03:00 PM - 04:00 PM	49.6	58.9	47.0
04:00 PM - 05:00 PM	49.4	64.4	44.2
05:00 PM - 06:00 PM	49.1	66.3	43.0
06:00 PM - 07:00 PM	52.1	78.4	46.3
07:00 PM - 08:00 PM	57.9	78.8	48.9
08:00 PM - 09:00 PM	61.3	78.0	54.0
09:00 PM - 10:00 PM	54.7	80.4	47.8
10:00 PM - 11:00 PM	57.4	74.9	54.4
11:00 PM - 12:00 AM	54.2	76.3	50.1
12:00 AM - 01:00 AM	54.6	73.0	50.1
01:00 AM - 02:00 AM	54.7	73.1	50.8
02:00 AM - 03:00 AM	52.6	70.3	49.5
03:00 AM - 04:00 AM	51.6	72.6	46.0
04:00 AM - 05:00 AM	53.4	80.7	44.2
05:00 AM - 06:00 AM	53.5	81.8	42.8
06:00 AM - 07:00 AM	47.5	73.9	42.7
07:00 AM - 08:00 AM	51.1	77.6	49.3
08:00 AM - 09:00 AM	55.7	64.7	51.9
09:00 AM - 10:00 AM	56.6	73.9	53.8
10:00 AM - 11:00 AM	55.4	65.0	52.2
11:00 AM - 12:00 PM	62.8	85.7	44.5

Leq Average 24 hrs. (dB(A))

55.4

Lmax (dB(A))

85.7

L90 (dB(A))

47.0

Ldn (dB(A))

60.7

Standard (dB(A))

70

115

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise.rpt (9:47AM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัตถกานนท์4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294958

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458450-1

Page 1 of 1

Sample Number 2294958-12
Parameter Noise (Leq 24 hrs.)
Location บ้านท่าไร่ (GPS 47P 0721473, 1518765)
Measurement Date Sep 26 - Sep 27, 2022
Measurement by Teeravut Sukdee
Sound Level meter Serial No. 858520

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	56.9	81.0	45.6
01:00 PM - 02:00 PM	54.9	78.9	46.8
02:00 PM - 03:00 PM	48.9	58.6	46.5
03:00 PM - 04:00 PM	50.5	81.7	44.7
04:00 PM - 05:00 PM	53.2	81.6	43.2
05:00 PM - 06:00 PM	56.3	84.9	42.9
06:00 PM - 07:00 PM	52.3	77.2	45.9
07:00 PM - 08:00 PM	58.8	86.3	46.0
08:00 PM - 09:00 PM	52.2	86.2	44.8
09:00 PM - 10:00 PM	57.3	83.5	45.2
10:00 PM - 11:00 PM	55.5	77.6	45.1
11:00 PM - 12:00 AM	50.9	73.9	43.7
12:00 AM - 01:00 AM	58.1	82.8	45.5
01:00 AM - 02:00 AM	60.5	87.0	44.9
02:00 AM - 03:00 AM	61.1	80.8	45.0
03:00 AM - 04:00 AM	61.1	93.4	43.1
04:00 AM - 05:00 AM	48.7	76.1	43.5
05:00 AM - 06:00 AM	53.7	70.5	48.3
06:00 AM - 07:00 AM	54.6	73.8	53.6
07:00 AM - 08:00 AM	52.2	73.6	46.3
08:00 AM - 09:00 AM	52.1	57.6	46.8
09:00 AM - 10:00 AM	53.4	63.6	52.6
10:00 AM - 11:00 AM	50.1	64.9	45.3
11:00 AM - 12:00 PM	48.4	72.9	45.0

Leq Average 24 hrs. (dB(A))

55.9

Lmax (dB(A))

93.4

L90 (dB(A))

45.2

Ldn (dB(A))

63.8

Standard (dB(A))

70

115

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise.rpt (9:47AM)



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สตง.เลขที่4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294958

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458451-1

Page 1 of 1

Sample Number 2294958-13
Parameter Noise (Leq 24 hrs.)
Location บ้านท่าใหม่ (GPS 47P 0721473, 1518765)
Measurement Date Sep 27 - Sep 28, 2022
Measurement by Teeravut Sukdee
Sound Level meter Serial No. 858520

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	47.8	67.8	46.4
01:00 PM - 02:00 PM	47.7	60.3	46.3
02:00 PM - 03:00 PM	46.6	59.1	43.3
03:00 PM - 04:00 PM	49.6	71.0	42.7
04:00 PM - 05:00 PM	63.8	90.1	47.5
05:00 PM - 06:00 PM	57.0	80.3	47.4
06:00 PM - 07:00 PM	62.1	81.4	46.9
07:00 PM - 08:00 PM	57.4	82.1	46.8
08:00 PM - 09:00 PM	61.3	78.0	53.1
09:00 PM - 10:00 PM	54.5	73.8	50.2
10:00 PM - 11:00 PM	52.5	76.9	45.2
11:00 PM - 12:00 AM	58.2	83.4	50.7
12:00 AM - 01:00 AM	64.8	89.6	47.7
01:00 AM - 02:00 AM	55.3	84.8	47.9
02:00 AM - 03:00 AM	51.5	76.3	43.7
03:00 AM - 04:00 AM	56.4	73.6	47.4
04:00 AM - 05:00 AM	51.8	71.4	46.8
05:00 AM - 06:00 AM	57.3	83.3	48.8
06:00 AM - 07:00 AM	62.9	74.5	57.4
07:00 AM - 08:00 AM	61.1	74.3	57.3
08:00 AM - 09:00 AM	64.4	74.0	57.6
09:00 AM - 10:00 AM	66.9	74.6	63.0
10:00 AM - 11:00 AM	66.4	75.9	62.3
11:00 AM - 12:00 PM	61.6	73.6	59.9

Leq Average 24 hrs. (dB(A))

60.8

Lmax (dB(A))

90.1

L90 (dB(A))

47.5

Ldn (dB(A))

66.0

Standard (dB(A))

70

115

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป

2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise.rpt (9:48AM)



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สตง.เลขที่4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294958

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458452-1

Page 1 of 1

Sample Number 2294958-14
Parameter Noise (Leq 24 hrs.)
Location บ้านท่าใหม่ (GPS 47P 0721473, 1518765)
Measurement Date Sep 28 - Sep 29, 2022
Measurement by Teeravut Sukdee
Sound Level meter Serial No. 858520

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	64.6	74.1	62.7
01:00 PM - 02:00 PM	62.2	75.6	59.2
02:00 PM - 03:00 PM	59.5	82.1	54.7
03:00 PM - 04:00 PM	58.9	75.7	54.3
04:00 PM - 05:00 PM	55.1	83.3	50.2
05:00 PM - 06:00 PM	55.7	85.0	48.7
06:00 PM - 07:00 PM	53.4	70.2	49.9
07:00 PM - 08:00 PM	55.1	72.8	51.1
08:00 PM - 09:00 PM	53.1	58.4	51.3
09:00 PM - 10:00 PM	48.6	70.9	46.3
10:00 PM - 11:00 PM	50.2	69.4	46.2
11:00 PM - 12:00 AM	51.0	70.7	48.2
12:00 AM - 01:00 AM	48.5	73.9	42.9
01:00 AM - 02:00 AM	47.2	69.0	44.9
02:00 AM - 03:00 AM	51.8	68.1	47.8
03:00 AM - 04:00 AM	51.4	74.7	43.5
04:00 AM - 05:00 AM	51.6	75.5	43.3
05:00 AM - 06:00 AM	52.1	76.9	43.7
06:00 AM - 07:00 AM	49.1	66.5	46.6
07:00 AM - 08:00 AM	49.3	73.3	45.0
08:00 AM - 09:00 AM	51.6	77.6	46.0
09:00 AM - 10:00 AM	54.3	78.0	46.0
10:00 AM - 11:00 AM	51.7	70.8	44.2
11:00 AM - 12:00 PM	50.5	72.0	43.4

Leq Average 24 hrs. (dB(A))

56.0

Lmax (dB(A))

85.0

L90 (dB(A))

46.3

Ldn (dB(A))

58.9

Standard (dB(A))

70

115

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานระดับเสียงโดยทั่วไป

2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าระดับเสียงการรบกวน และระดับเสียงที่เกิดจากการประกอบกิจการโรงงาน พ.ศ. 2548

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise.rpt (9:48AM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chachoengsao Thailand 24000

P/O : สัญญาเลขที่4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294958

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458453-1

Page 1 of 1

Sample Number 2294958-15
Parameter Noise (Leq 24 hrs.)
Location บ้านคลองจาว (GPS 47P 0719792, 1516992)
Measurement Date Sep 22 - Sep 23, 2022
Measurement by Teeravut Sukdee
Sound Level meter Serial No. 858517

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	59.1	85.9	47.3
12:00 PM - 01:00 PM	61.3	86.3	48.6
01:00 PM - 02:00 PM	58.6	83.0	49.0
02:00 PM - 03:00 PM	59.5	88.5	51.5
03:00 PM - 04:00 PM	57.3	86.7	44.9
04:00 PM - 05:00 PM	59.1	84.4	47.2
05:00 PM - 06:00 PM	57.6	77.2	46.9
06:00 PM - 07:00 PM	60.3	79.9	48.3
07:00 PM - 08:00 PM	58.1	75.2	48.9
08:00 PM - 09:00 PM	54.4	82.1	47.4
09:00 PM - 10:00 PM	53.7	78.8	47.1
10:00 PM - 11:00 PM	63.8	88.0	49.8
11:00 PM - 12:00 AM	59.6	86.6	53.5
12:00 AM - 01:00 AM	58.6	81.2	54.3
01:00 AM - 02:00 AM	60.7	82.0	58.3
02:00 AM - 03:00 AM	60.6	69.8	58.2
03:00 AM - 04:00 AM	59.0	72.2	55.2
04:00 AM - 05:00 AM	55.2	70.7	48.2
05:00 AM - 06:00 AM	60.8	87.3	47.1
06:00 AM - 07:00 AM	60.1	81.4	50.7
07:00 AM - 08:00 AM	55.7	76.0	48.7
08:00 AM - 09:00 AM	56.6	81.0	48.3
09:00 AM - 10:00 AM	58.1	75.5	48.8
10:00 AM - 11:00 AM	65.2	91.6	52.9

Leq Average 24 hrs. (dB(A)) 59.7
Lmax (dB(A)) 91.6
L90 (dB(A)) 48.7
Ldn (dB(A)) 66.6
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise.rpt (9:48AM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chachoengsao Thailand 24000

P/O : สัญญาเลขที่4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294958

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458454-1

Page 1 of 1

Sample Number 2294958-16
Parameter Noise (Leq 24 hrs.)
Location บ้านคลองจาว (GPS 47P 0719792, 1516992)
Measurement Date Sep 23 - Sep 24, 2022
Measurement by Teeravut Sukdee
Sound Level meter Serial No. 858517

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	55.3	73.0	47.0
12:00 PM - 01:00 PM	56.7	79.7	48.0
01:00 PM - 02:00 PM	59.5	78.3	51.3
02:00 PM - 03:00 PM	58.6	88.1	45.0
03:00 PM - 04:00 PM	60.5	85.6	46.8
04:00 PM - 05:00 PM	59.4	83.0	47.0
05:00 PM - 06:00 PM	60.7	88.9	45.7
06:00 PM - 07:00 PM	51.8	72.7	44.7
07:00 PM - 08:00 PM	53.2	76.2	46.6
08:00 PM - 09:00 PM	50.9	76.2	43.9
09:00 PM - 10:00 PM	54.5	87.3	44.3
10:00 PM - 11:00 PM	54.0	86.4	44.6
11:00 PM - 12:00 AM	55.9	79.1	44.2
12:00 AM - 01:00 AM	52.0	78.1	45.5
01:00 AM - 02:00 AM	50.1	77.6	46.1
02:00 AM - 03:00 AM	49.6	63.7	47.2
03:00 AM - 04:00 AM	55.9	77.6	44.2
04:00 AM - 05:00 AM	53.2	73.3	43.8
05:00 AM - 06:00 AM	54.6	77.1	43.0
06:00 AM - 07:00 AM	54.7	80.3	43.4
07:00 AM - 08:00 AM	56.4	82.4	43.6
08:00 AM - 09:00 AM	57.7	85.7	44.6
09:00 AM - 10:00 AM	58.8	88.3	46.2
10:00 AM - 11:00 AM	59.0	84.4	45.7

Leq Average 24 hrs. (dB(A)) 56.7
Lmax (dB(A)) 88.9
L90 (dB(A)) 45.0
Ldn (dB(A)) 61.1
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise.rpt (9:48AM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294958

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458455-1

Page 1 of 1

Sample Number 2294958-17
Parameter Noise (Leq 24 hrs.)
Location บ้านคลองลาว (GPS 47P 0719792, 1516992)
Measurement Date Sep 24 - Sep 25, 2022
Measurement by Teeravut Sukdee
Sound Level meter Serial No. 858517

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	57.1	82.6	44.8
12:00 PM - 01:00 PM	54.5	81.0	44.8
01:00 PM - 02:00 PM	59.3	92.6	45.8
02:00 PM - 03:00 PM	51.5	79.7	43.4
03:00 PM - 04:00 PM	48.4	70.8	42.2
04:00 PM - 05:00 PM	49.5	74.0	43.5
05:00 PM - 06:00 PM	49.6	70.4	44.8
06:00 PM - 07:00 PM	48.0	67.9	45.0
07:00 PM - 08:00 PM	52.2	79.6	43.7
08:00 PM - 09:00 PM	55.4	74.1	43.8
09:00 PM - 10:00 PM	54.2	82.2	45.6
10:00 PM - 11:00 PM	56.3	80.7	46.5
11:00 PM - 12:00 AM	57.0	87.1	46.7
12:00 AM - 01:00 AM	59.2	86.7	45.8
01:00 AM - 02:00 AM	57.0	86.2	45.3
02:00 AM - 03:00 AM	56.2	78.9	44.0
03:00 AM - 04:00 AM	55.4	79.9	43.9
04:00 AM - 05:00 AM	53.9	82.5	45.9
05:00 AM - 06:00 AM	53.4	71.1	44.4
06:00 AM - 07:00 AM	54.9	79.0	43.0
07:00 AM - 08:00 AM	54.0	82.5	43.5
08:00 AM - 09:00 AM	56.8	81.1	44.2
09:00 AM - 10:00 AM	56.5	84.2	45.4
10:00 AM - 11:00 AM	59.7	85.7	46.4

Leq Average 24 hrs. (dB(A)) 55.6
Lmax (dB(A)) 92.6
L90 (dB(A)) 44.8
Ldn (dB(A)) 62.5
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan Rd., Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise.rpt (9:48AM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294958

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458456-1

Page 1 of 1

Sample Number 2294958-18
Parameter Noise (Leq 24 hrs.)
Location บ้านคลองลาว (GPS 47P 0719792, 1516992)
Measurement Date Sep 25 - Sep 26, 2022
Measurement by Teeravut Sukdee
Sound Level meter Serial No. 858517

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	56.9	78.9	53.4
12:00 PM - 01:00 PM	56.8	75.7	53.8
01:00 PM - 02:00 PM	53.7	83.9	47.1
02:00 PM - 03:00 PM	54.4	70.2	46.9
03:00 PM - 04:00 PM	51.6	71.3	46.4
04:00 PM - 05:00 PM	52.4	76.5	46.7
05:00 PM - 06:00 PM	49.7	69.7	47.4
06:00 PM - 07:00 PM	49.4	67.1	46.6
07:00 PM - 08:00 PM	49.4	65.6	45.9
08:00 PM - 09:00 PM	49.6	66.6	45.8
09:00 PM - 10:00 PM	57.5	84.8	44.3
10:00 PM - 11:00 PM	63.3	80.3	48.2
11:00 PM - 12:00 AM	68.7	85.1	58.0
12:00 AM - 01:00 AM	59.7	75.7	53.4
01:00 AM - 02:00 AM	56.2	81.0	49.3
02:00 AM - 03:00 AM	57.4	79.6	48.8
03:00 AM - 04:00 AM	60.4	77.3	49.3
04:00 AM - 05:00 AM	60.1	78.0	52.6
05:00 AM - 06:00 AM	59.0	82.8	50.7
06:00 AM - 07:00 AM	57.9	84.1	50.7
07:00 AM - 08:00 AM	61.3	85.3	52.9
08:00 AM - 09:00 AM	56.8	80.4	45.4
09:00 AM - 10:00 AM	57.6	83.7	46.8
10:00 AM - 11:00 AM	56.6	77.5	46.9

Leq Average 24 hrs. (dB(A)) 59.3
Lmax (dB(A)) 85.3
L90 (dB(A)) 47.4
Ldn (dB(A)) 68.1
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan Rd., Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise.rpt (9:48AM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chachoengsao Thailand 24000

P/O : สัตถุภาณเขต4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294958

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458457-1

Page 1 of 1

Sample Number 2294958-19
Parameter Noise (Leq 24 hrs.)
Location บ้านคลองจาว (GPS 47P 0719792, 1516992)
Measurement Date Sep 26 - Sep 27, 2022
Measurement by Teeravut Sukdee
Sound Level meter Serial No. 858517

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	57.1	80.4	49.6
12:00 PM - 01:00 PM	54.0	77.2	50.1
01:00 PM - 02:00 PM	53.9	73.1	49.9
02:00 PM - 03:00 PM	51.8	72.3	46.8
03:00 PM - 04:00 PM	51.0	77.2	45.8
04:00 PM - 05:00 PM	47.9	69.9	45.1
05:00 PM - 06:00 PM	50.0	73.2	44.8
06:00 PM - 07:00 PM	50.4	64.8	47.1
07:00 PM - 08:00 PM	52.4	68.2	48.0
08:00 PM - 09:00 PM	52.4	67.3	47.7
09:00 PM - 10:00 PM	56.9	85.7	45.0
10:00 PM - 11:00 PM	59.4	82.0	48.5
11:00 PM - 12:00 AM	65.7	88.0	56.4
12:00 AM - 01:00 AM	63.3	86.4	53.3
01:00 AM - 02:00 AM	58.5	80.7	49.3
02:00 AM - 03:00 AM	58.2	85.1	50.2
03:00 AM - 04:00 AM	62.6	88.6	51.9
04:00 AM - 05:00 AM	60.1	90.9	46.7
05:00 AM - 06:00 AM	60.2	88.0	49.1
06:00 AM - 07:00 AM	60.8	85.2	48.8
07:00 AM - 08:00 AM	56.9	80.6	46.1
08:00 AM - 09:00 AM	59.8	84.3	47.6
09:00 AM - 10:00 AM	61.4	91.2	46.5
10:00 AM - 11:00 AM	60.1	87.7	52.8

Leq Average 24 hrs. (dB(A))

59.1

Lmax (dB(A))

91.2

L90 (dB(A))

48.0

Ldn (dB(A))

67.6

Standard (dB(A))

70

115

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise.rpt (9:49AM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chachoengsao Thailand 24000

P/O : สัตถุภาณเขต4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294958

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458458-1

Page 1 of 1

Sample Number 2294958-20
Parameter Noise (Leq 24 hrs.)
Location บ้านคลองจาว (GPS 47P 0719792, 1516992)
Measurement Date Sep 27 - Sep 28, 2022
Measurement by Teeravut Sukdee
Sound Level meter Serial No. 858517

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	56.3	76.9	53.0
12:00 PM - 01:00 PM	55.7	76.8	52.8
01:00 PM - 02:00 PM	55.1	79.3	52.4
02:00 PM - 03:00 PM	53.8	71.7	47.9
03:00 PM - 04:00 PM	52.9	65.1	47.2
04:00 PM - 05:00 PM	52.1	68.3	45.3
05:00 PM - 06:00 PM	51.3	70.5	45.2
06:00 PM - 07:00 PM	46.4	64.4	44.2
07:00 PM - 08:00 PM	49.3	68.7	43.3
08:00 PM - 09:00 PM	54.4	85.0	43.1
09:00 PM - 10:00 PM	56.8	72.9	46.7
10:00 PM - 11:00 PM	65.8	98.5	54.7
11:00 PM - 12:00 AM	58.6	78.1	50.4
12:00 AM - 01:00 AM	57.4	83.3	50.1
01:00 AM - 02:00 AM	56.7	76.6	49.1
02:00 AM - 03:00 AM	62.8	89.0	52.7
03:00 AM - 04:00 AM	67.9	91.9	50.7
04:00 AM - 05:00 AM	58.8	84.7	49.7
05:00 AM - 06:00 AM	60.2	87.2	51.2
06:00 AM - 07:00 AM	58.9	80.0	51.1
07:00 AM - 08:00 AM	57.1	77.8	48.5
08:00 AM - 09:00 AM	58.2	79.6	49.3
09:00 AM - 10:00 AM	56.6	78.9	46.7
10:00 AM - 11:00 AM	54.3	73.2	45.5

Leq Average 24 hrs. (dB(A))

59.4

Lmax (dB(A))

98.5

L90 (dB(A))

49.1

Ldn (dB(A))

68.4

Standard (dB(A))

70

115

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise.rpt (9:49AM)



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294958

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458459-1

Page 1 of 1

Sample Number 2294958-21
Parameter Noise (Leq 24 hrs.)
Location บ้านคลองจาว (GPS 47P 0719792, 1516992)
Measurement Date Sep 28 - Sep 29, 2022
Measurement by Teeravut Sukdee
Sound Level meter Serial No. 858517

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	64.0	74.9	47.8
12:00 PM - 01:00 PM	60.5	88.4	45.0
01:00 PM - 02:00 PM	60.8	91.6	43.8
02:00 PM - 03:00 PM	61.6	91.3	45.6
03:00 PM - 04:00 PM	58.0	85.5	46.0
04:00 PM - 05:00 PM	56.7	82.2	45.0
05:00 PM - 06:00 PM	49.0	71.5	44.4
06:00 PM - 07:00 PM	51.7	78.1	44.9
07:00 PM - 08:00 PM	53.3	73.7	44.3
08:00 PM - 09:00 PM	57.7	80.6	47.5
09:00 PM - 10:00 PM	58.3	83.4	45.6
10:00 PM - 11:00 PM	60.4	85.3	44.3
11:00 PM - 12:00 AM	59.7	91.0	44.6
12:00 AM - 01:00 AM	60.4	89.8	45.2
01:00 AM - 02:00 AM	58.2	77.6	50.2
02:00 AM - 03:00 AM	58.8	80.0	49.5
03:00 AM - 04:00 AM	57.2	83.8	45.8
04:00 AM - 05:00 AM	53.8	72.9	44.3
05:00 AM - 06:00 AM	55.0	84.0	44.7
06:00 AM - 07:00 AM	59.0	82.5	44.8
07:00 AM - 08:00 AM	56.8	81.4	45.2
08:00 AM - 09:00 AM	58.8	90.5	44.7
09:00 AM - 10:00 AM	57.3	76.9	45.0
10:00 AM - 11:00 AM	56.5	78.6	43.7

Leq Average 24 hrs. (dB(A)) 58.7
Lmax (dB(A)) 91.6
L90 (dB(A)) 45.0
Ldn (dB(A)) 65.0
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan Rd., Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports\Air Noise.rpt (9:53AM)



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294958

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458460-1

Page 1 of 1

Sample Number 2294958-22
Parameter Noise (Leq 24 hrs.)
Location บ้านบางปลาน้ำ (GPS 47P 0714361, 1518864)
Measurement Date Sep 22 - Sep 23, 2022
Measurement by Teeravut Sukdee
Sound Level meter Serial No. 858521

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	51.7	85.6	43.7
11:00 AM - 12:00 PM	54.1	78.3	44.7
12:00 PM - 01:00 PM	63.2	88.1	46.6
01:00 PM - 02:00 PM	49.2	71.7	41.7
02:00 PM - 03:00 PM	54.7	75.3	43.9
03:00 PM - 04:00 PM	53.4	74.0	46.6
04:00 PM - 05:00 PM	48.8	73.9	42.7
05:00 PM - 06:00 PM	52.3	76.6	44.1
06:00 PM - 07:00 PM	56.3	76.9	48.9
07:00 PM - 08:00 PM	55.6	70.6	53.5
08:00 PM - 09:00 PM	57.3	74.3	54.4
09:00 PM - 10:00 PM	62.3	77.8	60.8
10:00 PM - 11:00 PM	60.7	76.2	59.3
11:00 PM - 12:00 AM	63.7	74.5	61.1
12:00 AM - 01:00 AM	64.0	68.6	62.3
01:00 AM - 02:00 AM	62.4	67.2	56.1
02:00 AM - 03:00 AM	51.5	70.4	46.5
03:00 AM - 04:00 AM	58.1	85.9	45.7
04:00 AM - 05:00 AM	58.2	83.6	45.5
05:00 AM - 06:00 AM	59.2	86.5	46.1
06:00 AM - 07:00 AM	50.5	69.9	43.9
07:00 AM - 08:00 AM	53.0	77.2	45.1
08:00 AM - 09:00 AM	58.3	88.3	47.6
09:00 AM - 10:00 AM	48.6	73.3	42.9

Leq Average 24 hrs. (dB(A)) 58.6
Lmax (dB(A)) 88.3
L90 (dB(A)) 46.1
Ldn (dB(A)) 66.6
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan Rd., Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports\Air Noise.rpt (9:53AM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัตถุภาณพ4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294958

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458461-1

Page 1 of 1

Sample Number 2294958-23
Parameter Noise (Leq 24 hrs.)
Location บ้านบางปลาญัก (GPS 47P 0714361, 1518864)
Measurement Date Sep 23 - Sep 24, 2022
Measurement by Teeravut Sukdee
Sound Level meter Serial No. 858521

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	49.3	80.4	42.7
11:00 AM - 12:00 PM	51.0	73.4	44.9
12:00 PM - 01:00 PM	54.7	86.1	41.1
01:00 PM - 02:00 PM	47.4	71.1	41.1
02:00 PM - 03:00 PM	59.0	88.9	43.6
03:00 PM - 04:00 PM	51.5	65.9	46.2
04:00 PM - 05:00 PM	55.5	68.7	54.5
05:00 PM - 06:00 PM	55.2	65.3	53.7
06:00 PM - 07:00 PM	54.8	87.3	52.0
07:00 PM - 08:00 PM	59.1	94.0	50.9
08:00 PM - 09:00 PM	57.4	75.8	52.9
09:00 PM - 10:00 PM	57.4	76.3	54.4
10:00 PM - 11:00 PM	61.3	71.1	59.4
11:00 PM - 12:00 AM	60.9	87.2	58.5
12:00 AM - 01:00 AM	60.4	70.4	57.3
01:00 AM - 02:00 AM	57.7	70.7	55.7
02:00 AM - 03:00 AM	50.7	75.0	46.5
03:00 AM - 04:00 AM	52.5	76.8	45.9
04:00 AM - 05:00 AM	51.4	76.2	44.0
05:00 AM - 06:00 AM	51.2	67.6	44.5
06:00 AM - 07:00 AM	48.4	68.9	43.6
07:00 AM - 08:00 AM	51.6	69.3	44.5
08:00 AM - 09:00 AM	52.8	83.4	43.9
09:00 AM - 10:00 AM	58.4	90.4	42.9

Leq Average 24 hrs. (dB(A))

56.3

Lmax (dB(A))

94.0

L90 (dB(A))

45.9

Ldn (dB(A))

63.6

Standard (dB(A))

70

115

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supt S.

Supt Salamteh
Section Head

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise rpt (9:53AM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัตถุภาณพ4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294958

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458462-1

Page 1 of 1

Sample Number 2294958-24
Parameter Noise (Leq 24 hrs.)
Location บ้านบางปลาญัก (GPS 47P 0714361, 1518864)
Measurement Date Sep 24 - Sep 25, 2022
Measurement by Teeravut Sukdee
Sound Level meter Serial No. 858521

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	47.7	70.6	41.3
11:00 AM - 12:00 PM	54.6	68.6	41.3
12:00 PM - 01:00 PM	60.8	83.8	51.6
01:00 PM - 02:00 PM	60.5	83.5	50.4
02:00 PM - 03:00 PM	60.9	81.7	50.1
03:00 PM - 04:00 PM	51.4	77.6	46.5
04:00 PM - 05:00 PM	54.9	62.8	53.4
05:00 PM - 06:00 PM	55.3	62.1	54.4
06:00 PM - 07:00 PM	54.5	63.5	52.6
07:00 PM - 08:00 PM	53.9	64.1	52.7
08:00 PM - 09:00 PM	53.6	61.4	52.4
09:00 PM - 10:00 PM	52.6	61.2	51.8
10:00 PM - 11:00 PM	62.0	76.9	47.2
11:00 PM - 12:00 AM	56.1	75.3	49.2
12:00 AM - 01:00 AM	56.7	75.2	54.5
01:00 AM - 02:00 AM	57.2	66.3	55.0
02:00 AM - 03:00 AM	54.9	82.4	44.3
03:00 AM - 04:00 AM	52.2	77.4	43.2
04:00 AM - 05:00 AM	51.1	69.0	44.9
05:00 AM - 06:00 AM	50.7	73.1	46.0
06:00 AM - 07:00 AM	47.4	72.9	43.4
07:00 AM - 08:00 AM	56.2	88.7	43.6
08:00 AM - 09:00 AM	49.9	67.1	43.9
09:00 AM - 10:00 AM	51.0	66.4	47.3

Leq Average 24 hrs. (dB(A))

56.2

Lmax (dB(A))

88.7

L90 (dB(A))

47.3

Ldn (dB(A))

62.6

Standard (dB(A))

70

115

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supt S.

Supt Salamteh
Section Head

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise rpt (9:53AM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294958

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458463-1

Page 1 of 1

Sample Number 2294958-25
Parameter Noise (Leq 24 hrs.)
Location บ้านบางปลาญัก (GPS 47P 0714361, 1518864)
Measurement Date Sep 25 - Sep 26, 2022
Measurement by Teeravut Sukdee
Sound Level meter Serial No. 858521

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	51.5	71.8	43.4
11:00 AM - 12:00 PM	52.1	73.8	43.7
12:00 PM - 01:00 PM	53.6	83.0	43.3
01:00 PM - 02:00 PM	52.4	79.7	42.8
02:00 PM - 03:00 PM	56.2	87.5	43.0
03:00 PM - 04:00 PM	53.1	61.3	47.6
04:00 PM - 05:00 PM	56.8	63.2	56.0
05:00 PM - 06:00 PM	56.6	64.6	55.2
06:00 PM - 07:00 PM	55.4	63.2	53.7
07:00 PM - 08:00 PM	53.6	59.3	51.0
08:00 PM - 09:00 PM	49.8	60.1	47.8
09:00 PM - 10:00 PM	50.1	59.7	49.1
10:00 PM - 11:00 PM	49.8	55.9	49.0
11:00 PM - 12:00 AM	49.3	61.3	47.9
12:00 AM - 01:00 AM	50.4	70.8	49.7
01:00 AM - 02:00 AM	48.6	60.7	45.9
02:00 AM - 03:00 AM	51.8	69.3	45.1
03:00 AM - 04:00 AM	63.2	77.8	48.4
04:00 AM - 05:00 AM	57.2	70.5	53.3
05:00 AM - 06:00 AM	53.7	73.3	48.5
06:00 AM - 07:00 AM	54.8	74.2	52.4
07:00 AM - 08:00 AM	58.6	81.0	50.9
08:00 AM - 09:00 AM	56.3	68.4	54.1
09:00 AM - 10:00 AM	54.8	71.2	52.5

Leq Average 24 hrs. (dB(A)) 55.3
Lmax (dB(A)) 87.5
L90 (dB(A)) 48.5
Ldn (dB(A)) 62.3
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supt S.

Supt Salameh
Section Head

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

ADDRESS 104 Phatthanakan Rd., Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise.rpt (9:53AM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294958

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458464-1

Page 1 of 1

Sample Number 2294958-26
Parameter Noise (Leq 24 hrs.)
Location บ้านบางปลาญัก (GPS 47P 0714361, 1518864)
Measurement Date Sep 26 - Sep 27, 2022
Measurement by Teeravut Sukdee
Sound Level meter Serial No. 858521

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	53.2	77.6	48.7
11:00 AM - 12:00 PM	47.9	78.0	43.1
12:00 PM - 01:00 PM	50.3	77.4	43.8
01:00 PM - 02:00 PM	48.8	69.0	44.2
02:00 PM - 03:00 PM	54.2	65.9	46.7
03:00 PM - 04:00 PM	56.9	65.1	55.8
04:00 PM - 05:00 PM	57.0	62.9	56.1
05:00 PM - 06:00 PM	55.4	69.0	54.0
06:00 PM - 07:00 PM	53.1	62.4	51.0
07:00 PM - 08:00 PM	54.1	63.9	51.8
08:00 PM - 09:00 PM	53.6	65.5	51.8
09:00 PM - 10:00 PM	55.3	66.4	51.4
10:00 PM - 11:00 PM	59.5	68.7	50.8
11:00 PM - 12:00 AM	62.9	69.1	56.6
12:00 AM - 01:00 AM	57.4	68.8	51.8
01:00 AM - 02:00 AM	48.7	69.5	45.3
02:00 AM - 03:00 AM	53.1	80.0	45.2
03:00 AM - 04:00 AM	56.4	82.4	44.6
04:00 AM - 05:00 AM	49.7	68.0	44.8
05:00 AM - 06:00 AM	48.5	67.7	43.7
06:00 AM - 07:00 AM	51.6	85.0	44.1
07:00 AM - 08:00 AM	59.0	82.3	47.4
08:00 AM - 09:00 AM	48.3	70.5	44.5
09:00 AM - 10:00 AM	47.0	70.1	42.2

Leq Average 24 hrs. (dB(A)) 55.4
Lmax (dB(A)) 85.0
L90 (dB(A)) 46.7
Ldn (dB(A)) 63.0
Standard (dB(A)) 70

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supt S.

Supt Salameh
Section Head

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

ADDRESS 104 Phatthanakan Rd., Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise.rpt (9:53AM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294958

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458465-1

Page 1 of 1

Sample Number 2294958-27
Parameter Noise (Leq 24 hrs.)
Location บ้านบางปลาหมึก (GPS 47P 0714361, 1518864)
Measurement Date Sep 27 - Sep 28, 2022
Measurement by Teeravut Sukdee
Sound Level meter Serial No. 858521

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	50.0	74.2	43.5
11:00 AM - 12:00 PM	52.2	85.9	43.8
12:00 PM - 01:00 PM	57.8	89.1	44.7
01:00 PM - 02:00 PM	49.5	70.8	45.7
02:00 PM - 03:00 PM	54.4	67.4	48.6
03:00 PM - 04:00 PM	58.1	67.9	54.6
04:00 PM - 05:00 PM	57.0	70.6	54.3
05:00 PM - 06:00 PM	54.2	62.6	51.7
06:00 PM - 07:00 PM	54.2	65.6	52.3
07:00 PM - 08:00 PM	51.3	64.3	47.6
08:00 PM - 09:00 PM	49.5	66.3	48.0
09:00 PM - 10:00 PM	49.0	68.3	47.7
10:00 PM - 11:00 PM	46.9	57.1	45.4
11:00 PM - 12:00 AM	46.6	54.6	45.6
12:00 AM - 01:00 AM	47.0	56.5	45.3
01:00 AM - 02:00 AM	48.1	65.9	44.5
02:00 AM - 03:00 AM	57.5	82.0	44.7
03:00 AM - 04:00 AM	56.9	89.4	44.2
04:00 AM - 05:00 AM	48.5	80.6	42.4
05:00 AM - 06:00 AM	45.3	65.2	41.9
06:00 AM - 07:00 AM	45.9	66.1	44.8
07:00 AM - 08:00 AM	46.6	51.9	44.8
08:00 AM - 09:00 AM	49.9	73.2	43.8
09:00 AM - 10:00 AM	49.6	73.1	43.9

Leq Average 24 hrs. (dB(A))

53.1

Lmax (dB(A))

89.4

L90 (dB(A))

44.8

Ldn (dB(A))

58.6

Standard (dB(A))

70

115

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise.rpt (9:54AM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294958

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458466-1

Page 1 of 1

Sample Number 2294958-28
Parameter Noise (Leq 24 hrs.)
Location บ้านบางปลาหมึก (GPS 47P 0714361, 1518864)
Measurement Date Sep 28 - Sep 29, 2022
Measurement by Teeravut Sukdee
Sound Level meter Serial No. 858521

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	52.2	66.1	50.6
11:00 AM - 12:00 PM	54.6	74.3	48.0
12:00 PM - 01:00 PM	53.7	75.5	43.8
01:00 PM - 02:00 PM	54.5	70.6	45.3
02:00 PM - 03:00 PM	48.3	69.9	43.1
03:00 PM - 04:00 PM	46.1	67.0	42.6
04:00 PM - 05:00 PM	48.0	63.3	44.9
05:00 PM - 06:00 PM	48.5	59.4	44.9
06:00 PM - 07:00 PM	48.2	75.7	45.5
07:00 PM - 08:00 PM	48.3	54.0	47.2
08:00 PM - 09:00 PM	47.7	58.1	46.2
09:00 PM - 10:00 PM	48.6	75.7	44.4
10:00 PM - 11:00 PM	44.3	63.7	43.0
11:00 PM - 12:00 AM	45.7	54.7	44.6
12:00 AM - 01:00 AM	45.8	58.7	43.4
01:00 AM - 02:00 AM	48.1	70.5	43.7
02:00 AM - 03:00 AM	49.6	73.1	43.9
03:00 AM - 04:00 AM	48.8	69.1	44.0
04:00 AM - 05:00 AM	48.1	72.3	43.2
05:00 AM - 06:00 AM	48.0	63.0	45.3
06:00 AM - 07:00 AM	52.2	66.1	50.6
07:00 AM - 08:00 AM	52.2	68.9	48.1
08:00 AM - 09:00 AM	51.9	86.2	43.9
09:00 AM - 10:00 AM	49.9	73.2	43.8

Leq Average 24 hrs. (dB(A))

50.2

Lmax (dB(A))

86.2

L90 (dB(A))

44.4

Ldn (dB(A))

55.3

Standard (dB(A))

70

115

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise.rpt (9:54AM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294958

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458467-1

Page 1 of 1

Sample Number 2294958-29
Parameter Noise (Leq 24 hrs.)
Location บริเวณริมรั้วของพื้นที่โรงไฟฟ้า (GPS 47P 0718071, 1519314)
Measurement Date Sep 22 - Sep 23, 2022
Measurement by Teeravut Sukdee
Sound Level meter Serial No. 858519

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	59.8	95.9	55.7
12:00 PM - 01:00 PM	56.6	67.0	55.8
01:00 PM - 02:00 PM	56.2	64.0	55.6
02:00 PM - 03:00 PM	57.5	65.2	56.1
03:00 PM - 04:00 PM	58.9	65.3	56.0
04:00 PM - 05:00 PM	56.4	72.1	55.7
05:00 PM - 06:00 PM	62.5	73.9	55.8
06:00 PM - 07:00 PM	64.1	81.0	59.9
07:00 PM - 08:00 PM	60.1	72.4	59.1
08:00 PM - 09:00 PM	59.8	73.8	58.8
09:00 PM - 10:00 PM	61.0	76.3	59.6
10:00 PM - 11:00 PM	60.0	78.0	57.8
11:00 PM - 12:00 AM	58.7	78.5	57.3
12:00 AM - 01:00 AM	57.6	73.5	56.8
01:00 AM - 02:00 AM	57.4	76.6	56.5
02:00 AM - 03:00 AM	57.8	93.2	56.2
03:00 AM - 04:00 AM	56.9	66.8	56.4
04:00 AM - 05:00 AM	56.6	60.8	56.0
05:00 AM - 06:00 AM	56.2	64.9	55.6
06:00 AM - 07:00 AM	56.8	71.5	55.8
07:00 AM - 08:00 AM	57.6	78.7	56.5
08:00 AM - 09:00 AM	57.8	82.3	55.9
09:00 AM - 10:00 AM	66.8	82.1	56.5
10:00 AM - 11:00 AM	65.2	75.2	59.6

Leq Average 24 hrs. (dB(A))

60.3

Lmax (dB(A))

95.9

L90 (dB(A))

56.2

Ldn (dB(A))

64.9

Standard (dB(A))

70

115

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supt S.

Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan Rd., Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports\Air Noise.rpt (9:54AM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294958

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458468-1

Page 1 of 1

Sample Number 2294958-30
Parameter Noise (Leq 24 hrs.)
Location บริเวณริมรั้วของพื้นที่โรงไฟฟ้า (GPS 47P 0718071, 1519314)
Measurement Date Sep 23 - Sep 24, 2022
Measurement by Teeravut Sukdee
Sound Level meter Serial No. 858519

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	60.1	66.0	59.2
12:00 PM - 01:00 PM	60.3	65.9	59.4
01:00 PM - 02:00 PM	59.7	65.8	58.4
02:00 PM - 03:00 PM	60.3	88.4	58.2
03:00 PM - 04:00 PM	60.3	80.5	58.2
04:00 PM - 05:00 PM	63.9	88.2	58.5
05:00 PM - 06:00 PM	61.6	79.6	58.6
06:00 PM - 07:00 PM	67.7	79.6	59.4
07:00 PM - 08:00 PM	65.2	73.9	62.2
08:00 PM - 09:00 PM	62.1	86.4	57.7
09:00 PM - 10:00 PM	57.6	67.6	57.1
10:00 PM - 11:00 PM	57.5	75.0	56.9
11:00 PM - 12:00 AM	57.5	63.8	56.9
12:00 AM - 01:00 AM	57.2	64.8	56.4
01:00 AM - 02:00 AM	56.8	63.1	56.2
02:00 AM - 03:00 AM	56.5	82.4	55.7
03:00 AM - 04:00 AM	56.3	63.9	55.7
04:00 AM - 05:00 AM	56.5	66.5	56.0
05:00 AM - 06:00 AM	56.7	62.4	56.2
06:00 AM - 07:00 AM	56.4	62.5	55.9
07:00 AM - 08:00 AM	62.2	75.4	56.1
08:00 AM - 09:00 AM	63.7	73.1	58.8
09:00 AM - 10:00 AM	60.1	65.8	58.8
10:00 AM - 11:00 AM	60.2	67.4	59.2

Leq Average 24 hrs. (dB(A))

61.1

Lmax (dB(A))

88.4

L90 (dB(A))

57.7

Ldn (dB(A))

64.7

Standard (dB(A))

70

115

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supt S.

Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan Rd., Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports\Air Noise.rpt (9:54AM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294958

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458469-1

Page 1 of 1

Sample Number 2294958-31
Parameter Noise (Leq 24 hrs.)
Location บริเวณรั้วของพื้นที่โรงไฟฟ้า (GPS 47P 0718071, 1519314)
Measurement Date Sep 24 - Sep 25, 2022
Measurement by Teeravut Sukdee
Sound Level meter Serial No. 858519

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	60.5	69.0	59.0
12:00 PM - 01:00 PM	59.9	69.5	58.5
01:00 PM - 02:00 PM	59.1	68.2	57.9
02:00 PM - 03:00 PM	59.5	72.5	57.7
03:00 PM - 04:00 PM	60.1	74.0	57.7
04:00 PM - 05:00 PM	68.0	79.4	58.1
05:00 PM - 06:00 PM	63.6	76.0	60.1
06:00 PM - 07:00 PM	59.5	78.0	57.0
07:00 PM - 08:00 PM	57.2	64.8	56.7
08:00 PM - 09:00 PM	57.1	65.1	56.6
09:00 PM - 10:00 PM	56.9	79.9	56.1
10:00 PM - 11:00 PM	56.4	71.8	55.9
11:00 PM - 12:00 AM	56.3	68.9	55.8
12:00 AM - 01:00 AM	56.5	65.8	56.0
01:00 AM - 02:00 AM	56.6	65.5	56.1
02:00 AM - 03:00 AM	56.4	69.0	55.8
03:00 AM - 04:00 AM	56.2	65.1	55.7
04:00 AM - 05:00 AM	56.1	65.3	55.6
05:00 AM - 06:00 AM	64.7	78.5	56.2
06:00 AM - 07:00 AM	63.8	72.7	58.7
07:00 AM - 08:00 AM	60.5	66.6	59.4
08:00 AM - 09:00 AM	60.8	66.2	59.7
09:00 AM - 10:00 AM	61.0	66.7	59.6
10:00 AM - 11:00 AM	60.2	69.3	58.5

Leq Average 24 hrs. (dB(A)) 60.8
Lmax (dB(A)) 79.9
L90 (dB(A)) 57.0
Ldn (dB(A)) 66.4
Standard (dB(A)) 70
Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supt S.

Supt Salameh
Section Head

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise.rpt (9:54AM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294958

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458470-1

Page 1 of 1

Sample Number 2294958-32
Parameter Noise (Leq 24 hrs.)
Location บริเวณรั้วของพื้นที่โรงไฟฟ้า (GPS 47P 0718071, 1519314)
Measurement Date Sep 25 - Sep 26, 2022
Measurement by Teeravut Sukdee
Sound Level meter Serial No. 858519

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	59.6	68.0	58.0
12:00 PM - 01:00 PM	58.6	73.1	57.3
01:00 PM - 02:00 PM	59.3	73.9	57.5
02:00 PM - 03:00 PM	61.6	76.8	57.6
03:00 PM - 04:00 PM	68.5	78.6	58.7
04:00 PM - 05:00 PM	62.4	71.8	60.4
05:00 PM - 06:00 PM	58.8	79.2	57.0
06:00 PM - 07:00 PM	57.7	76.7	56.5
07:00 PM - 08:00 PM	57.2	69.4	56.6
08:00 PM - 09:00 PM	57.3	75.2	56.3
09:00 PM - 10:00 PM	57.1	66.0	56.4
10:00 PM - 11:00 PM	57.1	61.3	56.6
11:00 PM - 12:00 AM	58.5	79.1	56.8
12:00 AM - 01:00 AM	57.1	65.7	56.6
01:00 AM - 02:00 AM	56.9	66.5	56.5
02:00 AM - 03:00 AM	56.9	69.0	56.4
03:00 AM - 04:00 AM	57.1	70.9	56.5
04:00 AM - 05:00 AM	68.6	84.2	57.2
05:00 AM - 06:00 AM	63.3	73.6	58.8
06:00 AM - 07:00 AM	64.1	69.6	61.7
07:00 AM - 08:00 AM	65.3	70.4	64.2
08:00 AM - 09:00 AM	63.1	74.0	60.4
09:00 AM - 10:00 AM	61.0	72.6	59.0
10:00 AM - 11:00 AM	60.2	72.2	58.0

Leq Average 24 hrs. (dB(A)) 62.1
Lmax (dB(A)) 84.2
L90 (dB(A)) 57.2
Ldn (dB(A)) 68.6
Standard (dB(A)) 70
Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supt S.

Supt Salameh
Section Head

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise.rpt (9:54AM)



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294958

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458471-1

Page 1 of 1

Sample Number	2294958-33
Parameter	Noise (Leq 24 hrs.)
Location	บริเวณริมรั้วของพื้นที่โรงไฟฟ้า (GPS 47P 0718071, 1519314)
Measurement Date	Sep 26 - Sep 27, 2022
Measurement by	Teeravut Sukdee
Sound Level meter	Serial No. 858519

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	61.5	75.3	57.7
12:00 PM - 01:00 PM	60.1	77.3	56.1
01:00 PM - 02:00 PM	57.0	76.3	54.8
02:00 PM - 03:00 PM	58.3	75.1	54.9
03:00 PM - 04:00 PM	57.0	76.2	53.8
04:00 PM - 05:00 PM	57.3	80.5	53.1
05:00 PM - 06:00 PM	54.9	75.4	53.0
06:00 PM - 07:00 PM	54.9	69.6	53.2
07:00 PM - 08:00 PM	54.7	74.3	53.1
08:00 PM - 09:00 PM	54.8	80.4	52.8
09:00 PM - 10:00 PM	54.0	64.0	52.7
10:00 PM - 11:00 PM	54.2	67.7	52.7
11:00 PM - 12:00 AM	56.5	70.5	53.3
12:00 AM - 01:00 AM	58.3	72.4	54.2
01:00 AM - 02:00 AM	59.5	80.8	54.2
02:00 AM - 03:00 AM	59.4	64.6	58.2
03:00 AM - 04:00 AM	61.3	65.3	60.3
04:00 AM - 05:00 AM	61.2	66.8	60.6
05:00 AM - 06:00 AM	60.6	65.1	59.7
06:00 AM - 07:00 AM	60.5	72.3	59.8
07:00 AM - 08:00 AM	61.1	84.6	58.6
08:00 AM - 09:00 AM	58.2	80.6	55.5
09:00 AM - 10:00 AM	56.4	79.5	55.1
10:00 AM - 11:00 AM	57.1	81.5	54.7

Leq Average 24 hrs. (dB(A))	58.5		
Lmax (dB(A))		84.6	
L90 (dB(A))			54.7
Ldn (dB(A))	65.7		
Standard (dB(A))	70	115	

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise.rpt (9:55AM)



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294958

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458472-1

Page 1 of 1

Sample Number	2294958-34
Parameter	Noise (Leq 24 hrs.)
Location	บริเวณริมรั้วของพื้นที่โรงไฟฟ้า (GPS 47P 0718071, 1519314)
Measurement Date	Sep 27 - Sep 28, 2022
Measurement by	Teeravut Sukdee
Sound Level meter	Serial No. 858519

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	58.7	71.8	54.7
12:00 PM - 01:00 PM	58.9	71.4	56.4
01:00 PM - 02:00 PM	56.5	79.8	54.8
02:00 PM - 03:00 PM	55.2	71.2	54.3
03:00 PM - 04:00 PM	54.7	75.3	53.6
04:00 PM - 05:00 PM	54.9	67.7	53.6
05:00 PM - 06:00 PM	56.7	71.9	53.8
06:00 PM - 07:00 PM	55.9	78.7	53.8
07:00 PM - 08:00 PM	67.0	87.7	58.3
08:00 PM - 09:00 PM	59.7	82.2	56.6
09:00 PM - 10:00 PM	58.8	61.8	57.9
10:00 PM - 11:00 PM	58.7	61.4	57.7
11:00 PM - 12:00 AM	57.2	64.7	56.3
12:00 AM - 01:00 AM	59.5	73.9	57.5
01:00 AM - 02:00 AM	57.6	78.3	55.5
02:00 AM - 03:00 AM	57.3	84.3	55.2
03:00 AM - 04:00 AM	58.0	82.4	54.7
04:00 AM - 05:00 AM	58.7	83.1	53.8
05:00 AM - 06:00 AM	55.1	75.5	53.6
06:00 AM - 07:00 AM	55.9	69.5	53.4
07:00 AM - 08:00 AM	55.5	72.4	53.1
08:00 AM - 09:00 AM	55.5	70.6	53.2
09:00 AM - 10:00 AM	55.6	60.8	55.2
10:00 AM - 11:00 AM	55.5	59.7	54.9

Leq Average 24 hrs. (dB(A))	58.6		
Lmax (dB(A))		87.7	
L90 (dB(A))			54.7
Ldn (dB(A))	64.4		
Standard (dB(A))	70	115	

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise.rpt (9:55AM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัตถุภาณเขต4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294958

Date Received : Sep 30, 2022

Date Reported : Oct 08, 2022

Report Number: 2458473-1

Page 1 of 1

Sample Number : 2294958-35
 Parameter : Noise (Leq 24 hrs.)
 Location : บริเวณรั้วของพื้นที่โรงไฟฟ้า (GPS 47P 0718071, 1519314)
 Measurement Date : Sep 28 - Sep 29, 2022
 Measurement by : Teeravut Sukdee
 Sound Level meter : Serial No. 858519

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	55.3	65.0	54.8
12:00 PM - 01:00 PM	56.0	63.9	55.3
01:00 PM - 02:00 PM	58.5	60.8	57.1
02:00 PM - 03:00 PM	58.0	84.2	55.1
03:00 PM - 04:00 PM	56.9	70.7	54.8
04:00 PM - 05:00 PM	56.7	69.7	54.4
05:00 PM - 06:00 PM	57.1	81.1	54.6
06:00 PM - 07:00 PM	56.1	66.0	55.4
07:00 PM - 08:00 PM	59.6	72.0	54.1
08:00 PM - 09:00 PM	55.1	75.2	53.1
09:00 PM - 10:00 PM	54.7	75.0	53.3
10:00 PM - 11:00 PM	55.4	73.8	53.8
11:00 PM - 12:00 AM	57.9	76.5	54.4
12:00 AM - 01:00 AM	56.9	69.3	54.7
01:00 AM - 02:00 AM	55.1	65.6	54.4
02:00 AM - 03:00 AM	55.1	69.0	54.5
03:00 AM - 04:00 AM	55.3	62.4	54.6
04:00 AM - 05:00 AM	55.0	57.8	54.3
05:00 AM - 06:00 AM	55.4	58.3	54.5
06:00 AM - 07:00 AM	57.0	68.1	55.8
07:00 AM - 08:00 AM	58.3	64.5	57.7
08:00 AM - 09:00 AM	57.1	61.5	55.9
09:00 AM - 10:00 AM	56.3	76.1	55.4
10:00 AM - 11:00 AM	56.1	82.5	54.3

Leq Average 24 hrs. (dB(A))

56.7

Lmax (dB(A))

84.2

L90 (dB(A))

54.6

Ldn (dB(A))

62.6

Standard (dB(A))

70

115

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

Saranya Chalerthamrong
 Scientist (4)

Approved by

Supot S.

Supot Salamteh
 Section Head

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
 ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise.rpt (9:55AM)

ภาคผนวก ค.5

คุณภาพน้ำผิวดินในคลองพระองค์ไชยานุชิต



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand
24000
P/O : สัญญาเลขที่4600001497
Project Name : Monitoring EIA
Project Location : GNNK



TESTING
No.0009
Lot ID: 22105885
Date Received : Oct 10, 2022
Date Reported : Oct 18, 2022
Report Number : 2466316-1

Page 1 of 1

Sample Number	22105885-1
Sampled Date	Oct 10, 2022 10:45 AM
Sample Description	Surface water
Location	คลองพระองค์ไชยราษฎร์ ที่ 1กม.เหนือจุดสูบน้ำและกระจายน้ำของโครงการ (GPS 47P 710323, 1525730)
Date Analysis Commenced	Oct 11, 2022
Condition of Sample	Contained in two BOD bottles, two plastic bottles and one amber glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 degree C) *	mg/L	-	2	3	≤4	Based on APHA (2017), 5210 B	Bangkok
Dissolved Oxygen *	mg/L	-	0.1	3.4	≥2	Based on APHA (2017), 4500-O (C)	Bangkok
Oil & Grease	mg/L	-	3	<3	No Standard	Based on APHA (2017), 5520 B	Bangkok
pH at 25 degree C		-	-	7.0	5.0-9.0	Based on APHA (2017), 4500-H (B)	Bangkok
Temperature *	Degree C	-	-	29.5	n'	Based on APHA (2017), 2550 B	Bangkok
Total Chlorine *	mg/L	-	0.1	<0.1	No Standard	Based on APHA (2017), 4500-Cl (F)	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	264	No Standard	Based on APHA (2017), 2540 C	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	24	No Standard	Based on APHA (2017), 2540 D	Bangkok

Guideline : 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)

n': Change from Natural condition not more than 3 degree C

Sampled By : Chuladet Warin

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

Siriluk P.
Siriluk Puenggang
Supervisor

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports\AI_GL.rpt (4:35PM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand
24000
P/O : สัญญาเลขที่4600001497
Project Name : Monitoring EIA
Project Location : GNNK



TESTING
No.0009
Lot ID: 22105885
Date Received : Oct 10, 2022
Date Reported : Oct 18, 2022
Report Number : 2466317-1

Page 1 of 1

Sample Number	22105885-2
Sampled Date	Oct 10, 2022 11:25 AM
Sample Description	Surface water
Location	คลองพระองค์ไชยราษฎร์ บริเวณจุดสูบน้ำและกระจายน้ำของโครงการ (GPS 47P 710160, 1525520)
Date Analysis Commenced	Oct 11, 2022
Condition of Sample	Contained in two BOD bottles, two plastic bottles and one amber glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 degree C) *	mg/L	-	2	2	≤4	Based on APHA (2017), 5210 B	Bangkok
Dissolved Oxygen *	mg/L	-	0.1	2.2	≥2	Based on APHA (2017), 4500-O (C)	Bangkok
Oil & Grease	mg/L	-	3	<3	No Standard	Based on APHA (2017), 5520 B	Bangkok
pH at 25 degree C		-	-	7.0	5.0-9.0	Based on APHA (2017), 4500-H (B)	Bangkok
Temperature *	Degree C	-	-	30.7	n'	Based on APHA (2017), 2550 B	Bangkok
Total Chlorine *	mg/L	-	0.1	<0.1	No Standard	Based on APHA (2017), 4500-Cl (F)	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	252	No Standard	Based on APHA (2017), 2540 C	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	18	No Standard	Based on APHA (2017), 2540 D	Bangkok

Guideline : 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)

n': Change from Natural condition not more than 3 degree C

Sampled By : Chuladet Warin

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

Siriluk P.
Siriluk Puenggang
Supervisor

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports\AI_GL.rpt (4:35PM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand
24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

TESTING
No.0009
Lot ID: 22105885
Date Received : Oct 10, 2022
Date Reported : Oct 18, 2022
Report Number : 2466318-1

Page 1 of 1

Sample Number 22105885-3
Sampled Date Oct 10, 2022 11:46 AM
Sample Description Surface water
Location คลองพระพรตในเขตรักษาพันธุ์สัตว์ป่าห้วยขาแข้งและอุทยานแห่งชาติคลองกร่าง (GPS 47P 7100076, 1525424)
Date Analysis Commenced Oct 11, 2022
Condition of Sample Contained in two BOD bottles, two plastic bottles and one amber glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 degree C) *	mg/L	-	2	3	≤4	Based on APHA (2017), 5210 B	Bangkok
Dissolved Oxygen *	mg/L	-	0.1	2.1	≥2	Based on APHA (2017), 4500-O (C)	Bangkok
Oil & Grease	mg/L	-	3	<3	No Standard	Based on APHA (2017), 5520 B	Bangkok
pH at 25 degree C		-	-	7.1	5.0-9.0	Based on APHA (2017), 4500-H (B)	Bangkok
Temperature *	Degree C	-	-	30.7	n'	Based on APHA (2017), 2550 B	Bangkok
Total Chlorine *	mg/L	-	0.1	0.1	No Standard	Based on APHA (2017), 4500-Cl (F)	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	232	No Standard	Based on APHA (2017), 2540 C	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	22	No Standard	Based on APHA (2017), 2540 D	Bangkok

Guideline : 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)

n': Change from Natural condition not more than 3 degree C

Sampled By : Chuladet Warin

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.

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

Approved by

Siriluk P.

Siriluk Puengpang
Supervisor

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports\All_GL.rpt (4:36PM)

ภาคผนวก ค.6

ทรัพยากรชีวภาพในคลองพระองค์ไชยานุชิต



สถานีวิจัยประมงศรีราชา

101/12 หมู่ 9 ต. บางพระ

อ. ศรีราชา จ. ชลบุรี 20110

โทร./โทรสาร. (038) 311379

Client : Gulf JP NNK Co., Ltd.

Address : 99 Moo 17 Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao, Thailand, 24000

Project Name : Monitoring EIA

Project Location : GNNK

รายงานผลการวิเคราะห์แหล่งกักต่อน้ำ

ตาราง ผลการวิเคราะห์แหล่งกักต่อน้ำ (เก็บตัวอย่างวันที่ 10 ตุลาคม 2565)

ชนิดแพลงก์ตอนพืช	ปริมาณแพลงก์ตอนพืช (หน่วยต่อลูกบาศก์เมตร)		
	22105897-1	22105897-2	22105897-3
Division Cyanophyta			
Class Cyanophyceae			
Order Nostocales			
Family Oscillatoriaceae			
1. <i>Oscillatoria princeps</i>	119,000	23,000	23,000
2. <i>Oscillatoria</i> sp.	405,000	-	-
3. <i>Oscillatoria tenuis</i>	48,000	206,000	46,000
4. <i>Spirulina platensis</i>	33,000	91,000	366,000
Family Nostocaceae			
5. <i>Raphidiopsis</i> sp.	48,000	-	-
Family Rivulariaceae			
6. <i>Calothrix</i> sp.	-	23,000	-

ตาราง ผลการวิเคราะห์แหล่งกักต่อน้ำ (เก็บตัวอย่างวันที่ 10 ตุลาคม 2565)

(ต่อ)

ชนิดแพลงก์ตอนพืช	ปริมาณแพลงก์ตอนพืช (หน่วยต่อลูกบาศก์เมตร)		
	22105897-1	22105897-2	22105897-3
Division Chlorophyta			
Class Chlorophyceae			
Order Volvocales			
Family Volvocaceae			
7. <i>Eudorina elegans</i>	-	-	46,000
8. <i>Gonium pectorale</i>	-	23,000	-
9. <i>Pandorina morum</i>	-	46,000	-
Order Chlorococcales			
Family Hydrodictyaceae			
10. <i>Pediastrum duplex</i>	95,000	114,000	92,000
11. <i>Pediastrum simplex</i>	71,000	-	-
Family Coelastraceae			
12. <i>Coelastrum</i> sp.	-	-	115,000
Family Oocystaceae			
13. <i>Tetraedron</i> sp.	71,000	-	-
14. <i>Tetraedron gracile</i>	-	183,000	92,000
15. <i>Tetraedron trigonum</i>	-	137,000	481,000
Family Scenedesmaceae			
16. <i>Crucigenia apiculata</i>	119,000	-	-
17. <i>Scenedesmus acuminatus</i>	-	-	252,000
18. <i>Scenedesmus dimorphus</i>	167,000	-	69,000
19. <i>Scenedesmus opoliensis</i>	48,000	-	183,000
Order Zygomatales			
Family Zygnemataceae			
20. <i>Spirogyra weberi</i>	-	69,000	-
Family Desmidiaceae			
21. <i>Closterium acerosum</i>	524,000	-	-

ตาราง ผลการวิเคราะห์แหล่งกักต่อน้ำพิษ (เก็บตัวอย่างวันที่ 10 ตุลาคม 2565)

(ต่อ)

ชนิดแหล่งกักต่อน้ำพิษ	ปริมาณแหล่งกักต่อน้ำพิษ (หน่วยต่อลูกบาศก์เมตร)		
	22105897-1	22105897-2	22105897-3
22. <i>Closterium ehrenbergii</i>	214,000	69,000	-
23. <i>Closterium gracile</i>	-	46,000	23,000
24. <i>Closterium ratfsii</i>	309,000	23,000	115,000
25. <i>Closterium</i> sp.	286,000	69,000	-
Class Euglenophyceae			
Order Euglenales			
Family Euglenaceae			
26. <i>Euglena acus</i>	833,000	1,280,000	1,099,000
27. <i>Euglena oxyuris</i>	95,000	91,000	458,000
28. <i>Euglena</i> sp.	-	69,000	-
29. <i>Lepocinclis ovum</i>	476,000	2,514,000	1,191,000
30. <i>Phacus angulatus</i>	262,000	1,828,000	641,000
31. <i>Phacus hamatus</i>	666,000	297,000	504,000
32. <i>Phacus longicauda</i>	-	251,000	206,000
33. <i>Phacus myersi</i>	71,000	-	-
34. <i>Phacus platalea</i>	95,000	251,000	481,000
35. <i>Phacus</i> sp.	595,000	-	183,000
36. <i>Phacus suecicus</i>	-	229,000	229,000
37. <i>Phacus tortus</i>	214,000	1,462,000	573,000
38. <i>Strombomonas australica</i>	357,000	69,000	183,000
39. <i>Strombomonas fluvialis</i>	619,000	160,000	92,000
40. <i>Strombomonas gibberosa</i>	952,000	526,000	183,000
41. <i>Strombomonas girardiana</i>	666,000	388,000	69,000
42. <i>Trachelomonas crebea</i>	381,000	548,000	275,000
43. <i>Trachelomonas dangerdiana</i>	381,000	571,000	206,000
44. <i>Trachelomonas hispida</i>	6,180,000	7,769,000	5,954,000
45. <i>Trachelomonas mirabilis</i>	-	366,000	366,000
46. <i>Trachelomonas superba</i>	238,000	823,000	137,000

ตาราง ผลการวิเคราะห์แหล่งกักต่อน้ำพิษ (เก็บตัวอย่างวันที่ 10 ตุลาคม 2565)

(ต่อ)

ชนิดแหล่งกักต่อน้ำพิษ	ปริมาณแหล่งกักต่อน้ำพิษ (หน่วยต่อลูกบาศก์เมตร)		
	22105897-1	22105897-2	22105897-3
47. <i>Trachelomonas volzii</i>	143,000	69,000	550,000
Division Chromophyta			
Class Bacillariophyceae			
Order Biddulphiales			
Suborder Coscinodiscineae			
Family Thalassiosiraceae			
48. <i>Cyclotella stelligera</i>	3,332,000	2,285,000	573,000
49. <i>Thalassiosira</i> sp.	262,000	91,000	-
Family Aulacoseiraceae			
50. <i>Aulacoseira baicalensis</i>	357,000	-	69,000
51. <i>Aulacoseira granulata</i>	71,000	23,000	23,000
Order Bacillariales			
Suborder Fragilariineae			
Family Fragilariaceae			
52. <i>Diatoma moniliforme</i>	2,380,000	-	-
53. <i>Fragilaria capucina</i>	-	229,000	69,000
54. <i>Synedra acus</i>	95,000	-	-
55. <i>Synedra runpens</i>	190,000	-	-
56. <i>Synedra ulna</i>	571,000	548,000	206,000
Suborder Bacillariineae			
Family Eunotiaceae			
57. <i>Eunotia lineolata</i>	119,000	-	23,000
58. <i>Eunotia pectinalis</i>	119,000	297,000	23,000
Family Cymbellaceae			
59. <i>Gomphonema parvulum</i>	904,000	137,000	160,000
Family Naviculaceae			
60. <i>Amphora</i> sp.	381,000	-	-

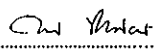
ตาราง ผลการวิเคราะห์แพลงก์ตอนพืช (เก็บตัวอย่างวันที่ 10 ตุลาคม 2565)

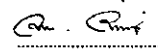
(ต่อ)

ชนิดแพลงก์ตอนพืช	ปริมาณแพลงก์ตอนพืช (หน่วยต่อลูกบาศก์เมตร)		
	22105897-1	22105897-2	22105897-3
61. <i>Frustrulia</i> sp.	95,000	-	-
62. <i>Gyrosigma attenuatum</i>	1,142,000	366,000	92,000
63. <i>Navicula lanceolata</i>	5,712,000	411,000	115,000
64. <i>Pinnularia gibba</i>	857,000	69,000	-
65. <i>Pinnularia</i> sp.	428,000	-	-
Family Bacillariaceae			
66. <i>Nitzschia lorenziana</i>	143,000	-	-
67. <i>Nitzschia signioidea</i>	95,000	-	-
68. <i>Nitzschia</i> sp.	690,000	548,000	-
Family Surirellaceae			
69. <i>Surirella elegans</i>	24,000	-	-
70. <i>Surirella tenera</i>	48,000	-	-
Class Cryosphyceae			
Order Synurales			
Family Mallomonadaceae			
71. <i>Mallomonas litomesa</i>	-	23,000	595,000
Class Dinophyceae			
Order Peridinales			
Family Peridiniaceae			
72. <i>Peridinium gatunense</i>	-	91,000	-
73. <i>Peridinium</i> sp.	-	69,000	-
ชนิดแพลงก์ตอนพืช	55	48	44
ปริมาณแพลงก์ตอนพืช	33,796,000	25,870,000	17,431,000
ดัชนีความหลากหลายแพลงก์ตอนพืช	3.0900	2.7943	2.8395
ดัชนีความสม่ำเสมอแพลงก์ตอนพืช	0.7711	0.7218	0.7504

- Sample Location :
- สถานี 22105897-1 : คลองพระองค์ไชยานุชิต ที่ 1 กม. เหนือจุดสูบน้ำและจุดระบายน้ำ ของโครงการฯ
 - สถานี 22105897-2 : คลองพระองค์ไชยานุชิต บริเวณจุดสูบน้ำและจุดระบายน้ำ ของโครงการฯ
 - สถานี 22105897-3 : คลองพระองค์ไชยานุชิต ที่ 1 กม. ท้ายจุดสูบน้ำและจุดระบายน้ำ ของโครงการฯ

Condition of Sample : contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)


(นางสาวกนกวรรณ ขวาค่อน)
ผู้วิเคราะห์


(นายอลงกต อินทรชาติ)
หัวหน้าสถานีวิจัยประมงศรีราชา



สถานีวิทยุประมงศรีราชา

101/12 หมู่ 9 ต. บางพระ

อ. ศรีราชา จ. ชลบุรี 20110

โทร./โทรสาร. (038) 311379

Client : Gulf JP NNK Co., Ltd.

Address : 99 Moo 17 Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao, Thailand, 24000

Project Name : Monitoring EIA

Project Location : GNNK

รายงานผลการวิเคราะห์แหล่งกักต่อนสัตว์

ตาราง ผลการวิเคราะห์แหล่งกักต่อนสัตว์ (เก็บตัวอย่างวันที่ 10 ตุลาคม 2565)

ชนิดแหล่งกักต่อนสัตว์	ปริมาณแหล่งกักต่อนสัตว์ (หน่วยต่อลูกบาศก์เมตร)		
	22105897-1	22105897-2	22105897-3
Phylum Protozoa			
Subphylum Plasmodroma			
Class Sarcodina			
Subclass Rhizopoda			
Order Testacida			
Family Arcellidae			
1. <i>Arcella</i> sp.	119,000	-	23,000
2. <i>Arcella vulgaris</i>	143,000	-	23,000
Family Diffugiidae			
3. <i>Diffugia acuminata</i>	24,000	23,000	-
Family Euglyphidae			
4. <i>Euglypha acanthophora</i>	24,000	-	-
5. <i>Euglypha rotunda</i>	71,000	-	-

ตาราง ผลการวิเคราะห์แหล่งกักต่อนสัตว์ (เก็บตัวอย่างวันที่ 10 ตุลาคม 2565)

(ต่อ)

ชนิดแหล่งกักต่อนสัตว์	ปริมาณแหล่งกักต่อนสัตว์ (หน่วยต่อลูกบาศก์เมตร)		
	22105897-1	22105897-2	22105897-3
Subphylum Ciliophora			
Class Ciliata			
Subclass Holotricha			
Order Gymnostomatida			
6. <i>Coleps</i> sp.	-	-	46,000
Subclass Spirotricha			
Order Tintinnida			
Family Tintinnididae			
7. <i>Tintinnidium</i> sp.	143,000	23,000	137,000
Subclass Peritricha			
Order Peritrichida			
8. <i>Vorticella</i> sp.	-	91,000	115,000
Phylum Rotifera			
Class Monogononta			
Order Ploima			
Family Brachionidae			
9. <i>Anuraeopsis fissa</i>	190,000	229,000	46,000
10. <i>Brachionus plicatilis</i>	-	-	23,000
11. <i>Brachionus</i> sp.	24,000	23,000	-
12. <i>Keratella vulga</i>	-	-	23,000
Family Lecanidae			
13. <i>Lecane bulla</i>	24,000	46,000	-
Family Synchaetidae			
14. <i>Polyarthra dolichoptera</i>	-	-	23,000
15. <i>Polyarthra vulgaris</i>	24,000	-	-

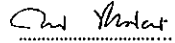
ตาราง ผลการวิเคราะห์แพลงก์ตอนสัตว์ (เก็บตัวอย่างวันที่ 10 ตุลาคม 2565)

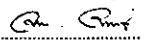
(ต่อ)

ชนิดแพลงก์ตอนสัตว์	ปริมาณแพลงก์ตอนสัตว์ (หน่วยต่อลูกบาศก์เมตร)		
	22105897-1	22105897-2	22105897-3
Order Flosculariacea			
Family Testudinellidae			
16. <i>Filinia</i> sp.	-	-	23,000
Class Digononta			
Family Philodinidae			
17. <i>Rotaria neptunia</i>	24,000	-	-
18. <i>Rotaria rotatoria</i>	24,000	-	-
Phylum Arthropoda			
Class Crustacea			
Subclass Ostracoda			
Order Podocopa			
Family Cypridae			
19. <i>Cypridopsis</i> sp.	-	-	23,000
Subclass Copepoda			
20. Copepod nauplius	24,000	-	69,000
Order Cyclopoida			
21. Cyclopoid copepod	24,000	-	23,000
ชนิดแพลงก์ตอนสัตว์	14	6	13
ปริมาณแพลงก์ตอนสัตว์	882,000	435,000	597,000
ดัชนีความหลากหลายแพลงก์ตอนสัตว์	2.2764	1.3690	2.3031
ดัชนีความสม่ำเสมอแพลงก์ตอนสัตว์	0.8626	0.7641	0.8979

- Sample Location :
- สถานี 22105897-1 : คลองพระองค์ไชยานุชิต ที่ 1 กม. เหนือจุดสูบน้ำและจุดระบายน้ำ ของโครงการฯ
 - สถานี 22105897-2 : คลองพระองค์ไชยานุชิต บริเวณจุดสูบน้ำและจุดระบายน้ำ ของโครงการฯ
 - สถานี 22105897-3 : คลองพระองค์ไชยานุชิต ที่ 1 กม. ท้ายจุดสูบน้ำและจุดระบายน้ำ ของโครงการฯ

Condition of Sample : contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)


(นางสาวกนกวรรณ ขาวค่อน)
ผู้วิเคราะห์


(นายอลงกต อนันทรชาติ)
หัวหน้าสถานีวิจัยประมงทรีราชา



สถานีวิจัยประมงศรีราชา

101/12 หมู่ 9 ต. บางพระ

อ. ศรีราชา จ. ชลบุรี 20110

โทร./โทรสาร. (038) 311379

Client : Gulf JP NNK Co., Ltd.

Address : 99 Moo 17 Klong Nakorn Neangket, Muang Chacheungsao, Chacheungsao, Thailand, 24000

Project Name : Monitoring EIA

Project Location : GNNK

รายงานผลการวิเคราะห์สัตว์หน้าดิน

ตาราง ผลการวิเคราะห์สัตว์หน้าดิน (เก็บตัวอย่างวันที่ 10 ตุลาคม 2565)

ชนิดสัตว์หน้าดิน	ปริมาณสัตว์หน้าดิน (ตัว/ตารางเมตร)		
	22105898-1	22105898-2	22105898-3
Phylum Annelida			
Class Clitellata			
Order Lumbriculida			
Family Lumbriculidae			
<i>Lumbriculus</i> sp. (ไส้เดือนน้ำจืด)	60	-	-
Phylum Arthropoda			
Class Insecta			
Order Diptera			
Family Chironomidae			
<i>Chironomus</i> sp. (หนอนแดง)	312	30	104
Phylum Mollusca			
Class Gastropoda			
Order Architenioglossa			
Family Ampullariidae			
<i>Pomacea</i> sp. (หอยเชอรี่)	15	-	-

ตาราง ผลการวิเคราะห์สัตว์หน้าดิน (เก็บตัวอย่างวันที่ 10 ตุลาคม 2565) (ต่อ)

ชนิดสัตว์หน้าดิน	ปริมาณสัตว์หน้าดิน (ตัว/ตารางเมตร)		
	22105898-1	22105898-2	22105898-3
Family Viviparidae			
<i>Filopaludina</i> sp. (หอยขม)	-	30	89
<i>Trochotaia</i> sp. (หอยเวียน)	-	15	30
รวมจำนวนสกุลที่พบทั้งหมด	3	3	3
รวมปริมาณที่พบทั้งหมด	387	75	223
ค่าดัชนีความหลากหลาย	0.5887	1.0549	0.9922

Sample Location : 1. สถานี 22105898-1 : คลองพระองค์ไชยานุจิตที่ 1 กม. เหนือจุดสูบน้ำและจุดระบายน้ำของ

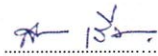
โครงการฯ

2. สถานี 22105898-2 : คลองพระองค์ไชยานุจิต บริเวณจุดสูบน้ำและจุดระบายน้ำของโครงการฯ

3. สถานี 22105898-3 : คลองพระองค์ไชยานุจิตที่ 1 กม. ท้ายจุดสูบน้ำและจุดระบายน้ำของ

โครงการฯ

Condition of Sample : contained in one plastic zip bag


.....

(นายสาโรจน์ เร่มดำริห์)

ผู้วิเคราะห์


.....

(นายองกต อินทรชาติ)

หัวหน้าสถานีวิจัยประมงศรีราชา

ภาคผนวก ค.7

คุณภาพน้ำทิ้งจากบ่อกักน้ำทิ้ง



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัตถกานนท์ 4600001497

Project Name : Monitoring EIA

Project Location: GNNK



TESTING
No.0009

Lot ID: 2269128

Date Received : Jul 04, 2022

Date Reported : Jul 12, 2022

Report Number : 2335093-1 C13-1

Page 1 of 1

Sample Number	2269128-1					
Sampled Date	Jul 04, 2022 10:45 AM					
Sample Description	Wastewater					
Location	บ่อกักน้ำทิ้ง (Wastewater Retention Pond)					
Date Analysis Commenced	Jul 05, 2022					
Condition of Sample	Contained in one amber glass bottle, three plastic bottles and two BOD 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	2	≤20	Based on APHA (2017), 5210 B	Bangkok
Oil & Grease	mg/L	-	3	<3	≤5	Based on APHA (2017), 5520 B	Bangkok
pH at 25 degree C	-	-	-	7.5	6.5-8.5	Based on APHA (2017), 4500-H (B)	Bangkok
Residual Free Chlorine *	mg/L	-	0.1	<0.1	≤1	APHA (2017), 4500-Cl(F)	Bangkok
Temperature *	Degree C	-	-	30.8	≤40	Based on APHA (2017), 2550 B	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	628	≤1300	Based on APHA (2017), 2540 C	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	≤30	Based on APHA (2017), 2540 D	Bangkok

Guideline : Water Characteristics Discharge into Irrigation System, Royal Irrigation Department No.18/2561.

Sampled By : Chayanwut Chailhanit

Remark :

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

Technical Management

Siriluk P.

Siriluk Puengpang
Supervisor

ทะเบียนเลขที่ 7-204-จ-4720

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager

ทะเบียนเลขที่ 7-204-ก-6111

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัตถกานนท์ 4600001497

Project Name : Monitoring EIA

Project Location: GNNK

Lot ID: 2269128

Date Received : Jul 04, 2022

Date Reported : Jul 12, 2022

Report Number : 2335093-2 C13-1

Page 1 of 1

Sample Number	2269128-1					
Sampled Date	Jul 04, 2022 10:45 AM					
Sample Description	Wastewater					
Location	บ่อกักน้ำทิ้ง (Wastewater Retention Pond)					
Date Analysis Commenced	Jul 05, 2022					
Condition of Sample	Contained in one amber glass bottle, three plastic bottles and two BOD bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)					

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Calcium	meq/L	0.003	0.005	2.91	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Magnesium	meq/L	0.003	0.005	1.86	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
SAR	-	-	-	2.98	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Sodium	meq/L	0.003	0.005	4.60	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Water Testing							
Conductivity at 25 degree C	micromhos/cm	-	0.5	962	No Standard	Based on APHA (2017), 2510 B	Bangkok

Guideline : Water Characteristics Discharge into Irrigation System, Royal Irrigation Department No.18/2561.

Sampled By : Chayanwut Chailhanit

Remark :

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

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand
24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK



TESTING
No.0009
Lot ID: 2270329
Date Received : Aug 01, 2022
Date Reported : Aug 09, 2022
Report Number : 2337213-1 C13-1

Page 1 of 1

Sample Number 2270329-1
Sampled Date Aug 01, 2022 11:10 AM
Sample Description Wastewater
Location บ่อพักน้ำทิ้ง (Wastewater Retention Pond)
Date Analysis Commenced Aug 02, 2022
Condition of Sample Contained in one amber glass bottle, three plastic bottles and two BOD 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	3	≤20	Based on APHA (2017), 5210 B	Bangkok
Oil & Grease	mg/L	-	3	<3	≤5	Based on APHA (2017), 5520 B	Bangkok
pH at 25 degree C	-	-	-	7.9	6.5-8.5	Based on APHA (2017), 4500-H (B)	Bangkok
Residual Free Chlorine *	mg/L	-	0.1	<0.1	≤1	APHA (2017), 4500-Cl(F)	Bangkok
Temperature *	Degree C	-	-	31.8	≤40	Based on APHA (2017), 2550 B	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	844	≤1300	Based on APHA (2017), 2540 C	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	6	≤30	Based on APHA (2017), 2540 D	Bangkok

Guideline : Water Characteristics Discharge into Irrigation System, Royal Irrigation Department No.18/2561.

Sampled By : Thanwa Jariya

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

Technical Management

Siriluk P.

Siriluk Puengpang
Supervisor

ทะเบียนเลขที่ 7-204-4-4720

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager

ทะเบียนเลขที่ 7-204-4-6111

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand
24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 2270329
Date Received : Aug 01, 2022
Date Reported : Aug 09, 2022
Report Number : 2337213-2 C13-1

Page 1 of 1

Sample Number 2270329-1
Sampled Date Aug 01, 2022 11:10 AM
Sample Description Wastewater
Location บ่อพักน้ำทิ้ง (Wastewater Retention Pond)
Date Analysis Commenced Aug 02, 2022
Condition of Sample Contained in one amber glass bottle, three plastic bottles and two BOD bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Calcium	meq/L	0.003	0.005	3.26	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Magnesium	meq/L	0.003	0.005	2.63	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
SAR	-	-	-	3.39	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Sodium	meq/L	0.003	0.005	5.82	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Water Testing							
Conductivity at 25 degree C	micromhos/cm	-	0.5	1208	No Standard	Based on APHA (2017), 2510 B	Bangkok

Guideline : Water Characteristics Discharge into Irrigation System, Royal Irrigation Department No.18/2561.

Sampled By : Thanwa Jariya

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

Approved by

Savitree N.

Savitree Noisangiam
Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK



TESTING
No.0009

Lot ID: 2295013

Date Received : Sep 05, 2022

Date Reported : Sep 14, 2022

Report Number : 2393366-1 C13-1

Page 1 of 1

Sample Number	2295013-1						
Sampled Date	Sep 05, 2022 10:45 AM						
Sample Description	Wastewater						
Location	บ่อกักน้ำทิ้ง (Wastewater Retention Pond)						
Date Analysis Commenced	Sep 06, 2022						
Condition of Sample	Contained in one amber glass bottle, two glass vials, two BOD bottles 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							
BOD (5 days at 20 degree C)	mg/L	-	2	<2	≤20	Based on APHA (2017), 5210 B	Bangkok
Oil & Grease	mg/L	-	3	<3	≤5	Based on APHA (2017), 5520 B	Bangkok
pH at 25 degree C	-	-	-	7.7	6.5-8.5	Based on APHA (2017), 4500-H (B)	Bangkok
Residual Free Chlorine *	mg/L	-	0.1	0.2	≤1	APHA (2017), 4500-Cl(F)	Bangkok
Temperature *	Degree C	-	-	30.6	≤40	Based on APHA (2017), 2550 B	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	668	≤1300	Based on APHA (2017), 2540 C	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	15	≤30	Based on APHA (2017), 2540 D	Bangkok

Guideline : Water Characteristics Discharge into Irrigation System, Royal Irrigation Department No.18/2561.

Sampled By : Chulladet Warin

Remark :

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

Technical Management

Sawitree N.

Sawitree Noisangiam
Manager

ทะเบียนเลขที่ 7-204-จ-4709

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager

ทะเบียนเลขที่ 7-204-ก-6111

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2295013

Date Received : Sep 05, 2022

Date Reported : Sep 14, 2022

Report Number : 2393366-2 C13-1

Page 1 of 1

Sample Number	2295013-1						
Sampled Date	Sep 05, 2022 10:45 AM						
Sample Description	Wastewater						
Location	บ่อกักน้ำทิ้ง (Wastewater Retention Pond)						
Date Analysis Commenced	Sep 06, 2022						
Condition of Sample	Contained in one amber glass bottle, two glass vials, two BOD bottles and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Calcium	meq/L	0.003	0.005	2.97	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Magnesium	meq/L	0.003	0.005	2.16	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
SAR	-	-	-	3.21	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Sodium	meq/L	0.003	0.005	5.14	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Water Testing							
Conductivity at 25 degree C	micromhos/cm	-	0.5	1073	No Standard	Based on APHA (2017), 2510 B	Bangkok

Guideline : Water Characteristics Discharge into Irrigation System, Royal Irrigation Department No.18/2561.

Sampled By : Chulladet Warin

Remark :

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

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand
24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location: GNNK

TESTING
No. 0009
Lot ID: 22105895
Date Received : Oct 10, 2022
Date Reported : Oct 19, 2022
Report Number : 2414947-1 C13-1

Page 1 of 1

Sample Number 22105895-1
Sampled Date Oct 10, 2022 9:40 AM
Sample Description Wastewater
Location ปล่อยน้ำทิ้ง (Wastewater Retention Pond)
Date Analysis Commenced Oct 11, 2022
Condition of Sample Contained in two BOD bottles, three plastic bottles and one amber glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 degree C)	mg/L	-	2	<2	≤20	Based on APHA (2017), 5210 B	Bangkok
Oil & Grease	mg/L	-	3	<3	≤5	Based on APHA (2017), 5520 B	Bangkok
pH at 25 degree C	-	-	-	7.5	6.5-8.5	Based on APHA (2017), 4500-H (B)	Bangkok
Residual Free Chlorine *	mg/L	-	0.1	0.1	≤1	APHA (2017), 4500-Cl(F)	Bangkok
Temperature *	Degree C	-	-	29.2	≤40	Based on APHA (2017), 2550 B	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	764	≤1300	Based on APHA (2017), 2540 C	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	10	≤30	Based on APHA (2017), 2540 D	Bangkok

Guideline : Water Characteristics Discharge into Irrigation System, Royal Irrigation Department No.18/2561.

Sampled By : Chulladet Warin

Remark :

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

Technical Management

Siriluk P.

Siriluk Puenggang
Supervisor

ทะเบียนเลขที่ 2-204-4-4720

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager

ทะเบียนเลขที่ 2-204-4-6111

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand
24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location: GNNK

Lot ID: 22105895
Date Received : Oct 10, 2022
Date Reported : Oct 19, 2022
Report Number : 2414947-2 C13-1

Page 1 of 1

Sample Number 22105895-1
Sampled Date Oct 10, 2022 9:40 AM
Sample Description Wastewater
Location ปล่อยน้ำทิ้ง (Wastewater Retention Pond)
Date Analysis Commenced Oct 11, 2022
Condition of Sample Contained in two BOD bottles, three plastic bottles and one amber glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Calcium	meq/L	0.003	0.005	2.95	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Magnesium	meq/L	0.003	0.005	2.27	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
SAR	-	-	-	3.67	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Sodium	meq/L	0.003	0.005	5.94	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Water Testing							
Conductivity at 25 degree C	micromhos/cm	-	0.5	1113	No Standard	Based on APHA (2017), 2510 B	Bangkok

Guideline : Water Characteristics Discharge into Irrigation System, Royal Irrigation Department No.18/2561.

Sampled By : Chulladet Warin

Remark :

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

Approved by

Siriluk P.

Siriluk Puenggang
Supervisor

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัตตยาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

TESTING
No.0009

Lot ID: 22114943

Date Received : Nov 07, 2022

Date Reported : Nov 14, 2022

Report Number : 2437067-1 C13-1

Page 1 of 1

Sample Number	22114943-1						
Sampled Date	Nov 07, 2022 10:40 AM						
Sample Description	Wastewater						
Location	บ่อกักน้ำทิ้ง (Wastewater Retention Pond)						
Date Analysis Commenced	Nov 08, 2022						
Condition of Sample	Contained in two BOD bottles, one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
BOD (5 days at 20 degree C)	mg/L	-	2	<2	≤20	Based on APHA (2017), 5210 B	Bangkok
Oil & Grease	mg/L	-	3	<3	≤5	Based on APHA (2017), 5520 B	Bangkok
pH at 25 degree C		-	-	8.0	6.5-8.5	Based on APHA (2017), 4500-H (B)	Bangkok
Residual Free Chlorine *	mg/L	-	0.1	0.1	≤1	APHA (2017), 4500-Cl(F)	Bangkok
Temperature *	Degree C	-	-	29.1	≤40	Based on APHA (2017), 2550 B	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	1052	≤1300	Based on APHA (2017), 2540 C	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	12	≤30	Based on APHA (2017), 2540 D	Bangkok

Guideline : Water Characteristics Discharge into Irrigation System, Royal Irrigation Department No.18/2561.

Sampled By : Chawanthat Nakpanom

Remark :

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

Technical Management

Narin Saiseng
Supervisor

ทะเบียนเลขที่ 7-204-3-4715

Approved by

Kanokkorn Anek
Senior Manager

ทะเบียนเลขที่ 7-204-3-6111

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัตตยาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 22114943

Date Received : Nov 07, 2022

Date Reported : Nov 14, 2022

Report Number : 2437067-2 C13-1

Page 1 of 1

Sample Number	22114943-1						
Sampled Date	Nov 07, 2022 10:40 AM						
Sample Description	Wastewater						
Location	บ่อกักน้ำทิ้ง (Wastewater Retention Pond)						
Date Analysis Commenced	Nov 08, 2022						
Condition of Sample	Contained in two BOD bottles, one amber glass bottle and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Calcium	meq/L	0.003	0.005	5.51	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Magnesium	meq/L	0.003	0.005	3.45	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
SAR	-	-	-	4.32	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Sodium	meq/L	0.003	0.005	9.14	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Water Testing							
Conductivity at 25 degree C	micromhos/cm	-	0.5	1537	No Standard	Based on APHA (2017), 2510 B	Bangkok

Guideline : Water Characteristics Discharge into Irrigation System, Royal Irrigation Department No.18/2561.

Sampled By : Chawanthat Nakpanom

Remark :

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

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chachoengsao Thailand
24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK



TESTING
No.0009
Lot ID: 22135477
Date Received : Dec 06, 2022
Date Reported : Dec 15, 2022
Report Number : 2484693-1 C13-1

Page 1 of 1

Sample Number	22135477-1						
Sampled Date	Dec 06, 2022 10:20 AM						
Sample Description	Wastewater						
Location	บ่อกักน้ำทิ้ง (Wastewater Retention Pond)						
Date Analysis Commenced	Dec 07, 2022						
Condition of Sample	Contained in one amber glass bottle, five plastic bottles, two BOD bottles and two glass vials, 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	3	≤20	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O C	Bangkok
Oil & Grease *	mg/L	-	3	<3	≤5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5520 B	Bangkok
pH at 25 degree C		-	-	7.4	6.5-8.5	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Bangkok
Residual Free Chlorine *	mg/L	-	0.1	0.1	≤1	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Cl (F)	Bangkok
Temperature *	Degree C	-	-	29.2	≤40	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	752	≤1300	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	12	≤30	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Bangkok

Guideline : Water Characteristics Discharge into Irrigation System, Royal Irrigation Department No.18/2561.

Sampled By : Chulladet Warin

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

Technical Management

Sawitree N.

Sawitree Noisangiam
Manager

เบอร์โทร 02-204-4709

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager

เบอร์โทร 02-204-6111

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chachoengsao Thailand
24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 22135477
Date Received : Dec 06, 2022
Date Reported : Dec 15, 2022
Report Number : 2484693-2 C13-1

Page 1 of 1

Sample Number	22135477-1						
Sampled Date	Dec 06, 2022 10:20 AM						
Sample Description	Wastewater						
Location	บ่อกักน้ำทิ้ง (Wastewater Retention Pond)						
Date Analysis Commenced	Dec 07, 2022						
Condition of Sample	Contained in one amber glass bottle, five plastic bottles, two BOD bottles and two glass vials, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Calcium	meq/L	0.003	0.005	3.27	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Magnesium	meq/L	0.003	0.005	2.45	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
SAR		-	-	3.54	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Sodium	meq/L	0.003	0.005	5.98	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Water Testing							
Conductivity at 25 degree C	micromhos/cm	-	0.5	1171	No Standard	Based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Bangkok

Guideline : Water Characteristics Discharge into Irrigation System, Royal Irrigation Department No.18/2561.

Sampled By : Chulladet Warin

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

Approved by

Sawitree N.

Sawitree Noisangiam
Manager

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

ภาคผนวก ค.8

เสียงในบริเวณการทำงาน



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัญญาเลขที่4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294966

Date Received : Sep 05, 2022

Date Reported : Sep 09, 2022

Report Number: 2430481-1

Page 1 of 1

Sample Number 2294966-1
Parameter Noise (Leq 8 hrs.)
Location บริเวณ Gas Turbine 1
Measurement Date Sep 05, 2022
Measurement by Samart Roongan

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
08:51 AM - 09:51 AM	73.5	78.4	71.2
09:51 AM - 10:51 AM	73.8	77.1	72.7
10:51 AM - 11:51 AM	73.5	75.4	72.9
11:51 AM - 12:51 PM	73.2	76.2	72.6
12:51 PM - 01:51 PM	74.3	77.3	73.2
01:51 PM - 02:51 PM	74.2	77.0	73.3
02:51 PM - 03:51 PM	73.5	76.8	72.7
03:51 PM - 04:51 PM	74.0	78.9	71.7

Leq Average 8 hrs. (dB(A)) 73.8

Lmax (dB(A)) 78.9

Standard (dB(A)) 90 140

Reference Method : Based on ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย

ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๔๖

Technical Management

Saranya C.
Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.
Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise rpt (6:58PM)



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัญญาเลขที่4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294966

Date Received : Sep 05, 2022

Date Reported : Sep 09, 2022

Report Number: 2430482-1

Page 1 of 1

Sample Number 2294966-2
Parameter Noise (Leq 8 hrs.)
Location บริเวณ Gas Turbine 2
Measurement Date Sep 05, 2022
Measurement by Samart Roongan

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
09:02 AM - 10:02 AM	69.7	73.3	68.8
10:02 AM - 11:02 AM	70.9	74.1	69.4
11:02 AM - 12:02 PM	71.0	74.4	70.0
12:02 PM - 01:02 PM	71.0	73.9	69.9
01:02 PM - 02:02 PM	71.0	73.6	70.0
02:02 PM - 03:02 PM	71.2	73.3	70.2
03:02 PM - 04:02 PM	71.9	74.7	70.8
04:02 PM - 05:02 PM	71.1	74.5	70.1

Leq Average 8 hrs. (dB(A)) 71.0

Lmax (dB(A)) 74.7

Standard (dB(A)) 90 140

Reference Method : Based on ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย

ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๔๖

Technical Management

Saranya C.
Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.
Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise rpt (6:58PM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chachoengsao Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294966

Date Received : Sep 05, 2022

Date Reported : Sep 09, 2022

Report Number: 2430483-1

Page 1 of 1

Sample Number 2294966-3
Parameter Noise (Leq 8 hrs.)
Location บริเวณ Steam Turbine
Measurement Date Sep 05, 2022
Measurement by Samart Roongan

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
08:57 AM - 09:57 AM	70.2	77.3	70.0
09:57 AM - 10:57 AM	70.0	71.3	69.9
10:57 AM - 11:57 AM	70.1	70.7	69.9
11:57 AM - 12:57 PM	70.0	71.1	69.8
12:57 PM - 01:57 PM	70.1	77.9	69.8
01:57 PM - 02:57 PM	70.1	71.4	69.9
02:57 PM - 03:57 PM	70.0	70.6	69.9
03:57 PM - 04:57 PM	70.5	71.1	70.4

Leq Average 8 hrs. (dB(A))

70.1

Lmax (dB(A))

77.9

Standard (dB(A))

90

140

Reference Method : Based on ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรฐานการควบคุมความปลอดภัย

ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๔๖

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise.rpt (6:58PM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chachoengsao Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294966

Date Received : Sep 05, 2022

Date Reported : Sep 09, 2022

Report Number: 2430484-1

Page 1 of 1

Sample Number 2294966-4
Parameter Noise (Leq 8 hrs.)
Location บริเวณ HRSG 1
Measurement Date Sep 05, 2022
Measurement by Samart Roongan

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
08:53 AM - 09:53 AM	77.4	79.4	76.7
09:53 AM - 10:53 AM	76.4	77.3	76.1
10:53 AM - 11:53 AM	76.1	77.0	75.9
11:53 AM - 12:53 PM	76.0	77.0	75.7
12:53 PM - 01:53 PM	76.1	77.4	75.7
01:53 PM - 02:53 PM	76.0	76.9	75.7
02:53 PM - 03:53 PM	76.2	77.2	75.7
03:53 PM - 04:53 PM	76.4	77.3	76.1

Leq Average 8 hrs. (dB(A))

76.3

Lmax (dB(A))

79.4

Standard (dB(A))

90

140

Reference Method : Based on ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรฐานการควบคุมความปลอดภัย

ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๔๖

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise.rpt (6:59PM)



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294966

Date Received : Sep 05, 2022

Date Reported : Sep 09, 2022

Report Number: 2430485-1

Page 1 of 1

Sample Number : 2294966-5
Parameter : Noise (Leq 8 hrs.)
Location : บริเวณ HRSG 2
Measurement Date : Sep 05, 2022
Measurement by : Samart Roongan

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
09:02 AM - 10:02 AM	77.2	79.0	75.9
10:02 AM - 11:02 AM	76.2	77.1	75.8
11:02 AM - 12:02 PM	76.2	77.0	75.9
12:02 PM - 01:02 PM	76.5	77.6	76.1
01:02 PM - 02:02 PM	76.6	77.6	76.1
02:02 PM - 03:02 PM	76.4	77.3	76.0
03:02 PM - 04:02 PM	76.4	77.3	75.9
04:02 PM - 05:02 PM	76.7	77.8	76.3

Leq Average 8 hrs. (dB(A)) : 76.5

Lmax (dB(A)) : 79.0

Standard (dB(A)) : 90 140

Reference Method : Based on ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรฐานการคุ้มครองความปลอดภัย

ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๔๖

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise rpt (6.59PM)



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294966

Date Received : Sep 05, 2022

Date Reported : Sep 09, 2022

Report Number: 2430486-1

Page 1 of 1

Sample Number : 2294966-6
Parameter : Noise (Leq 8 hrs.)
Location : บริเวณ Cooling Tower
Measurement Date : Sep 05, 2022
Measurement by : Samart Roongan

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
08:57 AM - 09:57 AM	75.2	76.8	75.0
09:57 AM - 10:57 AM	75.1	75.6	74.9
10:57 AM - 11:57 AM	75.1	75.7	74.9
11:57 AM - 12:57 PM	75.3	76.3	75.1
12:57 PM - 01:57 PM	75.6	77.8	75.2
01:57 PM - 02:57 PM	75.5	78.4	75.1
02:57 PM - 03:57 PM	75.3	76.0	75.1
03:57 PM - 04:57 PM	75.7	77.9	75.3

Leq Average 8 hrs. (dB(A)) : 75.4

Lmax (dB(A)) : 78.4

Standard (dB(A)) : 90 140

Reference Method : Based on ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรฐานการคุ้มครองความปลอดภัย

ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๔๖

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise rpt (6.59PM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัญญาเลขที่4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 22133988

Date Received : Dec 09, 2022

Date Reported : Dec 15, 2022

Report Number: 2521210-1

Page 1 of 1

Sample Number 22133988-1
Parameter Noise (Leq 8 hrs.)
Location บริเวณ Gas Turbine 1
Measurement Date Dec 09, 2022
Measurement by Artit Srisen

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
08:42 AM - 09:42 AM	69.2	96.5	67.8
09:42 AM - 10:42 AM	68.1	69.5	67.7
10:42 AM - 11:42 AM	68.2	69.7	67.7
11:42 AM - 12:42 PM	68.6	70.3	68.0
12:42 PM - 01:42 PM	69.8	73.4	68.6
01:42 PM - 02:42 PM	70.5	73.4	69.7
02:42 PM - 03:42 PM	70.6	72.6	69.8
03:42 PM - 04:42 PM	71.1	73.1	70.3

Leq Average 8 hrs. (dB(A))

69.6

Lmax (dB(A))

96.5

Standard (dB(A))

90

140

Reference Method : Based on ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรฐานการคุ้มครองความปลอดภัย

ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๔๖

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise.rpt (10:50AM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัญญาเลขที่4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 22133988

Date Received : Dec 09, 2022

Date Reported : Dec 15, 2022

Report Number: 2521211-1

Page 1 of 1

Sample Number 22133988-2
Parameter Noise (Leq 8 hrs.)
Location บริเวณ Gas Turbine 2
Measurement Date Dec 09, 2022
Measurement by Artit Srisen

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
08:30 AM - 09:30 AM	71.2	82.9	70.9
09:30 AM - 10:30 AM	71.0	72.1	70.8
10:30 AM - 11:30 AM	70.8	72.9	70.6
11:30 AM - 12:30 PM	70.8	71.8	70.5
12:30 PM - 01:30 PM	71.9	77.1	70.5
01:30 PM - 02:30 PM	73.7	76.7	72.7
02:30 PM - 03:30 PM	73.6	76.5	72.5
03:30 PM - 04:30 PM	71.3	72.3	71.0

Leq Average 8 hrs. (dB(A))

71.9

Lmax (dB(A))

82.9

Standard (dB(A))

90

140

Reference Method : Based on ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรฐานการคุ้มครองความปลอดภัย

ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๔๖

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise.rpt (10:50AM)



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungso Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 22133988

Date Received : Dec 09, 2022

Date Reported : Dec 15, 2022

Report Number: 2521212-1

Page 1 of 1

Sample Number 22133988-3
Parameter Noise (Leq 8 hrs.)
Location บริเวณ Steam Turbine
Measurement Date Dec 09, 2022
Measurement by Artit Srisen

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
08:38 AM - 09:38 AM	70.5	75.2	70.3
09:38 AM - 10:38 AM	70.3	73.4	70.2
10:38 AM - 11:38 AM	70.4	75.3	70.2
11:38 AM - 12:38 PM	70.4	73.0	70.2
12:38 PM - 01:38 PM	70.3	73.8	70.1
01:38 PM - 02:38 PM	70.1	73.0	70.0
02:38 PM - 03:38 PM	70.4	76.6	70.0
03:38 PM - 04:38 PM	70.3	73.2	70.2

Leq Average 8 hrs. (dB(A))

70.3

Lmax (dB(A))

76.6

Standard (dB(A))

90

140

Reference Method : Based on ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรฐานการคุ้มครองความปลอดภัย

ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๔๖

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan Rd., Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise rpt (10:50AM)



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungso Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 22133988

Date Received : Dec 09, 2022

Date Reported : Dec 15, 2022

Report Number: 2521213-1

Page 1 of 1

Sample Number 22133988-4
Parameter Noise (Leq 8 hrs.)
Location บริเวณ HRSG 1
Measurement Date Dec 09, 2022
Measurement by Artit Srisen

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
08:42 AM - 09:42 AM	75.9	77.6	75.1
09:42 AM - 10:42 AM	75.6	77.0	74.9
10:42 AM - 11:42 AM	75.6	77.1	74.8
11:42 AM - 12:42 PM	75.6	77.3	74.7
12:42 PM - 01:42 PM	75.6	77.3	74.8
01:42 PM - 02:42 PM	74.7	76.1	74.5
02:42 PM - 03:42 PM	74.9	88.8	74.5
03:42 PM - 04:42 PM	74.8	88.7	74.4

Leq Average 8 hrs. (dB(A))

75.4

Lmax (dB(A))

88.8

Standard (dB(A))

90

140

Reference Method : Based on ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรฐานการคุ้มครองความปลอดภัย

ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๔๖

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan Rd., Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise rpt (10:51AM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัตตยาเลขที่4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 22133988

Date Received : Dec 09, 2022

Date Reported : Dec 15, 2022

Report Number: 2521214-1

Page 1 of 1

Sample Number 22133988-5
Parameter Noise (Leq 8 hrs.)
Location บริเวณ HRSG 2
Measurement Date Dec 09, 2022
Measurement by Artit Srisen

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
08:34 AM - 09:34 AM	76.9	85.6	76.5
09:34 AM - 10:34 AM	76.6	77.6	76.3
10:34 AM - 11:34 AM	76.6	77.4	76.2
11:34 AM - 12:34 PM	76.8	77.7	76.4
12:34 PM - 01:34 PM	76.5	78.1	75.1
01:34 PM - 02:34 PM	75.1	76.0	74.7
02:34 PM - 03:34 PM	75.0	76.3	74.7
03:34 PM - 04:34 PM	75.2	76.5	74.9

Leq Average 8 hrs. (dB(A))

76.2

Lmax (dB(A))

85.6

Standard (dB(A))

90

140

Reference Method : Based on ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย

ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๔๖

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise.rpt (10:51AM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000

P/O : สัตตยาเลขที่4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 22133988

Date Received : Dec 09, 2022

Date Reported : Dec 15, 2022

Report Number: 2521215-1

Page 1 of 1

Sample Number 22133988-6
Parameter Noise (Leq 8 hrs.)
Location บริเวณ Cooling Tower
Measurement Date Dec 09, 2022
Measurement by Artit Srisen

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
08:37 AM - 09:37 AM	76.1	87.3	75.7
09:37 AM - 10:37 AM	75.8	78.0	75.6
10:37 AM - 11:37 AM	75.9	81.7	75.7
11:37 AM - 12:37 PM	75.9	80.2	75.7
12:37 PM - 01:37 PM	75.8	81.0	75.6
01:37 PM - 02:37 PM	75.7	80.1	75.5
02:37 PM - 03:37 PM	75.7	82.5	75.4
03:37 PM - 04:37 PM	76.0	81.8	75.8

Leq Average 8 hrs. (dB(A))

75.9

Lmax (dB(A))

87.3

Standard (dB(A))

90

140

Reference Method : Based on ISO1996-1 and 1996-2

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย

ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๔๖

Technical Management

Saranya C.

Saranya Chalermthamrong
Scientist (4)

Approved by

Supot S.

Supot Salamteh
Section Head

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports_Air Noise.rpt (10:51AM)

ภาคผนวก ค.9

ความร้อน



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao
Thailand 24000
P/O : สัญญาเลขที่4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 2294971
Date Received : Sep 05, 2022
Date Reported : Sep 08, 2022
Report Number: 2393273-1

Page 1 of 7

Sample Number 2294971-1
Parameter Heat Stress (Sampling Time : 01.00 PM - 03.00 PM)
Measurement Date Sep 05, 2022
Measurement by Samart Roongan
Location ปรุขันธ์งาน 1 พื้นที่ (ข้อ-นามสกุล ปรุขันธ์งาน : - แขนก : -)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณ Condenser Exhaust Unit	120	28.0	26.6	31.3	31.0
Average (WBGT)		28.0			
Guideline WBGT (°C)		34.0			

Reference Method : Wet Bulb Globe Temperature

Guideline:

1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
2. Ministerial Regulation on Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in relation to Heat, Light and Noise, B.E.2559

Technical Management

Supot S
Supot Salamteh
Section Head

Approved by

Wichan Chm
Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22 / EMAIL

S:\Reports\Air Heat rpt (3.35PM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao
Thailand 24000
P/O : สัญญาเลขที่4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 2294971
Date Received : Sep 05, 2022
Date Reported : Sep 08, 2022
Report Number: 2393273-1

Page 2 of 7

Sample Number 2294971-2
Parameter Heat Stress (Sampling Time : 01.00 PM - 03.00 PM)
Measurement Date Sep 05, 2022
Measurement by Samart Roongan
Location ปรุขันธ์งาน 1 พื้นที่ (ข้อ-นามสกุล ปรุขันธ์งาน : - แขนก : -)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณท่อปล่อยไอน้ำ	120	27.8	26.3	31.5	31.0
Average (WBGT)		27.8			
Guideline WBGT (°C)		34.0			

Reference Method : Wet Bulb Globe Temperature

Guideline:

1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
2. Ministerial Regulation on Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in relation to Heat, Light and Noise, B.E.2559

Technical Management

Supot S
Supot Salamteh
Section Head

Approved by

Wichan Chm
Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22 / EMAIL

S:\Reports\Air Heat rpt (3.35PM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao
Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294971

Date Received : Sep 05, 2022

Date Reported : Sep 08, 2022

Report Number: 2393273-1

Page 3 of 7

Sample Number 2294971-3
Parameter Heat Stress (Sampling Time : 01.00 PM - 03.00 PM)
Measurement Date Sep 05, 2022
Measurement by Samart Roongan
Location ปรังนิคังงาน 1 พื้นที่ (ข้อ-นามสกุล ปรังนิคังงาน : - แผนก : -)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณ Generator 1	120	27.5	25.5	32.5	31.0
Average (WBGT)		27.5			
Guideline WBGT (°C)		34.0			

Reference Method : Wet Bulb Globe Temperature

Guideline:

1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
2. Ministerial Regulation on Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in relation to Heat, Light and Noise, B.E.2559

Technical Management

Supot Salamteh
Section Head

Approved by

Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao
Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294971

Date Received : Sep 05, 2022

Date Reported : Sep 08, 2022

Report Number: 2393273-1

Page 4 of 7

Sample Number 2294971-4
Parameter Heat Stress (Sampling Time : 01.00 PM - 03.00 PM)
Measurement Date Sep 05, 2022
Measurement by Samart Roongan
Location ปรังนิคังงาน 1 พื้นที่ (ข้อ-นามสกุล ปรังนิคังงาน : - แผนก : -)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณ Generator 2	120	28.0	26.0	32.6	32.4
Average (WBGT)		28.0			
Guideline WBGT (°C)		34.0			

Reference Method : Wet Bulb Globe Temperature

Guideline:

1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
2. Ministerial Regulation on Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in relation to Heat, Light and Noise, B.E.2559

Technical Management

Supot Salamteh
Section Head

Approved by

Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao
Thailand 24000
P/O : สัตยากรเลขที่4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 2294971
Date Received : Sep 05, 2022
Date Reported : Sep 08, 2022
Report Number: 2393273-1

Page 5 of 7

Sample Number 2294971-5
Parameter Heat Stress (Sampling Time : 01.00 PM - 03.00 PM)
Measurement Date Sep 05, 2022
Measurement by Samart Roongan
Location ปฏบัติงาน 1 พื้นที่ (ข้อ-นามสกุล ผู้ปฏิบัติงาน : - แทน : -)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณ Combustion Turbine 1	120	27.0	25.4	30.7	30.3
Average (WBGT)		27.0			
Guideline WBGT (°C)		34.0			

Reference Method : Wet Bulb Globe Temperature

Guideline:

1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
2. Ministerial Regulation on Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in relation to Heat, Light and Noise, B.E. 2559

Technical Management

Supot S.
Supot Salamteh
Section Head

Approved by

Wichan Ch.
Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22 / EMAIL

S:\Reports\Air Heat.rpt (3.35PM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao
Thailand 24000
P/O : สัตยากรเลขที่4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 2294971
Date Received : Sep 05, 2022
Date Reported : Sep 08, 2022
Report Number: 2393273-1

Page 6 of 7

Sample Number 2294971-6
Parameter Heat Stress (Sampling Time : 01.00 PM - 03.00 PM)
Measurement Date Sep 05, 2022
Measurement by Samart Roongan
Location ปฏบัติงาน 1 พื้นที่ (ข้อ-นามสกุล ผู้ปฏิบัติงาน : - แทน : -)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณ Combustion Turbine 2	120	27.9	26.1	32.2	31.5
Average (WBGT)		27.9			
Guideline WBGT (°C)		34.0			

Reference Method : Wet Bulb Globe Temperature

Guideline:

1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
2. Ministerial Regulation on Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in relation to Heat, Light and Noise, B.E. 2559

Technical Management

Supot S.
Supot Salamteh
Section Head

Approved by

Wichan Ch.
Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22 / EMAIL

S:\Reports\Air Heat.rpt (3.35PM)



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao
Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 2294971

Date Received : Sep 05, 2022

Date Reported : Sep 08, 2022

Report Number: 2393273-1

Page 7 of 7

Sample Number 2294971-7
Parameter Heat Stress (Sampling Time : 01.00 PM - 03.00 PM)
Measurement Date Sep 05, 2022
Measurement by Samart Roongan
Location ปรุขันธ์งาน 1 พื้นที่ (ข้อ-นามสกุล ปรุขันธ์งาน : - แทน : -)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณภายนอกอาคาร	120	27.9	25.5	34.1	32.0
Average (WBGT)		27.9			
Guideline WBGT (°C)		34.0			

Reference Method : Wet Bulb Globe Temperature

Guideline:

1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
2. Ministerial Regulation on Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in relation to Heat, Light and Noise, B.E.2559

Technical Management

Supot S

Supot Salamteh
Section Head

Approved by

Wichan Ch

Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.

99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao
Thailand 24000

P/O : สัญญาเลขที่ 4600001497

Project Name : Monitoring EIA

Project Location : GNNK

Lot ID: 22133991

Date Received : Dec 09, 2022

Date Reported : Dec 13, 2022

Report Number: 2481419-1

Page 1 of 7

Sample Number 22133991-1
Parameter Heat Stress (Sampling Time : 10.00 AM -12.00 PM)
Measurement Date Dec 09, 2022
Measurement by Arlit Srisen
Location ปรุขันธ์งาน 1 พื้นที่ (ข้อ-นามสกุล ปรุขันธ์งาน : - แทน : -)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณ Condenser Exhaust Unit	120	27.8	25.4	33.4	33.3
Average (WBGT)		27.8			
Guideline WBGT (°C)		34.0			

Reference Method : Wet Bulb Globe Temperature

Guideline:

1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
2. Ministerial Regulation on Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in relation to Heat, Light and Noise, B.E.2559

Technical Management

Supot S

Supot Salamteh
Section Head

Approved by

Wichan Ch

Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao
Thailand 24000
P/O : สัญญาเลขที่4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 22133991
Date Received : Dec 09, 2022
Date Reported : Dec 13, 2022
Report Number: 2481419-1

Page 2 of 7

Sample Number 22133991-2
Parameter Heat Stress (Sampling Time : 10.00 AM -12.00 PM)
Measurement Date Dec 09, 2022
Measurement by Artit Srisen
Location ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ผู้ปฏิบัติงาน : - แผนก : -)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณหอหล่อเย็นน้ำ	120	29.7	26.1	38.1	38.1
Average (WBGT)		29.7			
Guideline WBGT (°C)		34.0			

Reference Method : Wet Bulb Globe Temperature

Guideline:

- Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
- Ministerial Regulation on Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in relation to Heat, Light and Noise, B.E.2559

Technical Management


Supot Salamteh
Section Head

Approved by


Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao
Thailand 24000
P/O : สัญญาเลขที่4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 22133991
Date Received : Dec 09, 2022
Date Reported : Dec 13, 2022
Report Number: 2481419-1

Page 3 of 7

Sample Number 22133991-3
Parameter Heat Stress (Sampling Time : 10.00 AM -12.00 PM)
Measurement Date Dec 09, 2022
Measurement by Artit Srisen
Location ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ผู้ปฏิบัติงาน : - แผนก : -)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณ Generator 1	120	30.9	27.1	39.9	39.9
Average (WBGT)		30.9			
Guideline WBGT (°C)		34.0			

Reference Method : Wet Bulb Globe Temperature

Guideline:

- Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
- Ministerial Regulation on Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in relation to Heat, Light and Noise, B.E.2559

Technical Management


Supot Salamteh
Section Head

Approved by


Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao
Thailand 24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 22133991
Date Received : Dec 09, 2022
Date Reported : Dec 13, 2022
Report Number: 2481419-1

Page 4 of 7

Sample Number 22133991-4
Parameter Heat Stress (Sampling Time : 10.00 AM -12.00 PM)
Measurement Date Dec 09, 2022
Measurement by Artit Srisen
Location ปฏบัติงาน 1 พื้นที่ (ข้อ-นามสกุล หน้าที่ปฏิบัติงาน : - แทน :-)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
เครื่อง Generator 2	120	31.5	27.9	40.0	40.0
Average (WBGT)		31.5			
Guideline WBGT (°C)		34.0			

Reference Method : Wet Bulb Globe Temperature

Guideline:

1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
2. Ministerial Regulation on Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in relation to Heat, Light and Noise, B.E.2559

Technical Management

Supot S

Supot Salamteh
Section Head

Approved by

Wichan Ch

Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22 / EMAIL

S:\Report\Air Heat rpt (148PM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao
Thailand 24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 22133991
Date Received : Dec 09, 2022
Date Reported : Dec 13, 2022
Report Number: 2481419-1

Page 5 of 7

Sample Number 22133991-5
Parameter Heat Stress (Sampling Time : 10.00 AM -12.00 PM)
Measurement Date Dec 09, 2022
Measurement by Artit Srisen
Location ปฏบัติงาน 1 พื้นที่ (ข้อ-นามสกุล หน้าที่ปฏิบัติงาน : - แทน :-)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
เครื่อง Combustion Turbine 1	120	29.9	27.0	36.9	36.0
Average (WBGT)		29.9			
Guideline WBGT (°C)		34.0			

Reference Method : Wet Bulb Globe Temperature

Guideline:

1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
2. Ministerial Regulation on Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in relation to Heat, Light and Noise, B.E.2559

Technical Management

Supot S

Supot Salamteh
Section Head

Approved by

Wichan Ch

Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22 / EMAIL

S:\Report\Air Heat rpt (148PM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao
Thailand 24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 22133991
Date Received : Dec 09, 2022
Date Reported : Dec 13, 2022
Report Number: 2481419-1

Page 6 of 7

Sample Number 22133991-6
Parameter Heat Stress (Sampling Time : 10.00 AM -12.00 PM)
Measurement Date Dec 09, 2022
Measurement by Artit Srisen
Location ปฏิบัติงาน 1 พื้นที่ (ข้อ-นามสกุล ปฏิบัติงาน : - แทน : -)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณ Combustion Turbine 2	120	30.3	26.2	40.0	40.0
Average (WBGT)		30.3			
Guideline WBGT (°C)		34.0			

Reference Method : Wet Bulb Globe Temperature

Guideline:

1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
2. Ministerial Regulation on Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in relation to Heat, Light and Noise, B.E. 2559

Technical Management

Supot S.
Supot Salamteh
Section Head

Approved by

Wichan Ch.
Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22 / EMAIL

S:\Reports\Air Heat.rpt (148PM)



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao
Thailand 24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 22133991
Date Received : Dec 09, 2022
Date Reported : Dec 13, 2022
Report Number: 2481419-1

Page 7 of 7

Sample Number 22133991-7
Parameter Heat Stress (Sampling Time : 10.00 AM -12.00 PM)
Measurement Date Dec 09, 2022
Measurement by Artit Srisen
Location ปฏิบัติงาน 1 พื้นที่ (ข้อ-นามสกุล ปฏิบัติงาน : - แทน : -)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณภายนอกอาคาร	120	26.9	24.7	32.2	31.9
Average (WBGT)		26.9			
Guideline WBGT (°C)		34.0			

Reference Method : Wet Bulb Globe Temperature

Guideline:

1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
2. Ministerial Regulation on Prescribing of Standard for Administration and Management of Occupational Safety, Health and Environment in relation to Heat, Light and Noise, B.E. 2559

Technical Management

Supot S.
Supot Salamteh
Section Head

Approved by

Wichan Ch.
Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22 / EMAIL

S:\Reports\Air Heat.rpt (148PM)

ภาคผนวก ค.10

แสงสว่าง



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 2294976

Date Received : Sep 06, 2022
Date Reported : Sep 07, 2022
Report Number : 2427189-1

Page 1 of 1

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/ Min	Average	
Area - Electrical and Control Building : 1 st floor : Cable Room โฉนดบริเวณประตูทางเข้าหลัก									
2.1	2294976-1	5 Sep 2022	Day time	1	405	408.5	100	200	Pass
2.2	2294976-2	5 Sep 2022	Day time	2	395				
2.3	2294976-3	5 Sep 2022	Day time	3	411				
2.4	2294976-4	5 Sep 2022	Day time	4	423				

Measurement by : Samart Roongan Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

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

Technical Management

Supot S.
Supot Salamteh
Section Head

Approved by

Wichan Choonharat
Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports\Light.rpt



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 2294977

Date Received : Sep 06, 2022
Date Reported : Sep 07, 2022
Report Number : 2427194-1

Page 1 of 1

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
	Area - Electrical and Control Building : 2nd floor : Electrical Room โฉนดบริเวณกลางห้อง 2 ของกลาง								
2.1	2294977-1	5 Sep 2022	Day time	1	365	325.8	100	200	Pass
2.2	2294977-2	5 Sep 2022	Day time	2	318				
2.3	2294977-3	5 Sep 2022	Day time	3	298				
2.4	2294977-4	5 Sep 2022	Day time	4	322				

Measurement by : Samart Roongan Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

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

Technical Management

Supot S.
Supot Salamteh
Section Head

Approved by

Wichan Choonharat
Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports\Light.rpt



Analysis / Test Report

Client : Gulf JP NNN Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungdao Thailand 24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 2294978
Date Received : Sep 06, 2022
Date Reported : Sep 07, 2022
Report Number : 2427196-1

Page 1 of 2

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Spot	Illuminance (Lux) Average	Guideline Limit Spot/Min	Average	Comment
Area - Electrical and Control Building : 3 rd floor : Broom Closet									
2.1	2294978-1	5 Sep 2022	Day time	1	515	513.5	50	100	Pass
2.2	2294978-2	5 Sep 2022	Day time	2	512				
Spot - Electrical and Control Building : 3 rd floor : Control Room #1									
4	2294978-3	5 Sep 2022	Day time	1	408	-	400-500	-	Pass
Spot - Electrical and Control Building : 3 rd floor : Control Room #2									
5	2294978-4	5 Sep 2022	Day time	1	424	-	400-500	-	Pass
Spot - Electrical and Control Building : 3 rd floor : Control Room #3									
6	2294978-5	5 Sep 2022	Day time	1	615	-	400-500	-	Pass
Spot - Electrical and Control Building : 3 rd floor : Control Room #4									
7	2294978-6	5 Sep 2022	Day time	1	695	-	400-500	-	Pass
Area - Electrical and Control Building : 3 rd floor : Document Room									
8.1	2294978-7	5 Sep 2022	Day time	1	710	675.0	150	300	Pass
8.2	2294978-8	5 Sep 2022	Day time	2	640				
Area - Electrical and Control Building : 3 rd floor : Engineering Work Station Room									
10.1	2294978-9	5 Sep 2022	Day time	1	940	856.7	100	200	Pass
10.2	2294978-10	5 Sep 2022	Day time	2	725				
10.3	2294978-11	5 Sep 2022	Day time	3	905				
Area - Electrical and Control Building : 3 rd floor : Restroom-Gentlemen (T-01)									
12.1	2294978-12	5 Sep 2022	Day time	1	611	635.5	50	100	Pass
12.2	2294978-13	5 Sep 2022	Day time	2	660				
Area - Electrical and Control Building : 3 rd floor : Restroom-Lady (T-02)									
14.1	2294978-14	5 Sep 2022	Day time	1	505	455.0	50	100	Pass
14.2	2294978-15	5 Sep 2022	Day time	2	405				
Area - Electrical and Control Building : 3 rd floor : Bathroom-Lady (T-04) ห้องน้ำกลางห้อง									
23.1	2294978-16	5 Sep 2022	Day time	1	918	841.5	50	100	Pass
23.2	2294978-17	5 Sep 2022	Day time	2	765				
Area - Electrical and Control Building : 3 rd floor : Canteen ห้องน้ำหน้าห้อง									
24.1	2294978-18	5 Sep 2022	Day time	1	545	528.0	150	300	Pass
24.2	2294978-19	5 Sep 2022	Day time	2	511				
Area - Electrical and Control Building : 3 rd floor : DSC Room ห้องน้ำกลางห้อง ช่างกลาง									
25.1	2294978-20	5 Sep 2022	Day time	1	285	362.7	100	200	Pass
25.2	2294978-21	5 Sep 2022	Day time	2	398				
25.3	2294978-22	5 Sep 2022	Day time	3	405				

Technical Management

Supot S.

Supot Salamteh
Section Head

Approved by

Wichan Choonharat

Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports\Light.rpt



Analysis / Test Report

Client : Gulf JP NNN Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungdao Thailand 24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 2294978
Date Received : Sep 06, 2022
Date Reported : Sep 07, 2022
Report Number : 2427196-1

Page 2 of 2

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Spot	Illuminance (Lux) Average	Guideline Limit Spot/Min	Average	Comment
Area - Electrical and Control Building : 3 rd floor : Restroom-Gentlemen (T-03) ห้องน้ำกลางห้อง									
26.1	2294978-23	5 Sep 2022	Day time	1	590	638.0	50	100	Pass
26.2	2294978-24	5 Sep 2022	Day time	2	686				
Area - Electrical and Control Building : 3 rd floor : Up-down Main Way (Stair) ห้องน้ำหน้าห้อง Canteen									
27.1	2294978-25	5 Sep 2022	Day time	1	632	603.5	50	100	Pass
27.2	2294978-26	5 Sep 2022	Day time	2	575				
Area - Electrical and Control Building : 3 rd floor : Up-down Way (Exit Way) ห้องน้ำหน้าห้อง 3 ชั้นบนสุด									
28.1	2294978-27	5 Sep 2022	Day time	1	535	465.0	50	100	Pass
28.2	2294978-28	5 Sep 2022	Day time	2	395				
Area - Electrical and Control Building : 3 rd floor : Utility Room ห้องน้ำหน้าห้อง Control									
29.1	2294978-29	5 Sep 2022	Day time	1	253	249.0	100	200	Pass
29.2	2294978-30	5 Sep 2022	Day time	2	245				

Measurement by : Samart Roongan Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

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

Technical Management

Supot S.

Supot Salamteh
Section Head

Approved by

Wichan Choonharat

Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports\Light.rpt



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 2294982

Date Received : Sep 06, 2022
Date Reported : Sep 07, 2022
Report Number : 2427204-1

Page 1 of 1

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/ Min	Average	
1	Spot - Water Laboratory : Balance								
	2294982-1	5 Sep 2022	Day time	1	709	-	400-500	-	Pass
2	Spot - Water Laboratory : Computer								
	2294982-2	5 Sep 2022	Day time	1	808	-	400-500	-	Pass
3.1	Area - Water Laboratory : Restroom (T-02)								
	2294982-3	5 Sep 2022	Day time	1	138	204.5	50	100	Pass
3.2	2294982-4	5 Sep 2022	Day time	2	271				
5	Spot - Water Laboratory : Rise Floor#2 (Water Treatment)								
	2294982-5	5 Sep 2022	Day time	1	998	-	400-500	-	Pass
6.1	Area - Water Laboratory : Rise Floor#1 (Water Treatment) โคมไฟบริเวณโต๊ะคอมพิวเตอร์								
	2294982-6	5 Sep 2022	Day time	1	725	702.5	100	200	Pass
6.2	2294982-7	5 Sep 2022	Day time	2	680				

Measurement by : Samart Roongan Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

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

Technical Management

Supot S.

Supot Salamteh
Section Head

Approved by

Wichan Ch.

Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports\Light.rpt



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 2294983

Date Received : Sep 06, 2022
Date Reported : Sep 07, 2022
Report Number : 2427206-1

Page 1 of 2

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Workshop & Warehouse : 1st floor : Control Temp Spare Part									
2.1	2294983-1	5 Sep 2022	Day time	1	422	372.0	50	100	Pass
2.2	2294983-2	5 Sep 2022	Day time	2	322				
Area - Workshop & Warehouse : 1st floor : MDB Electrical Control Room									
4.1	2294983-3	5 Sep 2022	Day time	1	174	187.0	50	100	Pass
4.2	2294983-4	5 Sep 2022	Day time	2	200				
Area - Workshop & Warehouse : 1st floor : C & I Lab Room โคมไฟบริเวณห้อง									
13.1	2294983-5	5 Sep 2022	Day time	1	410	378.0	50	100	Pass
13.2	2294983-6	5 Sep 2022	Day time	2	346				
Area - Workshop & Warehouse : 1st floor : Helper Room โคมไฟบริเวณประตูทางเข้าฝั่งขวา									
14.1	2294983-7	5 Sep 2022	Day time	1	300	378.0	50	100	Pass
14.2	2294983-8	5 Sep 2022	Day time	2	456				
Area - Workshop & Warehouse : 1st floor : Restroom-Gentlemen (T-02) โคมไฟบริเวณอ่างล้างมือ									
15.1	2294983-9	5 Sep 2022	Day time	1	310	330.0	50	100	Pass
15.2	2294983-10	5 Sep 2022	Day time	2	350				
Area - Workshop & Warehouse : 1st floor : Spare Part Mechanical Room โคมไฟบริเวณประตูทางเข้า									
16.1	2294983-11	5 Sep 2022	Day time	1	203	201.5	50	100	Pass
16.2	2294983-12	5 Sep 2022	Day time	2	200				
Area - Workshop & Warehouse : 1st floor : Storage Room โคมไฟบริเวณประตูทางเข้า									
17.1	2294983-13	5 Sep 2022	Day time	1	305	272.5	50	100	Pass
17.2	2294983-14	5 Sep 2022	Day time	2	240				
Area - Workshop & Warehouse : 1st floor : Unsecured Heavy/Bulky A;B โคมไฟด้านหน้า									
18.1	2294983-15	5 Sep 2022	Day time	1	212	204.0	50	100	Pass
18.2	2294983-16	5 Sep 2022	Day time	2	196				
Area - Workshop & Warehouse : 1st floor : Unsecured Heavy/Bulky C;D โคมไฟด้านหน้า									
19.1	2294983-17	5 Sep 2022	Day time	1	209	194.0	50	100	Pass
19.2	2294983-18	5 Sep 2022	Day time	2	179				
Area - Workshop & Warehouse : 1st floor : Unsecured Heavy/Bulky E;F โคมไฟด้านหน้า									
20.1	2294983-19	5 Sep 2022	Day time	1	169	183.0	50	100	Pass
20.2	2294983-20	5 Sep 2022	Day time	2	197				
Area - Workshop & Warehouse : 1st floor : Unsecured Warehouse Area โคมไฟบริเวณด้านหน้าห้อง									
21.1	2294983-21	5 Sep 2022	Day time	1	180	228.5	50	100	Pass
21.2	2294983-22	5 Sep 2022	Day time	2	277				

Technical Management

Supot S.

Supot Salamteh
Section Head

Approved by

Wichan Ch.

Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports\Light.rpt



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungso Thailand 24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 2294983
Date Received : Sep 06, 2022
Date Reported : Sep 07, 2022
Report Number : 2427206-1

Page 2 of 2

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux) Spot	Average	Guideline Limit Spot/Min	Average	Comment
Area - Workshop & Warehouse : 1st floor : Warehouse Room โยมนบริเวณห้อง									
22.1	2294983-23	5 Sep 2022	Day time	1	505	580.0	50	100	Pass
22.2	2294983-24	5 Sep 2022	Day time	2	655				

Measurement by : Samart Roongan Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

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



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungso Thailand 24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 2294984
Date Received : Sep 06, 2022
Date Reported : Sep 07, 2022
Report Number : 2427208-1

Page 1 of 2

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux) Spot	Average	Guideline Limit Spot/Min	Average	Comment
Spot - Workshop & Warehouse : 2nd floor : C & I Staff Office #1									
1	2294984-1	5 Sep 2022	Day time	1	609	-	400-500	-	Pass
Spot - Workshop & Warehouse : 2nd floor : C & I Staff Office #2									
2	2294984-2	5 Sep 2022	Day time	1	619	-	400-500	-	Pass
Spot - Workshop & Warehouse : 2nd floor : C & I Staff Office #3									
3	2294984-3	5 Sep 2022	Day time	1	454	-	400-500	-	Pass
Spot - Workshop & Warehouse : 2nd floor : Electronic Staff Office									
6	2294984-4	5 Sep 2022	Day time	1	482	-	400-500	-	Pass
Spot - Workshop & Warehouse : 2nd floor : Information Technology (IT)									
7	2294984-5	5 Sep 2022	Day time	1	686	-	400-500	-	Pass
Area - Workshop & Warehouse : 2nd floor : Maids Room									
8.1	2294984-6	5 Sep 2022	Day time	1	530	475.0	50	100	Pass
8.2	2294984-7	5 Sep 2022	Day time	2	420				
Spot - Workshop & Warehouse : 2nd floor : Maintenance Manager									
9	2294984-8	5 Sep 2022	Day time	1	437	-	400-500	-	Pass
Spot - Workshop & Warehouse : 2nd floor : Mechanical Staff Office									
10	2294984-9	5 Sep 2022	Day time	1	465	-	400-500	-	Pass
Area - Workshop & Warehouse : 2nd floor : Spare Part Electrical Room									
14.1	2294984-10	5 Sep 2022	Day time	1	366	393.5	50	100	Pass
14.2	2294984-11	5 Sep 2022	Day time	2	421				
Area - Workshop & Warehouse : 2nd floor : Canteen โยมนบริเวณห้องคันทีน									
15.1	2294984-12	5 Sep 2022	Day time	1	508	479.0	150	300	Pass
15.2	2294984-13	5 Sep 2022	Day time	2	450				
Area - Workshop & Warehouse : 2nd floor : Document Center โยมนบริเวณห้องเอกสาร									
16.1	2294984-14	5 Sep 2022	Day time	1	737	700.0	150	300	Pass
16.2	2294984-15	5 Sep 2022	Day time	2	663				
Area - Workshop & Warehouse : 2nd floor : Meeting Room โยมนบริเวณห้องประชุม									
17.1	2294984-16	5 Sep 2022	Day time	1	557	523.0	150	300	Pass
17.2	2294984-17	5 Sep 2022	Day time	2	489				
Area - Workshop & Warehouse : 2nd floor : Restroom-Gentlemen (T-03) โยมนบริเวณห้องล้างมือ									
18.1	2294984-18	5 Sep 2022	Day time	1	168	172.0	50	100	Pass
18.2	2294984-19	5 Sep 2022	Day time	2	176				

Technical Management

Supot S.
Supot Salamtah
Section Head

Approved by

Wichan Choonharat
Wichan Choonharat
Assistant Manager

Technical Management

Supot S.
Supot Salamtah
Section Head

Approved by

Wichan Choonharat
Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports\Light.rpt

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports\Light.rpt



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 2294984

Date Received : Sep 06, 2022
Date Reported : Sep 07, 2022
Report Number : 2427208-1

Page 2 of 2

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Workshop & Warehouse : 2nd floor : Restroom-Lady (T-04) โยมนบริเวณล้างมือ									
19.1	2294984-20	5 Sep 2022	Day time	1	224	204.0	50	100	Pass
19.2	2294984-21	5 Sep 2022	Day time	2	184				

Measurement by : Samart Roongan Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

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

Technical Management

Supot S.
Supot Salameth
Section Head

Approved by

Wichan Ch.
Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports\Light.rpt



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 2294972

Date Received : Sep 06, 2022
Date Reported : Sep 07, 2022
Report Number : 2427188-1

Page 1 of 2

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Spot - Administration Building : EHS									
4	2294972-1	5 Sep 2022	Day time	1	533	-	400-500	-	Pass
Area - Administration Building : First Aid Room									
5.1	2294972-2	5 Sep 2022	Day time	1	768	709.0	25	50	Pass
5.2	2294972-3	5 Sep 2022	Day time	2	650				
Spot - Administration Building : General Office #1									
6	2294972-4	5 Sep 2022	Day time	1	477	-	400-500	-	Pass
Spot - Administration Building : General Office #2									
7	2294972-5	5 Sep 2022	Day time	1	468	-	400-500	-	Pass
Spot - Administration Building : General Office #3									
8	2294972-6	5 Sep 2022	Day time	1	453	-	400-500	-	Pass
Spot - Administration Building : General Office #4									
9	2294972-7	5 Sep 2022	Day time	1	611	-	400-500	-	Pass
Spot - Administration Building : General Office #5									
10	2294972-8	5 Sep 2022	Day time	1	601	-	400-500	-	Pass
Area - Administration Building : Master Document Room									
12.1	2294972-9	5 Sep 2022	Day time	1	967	834.0	150	300	Pass
12.2	2294972-10	5 Sep 2022	Day time	2	701				
Area - Administration Building : Meeting Room 2 (บริเวณโต๊ะประชุม)									
14.1	2294972-11	5 Sep 2022	Day time	1	532	527.0	150	300	Pass
14.2	2294972-12	5 Sep 2022	Day time	2	522				
Spot - Administration Building : Plant Manager									
16	2294972-13	5 Sep 2022	Day time	1	625	-	400-500	-	Pass
Area - Administration Building : Reception Area									
17.1	2294972-14	5 Sep 2022	Day time	1	473	423.5	150	300	Pass
17.2	2294972-15	5 Sep 2022	Day time	2	374				
Spot - Administration Building : Spare Office									
20	2294972-16	5 Sep 2022	Day time	1	510	-	400-500	-	Pass
Area - Administration Building : Canteen & Pantry โยมนบริเวณทำอาหาร									
22.1	2294972-17	5 Sep 2022	Day time	1	623	599.0	150	300	Pass
22.2	2294972-18	5 Sep 2022	Day time	2	575				
Area - Administration Building : Corridors โยมนบริเวณทางเข้าประตูหน้าอาคารประชาสัมพันธ์									
23.1	2294972-19	5 Sep 2022	Day time	1	272	208.5	50	100	Pass
23.2	2294972-20	5 Sep 2022	Day time	2	145				

Technical Management

Supot S.
Supot Salameth
Section Head

Approved by

Wichan Ch.
Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports\Light.rpt



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000
P/O : สัญญาเลขที่4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 2294972

Date Received : Sep 06, 2022
Date Reported : Sep 07, 2022
Report Number : 2427188-1

Page 2 of 2

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
				Spot	Average	Spot/Min	Average		
Area - Administration Building : Meeting Room 1 โยมนบริเวณหน้าห้องผู้บริหาร									
24.1	2294972-21	5 Sep 2022	Day time	1	414	420.0	150	300	Pass
24.2	2294972-22	5 Sep 2022	Day time	2	408				
24.3	2294972-23	5 Sep 2022	Day time	3	438				
Area - Administration Building : Office Supply Area โยมนบริเวณห้อง Loker									
25.1	2294972-24	5 Sep 2022	Day time	1	596	544.5	50	100	Pass
25.2	2294972-25	5 Sep 2022	Day time	2	493				
Area - Administration Building : Restroom-Gentlemen โยมนบริเวณล้างมือ									
26.1	2294972-26	5 Sep 2022	Day time	1	558	560.0	50	100	Pass
26.2	2294972-27	5 Sep 2022	Day time	2	562				
Area - Administration Building : Restroom-Lady โยมนบริเวณล้างมือ									
27.1	2294972-28	5 Sep 2022	Day time	1	648	582.5	50	100	Pass
27.2	2294972-29	5 Sep 2022	Day time	2	517				
Area - Administration Building : Utility Room โยมนบริเวณท้ายห้อง									
28.1	2294972-30	5 Sep 2022	Day time	1	588	603.0	50	100	Pass
28.2	2294972-31	5 Sep 2022	Day time	2	618				

Measurement by : Samart Roongan Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

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

Technical Management

Supot S.
Supot Salamteh
Section Head

Approved by

Wichan Choonharat
Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports\Light.rpt



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000
P/O : สัญญาเลขที่4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 2294979

Date Received : Sep 06, 2022
Date Reported : Sep 07, 2022
Report Number : 2427198-1

Page 1 of 1

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
				Spot	Average	Spot/Min	Average		
Area - Guard Room									
1.1	2294979-1	5 Sep 2022	Day time	1	1,566	1,483	-	100	Pass
1.2	2294979-2	5 Sep 2022	Day time	2	1,399				
Area - Guard Room : Restroom (Logger Room)									
2.1	2294979-3	5 Sep 2022	Day time	1	382	353.0	50	100	Pass
2.2	2294979-4	5 Sep 2022	Day time	2	324				
Area - Guard Room : Restroom (T-01)									
3.1	2294979-5	5 Sep 2022	Day time	1	228	263.5	50	100	Pass
3.2	2294979-6	5 Sep 2022	Day time	2	299				

Measurement by : Samart Roongan Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

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

Technical Management

Supot S.
Supot Salamteh
Section Head

Approved by

Wichan Choonharat
Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports\Light.rpt



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000
P/O : สัตตยาพร 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 2294980

Date Received : Sep 06, 2022
Date Reported : Sep 07, 2022
Report Number : 2427200-1

Page 1 of 1

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Switchyard Control Building : Battery Room									
1.1	2294980-1	5 Sep 2022	Day time	1	155	158.5	50	100	Pass
1.2	2294980-2	5 Sep 2022	Day time	2	162				
Area - Switchyard Control Building : Control Room #1 โคมไฟควบคุม Distribution Board									
5.1	2294980-3	5 Sep 2022	Day time	1	310	318.5	100	200	Pass
5.2	2294980-4	5 Sep 2022	Day time	2	327				
Area - Switchyard Control Building : Control Room #2 โคมไฟควบคุมประตูทางเข้า									
6.1	2294980-5	5 Sep 2022	Day time	1	672	792.0	100	200	Pass
6.2	2294980-6	5 Sep 2022	Day time	2	912				
Area - Switchyard Control Building : Switchyard Room โคมไฟควบคุมหน้าตู้ 1BBC4									
7.1	2294980-7	5 Sep 2022	Day time	1	259	233.5	100	200	Pass
7.2	2294980-8	5 Sep 2022	Day time	2	208				

Measurement by : Samart Roongan Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

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

Technical Management

Supot S.
Supot Salameh
Section Head

Approved by

Wichan Choonharat
Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports\Light.rpt



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000
P/O : สัตตยาพร 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 2294981

Date Received : Sep 06, 2022
Date Reported : Sep 07, 2022
Report Number : 2427202-1

Page 1 of 1

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comments
					Spot	Average	Spot/Min	Average	
Area - Terminal Substation : Battery Room									
2.1	2294981-1	5 Sep 2022	Day time	1	212	221.5	50	100	Pass
2.2	2294981-2	5 Sep 2022	Day time	2	231				
Area - Terminal Substation : Control Room โคมไฟควบคุมตู้ Distribution Board No.2									
3.1	2294981-3	5 Sep 2022	Day time	1	489	437.5	100	200	Pass
3.2	2294981-4	5 Sep 2022	Day time	2	386				

Measurement by : Samart Roongan Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

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

Technical Management

Supot S.
Supot Salameh
Section Head

Approved by

Wichan Choonharat
Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports\Light.rpt



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 22133994

Date Received : Dec 13, 2022
Date Reported : Dec 17, 2022
Report Number : 2521371-1

Page 1 of 1

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Electrical and Control Building : 1st floor : Cable Room โฉมหน้าอาคารประตูลงบันได									
2.1	22133994-1	9 Dec 2022	Day time	1	305	291.3	100	200	Pass
2.2	22133994-2	9 Dec 2022	Day time	2	311				
2.3	22133994-3	9 Dec 2022	Day time	3	275				
2.4	22133994-4	9 Dec 2022	Day time	4	274				

Measurement by : Artit Srisen Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

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

Technical Management

Supot S.
Supot Salamteh
Section Head

Approved by

Wichan Ch.
Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports\Light.rpt



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 22133995

Date Received : Dec 13, 2022
Date Reported : Dec 17, 2022
Report Number : 2521374-1

Page 1 of 1

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Electrical and Control Building : 2nd floor : Electrical Room โฉมหน้าอาคารห้องเครื่อง									
2.1	22133995-1	9 Dec 2022	Day time	1	338	340.3	100	200	Pass
2.2	22133995-2	9 Dec 2022	Day time	2	281				
2.3	22133995-3	9 Dec 2022	Day time	3	442				
2.4	22133995-4	9 Dec 2022	Day time	4	300				

Measurement by : Artit Srisen Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

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

Technical Management

Supot S.
Supot Salamteh
Section Head

Approved by

Wichan Ch.
Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports\Light.rpt



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chachoengsao Thailand 24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 22133996

Date Received : Dec 13, 2022
Date Reported : Dec 17, 2022
Report Number : 2521376-1

Page 1 of 2

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Electrical and Control Building : 3rd floor : Broom Closet									
2.1	22133996-1	9 Dec 2022	Day time	1	540	576.0	50	100	Pass
2.2	22133996-2	9 Dec 2022	Day time	2	612				
Spot - Electrical and Control Building : 3rd floor : Control Room #1									
4	22133996-3	9 Dec 2022	Day time	1	420	-	400-500	-	Pass
Spot - Electrical and Control Building : 3rd floor : Control Room #2									
5	22133996-4	9 Dec 2022	Day time	1	480	-	400-500	-	Pass
Spot - Electrical and Control Building : 3rd floor : Control Room #3									
6	22133996-5	9 Dec 2022	Day time	1	504	-	400-500	-	Pass
Spot - Electrical and Control Building : 3rd floor : Control Room #4									
7	22133996-6	9 Dec 2022	Day time	1	724	-	400-500	-	Pass
Area - Electrical and Control Building : 3rd floor : Documnet Room									
8.1	22133996-7	9 Dec 2022	Day time	1	743	697.0	150	300	Pass
8.2	22133996-8	9 Dec 2022	Day time	2	651				
Area - Electrical and Control Building : 3rd floor : Engineering Work Satation Room									
10.1	22133996-9	9 Dec 2022	Day time	1	723	847.0	100	200	Pass
10.2	22133996-10	9 Dec 2022	Day time	2	994				
10.3	22133996-11	9 Dec 2022	Day time	3	824				
Spot - Electrical and Control Building : 3rd floor : Operation Manager									
11	22133996-12	9 Dec 2022	Day time	1	867	-	400-500	-	Pass
Area - Electrical and Control Building : 3rd floor : Restroom-Gentlemen (T-01)									
12.1	22133996-13	9 Dec 2022	Day time	1	339	395.0	50	100	Pass
12.2	22133996-14	9 Dec 2022	Day time	2	451				
Area - Electrical and Control Building : 3rd floor : Restroom-Lady (T-02)									
14.1	22133996-15	9 Dec 2022	Day time	1	503	748.5	50	100	Pass
14.2	22133996-16	9 Dec 2022	Day time	2	994				
Area - Electrical and Control Building : 3rd floor : Barthroom-Lady (T-04) โยมนบริเวณล้างล้างมือ									
23.1	22133996-17	9 Dec 2022	Day time	1	865	889.5	50	100	Pass
23.2	22133996-18	9 Dec 2022	Day time	2	914				
Area - Electrical and Control Building : 3rd floor : Canteen โยมนบริเวณทานอาหาร									
24.1	22133996-19	9 Dec 2022	Day time	1	493	558.5	150	300	Pass
24.2	22133996-20	9 Dec 2022	Day time	2	624				

Technical Management

Supot S.
Supot Salamteh
Section Head

Approved by

Wichan Ch.
Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports\Light.rpt



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chachoengsao Thailand 24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 22133996

Date Received : Dec 13, 2022
Date Reported : Dec 17, 2022
Report Number : 2521376-1

Page 2 of 2

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Electrical and Control Building : 3rd floor : DSC Room โยมนบริเวณกลางห้อง ผนังกลาง									
25.1	22133996-21	9 Dec 2022	Day time	1	487	490.7	100	200	Pass
25.2	22133996-22	9 Dec 2022	Day time	2	485				
25.3	22133996-23	9 Dec 2022	Day time	3	500				
Area - Electrical and Control Building : 3rd floor : Restroom-Gentlemen (T-03) โยมนบริเวณล้างล้างมือ									
26.1	22133996-24	9 Dec 2022	Day time	1	342	433.0	50	100	Pass
26.2	22133996-25	9 Dec 2022	Day time	2	524				
Area - Electrical and Control Building : 3rd floor : Up-down Main Way (Stair) โยมนบริเวณ Canteen									
27.1	22133996-26	9 Dec 2022	Day time	1	632	623.0	50	100	Pass
27.2	22133996-27	9 Dec 2022	Day time	2	614				
Area - Electrical and Control Building : 3rd floor : Up-down Way (Exit Way) โยมนบริเวณบันไดชั้น 3 ขึ้นบนสุด									
28.1	22133996-28	9 Dec 2022	Day time	1	1,094	1,133	50	100	Pass
28.2	22133996-29	9 Dec 2022	Day time	2	1,172				
Area - Electrical and Control Building : 3rd floor : Utility Room โยมนบริเวณห้อง Control									
29.1	22133996-30	9 Dec 2022	Day time	1	210	210.5	100	200	Pass
29.2	22133996-31	9 Dec 2022	Day time	2	211				

Measurement by : Arit : Srisen Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

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

Technical Management

Supot S.
Supot Salamteh
Section Head

Approved by

Wichan Ch.
Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports\Light.rpt



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000
P/O : สัญญาเลขที่4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 22134000
Date Received : Dec 13, 2022
Date Reported : Dec 17, 2022
Report Number : 2521390-1

Page 1 of 1

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot / Area No.	Spot	Illuminance (Lux) Average	Guideline Limit Spot/Min	Average	Comment
Spot - Water Laboratory : Balance									
1	22134000-1	9 Dec 2022	Day time	1	814	-	400-500	-	Pass
Spot - Water Laboratory : Computer									
2	22134000-2	9 Dec 2022	Day time	1	1,120	-	400-500	-	Pass
2	22134000-3	9 Dec 2022	Day time	2	1,008	-	300	-	Pass
2	22134000-4	9 Dec 2022	Day time	3	980	-	200	-	Pass
Area - Water Laboratory : Restroom (T-02)									
3.1	22134000-5	9 Dec 2022	Day time	1	335	342.0	50	100	Pass
3.2	22134000-6	9 Dec 2022	Day time	2	349	-	-	-	Pass
Spot - Water Laboratory : Rise Floor#2 (Water Treatment)									
5	22134000-7	9 Dec 2022	Day time	1	1,252	-	400-500	-	Pass
5	22134000-8	9 Dec 2022	Day time	2	1,100	-	300	-	Pass
5	22134000-9	9 Dec 2022	Day time	3	980	-	200	-	Pass
Area - Water Laboratory : Rise Floor#1 (Water Treatment) โขนบริเวณโต๊ะคอมพิวเตอร์									
6.1	22134000-10	9 Dec 2022	Day time	1	502	525.0	100	200	Pass
6.2	22134000-11	9 Dec 2022	Day time	2	548	-	-	-	Pass

Measurement by : Artit Srisen Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

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

Technical Management

Supot S.
Supot Salameh
Section Head

Approved by

Wichan Choonharat
Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports\Light.rpt



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000
P/O : สัญญาเลขที่4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 22134001
Date Received : Dec 13, 2022
Date Reported : Dec 17, 2022
Report Number : 2521393-1

Page 1 of 2

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot / Area No.	Spot	Illuminance (Lux) Average	Guideline Limit Spot/Min	Average	Comment
Area - Workshop & Warehouse : 1st floor : Control Temp Spare Part									
2.1	22134001-1	9 Dec 2022	Day time	1	392	401.0	50	100	Pass
2.2	22134001-2	9 Dec 2022	Day time	2	410	-	-	-	Pass
Area - Workshop & Warehouse : 1st floor : MDB Electrical Control Room									
4.1	22134001-3	9 Dec 2022	Day time	1	215	219.5	50	100	Pass
4.2	22134001-4	9 Dec 2022	Day time	2	224	-	-	-	Pass
Area - Workshop & Warehouse : 1st floor : C & I Lab Room โขนบริเวณห้อง									
13.1	22134001-5	9 Dec 2022	Day time	1	524	472.0	50	100	Pass
13.2	22134001-6	9 Dec 2022	Day time	2	420	-	-	-	Pass
Area - Workshop & Warehouse : 1st floor : Helper Room โขนบริเวณประตูทางเข้าฝั่งขวา									
14.1	22134001-7	9 Dec 2022	Day time	1	404	435.0	50	100	Pass
14.2	22134001-8	9 Dec 2022	Day time	2	466	-	-	-	Pass
Area - Workshop & Warehouse : 1st floor : Restroom-Gentlemen (T-02) โขนบริเวณล้างล้างมือ									
15.1	22134001-9	9 Dec 2022	Day time	1	268	236.0	50	100	Pass
15.2	22134001-10	9 Dec 2022	Day time	2	204	-	-	-	Pass
Area - Workshop & Warehouse : 1st floor : Spare Part Mechanical Room โขนบริเวณประตูทางเข้า									
16.1	22134001-11	9 Dec 2022	Day time	1	265	244.5	50	100	Pass
16.2	22134001-12	9 Dec 2022	Day time	2	224	-	-	-	Pass
Area - Workshop & Warehouse : 1st floor : Storage Room โขนบริเวณประตูทางเข้า									
17.1	22134001-13	9 Dec 2022	Day time	1	271	238.5	50	100	Pass
17.2	22134001-14	9 Dec 2022	Day time	2	206	-	-	-	Pass
Area - Workshop & Warehouse : 1st floor : Unsecured Heavy/Bulky A;B โขนด้านหน้า									
18.1	22134001-15	9 Dec 2022	Day time	1	225	226.5	50	100	Pass
18.2	22134001-16	9 Dec 2022	Day time	2	228	-	-	-	Pass
Area - Workshop & Warehouse : 1st floor : Unsecured Heavy/Bulky C;D โขนด้านหน้า									
19.1	22134001-17	9 Dec 2022	Day time	1	212	220.0	50	100	Pass
19.2	22134001-18	9 Dec 2022	Day time	2	228	-	-	-	Pass
Area - Workshop & Warehouse : 1st floor : Unsecured Heavy/Bulky E;F โขนด้านหน้า									
20.1	22134001-19	9 Dec 2022	Day time	1	256	267.0	50	100	Pass
20.2	22134001-20	9 Dec 2022	Day time	2	278	-	-	-	Pass
Area - Workshop & Warehouse : 1st floor : Unsecured Warehouse Area โขนบริเวณด้านหน้าห้อง									
21.1	22134001-21	9 Dec 2022	Day time	1	205	237.0	50	100	Pass
21.2	22134001-22	9 Dec 2022	Day time	2	269	-	-	-	Pass

Technical Management

Supot S.
Supot Salameh
Section Head

Approved by

Wichan Choonharat
Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports\Light.rpt



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 22134001

Date Received : Dec 13, 2022
Date Reported : Dec 17, 2022
Report Number : 2521393-1

Page 2 of 2

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Workshop & Warehouse : 1st floor : Warehouse Room โยมนบริเวณห้อง									
22.1	22134001-23	9 Dec 2022	Day time	1	215	479.0	50	100	Pass
22.2	22134001-24	9 Dec 2022	Day time	2	743				

Measurement by : Artit Srisen Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

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



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 22134002

Date Received : Dec 13, 2022
Date Reported : Dec 17, 2022
Report Number : 2521398-1

Page 1 of 2

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Spot - Workshop & Warehouse : 2nd floor : C & I Staff Office #1									
1	22134002-1	9 Dec 2022	Day time	1	862	-	400-500	-	Pass
Spot - Workshop & Warehouse : 2nd floor : C & I Staff Office #2									
2	22134002-2	9 Dec 2022	Day time	1	654	-	400-500	-	Pass
Spot - Workshop & Warehouse : 2nd floor : C & I Staff Office #3									
3	22134002-3	9 Dec 2022	Day time	1	429	-	400-500	-	Pass
Spot - Workshop & Warehouse : 2nd floor : Electronic Staff Office									
6	22134002-4	9 Dec 2022	Day time	1	465	-	400-500	-	Pass
Spot - Workshop & Warehouse : 2nd floor : Information Technology (IT)									
7	22134002-5	9 Dec 2022	Day time	1	607	-	400-500	-	Pass
Area - Workshop & Warehouse : 2nd floor : Maids Room									
8.1	22134002-6	9 Dec 2022	Day time	1	471	544.5	50	100	Pass
8.2	22134002-7	9 Dec 2022	Day time	2	618				
Spot - Workshop & Warehouse : 2nd floor : Maintenance Manager									
9	22134002-8	9 Dec 2022	Day time	1	453	-	400-500	-	Pass
Spot - Workshop & Warehouse : 2nd floor : Mechanical Staff Office									
10	22134002-9	9 Dec 2022	Day time	1	429	-	400-500	-	Pass
Area - Workshop & Warehouse : 2nd floor : Spare Part Electrical Room									
14.1	22134002-10	9 Dec 2022	Day time	1	461	468.5	50	100	Pass
14.2	22134002-11	9 Dec 2022	Day time	2	476				
Area - Workshop & Warehouse : 2nd floor : Canteen โยมนบริเวณห้องคันทีน									
15.1	22134002-12	9 Dec 2022	Day time	1	583	659.5	150	300	Pass
15.2	22134002-13	9 Dec 2022	Day time	2	736				
Area - Workshop & Warehouse : 2nd floor : Document Center โยมนบริเวณศูนย์เอกสาร									
16.1	22134002-14	9 Dec 2022	Day time	1	543	533.5	150	300	Pass
16.2	22134002-15	9 Dec 2022	Day time	2	524				
Area - Workshop & Warehouse : 2nd floor : Meeting Room โยมนบริเวณห้องประชุม									
17.1	22134002-16	9 Dec 2022	Day time	1	749	742.0	150	300	Pass
17.2	22134002-17	9 Dec 2022	Day time	2	735				
Area - Workshop & Warehouse : 2nd floor : Restroom-Gentlemen (T-03) โยมนบริเวณห้องล้างมือ									
18.1	22134002-18	9 Dec 2022	Day time	1	188	189.5	50	100	Pass
18.2	22134002-19	9 Dec 2022	Day time	2	191				

Technical Management

Supot S.
Supot Salamteh
Section Head

Approved by

Wichan Ch.
Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

S:\Reports\Light.rpt

11732-22/ EMAIL

Technical Management

Supot S.
Supot Salamteh
Section Head

Approved by

Wichan Ch.
Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

S:\Reports\Light.rpt

11732-22/ EMAIL



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungdao Thailand 24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 22134002
Date Received : Dec 13, 2022
Date Reported : Dec 17, 2022
Report Number : 2521398-1

Page 2 of 2

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot / Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/ Min	Average	
Area - Workshop & Warehouse : 2nd floor : Restroom-Lady (T-04) โถงบันไดทางขึ้น									
19.1	22134002-20	9 Dec 2022	Day time	1	315	259.5	50	100	Pass
19.2	22134002-21	9 Dec 2022	Day time	2	204				

Measurement by : Artit Srisen Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

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

Technical Management

Supot S.
Supot Salamteh
Section Head

Approved by

Wichan Ch.
Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER



Analysis / Test Report

Client : Gulf JP NNK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungdao Thailand 24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 22133993
Date Received : Dec 13, 2022
Date Reported : Dec 17, 2022
Report Number : 2521370-1

Page 1 of 2

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment	
					Spot	Average	Spot/Min	Average		
	Spot - Administration Building : EHS									
	4	22133993-1	9 Dec 2022	Day time	1	536	-	400-500	-	Pass
	Area - Administration Building : Frist Aid Room									
5.1	22133993-2	9 Dec 2022	Day time	1	691	722.5	25	50	Pass	
5.2	22133993-3	9 Dec 2022	Day time	2	754					
	Spot - Administration Building : General Office #1									
	6	22133993-4	9 Dec 2022	Day time	1	609	-	400-500	-	Pass
	Spot - Administration Building : General Office #2									
7	22133993-5	9 Dec 2022	Day time	1	630	-	400-500	-	Pass	
	Spot - Administration Building : General Office #3									
	8	22133993-6	9 Dec 2022	Day time	1	571	-	400-500	-	Pass
	Spot - Administration Building : General Office #4									
9	22133993-7	9 Dec 2022	Day time	1	542	-	400-500	-	Pass	
	Spot - Administration Building : General Office #5									
	10	22133993-8	9 Dec 2022	Day time	1	532	-	400-500	-	Pass
	Area - Administration Building : Master Document Room									
12.1	22133993-9	9 Dec 2022	Day time	1	731	725.5	150	300	Pass	
12.2	22133993-10	9 Dec 2022	Day time	2	720					
	Area - Administration Building : Meeting Room 2 (บริเวณโต๊ะประชุม)									
	14.1	22133993-11	9 Dec 2022	Day time	1	313	313.5	150	300	Pass
	14.2	22133993-12	9 Dec 2022	Day time	2	314				
	Spot - Administration Building : Plant Manager									
	16	22133993-13	9 Dec 2022	Day time	1	914	-	400-500	-	Pass
	Area - Administration Building : Reception Area									
17.1	22133993-14	9 Dec 2022	Day time	1	635	547.0	150	300	Pass	
17.2	22133993-15	9 Dec 2022	Day time	2	459					
	Spot - Administration Building : Spare Office									
	20	22133993-16	9 Dec 2022	Day time	1	467	-	400-500	-	Pass
	Area - Administration Building : Canteen & Pantry โถงบันไดทางขึ้นห้อง									
22.1	22133993-17	9 Dec 2022	Day time	1	781	803.0	150	300	Pass	
22.2	22133993-18	9 Dec 2022	Day time	2	825					

Technical Management

Supot S.
Supot Salamteh
Section Head

Approved by

Wichan Ch.
Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 22133993

Date Received : Dec 13, 2022
Date Reported : Dec 17, 2022
Report Number : 2521370-1

Page 2 of 2

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Spot	Illuminance (Lux) Average	Guideline Limit Spot/Min	Average	Comment
Area - Administration Building : Corridors โยมนบริเวณทางเข้าประตูหน้าอาคารประชาสัมพันธ์									
23.1	22133993-19	9 Dec 2022	Day time	1	235	324.5	50	100	Pass
23.2	22133993-20	9 Dec 2022	Day time	2	414				
Area - Administration Building : Meeting Room 1 โยมนบริเวณห้องประชุม									
24.1	22133993-21	9 Dec 2022	Day time	1	415	451.0	150	300	Pass
24.2	22133993-22	9 Dec 2022	Day time	2	460				
24.3	22133993-23	9 Dec 2022	Day time	3	478				
Area - Administration Building : Office Supply Area โยมนบริเวณห้อง Loker									
25.1	22133993-24	9 Dec 2022	Day time	1	460	465.5	50	100	Pass
25.2	22133993-25	9 Dec 2022	Day time	2	471				
Area - Administration Building : Restroom-Gentlemen โยมนบริเวณอ่างล้างมือ									
26.1	22133993-26	9 Dec 2022	Day time	1	964	980.5	50	100	Pass
26.2	22133993-27	9 Dec 2022	Day time	2	997				
Area - Administration Building : Restroom-Lady โยมนบริเวณอ่างล้างมือ									
27.1	22133993-28	9 Dec 2022	Day time	1	1,880	1,935	50	100	Pass
27.2	22133993-29	9 Dec 2022	Day time	2	1,990				
Area - Administration Building : Utility Room โยมนบริเวณท้ายห้อง									
28.1	22133993-30	9 Dec 2022	Day time	1	605	565.5	50	100	Pass
28.2	22133993-31	9 Dec 2022	Day time	2	526				

Measurement by : Artit Srisen Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

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

Technical Management

Supot S.
Supot Salamteh
Section Head

Approved by

Wichan Ch.
Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports\Light.rpt



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungsao Thailand 24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 22133997

Date Received : Dec 13, 2022
Date Reported : Dec 17, 2022
Report Number : 2521378-1

Page 1 of 1

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Spot	Illuminance (Lux) Average	Guideline Limit Spot/Min	Average	Comment
Area - Guard Room									
1.1	22133997-1	9 Dec 2022	Day time	1	2,204	2,157	-	100	Pass
1.2	22133997-2	9 Dec 2022	Day time	2	2,110				
Area - Guard Room : Restroom (Logger Room)									
2.1	22133997-3	9 Dec 2022	Day time	1	389	386.5	50	100	Pass
2.2	22133997-4	9 Dec 2022	Day time	2	384				
Area - Guard Room : Restroom (T-01)									
3.1	22133997-5	9 Dec 2022	Day time	1	1,314	1,337	50	100	Pass
3.2	22133997-6	9 Dec 2022	Day time	2	1,359				

Measurement by : Artit Srisen Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

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

Technical Management

Supot S.
Supot Salamteh
Section Head

Approved by

Wichan Ch.
Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports\Light.rpt



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungso Thailand 24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 22133998

Date Received : Dec 13, 2022
Date Reported : Dec 17, 2022
Report Number : 2521383-1

Page 1 of 1

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux) Spot Average	Guideline Limit Spot/Min Average	Comment
Area - Switchyard Control Building : Battery Room							
1.1	22133998-1	9 Dec 2022	Day time	1	202	206.5	50 100 Pass
1.2	22133998-2	9 Dec 2022	Day time	2	211		
Area - Switchyard Control Building : Control Room #1 โคมไฟหน้าตู้ Distribution Board							
5.1	22133998-3	9 Dec 2022	Day time	1	306	270.5	100 200 Pass
5.2	22133998-4	9 Dec 2022	Day time	2	235		
Area - Switchyard Control Building : Control Room #2 โคมไฟหน้าตู้ประตูลง							
6.1	22133998-5	9 Dec 2022	Day time	1	2,030	1,699	100 200 Pass
6.2	22133998-6	9 Dec 2022	Day time	2	1,367		
Area - Switchyard Control Building : Switchyard Room โคมไฟหน้าตู้ 1BBC4							
7.1	22133998-7	9 Dec 2022	Day time	1	304	267.5	100 200 Pass
7.2	22133998-8	9 Dec 2022	Day time	2	231		

Measurement by : Artit Srisen Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

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

Technical Management

Supot S.
Supot Salamteh
Section Head

Approved by

Wichan Choonharat
Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports\Light.rpt



Analysis / Test Report

Client : Gulf JP NKK Co., Ltd.
99 Moo 17, Klong Nakorn Neangket, Muang Chachoengsao, Chacheungso Thailand 24000
P/O : สัญญาเลขที่ 4600001497
Project Name : Monitoring EIA
Project Location : GNNK

Lot ID: 22133999

Date Received : Dec 13, 2022
Date Reported : Dec 17, 2022
Report Number : 2521387-1

Page 1 of 1

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux) Spot Average	Guideline Limit Spot/Min Average	Comment
Area - Terminal Substation : Battery Room							
2.1	22133999-1	9 Dec 2022	Day time	1	225	217.5	50 100 Pass
2.2	22133999-2	9 Dec 2022	Day time	2	210		
Area - Terminal Substation : Control Room โคมไฟหน้าตู้ Distribution Board No.2							
3.1	22133999-3	9 Dec 2022	Day time	1	727	675.5	100 200 Pass
3.2	22133999-4	9 Dec 2022	Day time	2	624		

Measurement by : Artit Srisen Personnel of ALS Laboratory Group (Thailand) Co., Ltd.

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

Technical Management

Supot S.
Supot Salamteh
Section Head

Approved by

Wichan Choonharat
Wichan Choonharat
Assistant Manager

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

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

11732-22/ EMAIL

S:\Reports\Light.rpt