

ภาคผนวก ค

ผลการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม

ภาคผนวก ค-1

ผลการตรวจวัดคุณภาพอากาศโดยทั่วไป



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2259974
Date Received : Jul 06, 2022
Date Reported : Jul 12, 2022
Report Number: 2372657-1

Page 1 of 1

Sample Description	Air Quality						
Location	วัดเขาคิชฌกูฏ (GPS 48Q 281051, 1891307)						
Parameter	Nitrogen dioxide (ppm)						
Measurement Date	Jun 27, 2022 - Jul 04, 2022						
Measurement by	Sangtawan Natasat						
Time	2259974-1 Jun 27, 2022	2259974-2 Jun 28, 2022	2259974-3 Jun 29, 2022	2259974-4 Jun 30, 2022	2259974-5 Jul 01, 2022	2259974-6 Jul 02, 2022	2259974-7 Jul 03, 2022
11:00 AM - 12:00 PM	<0.001	<0.001	<0.001	0.004	<0.001	0.001	<0.001
12:00 PM - 01:00 PM	0.001	<0.001	<0.001	0.006	0.003	0.001	<0.001
01:00 PM - 02:00 PM	0.002	<0.001	0.001	0.006	0.002	0.003	<0.001
02:00 PM - 03:00 PM	<0.001	<0.001	0.003	0.004	0.002	<0.001	<0.001
03:00 PM - 04:00 PM	0.004	<0.001	0.005	0.004	0.002	0.001	<0.001
04:00 PM - 05:00 PM	0.003	<0.001	0.003	0.003	0.002	<0.001	<0.001
05:00 PM - 06:00 PM	0.001	<0.001	0.002	0.004	0.002	<0.001	0.001
06:00 PM - 07:00 PM	<0.001	<0.001	0.004	0.002	0.001	0.002	0.001
07:00 PM - 08:00 PM	<0.001	<0.001	0.002	0.002	<0.001	<0.001	<0.001
08:00 PM - 09:00 PM	<0.001	<0.001	0.002	0.002	<0.001	<0.001	<0.001
09:00 PM - 10:00 PM	<0.001	<0.001	0.003	0.002	<0.001	<0.001	0.001
10:00 PM - 11:00 PM	<0.001	<0.001	0.003	0.002	<0.001	<0.001	0.001
11:00 PM - 12:00 AM	<0.001	<0.001	0.003	0.003	<0.001	<0.001	0.001
12:00 AM - 01:00 AM	<0.001	<0.001	0.003	0.003	<0.001	<0.001	0.001
01:00 AM - 02:00 AM	<0.001	<0.001	0.002	0.003	<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	0.002	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	0.002	<0.001	0.001
07:00 AM - 08:00 AM	<0.001	<0.001	0.001	0.001	0.002	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	0.003	0.001	<0.001	0.002	<0.001
10:00 AM - 11:00 AM	<0.001	<0.001	0.003	<0.001	<0.001	0.002	<0.001
Average	<0.001	<0.001	0.002	0.002	0.001	0.001	<0.001
1hr - Maximum	0.004	<0.001	0.005	0.006	0.003	0.003	0.001
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

Sararat Mongkonjirawat
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

S:\Reports\Air SOxNOx.rpt (2:21 PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2260004
Date Received : Jul 06, 2022
Date Reported : Jul 12, 2022
Report Number: 2372818-1

Page 1 of 1

Sample Description	Air Quality						
Location	โรงเรียนบ้านหนองน้ำ (GPS 48Q 279878, 1889419)						
Parameter	Nitrogen dioxide (ppm)						
Measurement Date	Jun 27, 2022 - Jul 04, 2022						
Measurement by	Sangtawan Natasat						
Time	2260004-1 Jun 27, 2022	2260004-2 Jun 28, 2022	2260004-3 Jun 29, 2022	2260004-4 Jun 30, 2022	2260004-5 Jul 01, 2022	2260004-6 Jul 02, 2022	2260004-7 Jul 03, 2022
12:00 PM - 01:00 PM	0.002	0.002	0.001	0.003	<0.001	0.004	0.008
01:00 PM - 02:00 PM	0.008	0.002	0.007	0.003	0.001	0.003	0.004
02:00 PM - 03:00 PM	0.003	0.009	0.007	0.001	<0.001	0.003	0.002
03:00 PM - 04:00 PM	0.002	0.004	0.007	0.001	<0.001	0.002	0.002
04:00 PM - 05:00 PM	0.002	0.006	0.009	0.001	<0.001	0.002	0.002
05:00 PM - 06:00 PM	0.003	0.006	0.005	0.001	<0.001	0.001	<0.001
06:00 PM - 07:00 PM	0.002	0.006	0.002	0.001	0.002	0.002	0.002
07:00 PM - 08:00 PM	0.002	0.005	0.002	0.001	0.002	<0.001	<0.001
08:00 PM - 09:00 PM	0.003	0.008	0.001	0.004	0.002	0.002	<0.001
09:00 PM - 10:00 PM	0.002	0.005	0.001	0.001	0.005	0.002	0.001
10:00 PM - 11:00 PM	0.002	0.007	0.004	<0.001	0.005	0.002	<0.001
11:00 PM - 12:00 AM	0.002	0.005	0.002	<0.001	0.004	<0.001	<0.001
12:00 AM - 01:00 AM	0.002	0.006	0.003	0.001	0.008	0.003	<0.001
01:00 AM - 02:00 AM	<0.001	0.004	<0.001	0.002	0.002	0.003	0.002
02:00 AM - 03:00 AM	<0.001	0.004	0.006	0.010	0.001	0.004	0.002
03:00 AM - 04:00 AM	<0.001	0.003	0.003	0.009	0.001	0.008	0.001
04:00 AM - 05:00 AM	<0.001	0.002	0.004	0.005	0.002	0.002	0.001
05:00 AM - 06:00 AM	<0.001	0.001	0.009	0.006	0.002	0.001	0.001
06:00 AM - 07:00 AM	<0.001	0.002	0.008	0.004	0.004	0.003	<0.001
07:00 AM - 08:00 AM	0.001	0.002	0.006	0.002	0.004	0.003	<0.001
08:00 AM - 09:00 AM	0.001	0.003	0.004	0.005	0.004	0.004	<0.001
09:00 AM - 10:00 AM	0.002	0.010	0.003	0.004	0.003	0.002	<0.001
10:00 AM - 11:00 AM	0.003	0.012	0.002	0.002	0.003	0.004	0.001
11:00 AM - 12:00 PM	0.004	0.010	0.002	<0.001	0.003	0.006	0.001
Average	0.002	0.005	0.004	0.003	0.003	0.003	0.002
1hr - Maximum	0.008	0.012	0.009	0.010	0.008	0.008	0.008
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

Sararat Mongkonjirawat
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

S:\Reports\Air SOxNOx.rpt (2:27 PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2260006

Date Received : Jul 06, 2022

Date Reported : Jul 12, 2022

Report Number: 2372822-1

Page 1 of 1

Sample Description	Air Quality						
Location	วังทรายพูน (GPS 48Q 278998, 1887277)						
Parameter	Nitrogen dioxide (ppm)						
Measurement Date	Jun 27, 2022 - Jul 04, 2022						
Measurement by	Sangtawan Natasat						
	2260006-1	2260006-2	2260006-3	2260006-4	2260006-5	2260006-6	2260006-7
Time	Jun 27, 2022	Jun 28, 2022	Jun 29, 2022	Jun 30, 2022	Jul 01, 2022	Jul 02, 2022	Jul 03, 2022
01:00 PM - 02:00 PM	0.001	0.002	0.002	0.008	0.002	<0.001	0.001
02:00 PM - 03:00 PM	0.002	0.003	0.004	0.003	0.001	<0.001	0.001
03:00 PM - 04:00 PM	0.002	0.008	0.011	0.001	0.001	0.001	0.001
04:00 PM - 05:00 PM	0.002	0.008	0.005	0.001	<0.001	0.001	0.001
05:00 PM - 06:00 PM	0.002	0.003	0.008	<0.001	0.003	0.002	0.001
06:00 PM - 07:00 PM	0.002	0.011	0.009	0.001	<0.001	0.004	0.001
07:00 PM - 08:00 PM	0.002	0.011	0.006	0.004	<0.001	0.004	0.002
08:00 PM - 09:00 PM	0.004	0.010	0.006	0.004	<0.001	0.002	0.002
09:00 PM - 10:00 PM	0.005	0.010	0.005	0.005	<0.001	0.003	0.001
10:00 PM - 11:00 PM	0.003	0.010	0.006	<0.001	0.002	0.001	0.003
11:00 PM - 12:00 AM	0.003	0.011	0.010	0.005	0.004	0.001	0.005
12:00 AM - 01:00 AM	0.002	0.007	0.003	0.003	0.008	0.002	0.005
01:00 AM - 02:00 AM	0.002	0.007	0.002	0.006	0.006	0.004	0.005
02:00 AM - 03:00 AM	0.002	0.008	0.002	0.009	0.004	0.004	0.002
03:00 AM - 04:00 AM	0.002	0.007	0.001	0.007	0.001	0.008	<0.001
04:00 AM - 05:00 AM	0.003	0.003	0.001	0.010	0.001	0.005	0.003
05:00 AM - 06:00 AM	0.003	0.002	0.001	0.005	0.004	0.004	0.003
06:00 AM - 07:00 AM	0.004	0.002	0.001	0.004	0.003	0.002	0.003
07:00 AM - 08:00 AM	0.002	0.001	0.001	0.003	0.001	0.003	0.002
08:00 AM - 09:00 AM	0.003	0.001	0.003	0.003	<0.001	0.004	0.004
09:00 AM - 10:00 AM	<0.001	0.001	0.002	0.002	<0.001	0.004	0.006
10:00 AM - 11:00 AM	0.001	0.001	0.005	0.002	<0.001	0.004	0.006
11:00 AM - 12:00 PM	0.001	0.001	0.009	0.001	<0.001	0.003	0.003
12:00 PM - 01:00 PM	0.002	0.002	0.008	0.001	<0.001	0.002	0.002
Average	0.002	0.005	0.005	0.004	0.002	0.003	0.003
1hr - Maximum	0.005	0.011	0.011	0.010	0.008	0.008	0.006
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 EPAMethod Part 50 App. F (Chemiluminescence)

Approved by

Sararat Mongkonjirawat
Supervisor



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2260007

Date Received : Jul 06, 2022

Date Reported : Jul 12, 2022

Report Number: 2372834-1

Page 1 of 1

Sample Description	Air Quality						
Location	วังทรายพูน (GPS 48Q 276878, 1887972)						
Parameter	Nitrogen dioxide (ppm)						
Measurement Date	Jun 27, 2022 - Jul 04, 2022						
Measurement by	Sangtawan Natasat						
	2260007-1	2260007-2	2260007-3	2260007-4	2260007-5	2260007-6	2260007-7
Time	Jun 27, 2022	Jun 28, 2022	Jun 29, 2022	Jun 30, 2022	Jul 01, 2022	Jul 02, 2022	Jul 03, 2022
10:00 AM - 11:00 AM	<0.001	<0.001	<0.001	0.001	0.002	0.003	0.004
11:00 AM - 12:00 PM	<0.001	0.002	0.003	0.002	0.002	0.002	0.004
12:00 PM - 01:00 PM	<0.001	0.004	0.004	0.004	0.002	0.002	0.005
01:00 PM - 02:00 PM	0.002	0.005	0.001	0.003	0.003	0.002	0.005
02:00 PM - 03:00 PM	0.002	0.004	0.002	0.002	0.002	0.002	0.003
03:00 PM - 04:00 PM	0.002	0.002	0.002	0.003	0.001	<0.001	0.003
04:00 PM - 05:00 PM	0.001	0.003	0.001	0.005	0.002	<0.001	0.001
05:00 PM - 06:00 PM	0.002	0.003	0.001	0.004	0.003	<0.001	0.001
06:00 PM - 07:00 PM	<0.001	0.002	0.005	0.003	0.004	<0.001	<0.001
07:00 PM - 08:00 PM	<0.001	0.002	0.003	0.003	0.003	<0.001	0.002
08:00 PM - 09:00 PM	<0.001	0.002	0.003	0.003	0.003	0.002	0.003
09:00 PM - 10:00 PM	<0.001	0.002	0.004	0.003	0.004	0.001	0.003
10:00 PM - 11:00 PM	<0.001	0.002	0.003	0.004	0.004	0.002	0.002
11:00 PM - 12:00 AM	<0.001	0.002	0.003	0.002	0.002	0.001	0.001
12:00 AM - 01:00 AM	<0.001	0.001	0.002	<0.001	0.002	0.001	<0.001
01:00 AM - 02:00 AM	<0.001	0.001	0.001	<0.001	0.002	0.001	<0.001
02:00 AM - 03:00 AM	0.002	<0.001	<0.001	<0.001	0.002	<0.001	<0.001
03:00 AM - 04:00 AM	0.002	<0.001	<0.001	<0.001	0.002	<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	0.002	<0.001	<0.001
07:00 AM - 08:00 AM	<0.001	<0.001	<0.001	0.002	0.002	<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	0.002	0.002	0.003	0.002
Average	<0.001	0.002	0.002	0.002	0.002	0.001	0.002
1hr - Maximum	0.002	0.005	0.005	0.005	0.004	0.003	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 EPAMethod Part 50 App. F (Chemiluminescence)

Approved by

Sararat Mongkonjirawat
Supervisor

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

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

S:\Reports_Air SOxNOx.rpt (2:23PM)

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

S:\Reports_Air SOxNOx.rpt (2:31PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2259980
Date Received : Jul 06, 2022
Date Reported : Jul 12, 2022
Report Number: 2372814-1

Page 1 of 1

Sample Description	Air Quality						
Location	วัดสามัคคีพัฒนาราม (GPS 48Q 281051, 1891307)						
Parameter	Sulfur Dioxide (ppm)						
Measurement Date	Jun 27, 2022 - Jul 04, 2022						
Measurement by	Sangtawan Natasat						
	2259980-1 Jun 27, 2022	2259980-2 Jun 28, 2022	2259980-3 Jun 29, 2022	2259980-4 Jun 30, 2022	2259980-5 Jul 01, 2022	2259980-6 Jul 02, 2022	2259980-7 Jul 03, 2022
Time							
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

Approved by

Sararat Mongkonjirawut
Supervisor

This 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\Air SOxNOx.rpt (2:33PM)

14025-23V EMAIL



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2260031
Date Received : Jul 06, 2022
Date Reported : Jul 12, 2022
Report Number: 2372836-1

Page 1 of 1

Sample Description	Air Quality						
Location	วัดสามัคคีพัฒนาราม (GPS 48Q 279878, 1889419)						
Parameter	Sulfur Dioxide (ppm)						
Measurement Date	Jun 27, 2022 - Jul 04, 2022						
Measurement by	Sangtawan Natasat						
	2260031-1 Jun 27, 2022	2260031-2 Jun 28, 2022	2260031-3 Jun 29, 2022	2260031-4 Jun 30, 2022	2260031-5 Jul 01, 2022	2260031-6 Jul 02, 2022	2260031-7 Jul 03, 2022
Time							
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	0.002	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
Average	0.001	0.001	0.001	<0.001	<0.001	<0.001	0.001
1hr - Maximum	0.001	0.001	0.002	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

Sararat Mongkonjirawut
Supervisor

This 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\Air SOxNOx.rpt (2:33PM)

14025-23V EMAIL



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2260032
Date Received : Jul 06, 2022
Date Reported : Jul 12, 2022
Report Number: 2372837-1

Page 1 of 1

Sample Description Air Quality
Location วัดสวนแก้ว (GPS 48Q 278998, 1887277)
Parameter Sulfur Dioxide (ppm)
Measurement Date Jun 27, 2022 - Jul 04, 2022
Measurement by Sangtawan Natasat

Time	2260032-1 Jun 27, 2022	2260032-2 Jun 28, 2022	2260032-3 Jun 29, 2022	2260032-4 Jun 30, 2022	2260032-5 Jul 01, 2022	2260032-6 Jul 02, 2022	2260032-7 Jul 03, 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

Sararat Mongkonjirawut
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



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2260033
Date Received : Jul 06, 2022
Date Reported : Jul 12, 2022
Report Number: 2372839-1

Page 1 of 1

Sample Description Air Quality
Location วัดสวนแก้ว (GPS 48Q 276878, 1887972)
Parameter Sulfur Dioxide (ppm)
Measurement Date Jun 27, 2022 - Jul 04, 2022
Measurement by Sangtawan Natasat

Time	2260033-1 Jun 27, 2022	2260033-2 Jun 28, 2022	2260033-3 Jun 29, 2022	2260033-4 Jun 30, 2022	2260033-5 Jul 01, 2022	2260033-6 Jul 02, 2022	2260033-7 Jul 03, 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	<0.001
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
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

Sararat Mongkonjirawut
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



Analysis / Test Report



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2259979
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report Number: 2316174-1

Page 1 of 1

Sample Description	Air Quality				
Location	วัดสวนพฤกษศาสตร์ (GPS: 48Q 281051, 1891307)				
Date Analysis Commenced	Jul 08, 2022				
Condition of Sample	Drawn into one glass filter paper (8x10 inch) placed in plastic bag, one quartz filter paper (8x10 inch) placed in plastic bag				
Sample Number	Sampled Date	Total Suspended Particulate (mg/m ³)	Particulate Matter (PM-10) (mg/m ³)	Barometric Pressure (mm Hg)	Atmospheric Temperature (°C)
2259979-1	Jun 27 - Jun 28, 2022	0.038	0.020	739	33
2259979-2	Jun 28 - Jun 29, 2022	0.034	0.018	739	33
2259979-3	Jun 29 - Jun 30, 2022	0.050	0.023	739	34
2259979-4	Jun 30 - Jul 01, 2022	0.023	0.013	739	34
2259979-5	Jul 01 - Jul 02, 2022	0.020	0.010	739	33
2259979-6	Jul 02 - Jul 03, 2022	0.022	0.013	739	33
2259979-7	Jul 03 - Jul 04, 2022	0.029	0.014	739	32
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 : Sangtawan Natasat

Remark :

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

Approved by

Saranya C.

Saranya Chalerthamrong
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 PARTNERS

14025-23 / EMAIL

S:\Reports_Air Ambient\7Days.rpt (1:56PM)



Analysis / Test Report



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2260035
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report Number: 2316236-1

Page 1 of 1

Sample Description	Air Quality				
Location	วัดสวนพฤกษศาสตร์ (GPS: 48Q 279878, 1889419)				
Date Analysis Commenced	Jul 08, 2022				
Condition of Sample	Drawn into one glass filter paper (8x10 inch) placed in plastic bag, one quartz filter paper (8x10 inch) placed in plastic bag				
Sample Number	Sampled Date	Total Suspended Particulate (mg/m ³)	Particulate Matter (PM-10) (mg/m ³)	Barometric Pressure (mm Hg)	Atmospheric Temperature (°C)
2260035-1	Jun 27 - Jun 28, 2022	0.040	0.017	739	33
2260035-2	Jun 28 - Jun 29, 2022	0.035	0.012	739	33
2260035-3	Jun 29 - Jun 30, 2022	0.044	0.021	739	34
2260035-4	Jun 30 - Jul 01, 2022	0.032	0.013	739	34
2260035-5	Jul 01 - Jul 02, 2022	0.023	0.011	739	33
2260035-6	Jul 02 - Jul 03, 2022	0.027	0.012	739	33
2260035-7	Jul 03 - Jul 04, 2022	0.032	0.013	739	32
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 : Sangtawan Natasat

Remark :

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

Approved by

Saranya C.

Saranya Chalerthamrong
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 PARTNERS

14025-23 / EMAIL

S:\Reports_Air Ambient\7Days.rpt (2:02PM)



Analysis / Test Report



TESTING
No.0009

Lot ID: 2260036

Date Received : Jul 06, 2022

Date Reported : Jul 15, 2022

Report Number: 2316242-1

Client : Kaset Phol Sugar Co., Ltd.

9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Page 1 of 1

Sample Description		Air Quality			
Location		วัดสุรนารี (GPS 48Q 278998, 1887277)			
Date Analysis Commenced		Jul 08, 2022			
Condition of Sample		Drawn into one glass filter paper (8x10 inch) placed in plastic bag, one quartz filter paper (8x10 inch) placed in plastic bag			
Sample Number	Sampled Date	Total Suspended Particulate (mg/m3)	Particulate Matter (PM-10) (mg/m3)	Barometric Pressure (mm Hg)	Atmospheric Temperature (°C)
2260036-1	Jun 27 - Jun 28, 2022	0.039	0.016	739	33
2260036-2	Jun 28 - Jun 29, 2022	0.036	0.014	739	33
2260036-3	Jun 29 - Jun 30, 2022	0.048	0.020	739	34
2260036-4	Jun 30 - Jul 01, 2022	0.024	0.013	739	34
2260036-5	Jul 01 - Jul 02, 2022	0.020	0.010	739	33
2260036-6	Jul 02 - Jul 03, 2022	0.025	0.012	739	33
2260036-7	Jul 03 - Jul 04, 2022	0.028	0.013	739	32
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 : Sangtawan Natasat

Remark :

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

Approved by

Saranya C.

Saranya Chalerthamrong
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 Rd., 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

14025-23 / EMAIL

S:\Reports_Air Ambient\7Days.rpt (2:04PM)



Analysis / Test Report



TESTING
No.0009

Lot ID: 2260037

Date Received : Jul 06, 2022

Date Reported : Jul 15, 2022

Report Number: 2316243-1

Client : Kaset Phol Sugar Co., Ltd.

9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Page 1 of 1

Sample Description		Air Quality			
Location		วัดสุรนารี (GPS 48Q 276878, 1887972)			
Date Analysis Commenced		Jul 08, 2022			
Condition of Sample		Drawn into one glass filter paper (8x10 inch) placed in plastic bag, one quartz filter paper (8x10 inch) placed in plastic bag			
Sample Number	Sampled Date	Total Suspended Particulate (mg/m3)	Particulate Matter (PM-10) (mg/m3)	Barometric Pressure (mm Hg)	Atmospheric Temperature (°C)
2260037-1	Jun 27 - Jun 28, 2022	0.034	0.016	739	33
2260037-2	Jun 28 - Jun 29, 2022	0.029	0.012	739	33
2260037-3	Jun 29 - Jun 30, 2022	0.033	0.016	739	34
2260037-4	Jun 30 - Jul 01, 2022	0.022	0.013	739	34
2260037-5	Jul 01 - Jul 02, 2022	0.018	0.010	739	33
2260037-6	Jul 02 - Jul 03, 2022	0.026	0.013	739	33
2260037-7	Jul 03 - Jul 04, 2022	0.036	0.016	739	32
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 : Sangtawan Natasat

Remark :

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

Approved by

Saranya C.

Saranya Chalerthamrong
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 Rd., 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

14025-23 / EMAIL

S:\Reports_Air Ambient\7Days.rpt (2:06PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID : 2259994

Date Received : Jul 06, 2022

Date Reported : Jul 11, 2022

Report Number : 2316179-1

Page 1 of 2

Sample Number : 2259994-1 to 7
Parameter : Wind Speed / Wind Direction
Location : โรงสีน้ำตาลขอนแก่น (GPS 48Q 279878, 1889419)
Sampling Date : Jun 27 - Jul 04, 2022
Sampling by : Sangtawan Natasat

Time	Jun 27 - Jun 28, 2022		Jun 28 - Jun 29, 2022		Jun 29 - Jun 30, 2022		Jun 30 - Jul 01, 2022		Jul 01 - Jul 02, 2022		Jul 02 - Jul 03, 2022		Jul 03 - Jul 04, 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)
12:00 PM - 01:00 PM	0.1	-	0.5	284.0	WNW	0.5	324.0	NW	2.4	290.0	WNW	1.0	323.0	NW
01:00 PM - 02:00 PM	1.6	266.0	W	0.3	304.0	NW	1.0	230.0	SW	1.9	215.0	SW	0.6	35.0
02:00 PM - 03:00 PM	0.2	-	0.4	216.0	SW	1.0	264.0	W	0.0	-	0.4	51.0	NE	0.1
03:00 PM - 04:00 PM	2.3	211.0	SSW	0.1	-	0.2	-	1.2	217.0	SW	0.2	-	1.5	281.0
04:00 PM - 05:00 PM	0.9	225.0	SW	0.7	208.0	SSW	1.0	167.0	SSE	0.2	-	0.4	52.0	NE
05:00 PM - 06:00 PM	0.1	-	0.5	224.0	SW	1.7	206.0	SSW	0.4	110.0	ESE	0.5	60.0	ENE
06:00 PM - 07:00 PM	1.1	133.0	SE	1.3	271.0	W	0.5	213.0	SSW	1.6	194.0	SSW	0.5	60.0
07:00 PM - 08:00 PM	2.4	211.0	SSW	1.3	300.0	WNW	0.8	213.0	SSW	0.0	-	0.7	60.0	ENE
08:00 PM - 09:00 PM	0.1	-	0.5	299.0	WNW	0.4	213.0	SSW	0.1	-	0.8	60.0	ENE	0.5
09:00 PM - 10:00 PM	0.1	-	0.0	-	0.2	-	0.6	232.0	SW	0.4	60.0	ENE	0.5	162.0
10:00 PM - 11:00 PM	0.5	224.0	SW	0.8	223.0	SW	0.2	-	1.4	197.0	SSW	0.5	60.0	ENE
11:00 PM - 12:00 AM	0.4	217.0	SW	1.5	230.0	SW	0.1	-	1.0	165.0	SSE	0.6	194.0	SSW
12:00 AM - 01:00 AM	1.9	206.0	SSW	1.0	211.0	SSW	1.1	213.0	SSW	1.5	174.0	S	0.9	190.0
01:00 AM - 02:00 AM	0.2	-	0.6	220.0	SW	1.4	310.0	NW	1.1	157.0	SSE	0.1	-	0.1
02:00 AM - 03:00 AM	0.4	226.0	SW	1.6	207.0	SSW	1.2	309.0	NW	0.6	154.0	SSE	0.3	234.0
03:00 AM - 04:00 AM	0.0	-	0.3	200.0	SSW	0.8	310.0	NW	0.5	154.0	SSE	0.5	234.0	SW
04:00 AM - 05:00 AM	0.3	226.0	SW	0.2	-	0.9	309.0	NW	0.8	184.0	S	0.2	-	0.4
05:00 AM - 06:00 AM	1.7	279.0	W	0.4	174.0	S	0.7	309.0	NW	0.1	-	0.4	234.0	SW
06:00 AM - 07:00 AM	1.9	279.0	W	0.7	215.0	SW	0.4	309.0	NW	0.1	-	0.7	234.0	SW
07:00 AM - 08:00 AM	0.0	-	1.4	222.0	SW	0.5	309.0	NW	1.0	273.0	W	0.8	234.0	SW
08:00 AM - 09:00 AM	0.7	215.0	SW	0.4	184.0	S	0.7	310.0	NW	1.6	180.0	S	0.2	-
09:00 AM - 10:00 AM	0.9	242.0	WSW	0.6	230.0	SW	1.0	177.0	S	0.4	148.0	SSE	0.5	234.0
10:00 AM - 11:00 AM	0.9	208.0	SSW	0.4	223.0	SW	1.1	274.0	W	0.1	-	1.0	236.0	SW
11:00 AM - 12:00 PM	1.6	223.0	SW	0.2	-	2.1	301.0	WNW	1.6	205.0	SSW	0.5	204.0	SSW

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 Jitranont
Assistant General Manager

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



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

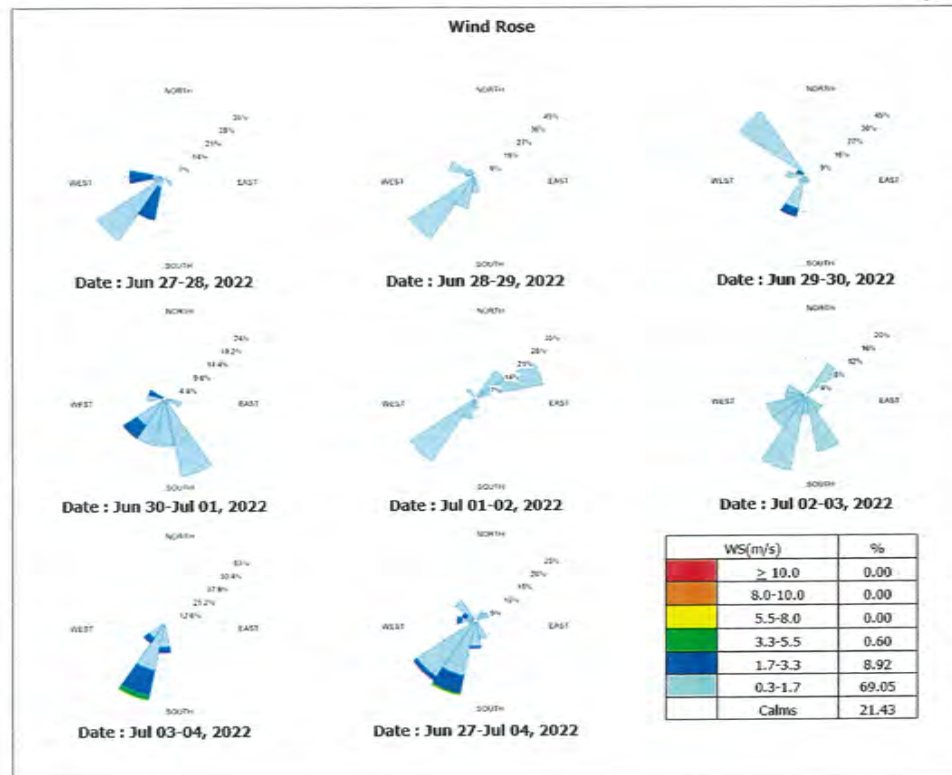
Lot ID : 2259994

Date Received : Jul 06, 2022

Date Reported : Jul 11, 2022

Report Number : 2316179-1

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 Jitranont
Assistant General Manager

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

ภาคผนวก ค-2

ผลการตรวจวัดระดับเสียงทั่วไป



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2259999
Date Received : Jul 06, 2022
Date Reported : Jul 14, 2022
Report Number: 2374988-1

Page 1 of 1

Sample Number 2259999-1
Parameter Noise (Leq 24 hrs.)
Location บริเวณลุ่มน้ำด้านทิศเหนือ (GPS 48Q 279384, 1889169)
Measurement Date Jun 27 - Jun 28, 2022
Measurement by Sangtawan Natasat
Sound Level meter Serial No. 1173613

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	54.6	74.1	50.2
12:00 PM - 01:00 PM	52.6	75.0	49.8
01:00 PM - 02:00 PM	56.2	81.0	51.4
02:00 PM - 03:00 PM	53.1	75.3	49.7
03:00 PM - 04:00 PM	53.5	81.1	50.2
04:00 PM - 05:00 PM	53.3	74.3	50.6
05:00 PM - 06:00 PM	54.0	84.1	51.0
06:00 PM - 07:00 PM	54.8	75.2	51.7
07:00 PM - 08:00 PM	53.4	65.9	51.9
08:00 PM - 09:00 PM	55.1	76.2	53.5
09:00 PM - 10:00 PM	53.8	70.1	52.3
10:00 PM - 11:00 PM	52.7	60.9	51.0
11:00 PM - 12:00 AM	50.9	64.9	49.2
12:00 AM - 01:00 AM	50.2	57.6	48.6
01:00 AM - 02:00 AM	52.3	58.1	50.6
02:00 AM - 03:00 AM	48.6	57.8	46.9
03:00 AM - 04:00 AM	50.6	57.9	48.8
04:00 AM - 05:00 AM	52.9	71.3	50.7
05:00 AM - 06:00 AM	51.9	76.4	49.6
06:00 AM - 07:00 AM	54.7	70.1	51.4
07:00 AM - 08:00 AM	53.4	73.8	50.3
08:00 AM - 09:00 AM	55.4	85.7	49.8
09:00 AM - 10:00 AM	52.6	73.5	49.2
10:00 AM - 11:00 AM	54.2	73.8	49.9

Leq Average 24 hrs. (dB(A)) 53.4
Lmax (dB(A)) 85.7
L90 (dB(A)) 50.2
Ldn (dB(A)) 58.8
Standard (dB(A)) 70 115

Reference Method : ISO1996-1 and 1996-2

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

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

14025-23/ EMAIL

S:\Reports_Air Noise.rpt (7:58PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2259999
Date Received : Jul 06, 2022
Date Reported : Jul 14, 2022
Report Number: 2374989-1

Page 1 of 1

Sample Number 2259999-2
Parameter Noise (Leq 24 hrs.)
Location บริเวณลุ่มน้ำด้านทิศเหนือ (GPS 48Q 279384, 1889169)
Measurement Date Jun 28 - Jun 29, 2022
Measurement by Sangtawan Natasat
Sound Level meter Serial No. 1173613

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	52.8	75.4	49.1
12:00 PM - 01:00 PM	51.4	68.0	48.9
01:00 PM - 02:00 PM	54.2	76.7	50.6
02:00 PM - 03:00 PM	54.2	73.2	50.3
03:00 PM - 04:00 PM	55.1	75.5	51.6
04:00 PM - 05:00 PM	55.2	72.8	52.2
05:00 PM - 06:00 PM	54.5	69.4	52.3
06:00 PM - 07:00 PM	53.8	68.2	50.3
07:00 PM - 08:00 PM	49.5	64.3	48.1
08:00 PM - 09:00 PM	50.0	70.9	48.3
09:00 PM - 10:00 PM	51.5	64.8	49.9
10:00 PM - 11:00 PM	51.1	61.2	49.7
11:00 PM - 12:00 AM	51.6	71.8	50.0
12:00 AM - 01:00 AM	51.3	60.5	49.4
01:00 AM - 02:00 AM	51.8	58.5	50.3
02:00 AM - 03:00 AM	50.8	60.3	49.2
03:00 AM - 04:00 AM	50.3	73.3	48.0
04:00 AM - 05:00 AM	51.3	58.6	49.5
05:00 AM - 06:00 AM	50.4	65.1	48.1
06:00 AM - 07:00 AM	55.7	68.2	51.2
07:00 AM - 08:00 AM	55.7	71.9	52.5
08:00 AM - 09:00 AM	54.9	75.4	51.5
09:00 AM - 10:00 AM	54.7	82.0	51.8
10:00 AM - 11:00 AM	54.6	82.6	51.2

Leq Average 24 hrs. (dB(A)) 53.2
Lmax (dB(A)) 82.6
L90 (dB(A)) 50.0
Ldn (dB(A)) 58.7
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 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

14025-23/ EMAIL

S:\Reports_Air Noise.rpt (7:58PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2259999
Date Received : Jul 06, 2022
Date Reported : Jul 14, 2022
Report Number: 2374990-1

Page 1 of 1

Sample Number : 2259999-3
Parameter : Noise (Leq 24 hrs.)
Location : ริมรั้วกลุ่มบริษัทด้านทิศเหนือ (GPS 48Q 279384, 1889169)
Measurement Date : Jun 29 - Jun 30, 2022
Measurement by : Sangtawan Natasat
Sound Level meter : Serial No. 1173613

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	54.2	76.1	50.6
12:00 PM - 01:00 PM	51.3	74.5	48.0
01:00 PM - 02:00 PM	54.5	74.7	51.4
02:00 PM - 03:00 PM	55.1	76.0	51.8
03:00 PM - 04:00 PM	54.6	72.3	51.2
04:00 PM - 05:00 PM	55.5	73.7	52.4
05:00 PM - 06:00 PM	55.0	75.3	52.0
06:00 PM - 07:00 PM	54.4	74.1	50.9
07:00 PM - 08:00 PM	52.9	75.7	51.3
08:00 PM - 09:00 PM	53.3	71.3	51.9
09:00 PM - 10:00 PM	52.9	64.5	51.8
10:00 PM - 11:00 PM	49.8	55.8	48.5
11:00 PM - 12:00 AM	50.2	73.4	48.1
12:00 AM - 01:00 AM	51.1	59.2	49.3
01:00 AM - 02:00 AM	52.0	62.1	50.3
02:00 AM - 03:00 AM	51.8	67.8	50.1
03:00 AM - 04:00 AM	49.5	57.4	48.0
04:00 AM - 05:00 AM	50.7	58.5	49.1
05:00 AM - 06:00 AM	50.8	68.6	48.5
06:00 AM - 07:00 AM	54.2	72.2	51.2
07:00 AM - 08:00 AM	54.9	72.5	51.4
08:00 AM - 09:00 AM	53.6	73.9	50.8
09:00 AM - 10:00 AM	53.5	73.7	50.6
10:00 AM - 11:00 AM	53.9	72.1	50.3

Leq Average 24 hrs. (dB(A)) : 53.3
Lmax (dB(A)) : 76.1
L90 (dB(A)) : 50.6
Ldn (dB(A)) : 58.3
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 Chalerthamrong
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 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

14025-23/ EMAIL

S:\Reports\Air Noise.rpt (7:58PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2259999
Date Received : Jul 06, 2022
Date Reported : Jul 14, 2022
Report Number: 2374991-1

Page 1 of 1

Sample Number : 2259999-4
Parameter : Noise (Leq 24 hrs.)
Location : ริมรั้วกลุ่มบริษัทด้านทิศเหนือ (GPS 48Q 279384, 1889169)
Measurement Date : Jun 30 - Jul 01, 2022
Measurement by : Sangtawan Natasat
Sound Level meter : Serial No. 1173613

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	52.7	70.6	49.7
12:00 PM - 01:00 PM	50.9	66.7	49.3
01:00 PM - 02:00 PM	55.3	85.6	51.5
02:00 PM - 03:00 PM	52.1	67.9	50.5
03:00 PM - 04:00 PM	53.7	76.4	50.7
04:00 PM - 05:00 PM	52.5	79.7	48.5
05:00 PM - 06:00 PM	53.6	71.7	50.6
06:00 PM - 07:00 PM	53.7	72.1	50.2
07:00 PM - 08:00 PM	50.2	68.8	48.5
08:00 PM - 09:00 PM	50.3	68.9	48.2
09:00 PM - 10:00 PM	51.3	66.6	48.2
10:00 PM - 11:00 PM	51.6	70.0	48.6
11:00 PM - 12:00 AM	49.3	74.9	47.1
12:00 AM - 01:00 AM	50.7	64.5	48.9
01:00 AM - 02:00 AM	54.9	62.2	52.7
02:00 AM - 03:00 AM	53.5	66.9	51.0
03:00 AM - 04:00 AM	54.3	63.4	51.7
04:00 AM - 05:00 AM	54.8	63.0	52.4
05:00 AM - 06:00 AM	52.7	79.5	49.5
06:00 AM - 07:00 AM	54.8	69.5	51.7
07:00 AM - 08:00 AM	55.1	76.8	51.5
08:00 AM - 09:00 AM	55.7	74.1	52.7
09:00 AM - 10:00 AM	55.3	76.2	52.3
10:00 AM - 11:00 AM	55.5	74.7	52.5

Leq Average 24 hrs. (dB(A)) : 53.5
Lmax (dB(A)) : 85.6
L90 (dB(A)) : 50.5
Ldn (dB(A)) : 59.8
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 Chalerthamrong
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 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

14025-23/ EMAIL

S:\Reports\Air Noise.rpt (7:58PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2259999

Date Received : Jul 06, 2022
Date Reported : Jul 14, 2022
Report Number: 2374992-1

Page 1 of 1

Sample Number : 2259999-5
Parameter : Noise (Leq 24 hrs.)
Location : ริมรั้วกลุ่มบริษัทด้านทิศเหนือ (GPS 48Q 279384, 1889169)
Measurement Date : Jul 01 - Jul 02, 2022
Measurement by : Sangtawan Natasat
Sound Level meter : Serial No. 1173613

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	54.3	74.0	51.9
12:00 PM - 01:00 PM	54.5	73.9	51.7
01:00 PM - 02:00 PM	57.9	87.6	52.8
02:00 PM - 03:00 PM	56.5	78.5	52.6
03:00 PM - 04:00 PM	57.4	83.8	53.5
04:00 PM - 05:00 PM	54.6	79.9	51.4
05:00 PM - 06:00 PM	54.1	72.7	51.2
06:00 PM - 07:00 PM	54.8	69.5	51.9
07:00 PM - 08:00 PM	52.7	67.9	51.0
08:00 PM - 09:00 PM	53.0	73.2	49.7
09:00 PM - 10:00 PM	52.2	69.2	50.2
10:00 PM - 11:00 PM	60.4	73.5	54.3
11:00 PM - 12:00 AM	62.8	72.6	58.7
12:00 AM - 01:00 AM	52.5	62.9	51.2
01:00 AM - 02:00 AM	54.3	67.1	52.9
02:00 AM - 03:00 AM	49.8	57.5	48.6
03:00 AM - 04:00 AM	50.6	65.9	49.1
04:00 AM - 05:00 AM	52.7	67.7	50.7
05:00 AM - 06:00 AM	52.1	67.1	50.2
06:00 AM - 07:00 AM	55.7	77.2	52.0
07:00 AM - 08:00 AM	53.5	69.3	50.6
08:00 AM - 09:00 AM	53.9	76.5	50.0
09:00 AM - 10:00 AM	54.2	75.0	50.7
10:00 AM - 11:00 AM	54.9	83.3	50.6

Leq Average 24 hrs. (dB(A)) : 55.7
Lmax (dB(A)) : 87.6
L90 (dB(A)) : 51.2
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 Chalemtamrong
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

14025-23/ EMAIL

S:\Reports_Air Noise.rpt (7:58PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2259999

Date Received : Jul 06, 2022
Date Reported : Jul 14, 2022
Report Number: 2374993-1

Page 1 of 1

Sample Number : 2259999-6
Parameter : Noise (Leq 24 hrs.)
Location : ริมรั้วกลุ่มบริษัทด้านทิศเหนือ (GPS 48Q 279384, 1889169)
Measurement Date : Jul 02 - Jul 03, 2022
Measurement by : Sangtawan Natasat
Sound Level meter : Serial No. 1173613

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	55.2	85.1	50.8
12:00 PM - 01:00 PM	52.3	78.3	48.8
01:00 PM - 02:00 PM	55.8	78.6	50.8
02:00 PM - 03:00 PM	53.8	71.9	50.4
03:00 PM - 04:00 PM	54.1	72.6	49.5
04:00 PM - 05:00 PM	54.5	73.9	50.3
05:00 PM - 06:00 PM	54.5	70.5	51.0
06:00 PM - 07:00 PM	54.9	68.6	51.7
07:00 PM - 08:00 PM	52.5	65.6	50.8
08:00 PM - 09:00 PM	52.3	72.9	50.9
09:00 PM - 10:00 PM	51.2	62.1	49.8
10:00 PM - 11:00 PM	50.2	61.3	48.5
11:00 PM - 12:00 AM	49.9	55.6	48.4
12:00 AM - 01:00 AM	49.4	58.3	47.4
01:00 AM - 02:00 AM	49.7	57.4	47.7
02:00 AM - 03:00 AM	51.8	63.6	49.6
03:00 AM - 04:00 AM	51.6	58.7	49.6
04:00 AM - 05:00 AM	47.2	56.0	45.5
05:00 AM - 06:00 AM	49.2	64.6	46.6
06:00 AM - 07:00 AM	51.0	63.4	47.6
07:00 AM - 08:00 AM	50.9	72.4	47.6
08:00 AM - 09:00 AM	51.4	76.3	48.8
09:00 AM - 10:00 AM	51.8	71.4	49.5
10:00 AM - 11:00 AM	51.4	67.9	49.4

Leq Average 24 hrs. (dB(A)) : 52.5
Lmax (dB(A)) : 85.1
L90 (dB(A)) : 49.5
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 Chalemtamrong
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

14025-23/ EMAIL

S:\Reports_Air Noise.rpt (7:58PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2259999
Date Received : Jul 06, 2022
Date Reported : Jul 14, 2022
Report Number: 2374994-1

Page 1 of 1

Sample Number : 2259999-7
Parameter : Noise (Leq 24 hrs.)
Location : ริมรั้วกลุ่มบริษัทด้านทิศเหนือ (GPS 48Q 279384, 1889169)
Measurement Date : Jul 03 - Jul 04, 2022
Measurement by : Sangtawan Natasat
Sound Level meter : Serial No. 1173613

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	53.0	70.4	50.1
12:00 PM - 01:00 PM	51.9	66.7	49.0
01:00 PM - 02:00 PM	51.3	71.9	48.6
02:00 PM - 03:00 PM	51.4	67.2	48.9
03:00 PM - 04:00 PM	51.5	65.1	48.8
04:00 PM - 05:00 PM	53.0	75.5	49.9
05:00 PM - 06:00 PM	52.7	74.8	50.4
06:00 PM - 07:00 PM	55.0	78.9	52.3
07:00 PM - 08:00 PM	52.5	60.5	50.7
08:00 PM - 09:00 PM	54.6	68.7	53.1
09:00 PM - 10:00 PM	54.9	63.8	53.4
10:00 PM - 11:00 PM	50.8	57.9	49.2
11:00 PM - 12:00 AM	51.5	56.3	49.9
12:00 AM - 01:00 AM	52.6	61.1	50.9
01:00 AM - 02:00 AM	51.7	63.1	49.2
02:00 AM - 03:00 AM	51.0	65.9	48.7
03:00 AM - 04:00 AM	52.6	66.7	49.2
04:00 AM - 05:00 AM	51.1	62.9	48.4
05:00 AM - 06:00 AM	52.6	70.5	49.8
06:00 AM - 07:00 AM	54.9	75.6	51.9
07:00 AM - 08:00 AM	54.4	81.6	51.6
08:00 AM - 09:00 AM	53.7	77.0	51.1
09:00 AM - 10:00 AM	54.3	76.6	51.0
10:00 AM - 11:00 AM	53.4	79.2	50.4

Leq Average 24 hrs. (dB(A)) : 53.0
Lmax (dB(A)) : 81.6
L90 (dB(A)) : 49.9
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 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

14025-23/ EMAIL

S:\Reports_Air Noise.rpt (7:59PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2260056
Date Received : Jul 06, 2022
Date Reported : Jul 14, 2022
Report Number: 2375002-1

Page 1 of 1

Sample Number : 2260056-1
Parameter : Noise (Leq 24 hrs.)
Location : ริมรั้วกลุ่มบริษัทด้านทิศใต้ (GPS 48Q 279216, 1888633)
Measurement Date : Jun 27 - Jun 28, 2022
Measurement by : Sangtawan Natasat
Sound Level meter : Serial No. 472123

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	54.1	77.1	48.3
12:00 PM - 01:00 PM	52.7	73.8	48.1
01:00 PM - 02:00 PM	52.2	66.6	49.1
02:00 PM - 03:00 PM	51.9	76.7	48.1
03:00 PM - 04:00 PM	53.5	75.2	49.3
04:00 PM - 05:00 PM	51.6	76.1	48.5
05:00 PM - 06:00 PM	53.8	83.4	50.0
06:00 PM - 07:00 PM	52.1	72.3	49.7
07:00 PM - 08:00 PM	53.7	72.4	50.4
08:00 PM - 09:00 PM	52.8	74.7	50.4
09:00 PM - 10:00 PM	52.5	66.2	51.2
10:00 PM - 11:00 PM	51.7	60.3	50.1
11:00 PM - 12:00 AM	51.0	58.3	49.6
12:00 AM - 01:00 AM	50.4	64.4	49.6
01:00 AM - 02:00 AM	51.5	60.0	50.8
02:00 AM - 03:00 AM	50.8	60.6	50.1
03:00 AM - 04:00 AM	50.2	58.3	49.4
04:00 AM - 05:00 AM	50.3	65.2	49.6
05:00 AM - 06:00 AM	51.8	67.9	48.6
06:00 AM - 07:00 AM	51.3	70.4	47.9
07:00 AM - 08:00 AM	52.6	69.5	49.1
08:00 AM - 09:00 AM	52.5	73.6	49.1
09:00 AM - 10:00 AM	52.7	75.2	49.4
10:00 AM - 11:00 AM	55.0	74.0	49.5

Leq Average 24 hrs. (dB(A)) : 52.4
Lmax (dB(A)) : 83.4
L90 (dB(A)) : 49.4
Ldn (dB(A)) : 57.8
Standard (dB(A)) : 70 115

Reference Method : ISO1996-1 and 1996-2

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

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

14025-23/ EMAIL

S:\Reports_Air Noise.rpt (8:02PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2260056

Date Received : Jul 06, 2022

Date Reported : Jul 14, 2022

Report Number: 2375003-1

Page 1 of 1

Sample Number 2260056-2
Parameter Noise (Leq 24 hrs.)
Location ริมรั้วกลุ่มบริษัทด้านทิศใต้ (GPS 48Q 279216, 1888633)
Measurement Date Jun 28 - Jun 29, 2022
Measurement by Sangtawan Natasat
Sound Level meter Serial No. 472123

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	55.2	75.0	48.7
12:00 PM - 01:00 PM	52.4	72.7	48.0
01:00 PM - 02:00 PM	53.1	69.0	49.0
02:00 PM - 03:00 PM	53.1	76.3	49.5
03:00 PM - 04:00 PM	54.0	70.8	50.5
04:00 PM - 05:00 PM	56.0	84.2	49.1
05:00 PM - 06:00 PM	54.9	81.6	49.0
06:00 PM - 07:00 PM	53.0	73.1	49.9
07:00 PM - 08:00 PM	53.3	77.1	51.2
08:00 PM - 09:00 PM	53.4	79.2	51.2
09:00 PM - 10:00 PM	51.1	71.9	49.6
10:00 PM - 11:00 PM	50.7	60.4	49.3
11:00 PM - 12:00 AM	49.9	57.1	48.8
12:00 AM - 01:00 AM	49.2	56.1	48.3
01:00 AM - 02:00 AM	49.9	60.6	48.6
02:00 AM - 03:00 AM	50.3	57.6	48.9
03:00 AM - 04:00 AM	50.5	58.5	49.0
04:00 AM - 05:00 AM	50.9	66.1	49.5
05:00 AM - 06:00 AM	51.1	67.8	48.8
06:00 AM - 07:00 AM	51.7	75.9	46.3
07:00 AM - 08:00 AM	52.8	65.4	47.5
08:00 AM - 09:00 AM	54.8	81.0	49.7
09:00 AM - 10:00 AM	53.2	72.4	49.2
10:00 AM - 11:00 AM	54.0	74.9	48.3

Leq Average 24 hrs. (dB(A)) 52.8
Lmax (dB(A)) 84.2
L90 (dB(A)) 49.0
Ldn (dB(A)) 57.6
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 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 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

14025-23/ EMAIL

S:\Reports_Air Noise.rpt (8:03PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2260056

Date Received : Jul 06, 2022

Date Reported : Jul 14, 2022

Report Number: 2375004-1

Page 1 of 1

Sample Number 2260056-3
Parameter Noise (Leq 24 hrs.)
Location ริมรั้วกลุ่มบริษัทด้านทิศใต้ (GPS 48Q 279216, 1888633)
Measurement Date Jun 29 - Jun 30, 2022
Measurement by Sangtawan Natasat
Sound Level meter Serial No. 472123

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	53.1	81.4	47.6
12:00 PM - 01:00 PM	50.0	70.7	46.2
01:00 PM - 02:00 PM	53.1	72.4	47.5
02:00 PM - 03:00 PM	51.1	65.2	47.8
03:00 PM - 04:00 PM	54.0	71.8	47.2
04:00 PM - 05:00 PM	51.5	71.4	47.2
05:00 PM - 06:00 PM	51.6	78.8	47.2
06:00 PM - 07:00 PM	51.2	78.6	47.6
07:00 PM - 08:00 PM	52.5	69.4	51.1
08:00 PM - 09:00 PM	50.8	64.5	49.4
09:00 PM - 10:00 PM	51.7	64.3	50.5
10:00 PM - 11:00 PM	51.0	59.1	49.7
11:00 PM - 12:00 AM	50.7	60.8	49.7
12:00 AM - 01:00 AM	51.5	58.7	50.8
01:00 AM - 02:00 AM	50.4	55.3	49.6
02:00 AM - 03:00 AM	50.1	58.0	49.3
03:00 AM - 04:00 AM	50.2	55.3	49.5
04:00 AM - 05:00 AM	50.2	69.1	49.4
05:00 AM - 06:00 AM	52.4	72.4	48.7
06:00 AM - 07:00 AM	50.6	66.8	46.1
07:00 AM - 08:00 AM	52.5	69.1	46.4
08:00 AM - 09:00 AM	51.6	67.4	46.8
09:00 AM - 10:00 AM	57.8	72.4	48.6
10:00 AM - 11:00 AM	58.1	77.5	49.5

Leq Average 24 hrs. (dB(A)) 52.6
Lmax (dB(A)) 81.4
L90 (dB(A)) 48.6
Ldn (dB(A)) 57.7
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 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 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

14025-23/ EMAIL

S:\Reports_Air Noise.rpt (8:03PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.

9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2260056

Date Received : Jul 06, 2022

Date Reported : Jul 14, 2022

Report Number: 2375005-1

Page 1 of 1

Sample Number 2260056-4
Parameter Noise (Leq 24 hrs.)
Location ริมรั้วกลุ่มบริษัทด้านทิศใต้ (GPS 48Q 279216, 1888633)
Measurement Date Jun 30 - Jul 01, 2022
Measurement by Sangtawan Natasat
Sound Level meter Serial No. 472123

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	56.6	73.1	47.9
12:00 PM - 01:00 PM	57.0	88.9	46.7
01:00 PM - 02:00 PM	56.6	88.9	48.8
02:00 PM - 03:00 PM	53.8	77.1	51.0
03:00 PM - 04:00 PM	54.3	76.7	50.1
04:00 PM - 05:00 PM	57.7	77.1	54.4
05:00 PM - 06:00 PM	55.0	76.8	52.1
06:00 PM - 07:00 PM	51.7	66.9	50.7
07:00 PM - 08:00 PM	53.4	66.6	52.3
08:00 PM - 09:00 PM	54.0	66.2	52.7
09:00 PM - 10:00 PM	52.8	63.3	52.0
10:00 PM - 11:00 PM	55.1	73.8	51.9
11:00 PM - 12:00 AM	51.8	60.1	50.6
12:00 AM - 01:00 AM	50.1	59.0	48.7
01:00 AM - 02:00 AM	50.8	59.5	48.8
02:00 AM - 03:00 AM	49.9	59.8	48.0
03:00 AM - 04:00 AM	50.1	56.3	49.0
04:00 AM - 05:00 AM	50.2	57.3	49.0
05:00 AM - 06:00 AM	51.1	70.6	48.8
06:00 AM - 07:00 AM	52.7	86.4	48.0
07:00 AM - 08:00 AM	52.3	73.6	49.2
08:00 AM - 09:00 AM	54.3	81.3	50.4
09:00 AM - 10:00 AM	54.4	80.0	50.1
10:00 AM - 11:00 AM	58.6	81.1	48.7

Leq Average 24 hrs. (dB(A))

54.3

Lmax (dB(A))

88.9

L90 (dB(A))

49.2

Ldn (dB(A))

58.8

Standard (dB(A))

70

115

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

Saranya Chalerthamrong
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 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

14025-23/ EMAIL

S:\Reports_Air Noise.rpt (8:03PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.

9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2260056

Date Received : Jul 06, 2022

Date Reported : Jul 14, 2022

Report Number: 2375006-1

Page 1 of 1

Sample Number 2260056-5
Parameter Noise (Leq 24 hrs.)
Location ริมรั้วกลุ่มบริษัทด้านทิศใต้ (GPS 48Q 279216, 1888633)
Measurement Date Jul 01 - Jul 02, 2022
Measurement by Sangtawan Natasat
Sound Level meter Serial No. 472123

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	55.0	73.6	52.3
12:00 PM - 01:00 PM	54.3	80.5	50.9
01:00 PM - 02:00 PM	55.6	76.3	51.7
02:00 PM - 03:00 PM	57.2	83.3	51.9
03:00 PM - 04:00 PM	56.3	75.2	52.2
04:00 PM - 05:00 PM	56.3	75.9	53.4
05:00 PM - 06:00 PM	53.6	66.9	51.2
06:00 PM - 07:00 PM	54.6	78.3	52.4
07:00 PM - 08:00 PM	54.3	78.0	51.4
08:00 PM - 09:00 PM	53.3	73.1	50.3
09:00 PM - 10:00 PM	51.6	80.2	49.3
10:00 PM - 11:00 PM	52.5	65.8	50.5
11:00 PM - 12:00 AM	53.0	68.5	50.9
12:00 AM - 01:00 AM	52.2	68.1	50.3
01:00 AM - 02:00 AM	52.8	71.7	50.4
02:00 AM - 03:00 AM	50.4	69.3	48.1
03:00 AM - 04:00 AM	55.1	71.0	53.9
04:00 AM - 05:00 AM	56.0	70.4	54.1
05:00 AM - 06:00 AM	55.8	73.2	53.7
06:00 AM - 07:00 AM	54.6	76.2	51.8
07:00 AM - 08:00 AM	54.6	71.5	52.1
08:00 AM - 09:00 AM	55.4	81.2	52.6
09:00 AM - 10:00 AM	55.6	71.2	52.9
10:00 AM - 11:00 AM	53.6	68.5	51.2

Leq Average 24 hrs. (dB(A))

54.6

Lmax (dB(A))

83.3

L90 (dB(A))

51.7

Ldn (dB(A))

60.5

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 Chalerthamrong
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 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

14025-23/ EMAIL

S:\Reports_Air Noise.rpt (8:03PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2260056

Date Received : Jul 06, 2022

Date Reported : Jul 14, 2022

Report Number: 2375007-1

Page 1 of 1

Sample Number 2260056-6
Parameter Noise (Leq 24 hrs.)
Location ริมรั้วกลุ่มบริษัทด้านทิศใต้ (GPS 48Q 279216, 1888633)
Measurement Date Jul 02 - Jul 03, 2022
Measurement by Sangtawan Natasat
Sound Level meter Serial No. 472123

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	49.4	62.7	47.1
12:00 PM - 01:00 PM	50.0	77.9	47.1
01:00 PM - 02:00 PM	52.6	69.9	49.0
02:00 PM - 03:00 PM	52.1	69.4	48.5
03:00 PM - 04:00 PM	53.7	70.9	47.3
04:00 PM - 05:00 PM	49.7	72.2	45.8
05:00 PM - 06:00 PM	50.8	71.0	47.5
06:00 PM - 07:00 PM	54.9	74.9	52.3
07:00 PM - 08:00 PM	54.8	61.9	53.0
08:00 PM - 09:00 PM	51.1	63.5	48.9
09:00 PM - 10:00 PM	51.2	61.0	49.7
10:00 PM - 11:00 PM	49.8	61.5	47.4
11:00 PM - 12:00 AM	49.3	65.0	45.9
12:00 AM - 01:00 AM	48.5	55.3	45.5
01:00 AM - 02:00 AM	47.9	64.3	45.5
02:00 AM - 03:00 AM	48.1	62.3	45.5
03:00 AM - 04:00 AM	48.6	58.7	45.5
04:00 AM - 05:00 AM	52.5	63.8	48.0
05:00 AM - 06:00 AM	53.3	68.7	50.2
06:00 AM - 07:00 AM	52.7	71.8	49.3
07:00 AM - 08:00 AM	53.8	76.1	49.2
08:00 AM - 09:00 AM	51.8	66.4	47.6
09:00 AM - 10:00 AM	60.2	77.2	52.1
10:00 AM - 11:00 AM	56.7	77.3	50.2
Leq Average 24 hrs. (dB(A))	53.0		
Lmax (dB(A))		77.9	
L90 (dB(A))			47.6
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 Chalermtamrong
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

14025-23/ EMAIL

S:\Reports_Air Noise.rpt (8:03PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2260056

Date Received : Jul 06, 2022

Date Reported : Jul 14, 2022

Report Number: 2375008-1

Page 1 of 1

Sample Number 2260056-7
Parameter Noise (Leq 24 hrs.)
Location ริมรั้วกลุ่มบริษัทด้านทิศใต้ (GPS 48Q 279216, 1888633)
Measurement Date Jul 03 - Jul 04, 2022
Measurement by Sangtawan Natasat
Sound Level meter Serial No. 472123

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	54.7	77.4	50.1
12:00 PM - 01:00 PM	52.7	64.2	48.1
01:00 PM - 02:00 PM	53.9	72.9	48.3
02:00 PM - 03:00 PM	54.3	72.7	48.1
03:00 PM - 04:00 PM	52.8	78.7	49.8
04:00 PM - 05:00 PM	52.6	78.8	49.0
05:00 PM - 06:00 PM	54.6	80.6	49.7
06:00 PM - 07:00 PM	53.2	64.7	50.5
07:00 PM - 08:00 PM	57.8	65.3	56.3
08:00 PM - 09:00 PM	58.1	63.7	56.7
09:00 PM - 10:00 PM	55.7	61.1	53.5
10:00 PM - 11:00 PM	54.0	60.2	50.5
11:00 PM - 12:00 AM	49.7	66.3	47.1
12:00 AM - 01:00 AM	48.5	59.7	46.0
01:00 AM - 02:00 AM	47.6	57.0	45.5
02:00 AM - 03:00 AM	47.3	54.7	45.6
03:00 AM - 04:00 AM	48.3	56.7	46.5
04:00 AM - 05:00 AM	50.2	60.5	48.4
05:00 AM - 06:00 AM	52.2	68.0	50.4
06:00 AM - 07:00 AM	52.0	66.0	49.7
07:00 AM - 08:00 AM	52.5	73.8	49.2
08:00 AM - 09:00 AM	53.9	69.0	50.4
09:00 AM - 10:00 AM	55.0	77.7	50.2
10:00 AM - 11:00 AM	53.2	75.1	49.6
Leq Average 24 hrs. (dB(A))	53.6		
Lmax (dB(A))		80.6	
L90 (dB(A))			49.6
Ldn (dB(A))	57.9		
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 Chalermtamrong
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

14025-23/ EMAIL

S:\Reports_Air Noise.rpt (8:04PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.

9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2260058

Date Received : Jul 06, 2022

Date Reported : Jul 14, 2022

Report Number: 2375009-1

Page 1 of 1

Sample Number 2260058-1
 Parameter Noise (Leq 24 hrs.)
 Location รั้วกลุ่มบริษัทด้านทิศตะวันออก (GPS 48Q 279462, 1888929)
 Measurement Date Jun 27 - Jun 28, 2022
 Measurement by Sangtawan Natasat
 Sound Level meter Serial No. 900075

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	57.7	88.3	50.2
12:00 PM - 01:00 PM	54.0	71.8	48.0
01:00 PM - 02:00 PM	58.1	90.0	48.5
02:00 PM - 03:00 PM	54.2	73.4	48.1
03:00 PM - 04:00 PM	56.2	83.9	49.7
04:00 PM - 05:00 PM	57.3	86.9	49.4
05:00 PM - 06:00 PM	55.4	73.7	49.9
06:00 PM - 07:00 PM	56.3	76.9	49.1
07:00 PM - 08:00 PM	55.7	74.8	48.8
08:00 PM - 09:00 PM	54.2	75.3	46.8
09:00 PM - 10:00 PM	53.0	75.8	45.2
10:00 PM - 11:00 PM	51.6	70.5	43.2
11:00 PM - 12:00 AM	52.7	69.9	42.9
12:00 AM - 01:00 AM	50.5	69.1	41.4
01:00 AM - 02:00 AM	49.0	63.7	39.6
02:00 AM - 03:00 AM	49.3	70.4	40.2
03:00 AM - 04:00 AM	50.7	71.7	40.9
04:00 AM - 05:00 AM	52.1	72.1	44.4
05:00 AM - 06:00 AM	53.8	69.3	46.1
06:00 AM - 07:00 AM	55.3	71.8	49.1
07:00 AM - 08:00 AM	55.9	76.9	50.4
08:00 AM - 09:00 AM	56.4	74.9	49.5
09:00 AM - 10:00 AM	57.1	81.4	49.6
10:00 AM - 11:00 AM	57.4	79.9	49.7

Leq Average 24 hrs. (dB(A))

55.0

Lmax (dB(A))

90.0

L90 (dB(A))

48.1

Ldn (dB(A))

59.4

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 Chaiemthamrong
 Scientist (4)

Approved by

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

14025-23/ EMAIL

S:\Reports_Air Noise.rpt (8:07PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.

9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2260058

Date Received : Jul 06, 2022

Date Reported : Jul 14, 2022

Report Number: 2375010-1

Page 1 of 1

Sample Number 2260058-2
 Parameter Noise (Leq 24 hrs.)
 Location รั้วกลุ่มบริษัทด้านทิศตะวันออก (GPS 48Q 279462, 1888929)
 Measurement Date Jun 28 - Jun 29, 2022
 Measurement by Sangtawan Natasat
 Sound Level meter Serial No. 900075

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	55.8	79.3	49.3
12:00 PM - 01:00 PM	54.4	70.4	48.4
01:00 PM - 02:00 PM	56.0	78.5	49.6
02:00 PM - 03:00 PM	56.8	80.3	49.0
03:00 PM - 04:00 PM	55.4	82.2	49.3
04:00 PM - 05:00 PM	55.7	76.5	49.3
05:00 PM - 06:00 PM	54.6	72.8	48.9
06:00 PM - 07:00 PM	56.8	85.3	50.1
07:00 PM - 08:00 PM	55.5	77.7	47.5
08:00 PM - 09:00 PM	52.3	72.8	44.9
09:00 PM - 10:00 PM	52.7	76.2	44.5
10:00 PM - 11:00 PM	52.4	74.3	44.4
11:00 PM - 12:00 AM	51.0	67.1	42.4
12:00 AM - 01:00 AM	51.2	69.6	44.3
01:00 AM - 02:00 AM	51.3	68.7	45.3
02:00 AM - 03:00 AM	51.6	66.2	45.8
03:00 AM - 04:00 AM	51.3	67.1	45.8
04:00 AM - 05:00 AM	53.1	69.6	47.5
05:00 AM - 06:00 AM	53.9	70.2	46.5
06:00 AM - 07:00 AM	56.6	77.4	50.1
07:00 AM - 08:00 AM	56.4	74.5	51.1
08:00 AM - 09:00 AM	57.8	79.3	49.9
09:00 AM - 10:00 AM	56.7	72.8	50.4
10:00 AM - 11:00 AM	56.4	82.1	49.8

Leq Average 24 hrs. (dB(A))

54.9

Lmax (dB(A))

85.3

L90 (dB(A))

48.4

Ldn (dB(A))

59.8

Standard (dB(A))

70

115

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.
 Saranya Chaiemthamrong
 Scientist (4)

Approved by

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

14025-23/ EMAIL

S:\Reports_Air Noise.rpt (8:07PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2260058

Date Received : Jul 06, 2022

Date Reported : Jul 14, 2022

Report Number: 2375011-1

Page 1 of 1

Sample Number	2260058-3
Parameter	Noise (Leq 24 hrs.)
Location	บริเวณลุ่มน้ำด้านทิศตะวันออก (GPS 48Q 279462, 1888929)
Measurement Date	Jun 29 - Jun 30, 2022
Measurement by	Sangtawan Natasat
Sound Level meter	Serial No. 900075

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	56.4	81.4	49.5
12:00 PM - 01:00 PM	53.9	72.7	48.6
01:00 PM - 02:00 PM	56.8	84.6	49.0
02:00 PM - 03:00 PM	55.6	83.9	49.4
03:00 PM - 04:00 PM	56.8	86.1	49.5
04:00 PM - 05:00 PM	55.9	76.0	49.1
05:00 PM - 06:00 PM	55.4	85.0	49.6
06:00 PM - 07:00 PM	56.1	82.6	48.7
07:00 PM - 08:00 PM	54.1	79.8	46.4
08:00 PM - 09:00 PM	53.8	72.8	46.6
09:00 PM - 10:00 PM	52.0	71.8	44.4
10:00 PM - 11:00 PM	51.4	75.8	43.3
11:00 PM - 12:00 AM	50.7	64.3	42.4
12:00 AM - 01:00 AM	50.0	65.8	45.3
01:00 AM - 02:00 AM	50.2	70.2	45.8
02:00 AM - 03:00 AM	50.8	65.9	46.2
03:00 AM - 04:00 AM	51.6	72.9	41.8
04:00 AM - 05:00 AM	51.5	70.3	44.4
05:00 AM - 06:00 AM	53.6	71.9	45.4
06:00 AM - 07:00 AM	56.0	73.9	49.3
07:00 AM - 08:00 AM	57.0	76.7	51.4
08:00 AM - 09:00 AM	55.4	71.5	49.5
09:00 AM - 10:00 AM	59.2	92.9	49.2
10:00 AM - 11:00 AM	55.8	79.4	49.3

Leq Average 24 hrs. (dB(A))	54.9		
Lmax (dB(A))		92.9	
L90 (dB(A))			48.6
Ldn (dB(A))	59.4		
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 Chalemthamrong
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

14025-23/ EMAIL

S:\Reports_Air Noise.rpt (8:07PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2260058

Date Received : Jul 06, 2022

Date Reported : Jul 14, 2022

Report Number: 2375012-1

Page 1 of 1

Sample Number	2260058-4
Parameter	Noise (Leq 24 hrs.)
Location	บริเวณลุ่มน้ำด้านทิศตะวันออก (GPS 48Q 279462, 1888929)
Measurement Date	Jun 30 - Jul 01, 2022
Measurement by	Sangtawan Natasat
Sound Level meter	Serial No. 900075

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	56.2	84.7	49.8
12:00 PM - 01:00 PM	54.7	75.9	48.7
01:00 PM - 02:00 PM	55.5	75.1	49.0
02:00 PM - 03:00 PM	58.6	84.7	51.3
03:00 PM - 04:00 PM	59.1	86.2	54.2
04:00 PM - 05:00 PM	59.6	86.2	54.7
05:00 PM - 06:00 PM	58.9	77.4	54.1
06:00 PM - 07:00 PM	56.4	79.8	50.0
07:00 PM - 08:00 PM	54.6	71.7	48.5
08:00 PM - 09:00 PM	55.2	75.7	47.6
09:00 PM - 10:00 PM	53.5	68.9	46.0
10:00 PM - 11:00 PM	52.1	71.3	43.9
11:00 PM - 12:00 AM	51.9	79.9	43.6
12:00 AM - 01:00 AM	51.2	69.2	42.3
01:00 AM - 02:00 AM	51.9	72.7	42.4
02:00 AM - 03:00 AM	56.6	88.7	42.7
03:00 AM - 04:00 AM	53.6	77.8	43.1
04:00 AM - 05:00 AM	54.7	74.9	45.4
05:00 AM - 06:00 AM	55.6	74.4	47.4
06:00 AM - 07:00 AM	57.3	81.5	50.1
07:00 AM - 08:00 AM	57.6	75.5	51.5
08:00 AM - 09:00 AM	60.1	87.7	51.5
09:00 AM - 10:00 AM	58.7	79.8	51.5
10:00 AM - 11:00 AM	57.9	79.7	51.4

Leq Average 24 hrs. (dB(A))	56.6		
Lmax (dB(A))		88.7	
L90 (dB(A))			48.7
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 Chalemthamrong
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

14025-23/ EMAIL

S:\Reports_Air Noise.rpt (8:07PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2260058
Date Received : Jul 06, 2022
Date Reported : Jul 14, 2022
Report Number: 2375013-1

Page 1 of 1

Sample Number 2260058-5
Parameter Noise (Leq 24 hrs.)
Location ริมรั้วกลุ่มบริษัทด้านทิศตะวันออก (GPS 48Q 279462, 1888929)
Measurement Date Jul 01 - Jul 02, 2022
Measurement by Sangtawan Natasat
Sound Level meter Serial No. 900075

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	57.8	87.2	50.3
12:00 PM - 01:00 PM	55.9	74.1	49.8
01:00 PM - 02:00 PM	58.1	87.2	49.6
02:00 PM - 03:00 PM	57.4	75.0	51.7
03:00 PM - 04:00 PM	58.0	88.9	51.2
04:00 PM - 05:00 PM	59.0	86.5	51.9
05:00 PM - 06:00 PM	57.0	77.4	51.7
06:00 PM - 07:00 PM	56.2	80.8	49.8
07:00 PM - 08:00 PM	54.7	74.1	49.1
08:00 PM - 09:00 PM	55.2	78.9	47.6
09:00 PM - 10:00 PM	53.9	69.5	45.4
10:00 PM - 11:00 PM	52.2	71.6	43.9
11:00 PM - 12:00 AM	58.8	68.8	54.0
12:00 AM - 01:00 AM	50.9	73.6	41.9
01:00 AM - 02:00 AM	52.2	73.8	47.9
02:00 AM - 03:00 AM	51.6	67.5	44.6
03:00 AM - 04:00 AM	52.6	78.1	41.1
04:00 AM - 05:00 AM	52.4	72.7	46.2
05:00 AM - 06:00 AM	53.3	73.7	45.4
06:00 AM - 07:00 AM	56.5	74.6	49.3
07:00 AM - 08:00 AM	57.4	76.0	51.3
08:00 AM - 09:00 AM	57.4	75.9	50.8
09:00 AM - 10:00 AM	57.4	71.3	51.6
10:00 AM - 11:00 AM	57.5	79.1	51.5

Leq Average 24 hrs. (dB(A)) 56.2
Lmax (dB(A)) 88.9
L90 (dB(A)) 49.6
Ldn (dB(A)) 61.2
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 Chalermtamrong
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

14025-23/ EMAIL

S:\Reports\Air Noise.rpt (8:07PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2260058
Date Received : Jul 06, 2022
Date Reported : Jul 14, 2022
Report Number: 2375014-1

Page 1 of 1

Sample Number 2260058-6
Parameter Noise (Leq 24 hrs.)
Location ริมรั้วกลุ่มบริษัทด้านทิศตะวันออก (GPS 48Q 279462, 1888929)
Measurement Date Jul 02 - Jul 03, 2022
Measurement by Sangtawan Natasat
Sound Level meter Serial No. 900075

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	54.1	75.9	48.1
12:00 PM - 01:00 PM	53.9	75.6	48.2
01:00 PM - 02:00 PM	51.5	69.5	46.1
02:00 PM - 03:00 PM	50.5	67.2	44.5
03:00 PM - 04:00 PM	51.7	75.5	45.0
04:00 PM - 05:00 PM	51.2	73.8	44.7
05:00 PM - 06:00 PM	52.5	76.0	45.7
06:00 PM - 07:00 PM	50.9	69.4	44.8
07:00 PM - 08:00 PM	50.8	69.6	43.9
08:00 PM - 09:00 PM	49.9	70.2	42.1
09:00 PM - 10:00 PM	49.0	71.5	40.8
10:00 PM - 11:00 PM	50.1	70.1	41.0
11:00 PM - 12:00 AM	47.7	68.2	39.5
12:00 AM - 01:00 AM	46.6	60.3	37.2
01:00 AM - 02:00 AM	46.7	63.4	38.1
02:00 AM - 03:00 AM	47.5	62.3	38.7
03:00 AM - 04:00 AM	48.2	71.0	37.5
04:00 AM - 05:00 AM	49.1	66.6	39.1
05:00 AM - 06:00 AM	50.7	69.1	42.4
06:00 AM - 07:00 AM	52.2	66.5	44.8
07:00 AM - 08:00 AM	54.9	71.5	48.1
08:00 AM - 09:00 AM	55.1	70.0	49.0
09:00 AM - 10:00 AM	55.1	73.7	49.4
10:00 AM - 11:00 AM	53.5	73.1	48.4

Leq Average 24 hrs. (dB(A)) 51.7
Lmax (dB(A)) 76.0
L90 (dB(A)) 44.5
Ldn (dB(A)) 56.3
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 Chalermtamrong
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

14025-23/ EMAIL

S:\Reports\Air Noise.rpt (8:08PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2260058

Date Received : Jul 06, 2022

Date Reported : Jul 14, 2022

Report Number: 2375015-1

Page 1 of 1

Sample Number 2260058-7
Parameter Noise (Leq 24 hrs.)
Location ริมรั้วกลุ่มบริษัทด้านทิศตะวันออก (GPS 48Q 279462, 1888929)
Measurement Date Jul 03 - Jul 04, 2022
Measurement by Sangtawan Natasat
Sound Level meter Serial No. 900075

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
11:00 AM - 12:00 PM	55.9	73.3	51.2
12:00 PM - 01:00 PM	54.7	69.4	49.9
01:00 PM - 02:00 PM	54.1	66.7	49.3
02:00 PM - 03:00 PM	55.5	74.3	49.7
03:00 PM - 04:00 PM	55.8	74.3	50.2
04:00 PM - 05:00 PM	56.1	69.1	51.4
05:00 PM - 06:00 PM	57.2	76.4	52.2
06:00 PM - 07:00 PM	56.3	71.6	50.7
07:00 PM - 08:00 PM	55.4	75.4	49.5
08:00 PM - 09:00 PM	54.3	70.2	47.6
09:00 PM - 10:00 PM	53.8	74.3	47.4
10:00 PM - 11:00 PM	51.9	69.9	44.3
11:00 PM - 12:00 AM	51.8	67.6	42.8
12:00 AM - 01:00 AM	50.3	71.3	41.5
01:00 AM - 02:00 AM	49.5	68.0	40.8
02:00 AM - 03:00 AM	50.0	68.7	40.6
03:00 AM - 04:00 AM	50.6	66.9	40.8
04:00 AM - 05:00 AM	51.3	64.7	42.1
05:00 AM - 06:00 AM	53.7	70.2	46.7
06:00 AM - 07:00 AM	57.3	82.2	50.0
07:00 AM - 08:00 AM	56.9	74.0	51.7
08:00 AM - 09:00 AM	56.2	81.6	50.7
09:00 AM - 10:00 AM	55.8	77.4	50.3
10:00 AM - 11:00 AM	56.6	78.2	50.7

Leq Average 24 hrs. (dB(A))

54.8

Lmax (dB(A))

82.2

L90 (dB(A))

49.5

Ldn (dB(A))

59.6

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 Chalemtamrong
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

14025-23/ EMAIL

S:\Reports_Air Noise.rpt (8:08PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2260060

Date Received : Jul 06, 2022

Date Reported : Jul 14, 2022

Report Number: 2375016-1

Page 1 of 1

Sample Number 2260060-1
Parameter Noise (Leq 24 hrs.)
Location ริมรั้วกลุ่มบริษัทด้านทิศตะวันออก (GPS 48Q 277638, 1888807)
Measurement Date Jun 27 - Jun 28, 2022
Measurement by Sangtawan Natasat
Sound Level meter Serial No. 371914

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	54.0	58.9	52.8
01:00 PM - 02:00 PM	53.2	58.3	51.9
02:00 PM - 03:00 PM	53.2	60.0	51.7
03:00 PM - 04:00 PM	49.6	54.7	47.3
04:00 PM - 05:00 PM	44.1	64.6	40.2
05:00 PM - 06:00 PM	46.9	75.9	40.5
06:00 PM - 07:00 PM	45.2	64.4	42.8
07:00 PM - 08:00 PM	43.7	65.6	39.6
08:00 PM - 09:00 PM	42.8	67.1	38.1
09:00 PM - 10:00 PM	44.6	68.5	37.7
10:00 PM - 11:00 PM	41.3	63.0	36.8
11:00 PM - 12:00 AM	42.8	67.9	39.4
12:00 AM - 01:00 AM	44.4	68.4	36.5
01:00 AM - 02:00 AM	42.8	64.3	36.1
02:00 AM - 03:00 AM	41.2	61.8	37.5
03:00 AM - 04:00 AM	48.7	57.3	44.7
04:00 AM - 05:00 AM	44.4	59.2	42.2
05:00 AM - 06:00 AM	46.5	62.6	42.4
06:00 AM - 07:00 AM	46.8	70.8	40.8
07:00 AM - 08:00 AM	43.1	63.5	37.2
08:00 AM - 09:00 AM	52.1	58.4	50.9
09:00 AM - 10:00 AM	54.0	57.8	52.9
10:00 AM - 11:00 AM	54.5	61.9	53.3
11:00 AM - 12:00 PM	54.0	62.5	52.7

Leq Average 24 hrs. (dB(A))

49.6

Lmax (dB(A))

75.9

L90 (dB(A))

40.8

Ldn (dB(A))

53.0

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 Chalemtamrong
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

14025-23/ EMAIL

S:\Reports_Air Noise.rpt (8:11PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2260060

Date Received : Jul 06, 2022

Date Reported : Jul 14, 2022

Report Number: 2375017-1

Page 1 of 1

Sample Number : 2260060-2
Parameter : Noise (Leq 24 hrs.)
Location : ริมรั้วกลุ่มบริษัทด้านทิศตะวันตก (GPS 48Q 277638, 1888807)
Measurement Date : Jun 28 - Jun 29, 2022
Measurement by : Sangtawan Natasat
Sound Level meter : Serial No. 371914

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	55.1	60.2	53.4
01:00 PM - 02:00 PM	52.9	60.9	51.1
02:00 PM - 03:00 PM	48.9	60.9	46.8
03:00 PM - 04:00 PM	47.4	58.0	45.8
04:00 PM - 05:00 PM	43.6	68.8	38.8
05:00 PM - 06:00 PM	42.7	60.2	39.0
06:00 PM - 07:00 PM	45.7	68.6	42.4
07:00 PM - 08:00 PM	47.5	68.0	40.3
08:00 PM - 09:00 PM	45.5	64.8	39.5
09:00 PM - 10:00 PM	44.7	60.9	38.7
10:00 PM - 11:00 PM	43.2	67.2	37.3
11:00 PM - 12:00 AM	40.7	65.6	36.5
12:00 AM - 01:00 AM	42.4	64.7	37.7
01:00 AM - 02:00 AM	41.7	65.7	37.0
02:00 AM - 03:00 AM	44.6	68.0	37.7
03:00 AM - 04:00 AM	40.2	60.8	37.6
04:00 AM - 05:00 AM	44.8	59.4	42.6
05:00 AM - 06:00 AM	47.0	63.5	43.3
06:00 AM - 07:00 AM	46.0	64.4	42.9
07:00 AM - 08:00 AM	55.2	61.8	53.8
08:00 AM - 09:00 AM	57.4	67.1	55.7
09:00 AM - 10:00 AM	55.4	59.8	54.0
10:00 AM - 11:00 AM	55.2	63.0	53.6
11:00 AM - 12:00 PM	55.1	60.6	53.6

Leq Average 24 hrs. (dB(A)) : 50.9
Lmax (dB(A)) : 68.8
L90 (dB(A)) : 42.4
Ldn (dB(A)) : 53.2
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 Chalermtamrong
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

S:\Reports_Air Noise.rpt (8:12PM)

14025-23/ EMAIL



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2260060

Date Received : Jul 06, 2022

Date Reported : Jul 14, 2022

Report Number: 2375018-1

Page 1 of 1

Sample Number : 2260060-3
Parameter : Noise (Leq 24 hrs.)
Location : ริมรั้วกลุ่มบริษัทด้านทิศตะวันตก (GPS 48Q 277638, 1888807)
Measurement Date : Jun 29 - Jun 30, 2022
Measurement by : Sangtawan Natasat
Sound Level meter : Serial No. 371914

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	54.5	61.5	51.5
01:00 PM - 02:00 PM	54.0	60.5	51.0
02:00 PM - 03:00 PM	48.0	59.0	45.7
03:00 PM - 04:00 PM	47.0	59.2	43.8
04:00 PM - 05:00 PM	42.2	56.3	39.6
05:00 PM - 06:00 PM	41.1	63.2	36.1
06:00 PM - 07:00 PM	42.0	64.8	39.1
07:00 PM - 08:00 PM	47.6	64.4	39.5
08:00 PM - 09:00 PM	40.4	62.3	35.4
09:00 PM - 10:00 PM	38.3	64.2	33.7
10:00 PM - 11:00 PM	38.8	58.2	33.8
11:00 PM - 12:00 AM	41.9	64.3	34.7
12:00 AM - 01:00 AM	38.2	67.4	33.8
01:00 AM - 02:00 AM	41.3	67.9	34.3
02:00 AM - 03:00 AM	40.2	62.0	34.8
03:00 AM - 04:00 AM	40.3	61.7	35.3
04:00 AM - 05:00 AM	39.7	66.4	34.9
05:00 AM - 06:00 AM	47.1	67.4	42.4
06:00 AM - 07:00 AM	45.2	65.7	39.7
07:00 AM - 08:00 AM	54.0	60.2	52.8
08:00 AM - 09:00 AM	56.6	62.5	53.8
09:00 AM - 10:00 AM	56.4	63.0	53.5
10:00 AM - 11:00 AM	52.4	61.7	50.0
11:00 AM - 12:00 PM	51.9	60.5	50.5

Leq Average 24 hrs. (dB(A)) : 50.0
Lmax (dB(A)) : 67.9
L90 (dB(A)) : 39.5
Ldn (dB(A)) : 52.0
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 Chalermtamrong
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

S:\Reports_Air Noise.rpt (8:12PM)

14025-23/ EMAIL



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2260060
Date Received : Jul 06, 2022
Date Reported : Jul 14, 2022
Report Number: 2375019-1

Page 1 of 1

Sample Number 2260060-4
Parameter Noise (Leq 24 hrs.)
Location ริมรั้วกลุ่มบริษัทด้านทิศตะวันตก (GPS 48Q 277638, 1888807)
Measurement Date Jun 30 - Jul 01, 2022
Measurement by Sangtawan Natasat
Sound Level meter Serial No. 371914

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	52.9	60.3	51.6
01:00 PM - 02:00 PM	52.1	66.8	50.2
02:00 PM - 03:00 PM	51.8	59.2	50.7
03:00 PM - 04:00 PM	51.7	59.6	50.0
04:00 PM - 05:00 PM	51.1	61.9	49.2
05:00 PM - 06:00 PM	52.3	57.4	48.9
06:00 PM - 07:00 PM	51.9	57.2	49.6
07:00 PM - 08:00 PM	53.6	61.0	51.5
08:00 PM - 09:00 PM	53.1	58.8	51.9
09:00 PM - 10:00 PM	47.5	67.1	44.2
10:00 PM - 11:00 PM	46.0	67.4	41.8
11:00 PM - 12:00 AM	46.6	70.0	40.4
12:00 AM - 01:00 AM	45.3	65.7	40.0
01:00 AM - 02:00 AM	44.6	72.2	39.7
02:00 AM - 03:00 AM	43.4	64.6	35.5
03:00 AM - 04:00 AM	43.4	65.8	35.9
04:00 AM - 05:00 AM	45.5	63.1	43.3
05:00 AM - 06:00 AM	52.2	69.1	45.3
06:00 AM - 07:00 AM	50.2	69.9	45.4
07:00 AM - 08:00 AM	57.3	77.1	52.3
08:00 AM - 09:00 AM	55.4	80.7	49.5
09:00 AM - 10:00 AM	50.7	65.1	49.0
10:00 AM - 11:00 AM	53.6	61.0	51.5
11:00 AM - 12:00 PM	53.1	58.8	51.9

Leq Average 24 hrs. (dB(A)) 51.7
Lmax (dB(A)) 80.7
L90 (dB(A)) 49.0
Ldn (dB(A)) 55.2
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 Chalemthamrong
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

14025-23/ EMAIL

S:\Reports\Air Noise.rpt (8:12PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2260060
Date Received : Jul 06, 2022
Date Reported : Jul 14, 2022
Report Number: 2375020-1

Page 1 of 1

Sample Number 2260060-5
Parameter Noise (Leq 24 hrs.)
Location ริมรั้วกลุ่มบริษัทด้านทิศตะวันตก (GPS 48Q 277638, 1888807)
Measurement Date Jul 01 - Jul 02, 2022
Measurement by Sangtawan Natasat
Sound Level meter Serial No. 371914

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	52.7	62.8	49.4
01:00 PM - 02:00 PM	50.7	59.5	47.8
02:00 PM - 03:00 PM	50.7	57.9	47.5
03:00 PM - 04:00 PM	50.1	57.4	46.4
04:00 PM - 05:00 PM	48.5	75.0	44.3
05:00 PM - 06:00 PM	46.9	73.4	44.6
06:00 PM - 07:00 PM	48.4	71.5	46.1
07:00 PM - 08:00 PM	47.5	65.9	43.3
08:00 PM - 09:00 PM	48.4	68.4	43.7
09:00 PM - 10:00 PM	47.1	69.1	42.8
10:00 PM - 11:00 PM	47.0	72.0	41.0
11:00 PM - 12:00 AM	43.6	68.0	39.2
12:00 AM - 01:00 AM	46.5	68.8	40.4
01:00 AM - 02:00 AM	48.0	68.6	44.1
02:00 AM - 03:00 AM	47.9	68.0	44.5
03:00 AM - 04:00 AM	46.4	64.4	44.3
04:00 AM - 05:00 AM	45.7	54.5	44.8
05:00 AM - 06:00 AM	48.8	70.1	44.3
06:00 AM - 07:00 AM	49.1	71.9	44.3
07:00 AM - 08:00 AM	54.9	62.5	53.4
08:00 AM - 09:00 AM	57.8	66.4	55.9
09:00 AM - 10:00 AM	54.1	66.9	51.6
10:00 AM - 11:00 AM	54.6	66.4	52.2
11:00 AM - 12:00 PM	57.7	85.4	54.5

Leq Average 24 hrs. (dB(A)) 51.5
Lmax (dB(A)) 85.4
L90 (dB(A)) 44.5
Ldn (dB(A)) 55.1
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 Chalemthamrong
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

14025-23/ EMAIL

S:\Reports\Air Noise.rpt (8:12PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2260060
Date Received : Jul 06, 2022
Date Reported : Jul 14, 2022
Report Number: 2375021-1

Page 1 of 1

Sample Number 2260060-6
Parameter Noise (Leq 24 hrs.)
Location รังวัดกลุ่มบริษัทด้านที่สระบันดก (GPS 48Q 277638, 1888807)
Measurement Date Jul 02 - Jul 03, 2022
Measurement by Sangtawan Natasat
Sound Level meter Serial No. 371914

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	52.4	73.3	51.1
01:00 PM - 02:00 PM	53.9	59.5	52.6
02:00 PM - 03:00 PM	54.1	62.6	52.5
03:00 PM - 04:00 PM	53.1	60.9	51.7
04:00 PM - 05:00 PM	50.6	56.6	49.4
05:00 PM - 06:00 PM	52.8	56.7	50.7
06:00 PM - 07:00 PM	53.0	57.7	51.0
07:00 PM - 08:00 PM	44.7	63.4	41.6
08:00 PM - 09:00 PM	45.6	73.3	37.2
09:00 PM - 10:00 PM	47.1	69.5	38.4
10:00 PM - 11:00 PM	45.3	67.0	39.0
11:00 PM - 12:00 AM	43.2	69.8	40.0
12:00 AM - 01:00 AM	46.2	71.7	40.2
01:00 AM - 02:00 AM	47.3	69.4	43.1
02:00 AM - 03:00 AM	48.3	67.8	41.2
03:00 AM - 04:00 AM	45.6	70.4	41.0
04:00 AM - 05:00 AM	46.8	61.5	43.9
05:00 AM - 06:00 AM	45.8	67.1	42.5
06:00 AM - 07:00 AM	46.3	64.8	42.5
07:00 AM - 08:00 AM	53.7	63.1	51.7
08:00 AM - 09:00 AM	51.2	59.5	48.8
09:00 AM - 10:00 AM	43.7	69.5	39.6
10:00 AM - 11:00 AM	45.6	68.2	39.6
11:00 AM - 12:00 PM	45.4	69.4	39.6

Leq Average 24 hrs. (dB(A)) 49.9
Lmax (dB(A)) 73.3
L90 (dB(A)) 42.5
Ldn (dB(A)) 53.8
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

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

14025-23/ EMAIL

S:\Reports_Air Noise.rpt (8:12PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2260060
Date Received : Jul 06, 2022
Date Reported : Jul 14, 2022
Report Number: 2375022-1

Page 1 of 1

Sample Number 2260060-7
Parameter Noise (Leq 24 hrs.)
Location รังวัดกลุ่มบริษัทด้านที่สระบันดก (GPS 48Q 277638, 1888807)
Measurement Date Jul 03 - Jul 04, 2022
Measurement by Sangtawan Natasat
Sound Level meter Serial No. 371914

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	56.8	63.2	54.9
01:00 PM - 02:00 PM	55.4	60.5	53.6
02:00 PM - 03:00 PM	55.6	60.8	53.0
03:00 PM - 04:00 PM	53.7	60.3	49.8
04:00 PM - 05:00 PM	48.6	76.2	40.2
05:00 PM - 06:00 PM	46.1	65.6	41.1
06:00 PM - 07:00 PM	45.3	63.6	43.0
07:00 PM - 08:00 PM	45.9	64.8	41.1
08:00 PM - 09:00 PM	49.1	72.3	40.8
09:00 PM - 10:00 PM	44.7	65.5	39.3
10:00 PM - 11:00 PM	42.0	64.5	37.4
11:00 PM - 12:00 AM	42.2	61.7	37.8
12:00 AM - 01:00 AM	44.2	69.2	39.3
01:00 AM - 02:00 AM	43.7	69.7	39.3
02:00 AM - 03:00 AM	43.3	73.5	39.4
03:00 AM - 04:00 AM	43.0	66.7	39.6
04:00 AM - 05:00 AM	45.7	56.1	42.9
05:00 AM - 06:00 AM	47.4	67.6	42.5
06:00 AM - 07:00 AM	45.2	71.7	42.1
07:00 AM - 08:00 AM	52.6	60.9	51.6
08:00 AM - 09:00 AM	54.7	59.6	53.5
09:00 AM - 10:00 AM	53.9	73.1	52.2
10:00 AM - 11:00 AM	54.6	69.0	52.6
11:00 AM - 12:00 PM	56.5	72.8	54.3

Leq Average 24 hrs. (dB(A)) 51.5
Lmax (dB(A)) 76.2
L90 (dB(A)) 42.1
Ldn (dB(A)) 53.7
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

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

14025-23/ EMAIL

S:\Reports_Air Noise.rpt (8:12PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2260062

Date Received : Jul 06, 2022

Date Reported : Jul 14, 2022

Report Number: 2375024-1

Page 1 of 1

Sample Number 2260062-1
Parameter Noise (Leq 24 hrs.)
Location โรงเรียนบ้านพุกทอง (GPS 48Q 279854, 1889320)
Measurement Date Jun 27 - Jun 28, 2022
Measurement by Sangtawan Natasat
Sound Level meter Serial No. 472124

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:00 PM - 02:00 PM	50.4	75.8	44.6
02:00 PM - 03:00 PM	51.6	76.9	45.5
03:00 PM - 04:00 PM	51.2	76.1	45.4
04:00 PM - 05:00 PM	56.9	94.6	46.6
05:00 PM - 06:00 PM	53.5	75.5	46.2
06:00 PM - 07:00 PM	51.7	66.3	48.5
07:00 PM - 08:00 PM	49.2	64.1	46.8
08:00 PM - 09:00 PM	48.5	66.3	45.2
09:00 PM - 10:00 PM	47.1	59.7	45.0
10:00 PM - 11:00 PM	46.3	57.4	44.4
11:00 PM - 12:00 AM	46.1	58.2	43.1
12:00 AM - 01:00 AM	45.3	59.4	42.8
01:00 AM - 02:00 AM	45.9	67.3	42.8
02:00 AM - 03:00 AM	45.4	58.4	42.1
03:00 AM - 04:00 AM	48.5	65.8	41.5
04:00 AM - 05:00 AM	53.4	69.2	45.8
05:00 AM - 06:00 AM	51.4	69.9	45.8
06:00 AM - 07:00 AM	51.9	69.0	47.0
07:00 AM - 08:00 AM	56.5	95.1	45.3
08:00 AM - 09:00 AM	51.1	69.1	46.7
09:00 AM - 10:00 AM	50.2	65.1	45.4
10:00 AM - 11:00 AM	50.7	74.9	45.9
11:00 AM - 12:00 PM	48.5	64.3	44.0
12:00 PM - 01:00 PM	48.7	64.6	44.3

Leq Average 24 hrs. (dB(A)) 51.2
Lmax (dB(A)) 95.1
L90 (dB(A)) 45.3
Ldn (dB(A)) 56.2
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 Chalemthamrong
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

14025-23/ EMAIL

S:\Reports_Air Noise.rpt (8:17PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2260062

Date Received : Jul 06, 2022

Date Reported : Jul 14, 2022

Report Number: 2375025-1

Page 1 of 1

Sample Number 2260062-2
Parameter Noise (Leq 24 hrs.)
Location โรงเรียนบ้านพุกทอง (GPS 48Q 279854, 1889320)
Measurement Date Jun 28 - Jun 29, 2022
Measurement by Sangtawan Natasat
Sound Level meter Serial No. 472124

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:00 PM - 02:00 PM	49.7	67.3	45.1
02:00 PM - 03:00 PM	51.7	83.3	46.1
03:00 PM - 04:00 PM	52.4	77.7	46.1
04:00 PM - 05:00 PM	54.5	83.9	46.7
05:00 PM - 06:00 PM	53.9	80.1	46.1
06:00 PM - 07:00 PM	49.3	67.1	45.3
07:00 PM - 08:00 PM	49.2	68.0	45.8
08:00 PM - 09:00 PM	48.8	66.4	45.3
09:00 PM - 10:00 PM	47.4	62.5	45.2
10:00 PM - 11:00 PM	46.3	59.7	44.1
11:00 PM - 12:00 AM	45.8	58.5	43.1
12:00 AM - 01:00 AM	45.5	54.4	43.1
01:00 AM - 02:00 AM	45.9	53.9	43.6
02:00 AM - 03:00 AM	45.7	57.0	43.1
03:00 AM - 04:00 AM	47.4	62.7	43.5
04:00 AM - 05:00 AM	51.4	66.8	46.2
05:00 AM - 06:00 AM	51.4	70.3	46.2
06:00 AM - 07:00 AM	52.3	69.6	47.5
07:00 AM - 08:00 AM	51.4	79.8	45.9
08:00 AM - 09:00 AM	48.7	61.6	44.7
09:00 AM - 10:00 AM	52.0	65.6	45.2
10:00 AM - 11:00 AM	49.3	72.0	44.6
11:00 AM - 12:00 PM	49.2	73.0	44.7
12:00 PM - 01:00 PM	47.9	60.5	43.6

Leq Average 24 hrs. (dB(A)) 50.2
Lmax (dB(A)) 83.9
L90 (dB(A)) 45.2
Ldn (dB(A)) 55.6
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 Chalemthamrong
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

14025-23/ EMAIL

S:\Reports_Air Noise.rpt (8:18PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2260062

Date Received : Jul 06, 2022

Date Reported : Jul 14, 2022

Report Number: 2375026-1

Page 1 of 1

Sample Number 2260062-3
Parameter Noise (Leq 24 hrs.)
Location โรงเรียนบ้านพยุหะ (GPS 48Q 279854, 1889320)
Measurement Date Jun 29 - Jun 30, 2022
Measurement by Sangtawan Natasat
Sound Level meter Serial No. 472124

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:00 PM - 02:00 PM	50.2	68.7	45.5
02:00 PM - 03:00 PM	51.2	75.4	45.2
03:00 PM - 04:00 PM	50.6	72.2	45.8
04:00 PM - 05:00 PM	50.5	67.1	45.4
05:00 PM - 06:00 PM	51.7	75.9	44.9
06:00 PM - 07:00 PM	48.8	63.4	46.3
07:00 PM - 08:00 PM	48.8	60.9	46.6
08:00 PM - 09:00 PM	48.7	60.2	46.3
09:00 PM - 10:00 PM	48.9	62.4	45.3
10:00 PM - 11:00 PM	46.8	65.7	44.1
11:00 PM - 12:00 AM	45.8	58.2	43.0
12:00 AM - 01:00 AM	45.6	57.5	43.3
01:00 AM - 02:00 AM	46.0	67.4	42.7
02:00 AM - 03:00 AM	45.4	58.1	42.2
03:00 AM - 04:00 AM	46.1	55.4	43.0
04:00 AM - 05:00 AM	50.5	73.1	45.1
05:00 AM - 06:00 AM	50.8	68.7	45.2
06:00 AM - 07:00 AM	51.5	72.7	46.1
07:00 AM - 08:00 AM	50.3	64.9	45.1
08:00 AM - 09:00 AM	50.2	68.0	45.4
09:00 AM - 10:00 AM	50.9	67.5	45.0
10:00 AM - 11:00 AM	50.5	72.0	45.1
11:00 AM - 12:00 PM	49.7	66.9	43.4
12:00 PM - 01:00 PM	49.1	61.9	44.1

Leq Average 24 hrs. (dB(A))

49.5

Lmax (dB(A))

75.9

L90 (dB(A))

45.1

Ldn (dB(A))

55.0

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 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 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

14025-23/ EMAIL

S:\Reports_Air Noise.rpt (8:23PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2260062

Date Received : Jul 06, 2022

Date Reported : Jul 14, 2022

Report Number: 2375027-1

Page 1 of 1

Sample Number 2260062-4
Parameter Noise (Leq 24 hrs.)
Location โรงเรียนบ้านพยุหะ (GPS 48Q 279854, 1889320)
Measurement Date Jun 30 - Jul 01, 2022
Measurement by Sangtawan Natasat
Sound Level meter Serial No. 472124

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:00 PM - 02:00 PM	50.2	62.5	46.4
02:00 PM - 03:00 PM	50.1	68.4	45.3
03:00 PM - 04:00 PM	50.2	72.0	45.9
04:00 PM - 05:00 PM	50.3	70.7	47.5
05:00 PM - 06:00 PM	49.1	72.0	44.1
06:00 PM - 07:00 PM	49.8	67.7	47.2
07:00 PM - 08:00 PM	49.9	61.2	48.0
08:00 PM - 09:00 PM	49.7	61.4	47.8
09:00 PM - 10:00 PM	49.8	62.8	47.1
10:00 PM - 11:00 PM	49.8	62.2	47.7
11:00 PM - 12:00 AM	50.0	61.0	47.9
12:00 AM - 01:00 AM	48.4	60.0	46.0
01:00 AM - 02:00 AM	47.2	62.2	44.9
02:00 AM - 03:00 AM	47.2	56.9	44.3
03:00 AM - 04:00 AM	47.4	60.9	44.8
04:00 AM - 05:00 AM	50.4	61.3	48.1
05:00 AM - 06:00 AM	48.8	71.8	45.0
06:00 AM - 07:00 AM	49.6	68.0	45.8
07:00 AM - 08:00 AM	50.2	69.2	44.6
08:00 AM - 09:00 AM	50.9	65.9	44.5
09:00 AM - 10:00 AM	50.4	68.7	44.5
10:00 AM - 11:00 AM	49.6	69.2	44.4
11:00 AM - 12:00 PM	49.0	68.5	44.5
12:00 PM - 01:00 PM	50.4	65.6	46.4

Leq Average 24 hrs. (dB(A))

49.6

Lmax (dB(A))

72.0

L90 (dB(A))

45.8

Ldn (dB(A))

55.5

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 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 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

14025-23/ EMAIL

S:\Reports_Air Noise.rpt (8:24PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2260062
Date Received : Jul 06, 2022
Date Reported : Jul 14, 2022
Report Number: 2375028-1

Page 1 of 1

Sample Number : 2260062-5
Parameter : Noise (Leq 24 hrs.)
Location : โรงเรียนบ้านห้วยกองสี (GPS 48Q 279854, 1889320)
Measurement Date : Jul 01 - Jul 02, 2022
Measurement by : Sangtawan Natasat
Sound Level meter : Serial No. 472124

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:00 PM - 02:00 PM	50.4	67.9	45.7
02:00 PM - 03:00 PM	49.9	69.2	45.6
03:00 PM - 04:00 PM	49.4	65.6	45.4
04:00 PM - 05:00 PM	50.1	73.7	45.6
05:00 PM - 06:00 PM	49.2	64.6	45.1
06:00 PM - 07:00 PM	49.7	67.9	46.4
07:00 PM - 08:00 PM	49.5	69.2	46.5
08:00 PM - 09:00 PM	49.4	69.2	45.2
09:00 PM - 10:00 PM	49.5	64.6	46.7
10:00 PM - 11:00 PM	49.7	66.1	45.5
11:00 PM - 12:00 AM	48.5	57.6	45.8
12:00 AM - 01:00 AM	49.2	65.6	45.7
01:00 AM - 02:00 AM	48.1	56.4	46.3
02:00 AM - 03:00 AM	48.1	67.0	45.6
03:00 AM - 04:00 AM	49.6	69.2	45.0
04:00 AM - 05:00 AM	50.0	69.2	46.3
05:00 AM - 06:00 AM	49.1	65.4	46.5
06:00 AM - 07:00 AM	49.7	66.4	46.1
07:00 AM - 08:00 AM	50.2	67.3	45.9
08:00 AM - 09:00 AM	49.9	65.6	46.2
09:00 AM - 10:00 AM	48.9	66.6	45.1
10:00 AM - 11:00 AM	49.1	74.0	45.0
11:00 AM - 12:00 PM	48.8	65.6	45.4
12:00 PM - 01:00 PM	50.2	65.9	46.2

Leq Average 24 hrs. (dB(A)) : 49.5
Lmax (dB(A)) : 74.0
L90 (dB(A)) : 45.7
Ldn (dB(A)) : 55.6
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 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 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

14025-23/ EMAIL

S:\Reports_Air Noise.rpt (8:24PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2260062
Date Received : Jul 06, 2022
Date Reported : Jul 14, 2022
Report Number: 2375029-1

Page 1 of 1

Sample Number : 2260062-6
Parameter : Noise (Leq 24 hrs.)
Location : โรงเรียนบ้านห้วยกองสี (GPS 48Q 279854, 1889320)
Measurement Date : Jul 02 - Jul 03, 2022
Measurement by : Sangtawan Natasat
Sound Level meter : Serial No. 472124

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:00 PM - 02:00 PM	50.4	68.9	46.4
02:00 PM - 03:00 PM	51.6	71.2	46.3
03:00 PM - 04:00 PM	53.7	75.5	46.7
04:00 PM - 05:00 PM	55.6	75.4	47.2
05:00 PM - 06:00 PM	48.8	73.8	44.6
06:00 PM - 07:00 PM	51.7	65.7	49.9
07:00 PM - 08:00 PM	52.4	64.2	51.3
08:00 PM - 09:00 PM	51.4	64.9	49.8
09:00 PM - 10:00 PM	50.0	56.5	48.4
10:00 PM - 11:00 PM	51.1	56.9	49.5
11:00 PM - 12:00 AM	49.2	59.4	47.3
12:00 AM - 01:00 AM	46.6	61.6	44.9
01:00 AM - 02:00 AM	47.4	58.1	44.7
02:00 AM - 03:00 AM	45.6	57.4	43.1
03:00 AM - 04:00 AM	51.0	63.7	45.5
04:00 AM - 05:00 AM	51.5	72.7	45.6
05:00 AM - 06:00 AM	50.1	69.2	45.6
06:00 AM - 07:00 AM	51.6	65.6	43.2
07:00 AM - 08:00 AM	52.0	76.4	49.0
08:00 AM - 09:00 AM	53.7	67.6	52.1
09:00 AM - 10:00 AM	52.9	64.2	51.7
10:00 AM - 11:00 AM	56.4	79.7	51.1
11:00 AM - 12:00 PM	53.7	84.1	46.8
12:00 PM - 01:00 PM	51.0	64.1	46.4

Leq Average 24 hrs. (dB(A)) : 51.9
Lmax (dB(A)) : 84.1
L90 (dB(A)) : 46.7
Ldn (dB(A)) : 56.8
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 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 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

14025-23/ EMAIL

S:\Reports_Air Noise.rpt (8:24PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.

9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2260062

Date Received : Jul 06, 2022

Date Reported : Jul 14, 2022

Report Number: 2375030-1

Page 1 of 1

Sample Number 2260062-7
Parameter Noise (Leq 24 hrs.)
Location โรงเรียนพนาพิทยาสรรพ์ (GPS 48Q 279854, 1889320)
Measurement Date Jul 03 - Jul 04, 2022
Measurement by Sangtawan Natasat
Sound Level meter Serial No. 472124

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
01:00 PM - 02:00 PM	51.4	75.5	45.9
02:00 PM - 03:00 PM	51.1	71.7	46.8
03:00 PM - 04:00 PM	52.6	74.3	47.2
04:00 PM - 05:00 PM	52.3	70.7	47.2
05:00 PM - 06:00 PM	49.9	68.1	47.0
06:00 PM - 07:00 PM	49.5	75.5	44.8
07:00 PM - 08:00 PM	50.9	73.6	47.3
08:00 PM - 09:00 PM	49.8	69.1	46.1
09:00 PM - 10:00 PM	48.7	57.7	46.2
10:00 PM - 11:00 PM	48.7	57.0	46.7
11:00 PM - 12:00 AM	48.1	57.7	46.1
12:00 AM - 01:00 AM	45.3	58.1	43.3
01:00 AM - 02:00 AM	44.9	53.5	42.8
02:00 AM - 03:00 AM	45.2	58.5	42.7
03:00 AM - 04:00 AM	49.2	65.7	43.9
04:00 AM - 05:00 AM	51.5	69.6	46.6
05:00 AM - 06:00 AM	50.7	70.6	46.9
06:00 AM - 07:00 AM	52.2	74.2	47.4
07:00 AM - 08:00 AM	51.3	75.5	45.8
08:00 AM - 09:00 AM	50.4	65.1	45.4
09:00 AM - 10:00 AM	49.1	75.5	45.3
10:00 AM - 11:00 AM	49.1	73.9	45.1
11:00 AM - 12:00 PM	48.1	55.0	47.2
12:00 PM - 01:00 PM	47.5	55.1	46.6

Leq Average 24 hrs. (dB(A))

49.9

Lmax (dB(A))

75.5

L90 (dB(A))

46.1

Ldn (dB(A))

55.8

Standard (dB(A))

70

115

Reference Method : ISO1996-1 and 1996-2

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

Technical Management

Saranya C.

Saranya Chalermtamrong
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

14025-23/ EMAIL

S:\Reports\Air Noise.rpt (8:24PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.

9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2260064

Date Received : Jul 06, 2022

Date Reported : Jul 14, 2022

Report Number: 2375031-1

Page 1 of 1

Sample Number 2260064-1
Parameter Noise (Leq 24 hrs.)
Location วัดสุราษฎร์ (GPS 48Q 276877, 1887945)
Measurement Date Jun 27 - Jun 28, 2022
Measurement by Sangtawan Natasat
Sound Level meter Serial No. 1173614

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	52.4	69.8	46.8
11:00 AM - 12:00 PM	52.3	71.2	47.0
12:00 PM - 01:00 PM	51.3	73.7	44.9
01:00 PM - 02:00 PM	51.4	70.7	46.5
02:00 PM - 03:00 PM	51.4	74.0	45.0
03:00 PM - 04:00 PM	52.1	72.4	45.3
04:00 PM - 05:00 PM	53.5	76.5	45.8
05:00 PM - 06:00 PM	51.3	74.2	45.1
06:00 PM - 07:00 PM	51.5	79.7	43.5
07:00 PM - 08:00 PM	48.6	70.0	45.4
08:00 PM - 09:00 PM	49.9	72.8	47.3
09:00 PM - 10:00 PM	49.0	72.3	48.0
10:00 PM - 11:00 PM	48.5	75.5	46.5
11:00 PM - 12:00 AM	52.6	71.1	51.2
12:00 AM - 01:00 AM	50.7	63.7	49.1
01:00 AM - 02:00 AM	45.0	71.3	43.9
02:00 AM - 03:00 AM	47.4	54.4	42.8
03:00 AM - 04:00 AM	47.2	67.3	45.4
04:00 AM - 05:00 AM	47.6	70.2	45.6
05:00 AM - 06:00 AM	50.1	69.8	46.2
06:00 AM - 07:00 AM	50.6	72.4	45.9
07:00 AM - 08:00 AM	50.6	65.4	46.0
08:00 AM - 09:00 AM	51.0	70.6	45.5
09:00 AM - 10:00 AM	52.0	79.0	45.1

Leq Average 24 hrs. (dB(A))

50.7

Lmax (dB(A))

79.7

L90 (dB(A))

45.6

Ldn (dB(A))

56.2

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 Chalermtamrong
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

14025-23/ EMAIL

S:\Reports\Air Noise.rpt (8:21PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2260064

Date Received : Jul 06, 2022

Date Reported : Jul 14, 2022

Report Number: 2375032-1

Page 1 of 1

Sample Number	2260064-2
Parameter	Noise (Leq 24 hrs.)
Location	วัดสุราษฎร์ (GPS 48Q 276877, 1887945)
Measurement Date	Jun 28 - Jun 29, 2022
Measurement by	Sangtawan Natasat
Sound Level meter	Serial No. 1173614

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	52.0	77.4	45.2
11:00 AM - 12:00 PM	50.0	66.1	44.7
12:00 PM - 01:00 PM	49.5	68.2	44.4
01:00 PM - 02:00 PM	48.5	72.7	44.3
02:00 PM - 03:00 PM	50.8	72.0	45.3
03:00 PM - 04:00 PM	50.7	72.7	46.4
04:00 PM - 05:00 PM	51.0	68.1	47.5
05:00 PM - 06:00 PM	51.4	66.0	47.9
06:00 PM - 07:00 PM	50.3	67.5	46.3
07:00 PM - 08:00 PM	50.8	81.5	45.6
08:00 PM - 09:00 PM	50.3	78.3	45.8
09:00 PM - 10:00 PM	49.1	75.7	47.3
10:00 PM - 11:00 PM	48.3	75.0	46.9
11:00 PM - 12:00 AM	48.6	77.3	46.1
12:00 AM - 01:00 AM	46.7	72.8	44.8
01:00 AM - 02:00 AM	45.8	57.1	44.9
02:00 AM - 03:00 AM	49.9	84.3	43.6
03:00 AM - 04:00 AM	43.7	64.8	41.8
04:00 AM - 05:00 AM	51.4	75.3	45.6
05:00 AM - 06:00 AM	52.5	81.5	47.5
06:00 AM - 07:00 AM	50.9	69.2	46.6
07:00 AM - 08:00 AM	51.6	64.2	47.5
08:00 AM - 09:00 AM	51.8	66.8	47.4
09:00 AM - 10:00 AM	50.2	75.0	46.0

Leq Average 24 hrs. (dB(A))	50.2		
Lmax (dB(A))		84.3	
L90 (dB(A))			45.8
Ldn (dB(A))	56.0		
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 Chalemtamrong
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

14025-23/ EMAIL

S:\Reports_Air Noise.rpt (8:22PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2260064

Date Received : Jul 06, 2022

Date Reported : Jul 14, 2022

Report Number: 2375033-1

Page 1 of 1

Sample Number	2260064-3
Parameter	Noise (Leq 24 hrs.)
Location	วัดสุราษฎร์ (GPS 48Q 276877, 1887945)
Measurement Date	Jun 29 - Jun 30, 2022
Measurement by	Sangtawan Natasat
Sound Level meter	Serial No. 1173614

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	52.0	71.3	47.2
11:00 AM - 12:00 PM	51.3	70.6	45.9
12:00 PM - 01:00 PM	50.6	69.8	45.5
01:00 PM - 02:00 PM	51.7	67.4	45.7
02:00 PM - 03:00 PM	50.5	71.3	45.3
03:00 PM - 04:00 PM	50.6	71.2	45.3
04:00 PM - 05:00 PM	52.0	71.2	46.3
05:00 PM - 06:00 PM	50.8	70.1	45.3
06:00 PM - 07:00 PM	50.5	80.4	45.5
07:00 PM - 08:00 PM	50.8	80.5	44.2
08:00 PM - 09:00 PM	49.9	79.6	44.1
09:00 PM - 10:00 PM	46.6	70.1	45.2
10:00 PM - 11:00 PM	47.0	56.7	46.3
11:00 PM - 12:00 AM	50.8	82.7	46.5
12:00 AM - 01:00 AM	49.1	71.9	47.0
01:00 AM - 02:00 AM	48.3	51.3	47.2
02:00 AM - 03:00 AM	45.4	55.1	44.3
03:00 AM - 04:00 AM	45.8	70.6	44.3
04:00 AM - 05:00 AM	49.0	71.4	44.5
05:00 AM - 06:00 AM	52.5	71.6	48.1
06:00 AM - 07:00 AM	51.4	73.7	46.7
07:00 AM - 08:00 AM	50.8	68.1	46.2
08:00 AM - 09:00 AM	51.9	69.6	46.2
09:00 AM - 10:00 AM	51.9	75.3	47.1

Leq Average 24 hrs. (dB(A))	50.4		
Lmax (dB(A))		82.7	
L90 (dB(A))			45.7
Ldn (dB(A))	56.1		
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 Chalemtamrong
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

14025-23/ EMAIL

S:\Reports_Air Noise.rpt (8:22PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2260064
Date Received : Jul 06, 2022
Date Reported : Jul 14, 2022
Report Number: 2375034-1

Page 1 of 1

Sample Number 2260064-4
Parameter Noise (Leq 24 hrs.)
Location วัดสุราษฎร์ (GPS 48Q 276877, 1887945)
Measurement Date Jun 30 - Jul 01, 2022
Measurement by Sangtawan Natasat
Sound Level meter Serial No. 1173614

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	49.9	69.3	47.5
11:00 AM - 12:00 PM	50.4	64.2	47.7
12:00 PM - 01:00 PM	50.0	69.9	46.9
01:00 PM - 02:00 PM	50.1	69.3	48.1
02:00 PM - 03:00 PM	50.3	66.4	48.4
03:00 PM - 04:00 PM	50.4	62.5	49.2
04:00 PM - 05:00 PM	49.7	75.6	48.7
05:00 PM - 06:00 PM	50.2	69.4	49.0
06:00 PM - 07:00 PM	50.3	66.4	49.6
07:00 PM - 08:00 PM	49.8	59.9	49.2
08:00 PM - 09:00 PM	49.9	75.6	48.7
09:00 PM - 10:00 PM	50.3	63.0	48.9
10:00 PM - 11:00 PM	49.8	66.4	48.7
11:00 PM - 12:00 AM	49.3	61.0	48.3
12:00 AM - 01:00 AM	49.8	75.6	49.1
01:00 AM - 02:00 AM	49.5	61.0	48.9
02:00 AM - 03:00 AM	48.7	66.4	48.0
03:00 AM - 04:00 AM	48.5	75.6	47.8
04:00 AM - 05:00 AM	48.6	66.4	47.9
05:00 AM - 06:00 AM	48.8	75.6	47.9
06:00 AM - 07:00 AM	49.9	75.6	49.2
07:00 AM - 08:00 AM	50.2	69.9	47.4
08:00 AM - 09:00 AM	50.5	75.6	48.6
09:00 AM - 10:00 AM	50.5	69.9	48.2

Leq Average 24 hrs. (dB(A)) 49.8
Lmax (dB(A)) 75.6
L90 (dB(A)) 48.4
Ldn (dB(A)) 55.8
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 Chalerthamrong
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 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

14025-23/ EMAIL

S:\Reports_Air Noise.rpt (8:22PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2260064
Date Received : Jul 06, 2022
Date Reported : Jul 14, 2022
Report Number: 2375035-1

Page 1 of 1

Sample Number 2260064-5
Parameter Noise (Leq 24 hrs.)
Location วัดสุราษฎร์ (GPS 48Q 276877, 1887945)
Measurement Date Jul 01 - Jul 02, 2022
Measurement by Sangtawan Natasat
Sound Level meter Serial No. 1173614

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	50.4	66.3	48.2
11:00 AM - 12:00 PM	50.5	65.7	48.0
12:00 PM - 01:00 PM	49.4	73.9	46.5
01:00 PM - 02:00 PM	50.1	66.3	48.3
02:00 PM - 03:00 PM	50.3	75.6	48.1
03:00 PM - 04:00 PM	50.4	66.3	48.6
04:00 PM - 05:00 PM	51.1	69.2	49.6
05:00 PM - 06:00 PM	50.0	75.6	49.0
06:00 PM - 07:00 PM	49.7	66.3	48.4
07:00 PM - 08:00 PM	50.4	67.6	49.7
08:00 PM - 09:00 PM	49.8	75.6	49.0
09:00 PM - 10:00 PM	50.2	66.3	49.7
10:00 PM - 11:00 PM	50.4	66.0	49.7
11:00 PM - 12:00 AM	49.9	66.3	49.0
12:00 AM - 01:00 AM	49.6	58.2	48.9
01:00 AM - 02:00 AM	50.3	66.3	49.6
02:00 AM - 03:00 AM	49.6	53.8	49.1
03:00 AM - 04:00 AM	50.1	58.2	49.4
04:00 AM - 05:00 AM	50.0	63.0	49.2
05:00 AM - 06:00 AM	49.6	66.3	48.9
06:00 AM - 07:00 AM	50.2	66.3	49.3
07:00 AM - 08:00 AM	50.2	63.8	48.9
08:00 AM - 09:00 AM	50.0	66.3	48.6
09:00 AM - 10:00 AM	50.1	67.2	49.0

Leq Average 24 hrs. (dB(A)) 50.1
Lmax (dB(A)) 75.6
L90 (dB(A)) 49.0
Ldn (dB(A)) 56.4
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 Chalerthamrong
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 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

14025-23/ EMAIL

S:\Reports_Air Noise.rpt (8:26PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2260064
Date Received : Jul 06, 2022
Date Reported : Jul 14, 2022
Report Number: 2375036-1

Page 1 of 1

Sample Number 2260064-6
Parameter Noise (Leq 24 hrs.)
Location วัดสุราษฎร์ (GPS 48Q 276877, 1887945)
Measurement Date Jul 02 - Jul 03, 2022
Measurement by Sangtawan Natasat
Sound Level meter Serial No. 1173614

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	52.1	66.9	47.8
11:00 AM - 12:00 PM	51.5	72.5	47.6
12:00 PM - 01:00 PM	51.0	78.5	47.2
01:00 PM - 02:00 PM	51.7	71.2	47.6
02:00 PM - 03:00 PM	50.6	76.9	47.1
03:00 PM - 04:00 PM	51.8	75.9	47.5
04:00 PM - 05:00 PM	50.8	79.1	47.3
05:00 PM - 06:00 PM	51.9	71.3	47.9
06:00 PM - 07:00 PM	50.3	79.1	48.2
07:00 PM - 08:00 PM	51.7	79.0	50.0
08:00 PM - 09:00 PM	53.0	76.9	50.8
09:00 PM - 10:00 PM	53.2	76.2	51.1
10:00 PM - 11:00 PM	52.8	80.1	50.7
11:00 PM - 12:00 AM	50.9	72.0	50.3
12:00 AM - 01:00 AM	50.9	55.0	50.2
01:00 AM - 02:00 AM	49.9	57.0	49.2
02:00 AM - 03:00 AM	49.3	53.7	48.5
03:00 AM - 04:00 AM	51.9	82.2	47.4
04:00 AM - 05:00 AM	53.2	75.7	48.8
05:00 AM - 06:00 AM	53.0	71.6	49.9
06:00 AM - 07:00 AM	52.0	74.3	49.5
07:00 AM - 08:00 AM	53.2	75.7	49.3
08:00 AM - 09:00 AM	53.0	70.1	49.3
09:00 AM - 10:00 AM	54.2	70.9	50.5

Leq Average 24 hrs. (dB(A)) 52.0
Lmax (dB(A)) 82.2
L90 (dB(A)) 48.8
Ldn (dB(A)) 58.2
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 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 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

14025-23/ EMAIL

S:\Reports_Air Noise.rpt (8:27PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2260064
Date Received : Jul 06, 2022
Date Reported : Jul 14, 2022
Report Number: 2375037-1

Page 1 of 1

Sample Number 2260064-7
Parameter Noise (Leq 24 hrs.)
Location วัดสุราษฎร์ (GPS 48Q 276877, 1887945)
Measurement Date Jul 03 - Jul 04, 2022
Measurement by Sangtawan Natasat
Sound Level meter Serial No. 1173614

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	52.6	71.8	48.5
11:00 AM - 12:00 PM	51.9	70.5	47.2
12:00 PM - 01:00 PM	52.9	71.9	48.6
01:00 PM - 02:00 PM	52.6	67.5	48.3
02:00 PM - 03:00 PM	52.3	71.8	47.8
03:00 PM - 04:00 PM	53.5	78.7	49.2
04:00 PM - 05:00 PM	51.8	69.4	47.2
05:00 PM - 06:00 PM	52.6	84.5	46.7
06:00 PM - 07:00 PM	51.1	77.2	46.1
07:00 PM - 08:00 PM	50.4	74.3	48.5
08:00 PM - 09:00 PM	52.3	73.6	49.8
09:00 PM - 10:00 PM	52.2	71.1	50.2
10:00 PM - 11:00 PM	51.9	60.2	49.5
11:00 PM - 12:00 AM	51.7	73.6	49.0
12:00 AM - 01:00 AM	50.3	58.6	49.8
01:00 AM - 02:00 AM	50.1	74.4	47.9
02:00 AM - 03:00 AM	46.8	70.4	46.1
03:00 AM - 04:00 AM	47.5	72.1	45.9
04:00 AM - 05:00 AM	50.0	73.6	47.5
05:00 AM - 06:00 AM	54.2	80.3	49.4
06:00 AM - 07:00 AM	53.5	75.6	49.3
07:00 AM - 08:00 AM	52.9	73.3	48.8
08:00 AM - 09:00 AM	52.4	70.9	48.2
09:00 AM - 10:00 AM	53.2	68.8	49.1

Leq Average 24 hrs. (dB(A)) 52.0
Lmax (dB(A)) 84.5
L90 (dB(A)) 48.5
Ldn (dB(A)) 57.9
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 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 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

14025-23/ EMAIL

S:\Reports_Air Noise.rpt (8:27PM)

ภาคผนวก ค-3

ผลการตรวจวัดระดับเสียงรบกวน



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : EIA Monitoring
Project Location :



TESTING

No.0009
Lot ID: 2260049
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report Number : 2376389-1

Page 2 of 3

Sample No. 2260049-2
Parameter เลื่อนกราม
Location บริเวณใกล้ขั้วสายไฟฟ้าแรงดัน 480V (GPS 48Q 279384, 1889169)
Measurement Date Jun 28 - 29, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 01173613

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ผลต่างระดับเสียง	ตัวปรับค่า	ปรับค่าเสียงจากแหล่งกำเนิด	เสียงที่ฐาน	ค่าระดับเสียง
					ค่าจริง		การรบกวน
12:25 AM - 12:30 AM	52.2	43.2	9.0	0.5	54.7	41.7	13.0
12:30 AM - 12:35 AM	50.9	43.5	7.4	1.0	52.9	42.6	10.3
12:35 AM - 12:40 AM	50.7	42.7	8.0	0.5	53.2	42.0	11.2
12:40 AM - 12:45 AM	51.7	42.5	9.2	0.5	54.2	41.7	12.5
12:45 AM - 12:50 AM	51.2	41.6	9.6	1.0	52.2	40.7	11.5
12:50 AM - 12:55 AM	51.3	45.5	5.8	1.5	52.8	42.2	10.6
12:55 AM - 01:00 AM	51.8	49.4	2.4	4.5	50.3	43.3	7.0
01:00 AM - 01:05 AM	51.9	45.1	6.8	1.0	53.9	43.4	10.5
01:05 AM - 01:10 AM	51.7	44.9	6.8	1.0	53.2	43.0	10.2
01:10 AM - 01:15 AM	51.7	45.3	6.4	1.5	53.2	42.5	10.7
01:15 AM - 01:20 AM	51.8	44.1	7.7	0.5	54.3	41.6	12.7
01:20 AM - 01:25 AM	51.9	44.3	7.6	0.5	54.4	42.2	12.2
01:25 AM - 01:30 AM	52.0	46.9	5.1	1.5	53.5	45.2	8.3
01:30 AM - 01:35 AM	52.2	46.3	5.9	1.5	53.7	44.4	9.3
01:35 AM - 01:40 AM	52.1	49.7	2.4	4.5	50.6	45.6	5.0
01:40 AM - 01:45 AM	51.8	47.2	4.6	1.5	53.3	44.9	8.4
01:45 AM - 01:50 AM	51.6	46.9	4.7	4.5	50.1	48.9	2.1
01:50 AM - 01:55 AM	50.9	49.0	1.9	4.5	49.4	46.9	2.5
01:55 AM - 02:00 AM	51.4	50.0	1.4	7.0	47.4	47.6	-0.2
02:00 AM - 02:05 AM	51.3	49.0	2.3	4.5	49.8	46.8	3.0
02:05 AM - 02:10 AM	51.2	46.0	5.2	1.5	52.7	43.9	8.8
02:10 AM - 02:15 AM	51.0	44.7	6.3	1.5	52.5	43.0	9.5
02:15 AM - 02:20 AM	51.2	44.4	6.8	1.0	53.2	42.1	11.1
02:20 AM - 02:25 AM	51.1	45.1	6.0	1.5	52.6	42.3	10.3
02:25 AM - 02:30 AM	50.7	43.8	6.9	1.0	52.7	41.9	10.8
02:30 AM - 02:35 AM	50.7	44.5	6.2	1.5	52.2	41.8	10.4
02:35 AM - 02:40 AM	51.0	47.3	3.7	2.0	52.0	42.4	9.6
02:40 AM - 02:45 AM	50.9	44.5	6.4	1.5	52.4	42.3	10.1
02:45 AM - 02:50 AM	51.4	46.0	5.4	1.5	52.8	42.8	10.0
02:50 AM - 02:55 AM	50.1	45.0	5.1	1.5	51.6	42.8	8.8
02:55 AM - 03:00 AM	47.7	43.9	3.8	2.0	48.7	41.6	7.1
03:00 AM - 03:05 AM	47.2	45.0	2.2	4.5	45.7	42.5	3.2
03:05 AM - 03:10 AM	48.1	44.3	3.8	2.0	49.1	41.9	7.2
03:10 AM - 03:15 AM	48.0	44.1	3.9	2.0	49.0	42.1	6.9
03:15 AM - 03:20 AM	47.4	44.7	2.7	3.0	47.4	42.1	5.3
03:20 AM - 03:25 AM	49.4	45.0	4.4	2.0	50.4	42.0	8.4
03:25 AM - 03:30 AM	49.3	46.4	2.9	3.0	49.3	43.1	6.2
03:30 AM - 03:35 AM	47.3	49.4	-2.1	7.0	43.3	43.9	-0.6
03:35 AM - 03:40 AM	48.2	48.4	-0.2	7.0	44.2	43.5	0.7
03:40 AM - 03:45 AM	51.7	47.7	4.0	2.0	52.7	43.6	9.1

The above results are valid only for the analyzed/tested sample(s) as indicated in this report. No part of this report or certificate can 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

Kanokorn Anek Senior Manager

ADDRESS 104 Phatthanakan Rd., Phatthanakan Rd., Khwaeng Phatthanakan, Khet Sam 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 : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : EIA Monitoring
Project Location :



TESTING

No.0009
Lot ID: 2260049
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report Number : 2376389-1

Page 3 of 3

Sample No. 2260049-2
Parameter เลื่อนกราม
Location บริเวณใกล้ขั้วสายไฟฟ้าแรงดัน 480V (GPS 48Q 279384, 1889169)
Measurement Date Jun 28 - 29, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 01173613

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ผลต่างระดับเสียง	ตัวปรับค่า	ปรับค่าเสียงจากแหล่งกำเนิด	เสียงที่ฐาน	ค่าระดับเสียง
					ค่าจริง		การรบกวน
03:45 AM - 03:50 AM	51.9	47.3	4.6	1.5	53.4	43.3	10.1
03:50 AM - 03:55 AM	51.3	46.5	4.8	1.0	53.3	42.3	11.0
03:55 AM - 04:00 AM	54.1	44.9	9.2	0.5	56.6	42.3	14.3
04:00 AM - 04:05 AM	51.6	45.5	6.1	1.5	53.1	42.5	10.6
04:05 AM - 04:10 AM	51.2	45.8	5.4	1.0	53.2	41.8	11.4
04:10 AM - 04:15 AM	50.8	45.7	5.1	1.5	52.3	42.1	10.2
04:15 AM - 04:20 AM	51.1	44.4	6.7	1.0	53.1	42.1	11.0
04:20 AM - 04:25 AM	51.4	45.3	6.1	1.5	52.9	42.1	10.8
04:25 AM - 04:30 AM	51.1	44.8	6.3	1.5	52.6	42.1	10.5
04:30 AM - 04:35 AM	51.0	44.5	6.5	1.0	53.0	41.9	11.1
04:35 AM - 04:40 AM	51.3	45.8	5.5	1.5	52.8	42.4	10.4
04:40 AM - 04:45 AM	51.5	44.7	6.8	1.0	53.5	42.2	11.3
04:45 AM - 04:50 AM	50.5	46.1	4.4	2.0	51.5	42.5	9.0
04:50 AM - 04:55 AM	52.1	44.2	7.9	0.5	54.6	41.8	12.8
04:55 AM - 05:00 AM	51.5	44.2	7.3	1.0	53.5	42.6	10.9
05:00 AM - 05:05 AM	51.6	50.4	1.2	7.0	47.6	46.2	1.4
05:05 AM - 05:10 AM	51.2	46.6	4.6	1.5	52.7	45.2	7.5
05:10 AM - 05:15 AM	50.6	46.5	4.1	2.0	51.6	44.3	7.3
05:15 AM - 05:20 AM	52.0	45.2	6.8	1.0	54.0	43.0	11.0
05:20 AM - 05:25 AM	49.0	44.8	4.2	2.0	50.0	43.1	6.9
05:25 AM - 05:30 AM	49.1	45.1	4.0	2.0	50.1	43.5	6.6
05:30 AM - 05:35 AM	49.2	44.8	4.4	2.0	50.2	42.9	7.3
05:35 AM - 05:40 AM	48.4	45.5	2.9	3.0	48.4	43.5	4.9
05:40 AM - 05:45 AM	50.3	46.0	4.3	2.0	51.3	44.3	7.0
05:45 AM - 05:50 AM	49.9	46.0	3.9	2.0	50.9	44.0	6.9
05:50 AM - 05:55 AM	49.9	47.5	2.4	4.5	48.4	44.0	4.4
05:55 AM - 06:00 AM	51.7	44.7	7.0	1.0	53.7	43.2	10.5
06:00 AM - 07:00 AM	55.7	48.4	7.3	1.0	54.7	42.8	9.9
07:00 AM - 08:00 AM	55.7	46.6	9.1	0.5	55.2	44.1	11.1
08:00 AM - 09:00 AM	54.9	45.7	9.2	0.5	54.4	43.3	11.1
09:00 AM - 10:00 AM	54.7	45.4	9.3	0.5	54.2	43.2	11.0
10:00 AM - 11:00 AM	54.6	45.2	9.4	0.5	54.1	42.9	11.2

Reference Method : Based on ISO 1996-1 and ISO 1996-2
หมายเหตุ

1. ผลการตรวจวัดค่าเสียงรบกวน (ระดับ) ตามค่าการวัดเสียงรบกวนตามระดับเสียงที่ได้จากการประมวลผลรายการรวม ณ พ.ศ. 2568
2. ผลการตรวจวัดค่าเสียงรบกวน (ระดับ) ตามค่าการวัดเสียงรบกวนตามระดับเสียงที่ได้จากการประมวลผลรายการรวม ณ พ.ศ. 2568
3. ผลการตรวจวัดค่าเสียงรบกวน (ระดับ) ตามค่าการวัดเสียงรบกวนตามระดับเสียงที่ได้จากการประมวลผลรายการรวม ณ พ.ศ. 2568

The above results are valid only for the analyzed/tested sample(s) as indicated in this report. No part of this report or certificate can 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

Kanokorn Anek Senior Manager

ADDRESS 104 Phatthanakan Rd., Phatthanakan Rd., Khwaeng Phatthanakan, Khet Sam 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 : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : EIA Monitoring
Project Location :



TESTING

No.0009
Lot ID: 2260049
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report Number : 2376390-1

Page 1 of 3

Sample No. 2260049-3
Parameter เลื่อนกราม
Location บริเวณใกล้ขั้วสายไฟฟ้าแรงดัน 480V (GPS 48Q 279384, 1889169)
Measurement Date Jun 29 - 30, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 01173613

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ผลต่างระดับเสียง	ตัวปรับค่า	ปรับค่าเสียงจากแหล่งกำเนิด	เสียงที่ฐาน	ค่าระดับเสียง
					ค่าจริง		การรบกวน
11:00 AM - 12:00 PM	54.2	44.1	10.1	0.5	53.7	41.6	12.1
12:00 PM - 01:00 PM	51.3	44.7	6.6	1.0	50.3	41.9	8.4
01:00 PM - 02:00 PM	54.5	55.7	-1.2	7.0	47.5	42.3	-5.0
02:00 PM - 03:00 PM	55.1	45.8	9.3	0.5	56.6	43.0	13.6
03:00 PM - 04:00 PM	54.6	44.9	9.7	0.5	54.1	42.3	11.8
04:00 PM - 05:00 PM	55.5	47.3	8.2	0.5	55.0	43.5	11.5
05:00 PM - 06:00 PM	55.0	44.3	10.7	0.5	54.5	42.6	11.9
06:00 PM - 07:00 PM	54.4	47.2	7.2	1.0	53.4	42.9	9.5
07:00 PM - 08:00 PM	52.9	47.8	5.1	1.5	51.4	46.6	4.8
08:00 PM - 09:00 PM	53.3	47.2	6.1	1.5	51.8	45.9	5.9
09:00 PM - 10:00 PM	52.9	48.5	4.4	2.0	50.9	45.0	5.9
10:00 PM - 10:05 PM	51.7	46.6	5.1	3.0	51.7	43.2	8.5
10:05 PM - 10:10 PM	51.7	52.8	-1.1	7.0	47.7	51.3	-3.6
10:10 PM - 10:15 PM	51.9	52.8	-0.9	7.0	47.9	51.2	-3.3
10:15 PM - 10:20 PM	51.8	52.9	-1.1	7.0	47.8	51.3	-3.5
10:20 PM - 10:25 PM	48.8	53.0	-4.2	7.0	44.8	51.5	-6.7
10:25 PM - 10:30 PM	49.4	52.7	-3.3	7.0	45.4	51.2	-5.8
10:30 PM - 10:35 PM	48.8	52.0	-3.2	7.0	44.8	42.9	1.9
10:35 PM - 10:40 PM	47.8	44.1	3.7	2.0	48.8	43.0	5.8
10:40 PM - 10:45 PM	46.5	45.8	0.7	3.0	46.5	43.0	3.5
10:45 PM - 10:50 PM	46.9	44.2	2.7	3.0	46.9	43.1	3.8
10:50 PM - 10:55 PM	48.1	44.2	3.9	2.0	49.1	43.2	5.9
10:55 PM - 11:00 PM	49.0	45.0	4.0	2.0	50.0	43.2	6.8
11:00 PM - 11:05 PM	48.6	45.8	2.8	2.0	48.6	43.2	5.4
11:05 PM - 11:10 PM	47.5	44.3	3.2	3.0	47.5	43.1	4.4
11:10 PM - 11:15 PM	48.1	44.5	3.6	2.0	49.1	43.6	5.5
11:15 PM - 11:20 PM	47.4	44.6	2.8	3.0	47.4	44.1	3.3
11:20 PM - 11:25 PM	47.5	48.3	-0.8	2.0	47.5	43.0	4.5
11:25 PM - 11:30 PM	48.0	44.5	3.5	2.0	49.0	43.9	5.1
11:30 PM - 11:35 PM	51.1	44.3	6.8	1.5	50.6	43.5	7.1
11:35 PM - 11:40 PM	49.2	45.7	3.5	1.5	49.2	44.2	5.0
11:40 PM - 11:45 PM	53.6	45.9	7.7	0.5	56.1	44.7	11.4
11:45 PM - 11:50 PM	52.3	45.4	6.9	1.5	53.8	45.0	8.8
11:50 PM - 11:55 PM	51.3	45.4	5.9	1.5	52.8	44.4	8.4
11:55 PM - 12:00 AM	51.2	46.0	5.2	1.5	53.8	44.2	9.6
12:00 AM - 12:05 AM	50.5	45.6	4.9	1.5	52.0	44.7	7.3
12:05 AM - 12:10 AM	51.6	44.8	6.8	1.0	53.6	44.0	9.6
12:10 AM - 12:15 AM	50.2	44.2	6.0	1.5	51.7	43.2	8.5
12:15 AM - 12:20 AM	51.0	44.7	6.3	1.5	53.5	43.9	9.6
12:20 AM - 12:25 AM	51.4	44.2	7.2	1.0	53.4	43.5	9.9

The above results are valid only for the analyzed/tested sample(s) as indicated in this report. No part of this report or certificate can 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

Kanokorn Anek Senior Manager



Analysis / Test Report



TESTING

No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260049
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report Number: 2376391-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 3 of 3

Sample No. 2260049-3
Parameter เลืองนกาน
Location บริเวณพื้นที่ด้านทิศเหนือ (GPS 48Q 279384, 1889169)
Measurement Date Jun 30 - Jul 01, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 01173613

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ระดับเสียง (dB(A))		พื้นที่ค่าเสียงจากแหล่งกำเนิด	เสียงที่รบกวน	ค่าระดับการรบกวน
			ผลต่าง	ตัวปรับค่า			
03:45 AM - 03:50 AM	48.4	48.0	0.4	7.0	-	44.4	45.8
03:50 AM - 03:55 AM	48.3	49.4	-1.1	7.0	-	44.3	46.9
03:55 AM - 04:00 AM	48.6	49.9	-1.3	7.0	-	44.6	47.3
04:00 AM - 04:05 AM	48.6	52.4	-3.8	7.0	-	44.6	50.0
04:05 AM - 04:10 AM	47.5	51.4	-3.9	7.0	-	43.5	52.5
04:10 AM - 04:15 AM	47.9	53.9	-6.0	7.0	-	43.9	52.4
04:15 AM - 04:20 AM	48.5	53.0	-4.5	7.0	-	44.5	51.8
04:20 AM - 04:25 AM	48.4	49.8	-1.4	7.0	-	44.4	48.7
04:25 AM - 04:30 AM	50.0	48.9	1.1	7.0	-	46.0	46.8
04:30 AM - 04:35 AM	52.2	53.1	-0.9	7.0	-	48.2	51.7
04:35 AM - 04:40 AM	52.0	52.9	-0.9	7.0	-	48.0	51.1
04:40 AM - 04:45 AM	51.9	50.8	1.1	7.0	-	47.9	49.0
04:45 AM - 04:50 AM	52.4	52.9	-0.5	7.0	-	48.4	51.2
04:50 AM - 04:55 AM	52.6	53.2	-0.6	7.0	-	48.6	51.9
04:55 AM - 05:00 AM	51.4	53.7	-2.3	7.0	-	47.4	50.3
05:00 AM - 05:05 AM	52.3	48.9	3.4	3.0	-	52.3	46.3
05:05 AM - 05:10 AM	52.5	46.0	6.5	1.0	-	54.5	44.2
05:10 AM - 05:15 AM	49.5	47.9	1.6	4.5	-	48.0	45.9
05:15 AM - 05:20 AM	50.4	47.0	3.4	3.0	-	50.4	44.9
05:20 AM - 05:25 AM	50.9	46.5	4.4	2.0	-	51.9	44.5
05:25 AM - 05:30 AM	52.5	46.0	6.5	1.0	-	54.5	44.2
05:30 AM - 05:35 AM	49.5	46.6	2.9	3.0	-	49.5	44.7
05:35 AM - 05:40 AM	49.8	49.5	0.3	7.0	-	45.8	46.7
05:40 AM - 05:45 AM	49.7	48.4	1.3	7.0	-	45.7	46.4
05:45 AM - 05:50 AM	50.4	46.5	3.9	2.0	-	51.4	44.5
05:50 AM - 05:55 AM	51.2	47.0	4.2	2.0	-	52.2	44.3
05:55 AM - 06:00 AM	51.7	47.3	4.4	2.0	-	52.7	45.3
06:00 AM - 07:00 AM	54.2	48.6	5.6	1.5	52.7	-	45.5
07:00 AM - 08:00 AM	54.9	46.9	8.0	0.5	54.4	-	44.3
08:00 AM - 09:00 AM	53.6	45.0	8.6	0.5	53.1	-	42.6
09:00 AM - 10:00 AM	53.5	44.1	9.4	0.5	53.0	-	42.1
10:00 AM - 11:00 AM	53.9	44.9	9.0	0.5	53.4	-	42.3
ค่ามาตรฐาน							≤ 10

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

- หมายเหตุ
1. ประกาศกระทรวงสาธารณสุข เรื่อง กำหนดค่าระดับเสียงการรบกวนและระดับเสียงที่ส่งผลกระทบต่อสุขภาพการปฏิบัติงาน พ.ศ. 2558
 2. ประกาศกระทรวงสาธารณสุข เรื่อง กำหนดค่าระดับเสียงการรบกวนและระดับเสียงที่ส่งผลกระทบต่อสุขภาพการปฏิบัติงาน พ.ศ. 2558
 3. ประกาศกระทรวงสาธารณสุข เรื่อง วิธีการตรวจวัดระดับเสียงการรบกวนและระดับเสียงที่ส่งผลกระทบต่อสุขภาพการปฏิบัติงาน พ.ศ. 2558 และประกาศกระทรวงสาธารณสุข เรื่อง วิธีการตรวจวัดระดับเสียงการรบกวนและระดับเสียงที่ส่งผลกระทบต่อสุขภาพการปฏิบัติงาน พ.ศ. 2558
 4. ประกาศกระทรวงสาธารณสุข เรื่อง กำหนดค่าระดับเสียงการรบกวนและระดับเสียงที่ส่งผลกระทบต่อสุขภาพการปฏิบัติงาน พ.ศ. 2561

ระดับเสียงที่รายงานและระดับเสียงขณะไม่มีการรบกวน (Sample No. 2260049-3) วันที่ 30 มิถุนายน 2565

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

Kanokorn Anek
Senior Manager

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



Analysis / Test Report



TESTING

No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260049
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report Number: 2376391-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260049-4
Parameter เลืองนกาน
Location บริเวณพื้นที่ด้านทิศเหนือ (GPS 48Q 279384, 1889169)
Measurement Date Jun 30 - Jul 01, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 01173613

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ระดับเสียง (dB(A))		พื้นที่ค่าเสียงจากแหล่งกำเนิด	เสียงที่รบกวน	ค่าระดับการรบกวน
			ผลต่าง	ตัวปรับค่า			
12:25 AM - 12:30 AM	48.9	47.3	1.6	4.5	-	47.4	45.1
12:30 AM - 12:35 AM	49.4	47.4	2.0	4.5	-	47.9	46.1
12:35 AM - 12:40 AM	48.3	51.9	-3.6	7.0	-	44.3	49.1
12:40 AM - 12:45 AM	52.3	54.0	-1.7	7.0	-	48.3	51.6
12:45 AM - 12:50 AM	50.4	54.5	-4.1	7.0	-	46.4	52.0
12:50 AM - 12:55 AM	52.7	54.6	-1.9	7.0	-	48.7	52.9
12:55 AM - 01:00 AM	55.7	53.2	2.5	3.0	-	55.7	51.6
01:00 AM - 01:05 AM	55.2	52.0	3.2	3.0	-	55.2	50.5
01:05 AM - 01:10 AM	55.3	51.9	3.4	3.0	-	55.3	50.5
01:10 AM - 01:15 AM	54.9	51.7	3.2	3.0	-	54.9	50.4
01:15 AM - 01:20 AM	53.2	51.7	1.5	4.5	-	51.7	50.1
01:20 AM - 01:25 AM	54.8	48.3	6.5	1.0	-	56.8	45.2
01:25 AM - 01:30 AM	55.0	45.2	9.8	0.5	-	57.5	43.6
01:30 AM - 01:35 AM	54.9	45.6	9.3	0.5	-	57.4	43.5
01:35 AM - 01:40 AM	55.0	44.1	10.9	0.5	-	57.5	43.0
01:40 AM - 01:45 AM	54.9	43.9	11.0	0.5	-	57.4	42.2
01:45 AM - 01:50 AM	54.9	43.0	11.9	0.5	-	57.4	42.2
01:50 AM - 01:55 AM	54.5	43.3	11.2	0.5	-	57.0	42.0
01:55 AM - 02:00 AM	55.4	44.3	11.1	0.5	-	57.9	41.9
02:00 AM - 02:05 AM	53.6	45.1	8.5	0.5	-	56.1	43.3
02:05 AM - 02:10 AM	48.3	45.0	3.3	3.0	-	48.3	42.6
02:10 AM - 02:15 AM	47.7	44.1	3.6	2.0	-	48.7	42.9
02:15 AM - 02:20 AM	51.0	44.4	6.6	1.0	-	53.0	43.0
02:20 AM - 02:25 AM	48.6	48.9	-0.3	7.0	-	44.6	43.6
02:25 AM - 02:30 AM	54.5	47.1	7.4	1.0	-	56.5	42.4
02:30 AM - 02:35 AM	54.4	47.1	7.3	1.0	-	56.4	42.3
02:35 AM - 02:40 AM	54.9	49.6	5.3	1.5	-	56.4	46.0
02:40 AM - 02:45 AM	55.4	51.5	3.9	2.0	-	56.4	49.8
02:45 AM - 02:50 AM	55.1	51.6	3.5	2.0	-	56.1	49.5
02:50 AM - 02:55 AM	54.7	51.3	3.4	3.0	-	54.7	49.2
02:55 AM - 03:00 AM	54.6	50.1	4.5	1.5	-	56.1	41.6
03:00 AM - 03:05 AM	54.8	52.7	2.1	4.5	-	53.3	50.6
03:05 AM - 03:10 AM	54.7	51.4	3.3	3.0	-	54.7	49.0
03:10 AM - 03:15 AM	54.4	47.2	7.2	1.0	-	56.4	48.8
03:15 AM - 03:20 AM	54.1	48.0	6.1	1.5	-	55.6	44.6
03:20 AM - 03:25 AM	54.1	50.4	3.7	2.0	-	55.1	45.9
03:25 AM - 03:30 AM	54.7	49.0	5.7	1.5	-	56.2	45.8
03:30 AM - 03:35 AM	54.8	49.9	4.9	1.5	-	56.3	46.8
03:35 AM - 03:40 AM	54.8	49.8	5.0	1.5	-	56.3	45.5
03:40 AM - 03:45 AM	54.4	48.0	6.4	1.5	-	53.9	46.0
ค่ามาตรฐาน							≤ 10

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

- หมายเหตุ
1. ประกาศกระทรวงสาธารณสุข เรื่อง กำหนดค่าระดับเสียงการรบกวนและระดับเสียงที่ส่งผลกระทบต่อสุขภาพการปฏิบัติงาน พ.ศ. 2558
 2. ประกาศกระทรวงสาธารณสุข เรื่อง กำหนดค่าระดับเสียงการรบกวนและระดับเสียงที่ส่งผลกระทบต่อสุขภาพการปฏิบัติงาน พ.ศ. 2558
 3. ประกาศกระทรวงสาธารณสุข เรื่อง วิธีการตรวจวัดระดับเสียงการรบกวนและระดับเสียงที่ส่งผลกระทบต่อสุขภาพการปฏิบัติงาน พ.ศ. 2558 และประกาศกระทรวงสาธารณสุข เรื่อง วิธีการตรวจวัดระดับเสียงการรบกวนและระดับเสียงที่ส่งผลกระทบต่อสุขภาพการปฏิบัติงาน พ.ศ. 2558
 4. ประกาศกระทรวงสาธารณสุข เรื่อง กำหนดค่าระดับเสียงการรบกวนและระดับเสียงที่ส่งผลกระทบต่อสุขภาพการปฏิบัติงาน พ.ศ. 2561

ระดับเสียงที่รายงานและระดับเสียงขณะไม่มีการรบกวน (Sample No. 2260049-4) วันที่ 30 มิถุนายน 2565

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

Kanokorn Anek
Senior Manager

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



Analysis / Test Report



TESTING

No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260049
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report Number: 2376391-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260049-4
Parameter เลืองนกาน
Location บริเวณพื้นที่ด้านทิศเหนือ (GPS 48Q 279384, 1889169)
Measurement Date Jun 30 - Jul 01, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 01173613

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ระดับเสียง (dB(A))		พื้นที่ค่าเสียงจากแหล่งกำเนิด	เสียงที่รบกวน	ค่าระดับการรบกวน
			ผลต่างระดับเสียง	ตัวปรับค่า			
11:00 AM - 12:00 PM	52.7	46.4	6.3	1.5	51.2	-	44.4
12:00 PM - 01:00 PM	50.9	47.8	3.1	3.0	47.9	-	44.7
01:00 PM - 02:00 PM	55.3	47.6	7.7	0.5	54.8	-	44.4
02:00 PM - 03:00 PM	52.1	50.9	1.2	7.0	46.7	-	46.0
03:00 PM - 04:00 PM	53.7	54.7	-1.0	7.0	46.7	-	51.2
04:00 PM - 05:00 PM	52.5	52.7	-0.2	7.0	45.5	-	49.1
05:00 PM - 06:00 PM	53.6	48.0	5.6	1.5	52.1	-	45.7
06:00 PM - 07:00 PM	53.7	53.2	0.5	2.0	51.7	-	46.2
07:00 PM - 08:00 PM	50.2	53.2	-3.0	7.0	43.2	-	50.8
08:00 PM - 09:00 PM	50.3	54.7	-4.4	7.0	43.3	-	49.2
09:00 PM - 10:00 PM	51.3	56.0	-4.7	7.0	44.3	-	54.4
10:00 PM - 10:05 PM	49.1	56.9	-7.8	7.0	-	45.1	55.6
10:05 PM - 10:10 PM	53.1	56.7	-3.6	7.0	-	49.1	55.6
10:10 PM - 10:15 PM	53.0	56.0	-3.0	7.0	-	48.0	54.3
10:15 PM - 10:20 PM	50.1	54.4	-4.3	7.0	-	46.1	52.9
10:20 PM - 10:25 PM	50.3	53.5	-3.2	7.0	-	46.3	52.0
10:25 PM - 10:30 PM	53.0	53.1	-0.1	7.0	-	49.0	51.3
10:30 PM - 10:35 PM	52.2	52.5	-0.3	7.0	-	48.2	50.6
10:35 PM - 10:40 PM	49.7	48.4	1.3	7.0	-	45.7	46.1
10:40 PM - 10:45 PM	50.9	46.4	4.5	1.5	52.4	-	45.6
10:45 PM - 10:50 PM	51.9	46.0	5.9	1.5	53.4	-	44.9
10:50 PM - 10:55 PM	51.5	46.9	4.6	1.5	53.0	-	44.8
10:55 PM - 11:00 PM	51.8	46.1	5.7	1.5	53.3	-	44.9
11:00 PM - 11:05 PM	48.6	46.2	2.4	4.5	-	47.1	44.1
11:05 PM - 11:10 PM	47.9	46.5	1.4	7.0	-	43.9	44.7
11:10 PM - 11:15 PM	48.2	46.0	2.2	4.5	-	46.7	44.7
11:15 PM - 11:20 PM	48.4	45.7	2.7	3.0	-	48.4	44.7
11:20 PM - 11:25 PM	49.5	45.7	3.8	3.0	-	50.5	45.0
11:25 PM - 11:30 PM	47.7	46.0	1.7	4.5	-	46.2	44.8
11:30 PM - 11:35 PM	48.5	46.0	2.5	3.0	-	48.5	44.4
11:35 PM - 11:40 PM	48.1	46.7	-0.6	7.0	-	44.1	46.6
11:40 PM - 11:45 PM	48.0	50.3	-2.3	7.0	-	44.0	48.3
11:45 PM - 11:50 PM	48.5	50.7	-2.2	7.0	-	44.5	49.4
11:50 PM - 11:55 PM	49.5	49.5	0.0	7.0	-	44.7	44.7
11:55 PM - 12:00 AM	54.2	49.8	4.4	2.0	-	55.2	48.6
12:00 AM - 12:05 AM	47.8	48.9	-1.1	7.0	-	43.8	46.1
12:05 AM - 12:10 AM	48.2	49.2	-1.0	7.0	-	44.2	46.0
12:10 AM - 12:15 AM	48.1	58.0	-1.9	7.0	-	44.1	47.1
12:15 AM - 12:20 AM	48.5	50.8	-2.3	7.0	-	44.6	48.6
12:20 AM - 12:25 AM	48.3	49.3	-0.3	7.0	-	44.3	44.6



Analysis / Test Report



TESTING

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260049
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report Number: 2376392-1

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. : 2260049-5
Parameter : เสียงรบกวน
Location : บริเวณศูนย์พักพิงสัตว์ชนิดหนึ่ง (GPS 48Q 279384, 1889169)
Measurement Date : Jul 01 - 02, 2022
Measurement by : Sangwan Natasat
Sound Level Meter : 01173613

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ผลต่าง	ค่าปรับ	ปรับค่าเสียงจากแหล่งกำเนิด		เสียงพื้นฐาน	ค่าระดับ
					กลางวัน	กลางคืน		
11:00 AM - 12:00 PM	54.3	45.8	8.5	0.5	53.8	-	43.0	10.8
12:00 PM - 01:00 PM	51.5	45.7	5.8	0.5	51.0	-	43.1	10.9
01:00 PM - 02:00 PM	57.9	46.4	11.5	0.5	57.4	-	42.9	14.5
02:00 PM - 03:00 PM	56.5	48.4	8.1	0.5	56.0	-	44.4	11.6
03:00 PM - 04:00 PM	57.4	47.8	9.6	0.5	56.9	-	44.4	12.5
04:00 PM - 05:00 PM	54.6	49.3	5.3	1.5	53.1	-	45.6	7.5
05:00 PM - 06:00 PM	54.1	48.0	6.1	1.5	52.6	-	45.2	7.4
06:00 PM - 07:00 PM	54.8	49.6	5.2	1.5	53.3	-	46.2	7.1
07:00 PM - 08:00 PM	52.7	48.8	3.9	2.0	50.7	-	46.6	4.1
08:00 PM - 09:00 PM	53.0	55.5	-2.5	7.0	46.0	-	52.6	-6.6
09:00 PM - 10:00 PM	52.2	54.6	-2.4	7.0	45.2	-	51.5	-6.3
10:00 PM - 10:05 PM	51.0	47.7	3.3	3.0	-	51.0	46.2	4.8
10:05 PM - 10:10 PM	51.2	46.1	5.1	1.5	-	52.7	45.2	7.5
10:10 PM - 10:15 PM	51.8	45.0	6.8	1.0	-	53.8	43.6	10.2
10:15 PM - 10:20 PM	51.2	44.9	6.3	1.5	-	52.7	43.1	9.6
10:20 PM - 10:25 PM	49.5	47.5	2.0	4.5	-	48.0	43.9	4.1
10:25 PM - 10:30 PM	48.7	54.5	-5.8	7.0	-	44.7	46.7	-2.0
10:30 PM - 10:35 PM	47.7	56.7	-9.0	7.0	-	43.7	51.2	-7.5
10:35 PM - 10:40 PM	56.2	49.9	6.3	1.5	-	57.7	46.7	11.0
10:40 PM - 10:45 PM	62.7	53.5	9.2	0.5	-	65.2	47.3	17.9
10:45 PM - 10:50 PM	68.8	58.6	10.2	0.5	-	71.3	56.4	14.9
10:50 PM - 10:55 PM	59.4	55.1	4.3	2.0	-	64.4	50.4	10.0
10:55 PM - 11:00 PM	62.2	52.0	10.2	0.5	-	64.7	49.8	14.9
11:00 PM - 11:05 PM	69.1	54.7	14.4	0.0	-	72.1	50.7	21.4
11:05 PM - 11:10 PM	65.9	54.2	11.7	0.0	-	69.9	51.5	18.4
11:10 PM - 11:15 PM	60.4	47.7	12.7	0.0	-	63.4	45.8	17.6
11:15 PM - 11:20 PM	65.3	49.0	16.3	0.0	-	68.3	46.0	22.3
11:20 PM - 11:25 PM	65.0	48.0	17.0	0.0	-	68.0	46.2	21.8
11:25 PM - 11:30 PM	55.2	47.8	7.4	1.0	-	57.2	46.6	10.6
11:30 PM - 11:35 PM	55.1	48.6	6.5	1.0	-	57.1	45.9	11.2
11:35 PM - 11:40 PM	54.3	47.7	6.6	1.0	-	56.3	46.4	9.9
11:40 PM - 11:45 PM	53.9	46.9	7.0	1.0	-	55.9	45.7	10.2
11:45 PM - 11:50 PM	54.5	48.5	6.0	1.0	-	56.0	47.2	8.8
11:50 PM - 11:55 PM	54.2	47.8	6.4	1.5	-	55.7	46.1	9.6
11:55 PM - 12:00 AM	54.0	47.2	6.8	1.0	-	56.0	46.3	9.7
12:00 AM - 12:05 AM	53.6	51.6	2.0	4.5	-	52.1	46.7	5.4
12:05 AM - 12:10 AM	53.5	50.7	2.8	7.0	-	53.5	49.2	7.3
12:10 AM - 12:15 AM	53.2	46.5	6.7	1.0	-	55.2	45.4	9.8
12:15 AM - 12:20 AM	53.3	44.5	8.8	0.5	-	55.8	43.8	12.0
12:20 AM - 12:25 AM	52.8	45.6	7.2	1.0	-	54.8	44.4	10.4

The above results are valid only for the analyzed/sampled sample(s) as indicated in this report. No part of this report or any data 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

Kanokorn Anek
Senior 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



TESTING

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260049
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report Number: 2376392-1

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. : 2260049-5
Parameter : เสียงรบกวน
Location : บริเวณศูนย์พักพิงสัตว์ชนิดหนึ่ง (GPS 48Q 279384, 1889169)
Measurement Date : Jul 01 - 02, 2022
Measurement by : Sangwan Natasat
Sound Level Meter : 01173613

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ผลต่าง	ค่าปรับ	ปรับค่าเสียงจากแหล่งกำเนิด		เสียงพื้นฐาน	ค่าระดับ
					กลางวัน	กลางคืน		
12:25 AM - 12:30 AM	52.9	46.3	6.6	1.0	-	54.9	44.4	10.5
12:30 AM - 12:35 AM	52.7	48.1	4.6	0.5	-	55.2	43.4	11.8
12:35 AM - 12:40 AM	52.9	44.0	8.9	0.5	-	55.4	43.3	12.1
12:40 AM - 12:45 AM	52.6	43.9	8.7	0.5	-	55.1	43.2	11.9
12:45 AM - 12:50 AM	50.7	43.9	6.8	1.0	-	52.7	42.7	10.0
12:50 AM - 12:55 AM	50.4	43.9	6.5	1.0	-	52.4	43.0	9.4
12:55 AM - 01:00 AM	49.2	44.5	4.7	1.5	-	50.7	43.7	7.0
01:00 AM - 01:05 AM	49.1	46.1	3.0	3.0	-	49.1	44.5	4.6
01:05 AM - 01:10 AM	49.1	47.9	1.2	7.0	-	45.1	46.9	-1.8
01:10 AM - 01:15 AM	49.9	48.1	1.8	2.0	-	49.9	45.0	5.9
01:15 AM - 01:20 AM	52.7	48.7	4.0	2.0	-	53.7	47.0	6.7
01:20 AM - 01:25 AM	56.9	48.4	8.5	0.5	-	59.4	47.0	12.4
01:25 AM - 01:30 AM	53.9	46.7	7.2	1.0	-	55.9	46.0	9.9
01:30 AM - 01:35 AM	57.1	45.7	11.4	0.5	-	59.6	44.9	14.7
01:35 AM - 01:40 AM	58.3	44.8	13.5	0.0	-	61.3	44.0	17.3
01:40 AM - 01:45 AM	55.5	44.2	11.3	0.5	-	58.0	43.1	14.9
01:45 AM - 01:50 AM	54.3	44.5	9.8	0.5	-	56.8	43.8	13.0
01:50 AM - 01:55 AM	52.0	44.4	7.6	0.5	-	54.5	43.2	11.3
01:55 AM - 02:00 AM	49.9	44.2	5.7	1.5	-	51.4	43.6	7.8
02:00 AM - 02:05 AM	49.7	45.0	4.7	1.5	-	51.2	43.9	7.3
02:05 AM - 02:10 AM	49.9	45.7	4.2	2.0	-	50.3	43.4	7.1
02:10 AM - 02:15 AM	49.2	49.3	0.1	1.5	-	50.7	43.7	7.0
02:15 AM - 02:20 AM	50.8	44.0	6.8	1.0	-	52.8	42.4	10.4
02:20 AM - 02:25 AM	49.8	42.6	7.2	1.0	-	51.8	42.1	9.7
02:25 AM - 02:30 AM	50.2	43.9	6.3	1.0	-	52.2	42.2	10.0
02:30 AM - 02:35 AM	50.1	44.5	5.6	1.5	-	51.6	42.4	9.2
02:35 AM - 02:40 AM	49.3	43.6	5.7	1.5	-	50.8	42.5	8.3
02:40 AM - 02:45 AM	48.6	44.0	4.6	1.5	-	50.1	42.8	7.3
02:45 AM - 02:50 AM	50.3	47.9	2.4	4.5	-	48.8	43.3	5.5
02:50 AM - 02:55 AM	50.4	48.9	1.5	4.5	-	48.9	42.8	6.1
02:55 AM - 03:00 AM	49.0	46.3	2.7	3.0	-	49.0	44.1	4.9
03:00 AM - 03:05 AM	51.6	44.4	7.2	1.0	-	53.6	43.2	10.4
03:05 AM - 03:10 AM	48.9	44.4	4.5	1.5	-	50.4	42.4	8.0
03:10 AM - 03:15 AM	50.4	56.9	-6.5	7.0	-	46.4	46.4	0.0
03:15 AM - 03:20 AM	50.5	59.8	-9.3	7.0	-	46.5	57.6	-11.1
03:20 AM - 03:25 AM	48.9	58.0	-9.1	7.0	-	44.9	54.4	-9.5
03:25 AM - 03:30 AM	49.2	53.3	-4.1	7.0	-	45.2	46.6	-1.4
03:30 AM - 03:35 AM	50.4	55.2	-4.8	7.0	-	46.4	52.9	-6.5
03:35 AM - 03:40 AM	49.0	56.3	-7.3	7.0	-	45.0	54.0	-9.0
03:40 AM - 03:45 AM	49.7	56.0	-6.3	7.0	-	45.7	53.4	-7.7

The above results are valid only for the analyzed/sampled sample(s) as indicated in this report. No part of this report or any data 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

Kanokorn Anek
Senior 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



TESTING

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260049
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report Number: 2376392-1

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. : 2260049-5
Parameter : เสียงรบกวน
Location : บริเวณศูนย์พักพิงสัตว์ชนิดหนึ่ง (GPS 48Q 279384, 1889169)
Measurement Date : Jul 01 - 02, 2022
Measurement by : Sangwan Natasat
Sound Level Meter : 01173613

ระดับเสียง (dB(A))					ปรับค่าเสียงจากแหล่งกำเนิด		เสียงพื้นฐาน	ค่าระดับ
เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ผลต่างระดับเสียง	ค่าปรับ	กลางวัน	กลางคืน		
03:45 AM - 03:50 AM	50.9	52.4	-1.5	7.0	-	46.9	51.2	-4.3
03:50 AM - 03:55 AM	52.4	52.1	0.3	7.0	-	48.4	50.9	-2.5
03:55 AM - 04:00 AM	52.9	51.8	1.1	7.0	-	48.9	50.8	-1.9
04:00 AM - 04:05 AM	52.7	51.6	1.1	7.0	-	48.7	50.6	-1.9
04:05 AM - 04:10 AM	52.5	51.3	1.2	7.0	-	48.5	50.5	-2.0
04:10 AM - 04:15 AM	52.4	51.1	1.3	7.0	-	48.4	51.0	-1.6
04:15 AM - 04:20 AM	53.0	52.5	0.5	7.0	-	49.0	51.1	-2.1
04:20 AM - 04:25 AM	52.5	56.6	-4.1	7.0	-	48.5	52.4	-3.9
04:25 AM - 04:30 AM	51.7	58.2	-6.5	7.0	-	47.7	54.2	-6.5
04:30 AM - 04:35 AM	51.2	57.2	-6.0	7.0	-	47.2	54.7	-7.5
04:35 AM - 04:40 AM	50.6	55.8	-5.2	7.0	-	46.6	54.0	-7.4
04:40 AM - 04:45 AM	49.8	54.8	-5.0	7.0	-	45.8	53.6	-7.8
04:45 AM - 04:50 AM	50.1	54.5	-4.4	7.0	-	46.1	53.3	-7.2
04:50 AM - 04:55 AM	53.8	54.2	-0.4	7.0	-	49.8	53.2	-3.4
04:55 AM - 05:00 AM	56.3	54.0	2.3	3.0	-	56.5	53.0	3.5
05:00 AM - 05:05 AM	50.3	61.4	-11.1	7.0	-	46.3	55.2	-8.9
05:05 AM - 05:10 AM	52.6	55.1	-2.5	7.0	-	48.6	52.9	-4.3
05:10 AM - 05:15 AM	51.3	56.7	-5.4	7.0	-	47.3	50.6	-3.3
05:15 AM - 05:20 AM	51.3	53.3	-1.8	7.0	-	47.5	51.8	-4.3
05:20 AM - 05:25 AM	52.6	53.0	-0.4	7.0	-	48.6	50.7	-2.1
05:25 AM - 05:30 AM	51.9	52.9	-1.0	7.0	-	47.9	51.3	-3.4
05:30 AM - 05:35 AM	51.3	51.4	-0.1	7.0	-	49.1	49.4	-0.3
05:35 AM - 05:40 AM	52.5	55.9	-3.4	7.0	-	48.5	52.9	-4.4
05:40 AM - 05:45 AM	52.7	55.2	-2.5	7.0	-	48.7	50.6	-1.9
05:45 AM - 05:50 AM	50.9	53.6	-2.7	7.0	-	46.9	50.7	-3.8
05:50 AM - 05:55 AM	51.8	52.3	-0.5	7.0	-	47.8	47.7	0.1
05:55 AM - 06:00 AM	53.3	48.2	5.1	1.5	-	54.8	46.5	8.3
06:00 AM - 07:00 AM	53.7	51.5	4.2	2.0	53.7	-	47.8	5.9
07:00 AM - 08:00 AM	53.5	53.1	0.4	3.0	53.5	-	46.8	3.7
08:00 AM - 09:00 AM	52.9	53.5	0.4	7.0	46.9	-	44.9	2.0
09:00 AM - 10:00 AM	54.2	47.4	6.8	1.0	53.2	-	44.8	8.4
10:00 AM - 11:00 AM	54.9	49.7	5.2	1.5	53.4	-	45.4	8.0



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. : 2260049-6
Parameter : เสียงรบกวน
Location : บริเวณพื้นที่ทำน้ำตาล (GPS 48Q 279384, 1889169)
Measurement Date : Jul 02 - 03, 2022
Measurement by : Sangtawan Natasat
Sound Level Meter : 01173613

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ระดับเสียง (dB(A))		พื้นที่ทำน้ำตาลแหล่งกำเนิด		เสียงพื้นฐาน	ค่าระดับเสียง
			ผลต่าง	ตัวแปร	กลางวัน	กลางคืน		
12:25 AM - 12:30 AM	49.2	49.3	-0.1	7.0	-	45.2	43.2	2.0
12:30 AM - 12:35 AM	49.1	45.8	3.3	3.0	-	49.1	44.2	4.9
12:35 AM - 12:40 AM	49.4	46.1	3.3	3.0	-	49.4	44.2	5.2
12:40 AM - 12:45 AM	49.9	44.9	5.0	1.5	-	51.4	43.6	7.8
12:45 AM - 12:50 AM	50.1	44.4	5.7	1.5	-	51.6	43.0	8.6
12:50 AM - 12:55 AM	49.3	43.9	5.4	1.5	-	50.8	42.3	8.5
12:55 AM - 01:00 AM	49.6	43.7	5.9	1.5	-	51.1	42.0	9.1
01:00 AM - 01:05 AM	48.9	43.5	5.4	1.5	-	50.4	41.0	9.0
01:05 AM - 01:10 AM	48.0	43.9	4.1	2.0	-	49.0	41.1	7.9
01:10 AM - 01:15 AM	47.7	42.7	5.0	1.5	-	49.2	40.2	9.0
01:15 AM - 01:20 AM	47.9	42.9	5.0	1.5	-	49.4	40.8	8.6
01:20 AM - 01:25 AM	47.8	42.5	5.3	1.5	-	51.1	40.6	4.5
01:25 AM - 01:30 AM	48.3	44.9	3.4	3.0	-	48.3	43.0	5.3
01:30 AM - 01:35 AM	50.9	48.3	2.6	3.0	-	50.9	44.2	6.7
01:35 AM - 01:40 AM	50.7	45.8	4.9	1.5	-	52.2	43.5	8.7
01:40 AM - 01:45 AM	51.1	45.5	5.6	3.0	-	51.1	46.6	4.5
01:45 AM - 01:50 AM	51.3	47.6	3.7	2.0	-	52.3	45.5	6.8
01:50 AM - 01:55 AM	52.3	48.6	3.7	2.0	-	53.7	46.2	7.5
01:55 AM - 02:00 AM	47.0	47.6	-0.6	7.0	-	43.0	45.4	-2.4
02:00 AM - 02:05 AM	48.9	44.6	4.3	2.0	-	49.9	42.5	7.4
02:05 AM - 02:10 AM	52.2	43.3	8.9	0.5	-	54.7	41.6	13.1
02:10 AM - 02:15 AM	51.9	43.0	8.9	0.5	-	54.4	40.7	13.7
02:15 AM - 02:20 AM	52.3	43.7	8.6	0.5	-	54.8	40.9	13.9
02:20 AM - 02:25 AM	52.3	42.4	9.9	0.5	-	54.8	40.5	14.3
02:25 AM - 02:30 AM	50.8	43.1	7.7	0.5	-	53.3	40.4	12.9
02:30 AM - 02:35 AM	50.9	45.9	5.0	1.5	-	52.4	41.0	11.4
02:35 AM - 02:40 AM	50.7	45.1	5.6	0.5	-	53.2	40.9	12.3
02:40 AM - 02:45 AM	51.1	46.6	4.5	0.5	-	53.1	41.4	11.7
02:45 AM - 02:50 AM	51.3	45.5	5.8	0.5	-	53.8	41.4	12.4
02:50 AM - 02:55 AM	52.3	42.5	9.8	0.5	-	54.8	40.2	14.6
02:55 AM - 03:00 AM	54.6	43.6	11.0	0.5	-	57.1	41.1	16.0
03:00 AM - 03:05 AM	54.3	42.9	11.4	2.0	-	56.8	41.4	15.4
03:05 AM - 03:10 AM	54.7	42.7	12.0	0.5	-	57.2	40.7	16.5
03:10 AM - 03:15 AM	54.7	43.3	11.4	0.5	-	57.2	40.7	16.5
03:15 AM - 03:20 AM	53.2	43.6	9.6	0.5	-	57.7	40.6	15.1
03:20 AM - 03:25 AM	50.0	45.2	5.0	1.5	-	51.5	41.7	9.8
03:25 AM - 03:30 AM	49.8	48.0	1.8	4.5	-	48.3	42.5	5.8
03:30 AM - 03:35 AM	49.2	47.0	2.2	4.5	-	47.7	42.1	5.6
03:35 AM - 03:40 AM	48.8	46.3	2.5	3.0	-	48.8	42.2	6.6
03:40 AM - 03:45 AM	48.9	45.9	3.0	3.0	-	48.9	41.9	7.0

The above results are valid only for the use and intended purpose(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

Kasikorn Anuk
Kasikorn Anuk
Senior Manager

ADDRESS 104 Phatthanaikan 40, Phatthanaikan Rd., Khwaeng Phatthanaikan, Khet Sam 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 : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. : 2260049-7
Parameter : เสียงรบกวน
Location : บริเวณพื้นที่ทำน้ำตาล (GPS 48Q 279384, 1889169)
Measurement Date : Jul 03 - 04, 2022
Measurement by : Sangtawan Natasat
Sound Level Meter : 01173613

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ระดับเสียง (dB(A))		พื้นที่ทำน้ำตาลแหล่งกำเนิด		เสียงพื้นฐาน	ค่าระดับเสียง
			ผลต่าง	ตัวแปร	กลางวัน	กลางคืน		
11:00 AM - 12:00 PM	53.0	44.4	8.6	0.5	52.5	-	41.5	11.0
12:00 PM - 01:00 PM	51.9	43.5	8.4	0.5	51.4	-	40.9	10.5
01:00 PM - 02:00 PM	51.3	45.8	5.5	1.5	49.8	-	42.0	7.8
02:00 PM - 03:00 PM	51.4	45.9	5.5	0.5	50.9	-	40.8	10.1
03:00 PM - 04:00 PM	51.5	47.5	4.0	1.5	49.5	-	41.4	5.1
04:00 PM - 05:00 PM	53.0	54.9	-1.9	7.0	46.0	-	53.3	-7.3
05:00 PM - 06:00 PM	52.7	55.7	-3.0	7.0	45.7	-	54.4	-8.7
06:00 PM - 07:00 PM	52.9	55.9	-3.0	7.0	45.9	-	46.3	7.7
07:00 PM - 08:00 PM	52.5	48.1	4.4	2.0	50.5	-	45.5	5.0
08:00 PM - 09:00 PM	54.6	46.6	8.0	0.5	54.1	-	44.5	9.6
09:00 PM - 10:00 PM	54.9	44.4	10.5	0.5	54.4	-	42.6	11.8
10:00 PM - 10:05 PM	51.2	48.0	3.2	2.0	-	53.5	41.9	10.6
10:05 PM - 10:10 PM	51.6	46.2	5.4	1.5	-	53.1	40.9	12.2
10:10 PM - 10:15 PM	51.4	41.9	9.5	0.5	-	53.9	40.3	13.6
10:15 PM - 10:20 PM	51.5	48.8	2.7	3.0	-	51.5	45.5	6.0
10:20 PM - 10:25 PM	51.4	51.4	0.0	7.0	-	47.4	49.8	-2.4
10:25 PM - 10:30 PM	51.4	49.6	1.8	4.5	-	49.8	47.1	2.8
10:30 PM - 10:35 PM	50.5	49.0	1.5	4.5	-	49.0	47.3	1.7
10:35 PM - 10:40 PM	49.5	49.5	0.0	7.0	-	45.5	48.0	-2.5
10:40 PM - 10:45 PM	49.7	48.5	1.2	2.0	-	45.7	46.6	-0.9
10:45 PM - 10:50 PM	49.7	48.3	1.4	7.0	-	45.7	46.3	-0.6
10:50 PM - 10:55 PM	50.2	48.8	1.4	7.0	-	46.2	46.9	-0.7
10:55 PM - 11:00 PM	50.8	48.7	2.1	4.5	-	49.3	46.3	3.0
11:00 PM - 11:05 PM	50.7	49.0	1.7	4.5	-	49.2	47.0	2.2
11:05 PM - 11:10 PM	51.5	46.1	5.4	1.5	-	50.8	42.6	10.4
11:10 PM - 11:15 PM	51.4	44.0	7.4	1.0	-	53.4	42.8	10.6
11:15 PM - 11:20 PM	51.2	45.1	6.1	1.5	-	52.7	43.5	9.2
11:20 PM - 11:25 PM	50.8	47.0	3.8	2.0	-	51.8	44.1	7.7
11:25 PM - 11:30 PM	51.2	50.4	0.8	7.0	-	47.2	47.6	-0.4
11:30 PM - 11:35 PM	51.9	51.0	0.9	7.0	-	47.9	50.4	-2.5
11:35 PM - 11:40 PM	52.1	51.5	0.6	7.0	-	48.1	50.0	-1.9
11:40 PM - 11:45 PM	51.9	52.3	-0.4	7.0	-	47.9	50.8	-2.9
11:45 PM - 11:50 PM	52.0	51.0	1.0	7.0	-	48.4	50.4	-2.4
11:50 PM - 11:55 PM	51.8	50.1	1.7	4.5	-	50.3	48.6	1.7
11:55 PM - 12:00 AM	51.1	49.5	1.6	4.5	-	49.6	47.5	2.1
12:00 AM - 12:05 AM	51.0	51.1	-0.1	7.0	-	47.9	48.8	-1.8
12:05 AM - 12:10 AM	53.4	49.3	4.1	2.0	-	54.4	46.8	7.6
12:10 AM - 12:15 AM	53.7	48.6	5.1	1.5	-	55.2	44.8	10.4
12:15 AM - 12:20 AM	53.8	47.2	6.6	1.0	-	55.8	45.1	10.7
12:20 AM - 12:25 AM	53.8	51.3	2.5	3.0	-	53.8	47.6	6.2

The above results are valid only for the use and intended purpose(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

Kasikorn Anuk
Kasikorn Anuk
Senior Manager

ADDRESS 104 Phatthanaikan 40, Phatthanaikan Rd., Khwaeng Phatthanaikan, Khet Sam 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 : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. : 2260049-6
Parameter : เสียงรบกวน
Location : บริเวณพื้นที่ทำน้ำตาล (GPS 48Q 279384, 1889169)
Measurement Date : Jul 02 - 03, 2022
Measurement by : Sangtawan Natasat
Sound Level Meter : 01173613

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ระดับเสียง (dB(A))		พื้นที่ทำน้ำตาลแหล่งกำเนิด		เสียงพื้นฐาน	ค่าระดับเสียง
			ผลต่าง	ตัวแปร	กลางวัน	กลางคืน		
03:45 AM - 03:50 AM	48.7	45.1	3.6	2.0	-	48.7	40.8	8.9
03:50 AM - 03:55 AM	49.0	43.5	5.5	1.5	-	50.5	40.9	9.6
03:55 AM - 04:00 AM	48.5	44.1	4.4	2.0	-	49.5	41.1	8.4
04:00 AM - 04:05 AM	47.2	46.1	1.1	7.0	-	43.2	42.6	0.6
04:05 AM - 04:10 AM	47.3	45.6	1.7	4.5	-	45.8	42.1	3.7
04:10 AM - 04:15 AM	47.0	44.8	2.2	4.5	-	45.5	41.9	3.6
04:15 AM - 04:20 AM	48.4	44.2	4.2	2.0	-	49.4	41.4	8.0
04:20 AM - 04:25 AM	44.9	44.9	0.0	7.0	-	50.0	42.2	7.8
04:25 AM - 04:30 AM	47.9	42.6	5.3	2.0	-	49.9	43.2	6.7
04:30 AM - 04:35 AM	46.4	45.7	0.7	7.0	-	42.4	41.3	1.1
04:35 AM - 04:40 AM	46.3	45.1	1.2	7.0	-	42.3	42.1	0.2
04:40 AM - 04:45 AM	46.7	44.3	2.4	4.5	-	45.2	42.4	2.8
04:45 AM - 04:50 AM	47.0	44.0	3.0	3.0	-	47.0	41.9	5.1
04:50 AM - 04:55 AM	45.9	44.2	1.7	4.5	-	44.4	41.1	3.3
04:55 AM - 05:00 AM	45.7	43.4	2.3	4.5	-	44.2	41.4	2.8
05:00 AM - 05:05 AM	46.7	44.4	2.3	4.5	-	45.2	41.7	3.5
05:05 AM - 05:10 AM	48.2	44.4	3.8	2.0	-	49.2	41.1	8.1
05:10 AM - 05:15 AM	50.7	42.4	8.3	0.5	-	53.2	40.5	12.7
05:15 AM - 05:20 AM	51.3	48.8	2.5	3.0	-	51.3	41.0	10.3
05:20 AM - 05:25 AM	51.4	45.6	5.8	1.5	-	52.9	42.1	10.8
05:25 AM - 05:30 AM	48.7	43.5	5.2	1.5	-	50.2	41.1	9.1
05:30 AM - 05:35 AM	49.4	44.5	4.9	1.5	-	50.9	41.5	9.4
05:35 AM - 05:40 AM	48.8	43.3	5.5	1.5	-	50.3	41.3	9.0
05:40 AM - 05:45 AM	49.6	46.5	3.1	3.0	-	49.6	41.5	8.1
05:45 AM - 05:50 AM	50.9	50.4	0.5	7.0	-	49.4	42.1	7.3
05:50 AM - 05:55 AM	46.9	43.9	3.0	3.0	-	46.9	42.1	4.8
05:55 AM - 06:00 AM	47.5	43.1	4.4	2.0	-	48.5	41.2	7.3
06:00 AM - 07:00 AM	51.0	43.6	7.4	1.0	50.0	-	41.3	8.7
07:00 AM - 08:00 AM	50.9	50.4	0.5	7.0	43.9	-	49.0	-5.0
08:00 AM - 09:00 AM	51.4	52.0	-0.6	7.0	49.4	-	50.2	-8.8
09:00 AM - 10:00 AM	51.8	51.6	0.2	7.0	44.8	-	49.7	-4.9
10:00 AM - 11:00 AM	51.4	52.7	-1.3	7.0	44.4	-	51.1	-6.7

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



Analysis / Test Report

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. 2260049-7
Parameter เสียงรบกวน
Location บริเวณกลุ่มนิคมอุตสาหกรรม (GPS 48Q 279384, 1889169)
Measurement Date Jul 03 - 04, 2022
Measurement by Sangwan Natasat
Sound Level Meter 01173613



TESTING

No.0009

Lot ID: 2260049-7
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report Number: 2376394-1

Page 3 of 3



Analysis / Test Report

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. 2260065-1
Parameter เสียงรบกวน
Location บริเวณกลุ่มนิคมอุตสาหกรรม (GPS 48Q 279216, 1888633)
Measurement Date Jun 27 - 28, 2022
Measurement by Sangwan Natasat
Sound Level Meter 00472123



TESTING

No.0009

Lot ID: 2260065-1
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report Number: 2376429-1

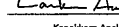
Page 1 of 3

เวลา	เสียงจากแหล่งกำเนิด	เสียงรบกวน	ผลต่าง	ตัวปรับค่า	ปรับค่าเสียงจากแหล่งกำเนิด		เสียงพื้นฐาน	ค่าระดับ
					ค่าจริง	ค่าปรับ		
03:45 AM - 03:50 AM	51.7	45.6	6.1	1.5	-	53.2	42.4	10.8
03:50 AM - 03:55 AM	50.2	46.6	3.6	2.0	-	51.2	43.4	7.8
03:55 AM - 04:00 AM	52.8	45.5	7.3	1.0	-	54.8	42.5	12.0
04:00 AM - 04:05 AM	52.5	46.7	5.8	1.5	-	54.0	43.9	10.1
04:05 AM - 04:10 AM	52.6	46.3	6.3	1.5	-	54.1	43.5	10.6
04:10 AM - 04:15 AM	52.3	45.6	6.7	1.0	-	54.3	43.1	11.2
04:15 AM - 04:20 AM	52.6	45.1	7.5	0.5	-	55.1	42.3	12.8
04:20 AM - 04:25 AM	49.1	45.3	3.8	2.0	-	50.1	42.6	7.5
04:25 AM - 04:30 AM	49.4	44.8	4.6	1.5	-	50.9	42.8	8.1
04:30 AM - 04:35 AM	51.9	46.0	5.9	1.5	-	52.9	42.4	10.5
04:35 AM - 04:40 AM	48.2	46.1	2.1	4.5	-	46.7	42.7	4.0
04:40 AM - 04:45 AM	48.7	44.9	3.8	2.0	-	49.7	42.6	7.1
04:45 AM - 04:50 AM	48.9	44.6	4.3	2.0	-	49.9	42.4	7.5
04:50 AM - 04:55 AM	50.9	44.0	6.9	1.0	-	51.9	42.1	9.8
04:55 AM - 05:00 AM	51.9	45.1	6.8	1.0	-	53.9	42.1	11.8
05:00 AM - 05:05 AM	53.6	43.3	10.3	0.5	-	56.1	41.6	14.5
05:05 AM - 05:10 AM	49.7	43.5	6.2	1.5	-	51.2	41.7	9.5
05:10 AM - 05:15 AM	50.7	43.4	7.3	1.0	-	52.7	41.5	11.2
05:15 AM - 05:20 AM	51.4	43.6	7.8	0.5	-	53.9	41.4	12.5
05:20 AM - 05:25 AM	52.7	45.0	7.7	0.5	-	55.2	42.3	12.9
05:25 AM - 05:30 AM	54.3	44.2	10.1	0.5	-	56.8	42.6	14.2
05:30 AM - 05:35 AM	53.4	43.8	9.6	0.5	-	55.9	41.7	14.2
05:35 AM - 05:40 AM	54.2	45.7	8.5	0.5	-	56.7	42.2	14.5
05:40 AM - 05:45 AM	51.9	44.8	7.1	1.0	-	53.9	42.0	11.9
05:45 AM - 05:50 AM	51.3	45.4	5.9	1.5	-	52.8	41.5	11.3
05:50 AM - 05:55 AM	52.2	43.7	8.5	0.5	-	54.7	42.0	12.7
05:55 AM - 06:00 AM	53.3	43.9	9.4	0.5	-	55.8	42.0	13.8
06:00 AM - 07:00 AM	54.9	44.1	10.8	0.5	54.4	-	41.9	12.5
07:00 AM - 08:00 AM	54.4	43.5	10.9	0.5	53.9	-	41.5	12.4
08:00 AM - 09:00 AM	53.7	44.2	9.5	0.5	52.2	-	41.5	12.0
09:00 AM - 10:00 AM	54.3	43.6	10.7	0.5	53.8	-	41.1	12.7
10:00 AM - 11:00 AM	53.4	42.8	10.6	0.5	52.9	-	40.9	12.0
ค่ามาตรฐาน								≤ 10

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

- หมายเหตุ
1. ประกาศกระทรวงอุตสาหกรรม เรื่อง กำหนดค่าระดับเสียงการรบกวนและระดับเสียงที่คาดการณ์การประกอบกิจการโรงงาน พ.ศ. 2548
 2. ประกาศกระทรวงสาธารณสุข เรื่อง กำหนดค่าระดับเสียงรบกวน พ.ศ. 2550
 3. ประกาศกระทรวงสาธารณสุข เรื่อง กำหนดค่าระดับเสียงรบกวน พ.ศ. 2550 และประกาศกระทรวงสาธารณสุข เรื่อง กำหนดค่าระดับเสียงรบกวน พ.ศ. 2553
 4. ประกาศกระทรวงสาธารณสุข เรื่อง กำหนดค่าระดับเสียงรบกวน พ.ศ. 2550 และประกาศกระทรวงสาธารณสุข เรื่อง กำหนดค่าระดับเสียงรบกวน พ.ศ. 2553
- ระดับเสียงจากแหล่งกำเนิด พิกัดการวัด วันที่ 03-04 กรกฎาคม 2565
ระดับเสียงพื้นฐานและระดับเสียงรบกวน (Sample No.2260050-7) วันที่ตรวจวัด 03-04 กรกฎาคม 2565

The above results are valid only for the use and restricted 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 
Kanokorn Anek
Senior Manager

ADDRESS 104 Phatthakanan Rd., Phatthakanan Rd., Khwaeng Phatthakanan, 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 : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. 2260065-1
Parameter เสียงรบกวน
Location บริเวณกลุ่มนิคมอุตสาหกรรม (GPS 48Q 279216, 1888633)
Measurement Date Jun 27 - 28, 2022
Measurement by Sangwan Natasat
Sound Level Meter 00472123



TESTING

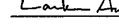
No.0009

Lot ID: 2260065-1
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report Number: 2376429-1

Page 2 of 3

เวลา	เสียงจากแหล่งกำเนิด	เสียงรบกวน	ผลต่าง	ตัวปรับค่า	ปรับค่าเสียงจากแหล่งกำเนิด		เสียงพื้นฐาน	ค่าระดับ
					ค่าจริง	ค่าปรับ		
12:35 AM - 12:40 AM	50.0	44.2	5.8	1.5	-	51.5	42.6	8.9
12:40 AM - 12:45 AM	49.5	45.6	3.9	2.0	-	50.5	43.5	7.0
12:45 AM - 12:50 AM	50.2	46.3	3.9	2.0	-	51.2	43.2	8.0
12:50 AM - 12:55 AM	50.0	44.4	5.6	1.5	-	51.5	42.5	9.0
12:55 AM - 1:00 AM	49.7	45.2	4.5	1.5	-	51.2	42.3	8.9
1:00 AM - 1:05 AM	50.2	46.4	3.8	2.0	-	51.2	43.6	7.6
1:05 AM - 1:10 AM	49.6	46.5	3.1	3.0	-	49.6	44.4	5.2
1:10 AM - 1:15 AM	52.0	46.2	5.8	1.5	-	53.5	44.5	9.0
1:15 AM - 1:20 AM	52.8	46.0	6.8	1.0	-	54.8	43.9	10.9
1:20 AM - 1:25 AM	51.8	48.4	3.4	3.0	-	51.8	43.0	8.8
1:25 AM - 1:30 AM	51.1	46.1	5.0	1.5	-	52.6	43.6	9.0
1:30 AM - 1:35 AM	51.2	46.0	5.2	1.5	-	52.7	44.4	8.3
1:35 AM - 1:40 AM	51.5	46.3	5.2	1.5	-	53.0	45.3	8.2
1:40 AM - 1:45 AM	51.1	50.7	0.4	7.0	-	47.1	44.8	2.3
1:45 AM - 1:50 AM	51.0	47.2	3.8	2.0	-	52.0	45.6	6.4
1:50 AM - 1:55 AM	51.2	47.5	3.7	2.0	-	52.2	45.6	6.6
1:55 AM - 2:00 AM	51.5	46.3	5.2	1.5	-	53.0	45.0	8.0
2:00 AM - 2:05 AM	51.6	45.8	5.8	1.5	-	53.1	44.4	8.7
2:05 AM - 2:10 AM	51.2	45.3	5.9	1.5	-	52.7	43.7	9.0
2:10 AM - 2:15 AM	51.4	46.8	4.6	1.5	-	52.9	44.2	8.7
2:15 AM - 2:20 AM	50.9	46.4	4.5	1.0	-	52.9	42.6	10.3
2:20 AM - 2:25 AM	51.1	47.0	4.1	2.0	-	52.1	42.4	9.7
2:25 AM - 2:30 AM	51.0	46.9	4.1	2.0	-	52.0	44.4	7.6
2:30 AM - 2:35 AM	51.0	46.9	4.1	2.0	-	52.0	44.4	7.6
2:35 AM - 2:40 AM	50.9	46.5	4.4	2.0	-	51.9	44.2	7.7
2:40 AM - 2:45 AM	50.4	48.3	2.1	4.5	-	48.9	44.7	4.2
2:45 AM - 2:50 AM	50.5	46.5	4.0	2.0	-	51.5	44.2	7.3
2:50 AM - 2:55 AM	50.4	46.8	3.6	2.0	-	51.4	44.2	7.2
2:55 AM - 3:00 AM	50.6	48.2	2.4	4.5	-	49.1	45.2	3.9
3:00 AM - 3:05 AM	50.3	47.8	2.5	3.0	-	50.3	45.6	4.7
3:05 AM - 3:10 AM	50.6	47.0	3.6	2.0	-	50.6	44.6	6.0
3:10 AM - 3:15 AM	50.3	48.6	1.7	4.5	-	51.4	48.6	2.8
3:15 AM - 3:20 AM	49.9	48.4	1.5	4.5	-	48.4	45.7	2.7
3:20 AM - 3:25 AM	50.3	46.7	3.6	2.0	-	51.3	44.2	7.1
3:25 AM - 3:30 AM	50.2	46.5	3.7	2.0	-	51.2	43.8	7.4
3:30 AM - 3:35 AM	50.1	45.2	4.9	1.5	-	51.6	43.0	8.6
3:35 AM - 3:40 AM	50.3	46.3	4.0	2.0	-	51.3	44.4	6.9
3:40 AM - 3:45 AM	50.4	46.9	3.5	2.0	-	51.4	43.9	7.5
3:45 AM - 3:50 AM	50.4	47.4	3.0	3.0	-	50.4	44.9	5.5
3:50 AM - 3:55 AM	50.7	47.7	3.0	3.0	-	50.7	45.2	5.5

The above results are valid only for the use and restricted 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 
Kanokorn Anek
Senior Manager

ADDRESS 104 Phatthakanan Rd., Phatthakanan Rd., Khwaeng Phatthakanan, 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 : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. 2260065-1
Parameter เสียงรบกวน
Location บริเวณกลุ่มนิคมอุตสาหกรรม (GPS 48Q 279216, 1888633)
Measurement Date Jun 27 - 28, 2022
Measurement by Sangwan Natasat
Sound Level Meter 00472123



TESTING

No.0009

Lot ID: 2260065-1
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report Number: 2376429-1

Page 3 of 3

ตารางเสียง (dB(A))									
เวลา	เสียงจากแหล่งกำเนิด	เสียงรบกวน	ผลต่าง	ตัวปรับค่า	ปรับค่าเสียงจากแหล่งกำเนิด		เสียงพื้นฐาน	ค่ารวม	
					ค่าจริง	ค่าปรับ			
03:45 AM - 03:50 AM	50.2	46.2	4.0	4.5	-	48.8	45.5	3.3	
03:50 AM - 03:55 AM	50.0	47.0	3.0	3.0	-	50.0	44.6	5.4	
03:55 AM - 04:00 AM	49.8	46.9	2.9	3.0	-	49.8	43.9	5.9	
04:00 AM - 04:05 AM	49.8	46.9	2.9	3.0	-	49.8	44.3	5.5	
04:05 AM - 04:10 AM	50.3	46.6	3.7	2.0	-	51.3	44.2	7.1	
04:10 AM - 04:15 AM	50.0	47.6	2.4	4.5	-	48.5	44.8	3.7	
04:15 AM - 04:20 AM	50.3	46.0	4.3	2.0	-	51.3	44.0	7.3	
04:20 AM - 04:25 AM	50.2	47.1	3.1	3.0	-	50.2	44.0	6.2	
04:25 AM - 04:30 AM	50.0	50.0	0.0	7.0	-	46.0	46.0	0.0	
04:30 AM - 04:35 AM	50.0	51.2	-1.2	7.0	-	46.0	45.5	0.5	
04:35 AM - 04:40 AM	50.3	49.1	1.2	7.0	-	46.3	44.5	1.8	
04:40 AM - 04:45 AM	50.4	48.0	2.4	4.5	-	48.9	44.6	4.3	
04:45 AM - 04:50 AM	50.8	46.6	4.2	2.0	-	51.8	43.3	8.5	
04:50 AM - 04:55 AM	50.7	46.3	4.4	2.0	-	51.7	43.3	8.4	
04:55 AM - 05:00 AM	50.9	45.3	5.6	1.5	-	52.4	42.5	9.9	
05:00 AM - 05:05 AM	49.3	45.1	4.2	2.0	-	50.3	43.0	7.3	
05:05 AM - 05:10 AM	50.1	45.6	4.5	1.5	-	51.6	43.8	7.8	
05:10 AM - 05:15 AM	49.7	44.7	5.0	1.5	-	51.2	43.0	8.2	
05:15 AM - 05:20 AM	50.1	46.2	3.9	2.0	-	51.1	44.2	6.9	
05:20 AM - 05:25 AM	52.3	47.0	5.3	1.5	-	53.8	44.2	9.6	
05:25 AM - 05:30 AM	51.8	49.0	2.8	3.0	-	51.8	44.9	6.9	
05:30 AM - 05:35 AM	54.3	47.7	6.6	1.0	-	56.3	44.4	11.9	
05:35 AM - 05:40 AM	54.0	46.7	7.3	1.0	-	56.0	44.0	12.0	
05:40 AM - 05:45 AM	52.4	47.3	5.1	1.5	-	53.9	44.5	9.4	
05:45 AM - 05:50 AM	52.2	47.0	5.2	1.5	-	53.7	44.6	9.1	
05:50 AM - 05:55 AM	51.9	47.7	4.2	1.5	-	52.9	45.3	7.6	
05:55 AM - 06:00 AM	49.6	47.4	2.2	4.5	-	48.1	44.1	4.0	
06:00 AM - 07:00 AM	51.3	48.6	2.7	3.0	48.3	-	46.1	2.2	
07:00 AM - 08:00 AM	52.6	50.1	2.5	3.0	49.6	-	48.7	0.9	
08:00 AM - 09:00 AM	52.5	50.9	1.6	4.5	-	-	49.8	-1.8	
09:00 AM - 10:00 AM	52.7	49.2	3.5	3.0	50.7	-	47.8	2.9	
10:00 AM - 11:00 AM	55.0	52.5	2.5	3.0	52.0	-	50.3	1.7	



Analysis / Test Report



TESTING

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260055-3
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report Number : 2376431-1

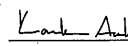
P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260055-3
Parameter เลื่อนขาม
Location บ้านกุ่มเป็ดบ้านกุ่ม (GPS 48Q 279216, 1888633)
Measurement Date Jun 29 - 30, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472123

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ผลต่าง	ตัวปรับค่า	ปรับค่าเสียงจากแหล่งกำเนิด		เสียงพื้นฐาน	ค่าระดับการรบกวน
					กลางคืน	กลางวัน		
12:25 AM - 12:30 AM	51.5	44.9	6.6	1.0	-	53.5	43.7	9.8
12:30 AM - 12:35 AM	51.5	45.1	6.4	1.5	-	53.0	43.6	9.2
12:35 AM - 12:40 AM	51.5	46.4	5.1	1.5	-	53.0	45.1	7.9
12:40 AM - 12:45 AM	51.4	45.6	5.8	1.5	-	52.9	44.9	8.0
12:45 AM - 12:50 AM	51.7	45.5	6.2	1.5	-	53.2	44.3	8.9
12:50 AM - 12:55 AM	51.5	46.1	5.4	1.5	-	53.0	43.6	9.4
12:55 AM - 01:00 AM	51.1	45.1	6.0	1.5	-	52.6	44.4	8.2
01:00 AM - 01:05 AM	51.2	46.0	5.2	1.5	-	52.7	44.8	7.9
01:05 AM - 01:10 AM	50.9	48.1	2.8	3.0	-	50.9	47.0	3.9
01:10 AM - 01:15 AM	50.9	48.8	2.1	4.5	-	49.4	47.7	1.7
01:15 AM - 01:20 AM	50.9	48.9	2.0	4.5	-	49.4	47.7	1.7
01:20 AM - 01:25 AM	50.7	49.3	1.4	7.0	-	46.7	47.0	-0.3
01:25 AM - 01:30 AM	50.9	50.8	0.1	7.0	-	46.9	49.7	-2.8
01:30 AM - 01:35 AM	50.5	50.3	0.2	7.0	-	46.5	48.2	-1.7
01:35 AM - 01:40 AM	50.5	45.7	4.8	1.5	-	52.0	44.7	7.3
01:40 AM - 01:45 AM	49.3	46.8	2.5	3.0	-	49.3	45.8	3.7
01:45 AM - 01:50 AM	49.0	47.4	1.6	4.5	-	47.5	46.1	1.4
01:50 AM - 01:55 AM	49.4	48.1	1.3	7.0	-	45.4	46.4	-1.0
01:55 AM - 02:00 AM	49.7	48.5	1.2	7.0	-	45.7	46.4	-0.7
02:00 AM - 02:05 AM	49.9	47.4	2.5	3.0	-	49.9	46.6	3.3
02:05 AM - 02:10 AM	50.0	46.2	3.8	2.0	-	50.0	45.4	5.6
02:10 AM - 02:15 AM	51.3	46.7	4.6	1.5	-	52.8	45.5	7.3
02:15 AM - 02:20 AM	49.6	46.1	3.5	2.0	-	50.6	44.8	5.8
02:20 AM - 02:25 AM	49.5	47.3	2.2	4.5	-	48.0	45.9	2.1
02:25 AM - 02:30 AM	49.5	47.3	2.2	4.5	-	48.0	45.9	2.1
02:30 AM - 02:35 AM	49.7	47.2	2.5	3.0	-	49.7	46.3	3.4
02:35 AM - 02:40 AM	50.2	48.1	2.1	4.5	-	48.7	47.0	1.7
02:40 AM - 02:45 AM	49.9	48.3	1.6	4.5	-	48.4	47.3	1.1
02:45 AM - 02:50 AM	50.7	48.4	2.3	4.5	-	49.2	47.5	1.7
02:50 AM - 02:55 AM	50.0	48.7	1.3	7.0	-	48.0	47.9	-0.1
02:55 AM - 03:00 AM	50.2	48.5	1.7	4.5	-	48.7	47.4	1.3
03:00 AM - 03:05 AM	50.2	47.7	2.5	3.0	-	50.2	45.9	4.3
03:05 AM - 03:10 AM	50.1	50.0	0.1	7.0	-	46.1	48.0	-1.9
03:10 AM - 03:15 AM	49.4	49.4	0.0	7.0	-	45.4	48.2	-2.8
03:15 AM - 03:20 AM	49.3	49.7	-0.4	7.0	-	45.3	48.3	-3.0
03:20 AM - 03:25 AM	50.0	50.0	0.0	7.0	-	46.0	48.2	-2.2
03:25 AM - 03:30 AM	50.4	51.4	-1.0	7.0	-	46.1	50.0	-3.9
03:30 AM - 03:35 AM	50.1	50.4	-0.3	7.0	-	46.1	49.3	-3.2
03:35 AM - 03:40 AM	50.1	49.8	0.3	7.0	-	46.1	48.5	-2.4
03:40 AM - 03:45 AM	50.2	49.8	0.4	7.0	-	46.2	48.7	-2.5

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 
Kanokorn Anek
Senior Manager

ADDRESS 104 Phathanakan Rd., Phathanakan Rd., Khwaeng Phathanakan, Khet Sam 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

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260055-3
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report Number : 2376432-1

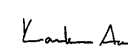
P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260055-4
Parameter เลื่อนขาม
Location บ้านกุ่มเป็ดบ้านกุ่ม (GPS 48Q 279216, 1888633)
Measurement Date Jun 30 - Jul 01, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472123

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ผลต่าง	ตัวปรับค่า	ปรับค่าเสียงจากแหล่งกำเนิด		เสียงพื้นฐาน	ค่าระดับการรบกวน
					กลางคืน	กลางวัน		
11:00 AM - 12:00 PM	56.6	46.4	10.2	0.5	-	56.1	44.4	11.7
12:00 PM - 01:00 PM	57.0	47.8	9.2	0.5	-	56.5	44.7	11.8
01:00 PM - 02:00 PM	56.6	47.6	9.0	0.5	-	56.1	44.4	11.7
02:00 PM - 03:00 PM	53.8	50.9	2.9	3.0	-	50.9	46.0	4.8
03:00 PM - 04:00 PM	54.3	54.7	-0.4	7.0	-	47.3	51.2	-3.9
04:00 PM - 05:00 PM	57.7	52.7	5.0	1.5	-	56.2	49.1	7.1
05:00 PM - 06:00 PM	55.0	48.0	7.0	1.0	-	54.0	45.7	8.3
06:00 PM - 07:00 PM	51.7	50.2	1.5	4.5	-	47.2	46.2	1.0
07:00 PM - 08:00 PM	53.4	53.2	0.2	7.0	-	45.8	50.8	-4.4
08:00 PM - 09:00 PM	53.0	54.7	-0.7	7.0	-	47.0	49.2	-2.2
09:00 PM - 10:00 PM	52.8	56.0	-3.2	7.0	-	45.8	54.4	-8.6
10:00 PM - 10:05 PM	52.2	56.9	-4.7	7.0	-	46.2	55.6	-7.4
10:05 PM - 10:10 PM	52.9	56.7	-3.8	7.0	-	46.9	55.6	-8.7
10:10 PM - 10:15 PM	60.1	56.0	4.1	2.0	-	61.1	54.3	6.8
10:15 PM - 10:20 PM	59.8	54.4	5.4	1.5	-	61.3	52.9	8.4
10:20 PM - 10:25 PM	53.2	53.5	-0.3	7.0	-	49.2	52.0	-2.8
10:25 PM - 10:30 PM	52.8	53.1	-0.3	7.0	-	48.8	51.3	-2.5
10:30 PM - 10:35 PM	53.3	52.5	0.8	7.0	-	49.3	50.6	-1.3
10:35 PM - 10:40 PM	53.0	48.4	4.6	1.5	-	54.5	46.1	8.4
10:40 PM - 10:45 PM	52.8	46.4	6.4	1.5	-	54.3	45.8	8.7
10:45 PM - 10:50 PM	52.6	46.0	6.6	1.0	-	54.6	46.9	9.7
10:50 PM - 10:55 PM	52.3	46.9	5.4	1.5	-	53.8	44.8	9.0
10:55 PM - 11:00 PM	52.4	46.1	6.3	1.5	-	53.9	44.9	9.0
11:00 PM - 11:05 PM	52.7	46.2	6.5	1.0	-	54.7	44.4	10.3
11:05 PM - 11:10 PM	52.4	46.5	5.9	1.5	-	53.9	44.7	9.2
11:10 PM - 11:15 PM	52.2	46.0	6.2	1.5	-	53.7	44.7	9.0
11:15 PM - 11:20 PM	51.7	45.7	6.0	1.5	-	53.2	44.7	8.5
11:20 PM - 11:25 PM	52.0	45.7	6.3	1.5	-	53.5	45.0	8.5
11:25 PM - 11:30 PM	52.2	46.0	6.2	1.0	-	53.7	44.8	8.9
11:30 PM - 11:35 PM	52.3	46.0	6.3	1.5	-	53.8	44.4	9.4
11:35 PM - 11:40 PM	52.0	48.7	3.3	3.0	-	52.0	46.6	5.4
11:40 PM - 11:45 PM	51.6	50.3	1.3	7.0	-	47.6	46.1	1.5
11:45 PM - 11:50 PM	50.4	50.4	-0.3	7.0	-	46.4	49.4	-3.0
11:50 PM - 11:55 PM	51.0	49.5	1.5	4.5	-	49.5	48.0	1.5
11:55 PM - 12:00 AM	50.5	49.8	0.7	7.0	-	46.5	48.6	-2.1
12:00 AM - 12:05 AM	50.2	48.9	1.3	7.0	-	46.2	46.1	0.1
12:05 AM - 12:10 AM	50.2	49.2	1.0	7.0	-	46.2	46.0	0.2
12:10 AM - 12:15 AM	51.0	50.0	1.0	7.0	-	47.0	47.1	-0.1
12:15 AM - 12:20 AM	50.5	50.6	-0.1	7.0	-	46.5	49.1	-2.6
12:20 AM - 12:25 AM	50.0	48.6	1.4	7.0	-	46.0	44.6	1.4

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.

Approved by 
Kanokorn Anek
Senior Manager

ADDRESS 104 Phathanakan Rd., Phathanakan Rd., Khwaeng Phathanakan, Khet Sam 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

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260055-3
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report Number : 2376432-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 3 of 3

Sample No. 2260055-3
Parameter เลื่อนขาม
Location บ้านกุ่มเป็ดบ้านกุ่ม (GPS 48Q 279216, 1888633)
Measurement Date Jun 29 - 30, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472123

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ระดับเสียง (dB(A))		ปรับค่าเสียงจากแหล่งกำเนิด	เสียงพื้นฐาน	ค่าระดับการรบกวน	
			ผลต่าง	ตัวปรับค่า				
03:45 AM - 03:50 AM	50.9	48.0	2.9	3.0	-	50.9	45.8	5.1
03:50 AM - 03:55 AM	50.8	49.4	1.4	7.0	-	46.8	46.9	-0.1
03:55 AM - 04:00 AM	50.2	49.9	0.3	7.0	-	46.2	47.3	-1.1
04:00 AM - 04:05 AM	50.0	52.4	-2.4	7.0	-	46.0	50.0	-4.0
04:05 AM - 04:10 AM	49.5	54.4	-4.9	7.0	-	45.5	55.5	-2.0
04:10 AM - 04:15 AM	49.7	53.9	-4.2	7.0	-	45.7	52.4	-6.7
04:15 AM - 04:20 AM	49.8	53.0	-3.2	7.0	-	45.8	51.8	-6.0
04:20 AM - 04:25 AM	50.6	49.8	0.8	7.0	-	46.6	46.7	-0.1
04:25 AM - 04:30 AM	50.6	48.9	1.7	4.5	-	49.1	46.8	2.3
04:30 AM - 04:35 AM	50.6	53.1	-2.5	7.0	-	46.6	51.7	-5.1
04:35 AM - 04:40 AM	50.1	52.9	-2.8	7.0	-	46.1	51.1	-5.0
04:40 AM - 04:45 AM	50.4	50.8	-0.4	7.0	-	46.4	49.0	-2.6
04:45 AM - 04:50 AM	50.1	52.9	-2.8	7.0	-	46.1	51.2	-5.1
04:50 AM - 04:55 AM	50.3	53.2	-2.9	7.0	-	46.3	51.9	-5.6
04:55 AM - 05:00 AM	50.5	53.7	-3.2	7.0	-	46.5	50.3	-3.8
05:00 AM - 05:05 AM	51.1	48.9	2.2	4.5	-	49.6	46.3	3.3
05:05 AM - 05:10 AM	52.2	48.8	10.4	0.5	-	61.7	47.0	14.7
05:10 AM - 05:15 AM	50.6	47.9	2.7	3.0	-	50.6	45.9	4.7
05:15 AM - 05:20 AM	51.0	47.0	4.0	2.0	-	52.0	44.9	7.1
05:20 AM - 05:25 AM	50.0	46.5	3.5	2.0	-	51.0	44.5	6.5
05:25 AM - 05:30 AM	50.7	46.0	4.7	1.5	-	52.2	44.2	8.0
05:30 AM - 05:35 AM	50.4	46.6	3.8	2.0	-	51.4	44.7	6.7
05:35 AM - 05:40 AM	50.5	49.5	1.0	7.0	-	46.5	46.7	-0.2
05:40 AM - 05:45 AM	51.3	48.4	2.9	3.0	-	51.3	46.4	4.9
05:45 AM - 05:50 AM	50.4	46.5	3.9	2.0	-	51.4	44.5	6.9
05:50 AM - 05:55 AM	49.7	47.0	2.7	3.0	-	49.7	44.3	5.4
05:55 AM - 06:00 AM	50.0	47.3	2.7	3.0	-	50.0	45.3	4.7
06:00 AM - 07:00 AM	50.6	48.6	2.0	4.5	61.0	-	45.5	0.6
07:00 AM - 08:00 AM	52.5	49.9	2.6	1.5	46.1	-	44.2	5.8
08:00 AM - 09:00 AM	51.6	45.0	6.6	1.0	30.6	-	42.6	8.0
09:00 AM - 10:00 AM	57.8	44.1	13.7	0.0	57.8	-	42.1	15.7
10:00 AM - 11:00 AM	58.1	44.9	13.2	0.0	58.1	-	42.3	15.8



Analysis / Test Report



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260065
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report Number : 2376433-1

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. : 2260065-4
Parameter : เสียงรบกวน
Location : บริเวณพื้นที่ขุดลอก (GPS 48Q 279216, 1888633)
Measurement Date : Jun 30 - Jul 01, 2022
Measurement by : Sangtawan Natasat
Sound Level Meter : 00472123

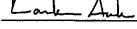
Page 3 of 3

ระดับเสียง (dB(A))									
เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ผลต่าง	ตัวปรับค่า	ปรับค่าเสียงจากแหล่งกำเนิด		เสียงที่ฐาน	ค่าระดับ	การรบกวน
					กลางวัน	กลางคืน			
03:45 AM - 03:50 AM	50.3	48.4	1.9	4.5	-	-	45.6	3.2	-
03:50 AM - 03:55 AM	49.9	48.4	1.5	4.5	-	-	48.4	4.0	3.4
03:55 AM - 04:00 AM	50.5	47.5	3.0	3.0	-	-	50.5	4.4	5.1
04:00 AM - 04:05 AM	49.7	48.3	1.4	7.0	-	-	45.7	44.5	1.2
04:05 AM - 04:10 AM	50.4	46.7	3.7	2.0	-	-	51.4	44.7	7.0
04:10 AM - 04:15 AM	50.2	47.6	2.6	3.0	-	-	50.2	45.3	4.9
04:15 AM - 04:20 AM	50.6	46.7	3.9	2.0	-	-	51.6	44.2	7.4
04:20 AM - 04:25 AM	50.2	47.6	2.6	3.0	-	-	50.2	45.0	5.2
04:25 AM - 04:30 AM	50.3	48.9	1.4	7.0	-	-	46.3	45.3	1.0
04:30 AM - 04:35 AM	50.4	47.7	2.7	3.0	-	-	50.4	44.5	5.9
04:35 AM - 04:40 AM	50.7	49.2	1.5	4.5	-	-	49.2	46.6	2.6
04:40 AM - 04:45 AM	50.5	51.3	-0.8	7.0	-	-	46.5	49.2	-2.7
04:45 AM - 04:50 AM	49.3	50.7	-1.4	7.0	-	-	45.3	46.7	-1.4
04:50 AM - 04:55 AM	49.7	49.1	0.6	7.0	-	-	45.7	44.6	1.1
04:55 AM - 05:00 AM	50.2	49.2	1.0	7.0	-	-	46.2	47.3	-1.1
05:00 AM - 05:05 AM	51.9	48.3	3.6	2.0	-	-	52.9	44.7	8.2
05:05 AM - 05:10 AM	51.7	47.6	3.6	2.0	-	-	52.2	45.1	7.1
05:10 AM - 05:15 AM	49.3	47.0	2.3	4.5	-	-	47.8	44.9	2.9
05:15 AM - 05:20 AM	51.2	46.9	4.3	2.0	-	-	52.2	44.8	7.4
05:20 AM - 05:25 AM	53.3	46.8	6.5	1.0	-	-	53.3	44.5	10.8
05:25 AM - 05:30 AM	51.3	47.1	4.2	2.0	-	-	52.3	45.1	7.2
05:30 AM - 05:35 AM	50.6	47.8	2.8	3.0	-	-	50.6	45.2	5.4
05:35 AM - 05:40 AM	50.5	48.6	1.9	4.5	-	-	49.0	43.7	5.3
05:40 AM - 05:45 AM	52.2	46.5	5.7	1.5	-	-	53.7	44.6	9.1
05:45 AM - 05:50 AM	49.7	46.8	2.9	3.0	-	-	49.7	44.4	5.3
05:50 AM - 05:55 AM	51.0	46.6	4.4	2.0	-	-	52.0	44.1	7.9
05:55 AM - 06:00 AM	48.9	46.3	2.6	3.0	-	-	48.9	44.2	4.7
06:00 AM - 07:00 AM	52.7	50.2	2.5	3.0	49.7	-	46.8	2.9	-
07:00 AM - 08:00 AM	52.3	50.2	2.1	4.5	47.8	-	47.8	0.7	-
08:00 AM - 09:00 AM	54.3	51.4	2.9	3.0	51.3	-	48.6	2.7	-
09:00 AM - 10:00 AM	54.4	51.1	3.3	3.0	51.4	-	48.6	2.8	-
10:00 AM - 11:00 AM	58.6	51.9	6.7	1.0	57.6	-	48.3	9.3	-
ค่ามาตรฐาน									
≤ 10									

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

- หมายเหตุ
1. ประกาศกระทรวงสาธารณสุข เรื่อง กำหนดค่าระดับเสียงการรบกวนและระดับเสียงที่คาดการณ์การรบกวนจากโรงงาน พ.ศ. 2548
 2. ประกาศกระทรวงสาธารณสุข เรื่อง กำหนดค่าระดับเสียงที่ฐาน ระดับเสียงขณะไม่มีการรบกวน การตรวจวัดระดับเสียงการรบกวนจากโรงงาน พ.ศ. 2550
 3. ประกาศกระทรวงสาธารณสุข เรื่อง วิธีการตรวจวัดระดับเสียงที่ฐาน ระดับเสียงขณะไม่มีการรบกวน การตรวจวัดระดับเสียงการรบกวนจากโรงงาน พ.ศ. 2550 และประกาศกระทรวงสาธารณสุข เรื่อง วิธีการตรวจวัดระดับเสียงการรบกวนจากโรงงาน พ.ศ. 2553
 4. ประกาศกระทรวงสาธารณสุข เรื่อง กำหนดค่าระดับเสียงการรบกวนและระดับเสียงที่คาดการณ์การรบกวนจากโรงงาน พ.ศ. 2561
- ระดับเสียงจากแหล่งกำเนิด ค่าการตรวจวัด วันที่ 30 มิถุนายน-01 กรกฎาคม 2565
ระดับเสียงที่ฐานและระดับเสียงขณะไม่มีการรบกวน (Sample No.2260100-4) วันที่ตรวจวัด 30 มิถุนายน-01 กรกฎาคม 2565)

The above results are valid only for the analyzed/checked 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 
Kanokorn Anek
Senior Manager

ADDRESS 104 Phatthakanan Rd., Phatthakanan Rd., Khwaeng Phatthakanan, 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 : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260065
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report Number : 2376433-1

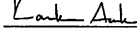
P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. : 2260065-5
Parameter : เสียงรบกวน
Location : บริเวณพื้นที่ขุดลอก (GPS 48Q 279216, 1888633)
Measurement Date : Jul 01 - 02, 2022
Measurement by : Sangtawan Natasat
Sound Level Meter : 00472123

Page 2 of 3

ระดับเสียง (dB(A))									
เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ผลต่าง	ตัวปรับค่า	ปรับค่าเสียงจากแหล่งกำเนิด		เสียงที่ฐาน	ค่าระดับ	การรบกวน
					กลางวัน	กลางคืน			
12:25 AM - 12:30 AM	54.2	46.3	7.9	0.5	-	-	56.7	44.4	12.3
12:30 AM - 12:35 AM	55.0	44.1	10.9	0.5	-	-	57.5	43.4	14.1
12:35 AM - 12:40 AM	53.6	44.0	9.6	0.5	-	-	56.1	43.3	12.8
12:40 AM - 12:45 AM	52.5	43.9	8.6	0.5	-	-	55.0	43.2	11.8
12:45 AM - 12:50 AM	51.3	43.9	7.4	1.0	-	-	53.3	42.7	10.6
12:50 AM - 12:55 AM	50.0	43.8	6.1	1.5	-	-	51.5	43.0	8.5
12:55 AM - 01:00 AM	51.0	44.5	6.5	1.0	-	-	53.0	43.7	9.3
01:00 AM - 01:05 AM	52.6	46.1	6.5	1.0	-	-	56.6	44.5	10.1
01:05 AM - 01:10 AM	53.8	47.9	5.9	1.5	-	-	55.3	46.9	8.4
01:10 AM - 01:15 AM	53.0	46.1	6.9	1.0	-	-	55.0	45.0	10.0
01:15 AM - 01:20 AM	52.9	48.7	4.2	2.0	-	-	53.9	47.0	6.9
01:20 AM - 01:25 AM	53.0	48.4	4.6	1.5	-	-	54.5	47.0	7.5
01:25 AM - 01:30 AM	52.2	46.7	5.5	1.5	-	-	53.7	46.0	7.7
01:30 AM - 01:35 AM	51.9	45.7	6.2	1.5	-	-	53.4	44.9	8.5
01:35 AM - 01:40 AM	52.1	44.8	7.3	1.0	-	-	54.1	44.0	10.1
01:40 AM - 01:45 AM	51.7	44.2	7.5	0.5	-	-	54.2	43.1	11.1
01:45 AM - 01:50 AM	51.5	44.5	7.0	1.0	-	-	53.5	43.8	9.7
01:50 AM - 01:55 AM	54.9	44.4	10.5	0.5	-	-	57.4	43.2	14.2
01:55 AM - 02:00 AM	52.3	44.2	8.1	0.5	-	-	54.8	43.6	11.2
02:00 AM - 02:05 AM	51.4	45.0	6.4	1.5	-	-	52.9	43.9	9.0
02:05 AM - 02:10 AM	50.6	46.7	4.9	1.5	-	-	52.1	43.2	8.9
02:10 AM - 02:15 AM	50.5	44.3	6.2	1.5	-	-	52.0	43.2	8.8
02:15 AM - 02:20 AM	50.6	44.0	6.6	1.0	-	-	52.6	42.4	10.2
02:20 AM - 02:25 AM	49.8	42.6	7.2	1.0	-	-	51.8	42.1	9.7
02:25 AM - 02:30 AM	49.5	42.9	6.6	1.0	-	-	51.5	42.2	9.3
02:30 AM - 02:35 AM	49.7	44.5	5.2	1.5	-	-	51.2	42.4	8.8
02:35 AM - 02:40 AM	49.3	43.6	5.7	1.5	-	-	50.8	42.5	8.3
02:40 AM - 02:45 AM	49.1	44.0	5.1	1.5	-	-	50.6	42.8	7.8
02:45 AM - 02:50 AM	52.5	47.9	4.6	1.5	-	-	55.4	42.8	12.6
02:50 AM - 02:55 AM	49.9	48.9	1.0	7.0	-	-	45.9	42.8	3.1
02:55 AM - 03:00 AM	50.4	46.3	4.1	2.0	-	-	51.4	44.1	7.3
03:00 AM - 03:05 AM	49.0	44.4	4.6	1.5	-	-	50.5	43.2	7.3
03:05 AM - 03:10 AM	49.9	44.4	5.5	1.5	-	-	51.4	43.2	8.2
03:10 AM - 03:15 AM	51.1	56.9	-5.8	7.0	-	-	47.1	46.4	0.7
03:15 AM - 03:20 AM	52.1	59.8	-7.7	7.0	-	-	48.1	57.6	-9.5
03:20 AM - 03:25 AM	52.4	58.0	-5.6	7.0	-	-	48.4	54.4	-6.0
03:25 AM - 03:30 AM	53.6	53.9	-0.3	7.0	-	-	48.5	46.6	1.9
03:30 AM - 03:35 AM	54.1	55.2	-1.1	7.0	-	-	50.1	52.9	-2.8
03:35 AM - 03:40 AM	55.8	56.3	-0.5	7.0	-	-	51.8	54.0	-2.2
03:40 AM - 03:45 AM	56.1	56.0	0.1	7.0	-	-	51.4	53.4	-1.3
ค่ามาตรฐาน									
≤ 10									

The above results are valid only for the analyzed/checked 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 
Kanokorn Anek
Senior Manager

ADDRESS 104 Phatthakanan Rd., Phatthakanan Rd., Khwaeng Phatthakanan, 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 : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260065
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report Number : 2376433-1

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. : 2260065-5
Parameter : เสียงรบกวน
Location : บริเวณพื้นที่ขุดลอก (GPS 48Q 279216, 1888633)
Measurement Date : Jul 01 - 02, 2022
Measurement by : Sangtawan Natasat
Sound Level Meter : 00472123

Page 3 of 3

เวลา	ระดับเสียง (dB(A))								เสียงรบกวน การรบกวน
	เสียงจาก แหล่งกำเนิด	เสียงขณะ ไม่มีการรบกวน	ผลต่าง ระดับเสียง	ตัวปรับค่า	ปรับค่าเสียงจากแหล่งกำเนิด		เสียงที่ฐาน [L _{eq}]		
					กลางวัน	กลางคืน			
11:00 AM - 12:00 PM	55.0	45.8	9.2	0.5	54.5	-	43.0	11.5	
12:00 PM - 01:00 PM	54.3	45.7	8.6	0.5	53.8	-	43.1	10.7	
01:00 PM - 02:00 PM	55.6	46.4	9.2	0.5	55.1	-	42.9	12.2	
02:00 PM - 03:00 PM	57.2	48.4	8.8	0.5	56.7	-	43.7	13.5	
03:00 PM - 04:00 PM	56.3	47.8	8.5	0.5	55.8	-	44.4	11.4	
04:00 PM - 05:00 PM	56.3	49.3	7.0	1.0	55.3	-	45.6	9.7	
05:00 PM - 06:00 PM	53.6	48.0	5.6	1.5	52.1	-	45.2	6.9	
06:00 PM - 07:00 PM	54.6	49.6	5.0	1.0	53.1	-	46.2	6.9	
07:00 PM - 08:00 PM	54.3	48.8	5.5	1.5	52.8	-	46.3	6.2	
08:00 PM - 09:00 PM	53.3	55.5	-2.2	7.0	46.3	-	52.6	-6.3	
09:00 PM - 10:00 PM	51.6	54.6	-3.0	7.0	44.6	-	51.5	-4.9	
10:00 PM - 10:05 PM	49.2	47.7	1.5	4.5	-	47.7	46.2	1.5	
10:05 PM - 10:10 PM	48.9	46.1	2.8	3.0	-	48.9	45.7	3.2	
10:10 PM - 10:15 PM	49.9	45.0	4.9	1.5	-	51.4	43.6	7.8	
10:15 PM - 10:20 PM	50.1	44.9	5.2	1.5	-	51.6	43.1	8.5	
10:20 PM - 10:25 PM	54.2	47.5	6.7	1.0	-	56.2	43.9	12.3	
10:25 PM - 10:30 PM	54.3	54.5	-0.2	1.0	-	54.3	46.7	5.4	
10:30 PM - 10:35 PM	54.8	56.7	-1.9	7.0	-	50.8	51.2	-0.4	
10:35 PM - 10:40 PM	53.4	49.9	3.5	2.0	-	54.4	46.7	7.7	
10:40 PM - 10:45 PM	52.4	53.5	-1.1	7.0	-	48.4	47.3	1.1	
10:45 PM - 10:50 PM	52.1	58.6	-6.5	7.0	-	48.1	50.4	-2.3	
10:50 PM - 10:55 PM	51.8	55.1	-3.3	7.0	-	47.8	50.4	-2.6	
10:55 PM - 11:00 PM	51.6	52.0	-0.4	7.0	-	47.6	49.8	-2.2	
11:00 PM - 11:05 PM	51.3	54.7	-3.4	7.0	-	47.3	50.7	-3.4	
11:05 PM - 11:10 PM	52.3	54.2	-1.9	7.0	-	48.3	51.5	-3.2	
11:10 PM - 11:15 PM	52.5	47.5	4.8	1.5	-	54.0	45.7	8.2	
11:15 PM - 11:20 PM	51.1	46.6	4.5	1.5	-	49.1	46.0	3.1	
11:20 PM - 11:25 PM	56.6	48.0	8.6	0.5	-	59.1	46.2	12.9	
11:25 PM - 11:30 PM	55.7	47.8	7.9	0.5	-	58.2	46.6	11.6	
11:30 PM - 11:35 PM	52.4	48.6	4.2	2.0	-	53.8	45.8	7.8	
11:35 PM - 11:40 PM	53.1	47.7	5.4	1.5	-	54.6	46.4	8.2	
11:40 PM - 11:45 PM	51.2	46.9	4.3	2.0	-	52.2	45.7	6.5	
11:45 PM - 11:50 PM	50.4	48.5	1.9	4.5	-	48.9	47.2	1.7	
11:50 PM - 11:55 PM	50.7	47.8	2.9	3.0	-	50.7	46.1	4.6	
11:55 PM - 12:00 AM	50.2	47.9	2.3	3.0	-	50.2	46.3	3.9	
12:00 AM - 12:05 AM	51.6	51.6	0.0	7.0	-	47.6	46.7	0.9	
12:05 AM - 12:10 AM	50.8	50.7	0.1	7.0	-	46.8	46.3	0.5	
12:10 AM - 12:15 AM	50.3	46.6	3.8	2.0	-	51.3	45.4	5.9	
12:15 AM - 12:20 AM	51.1	44.5	6.6	1.0	-	53.1	45.1	8.0	
12:20 AM - 12:25 AM	50.0	45.5	4.5	1.5	-	52.5	44.4	8.1	



Analysis / Test Report



TESTING

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260065
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report Number: 2376434-1

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. : 2260065-6
Parameter : เสียงรบกวน
Location : บริเวณกลุ่มพืชผักสวนครัว (GPS 48Q 279216, 1888633)
Measurement Date : Jul 02 - 03, 2022
Measurement by : Sangwan Natasat
Sound Level Meter : 00472123

Page 1 of 3

เวลา	เสียงจากแหล่งกำเนิด	เสียงรบกวนไม่มีการควบคุม	ผลต่าง	ค่าปรับค่า	ปรับค่าเสียงจากแหล่งกำเนิด		เสียงพื้นฐาน	ค่าระดับการรบกวน
					กลางวัน	กลางคืน		
11:00 AM - 12:00 PM	49.4	33.3	-3.9	7.0	42.4	-	51.5	-9.1
12:00 PM - 01:00 PM	50.0	33.8	-1.8	7.0	43.0	-	49.6	-6.6
01:00 PM - 02:00 PM	52.6	48.3	4.3	2.0	50.6	-	44.4	6.2
02:00 PM - 03:00 PM	52.1	45.7	6.4	1.5	50.6	-	43.0	7.6
03:00 PM - 04:00 PM	53.7	47.2	6.5	1.0	52.7	-	44.7	8.0
04:00 PM - 05:00 PM	49.7	49.0	0.7	7.0	42.7	-	47.7	-5.0
05:00 PM - 06:00 PM	50.8	49.3	1.5	4.5	46.3	-	48.1	-1.8
06:00 PM - 07:00 PM	54.9	49.7	5.2	1.5	53.4	-	46.7	6.7
07:00 PM - 08:00 PM	54.8	51.1	3.7	2.0	52.8	-	49.0	3.8
08:00 PM - 09:00 PM	51.1	47.4	3.7	2.0	49.1	-	45.8	3.3
09:00 PM - 10:00 PM	51.2	44.1	7.1	1.0	50.2	-	41.7	8.5
10:00 PM - 11:00 PM	51.1	45.0	6.1	1.5	-	52.6	40.6	11.0
10:05 PM - 10:10 PM	50.1	43.3	6.8	1.0	-	52.1	40.8	11.3
10:10 PM - 10:15 PM	49.8	44.5	5.3	1.5	-	51.3	42.0	9.3
10:15 PM - 10:20 PM	49.8	44.0	5.8	1.5	-	51.3	41.6	9.7
10:20 PM - 10:25 PM	51.0	44.5	6.5	1.0	-	53.0	41.5	11.5
10:25 PM - 10:30 PM	50.6	45.8	3.8	2.0	-	51.6	41.6	10.0
10:30 PM - 10:35 PM	50.2	42.5	7.7	0.5	-	52.7	40.8	11.9
10:35 PM - 10:40 PM	49.3	42.8	6.5	1.0	-	51.3	40.5	10.8
10:40 PM - 10:45 PM	49.5	43.1	6.4	1.5	-	51.0	41.6	9.4
10:45 PM - 10:50 PM	49.4	43.0	6.4	1.5	-	50.9	41.6	9.5
10:50 PM - 10:55 PM	47.7	44.4	3.3	3.0	-	47.7	41.2	6.5
10:55 PM - 11:00 PM	47.5	42.7	4.8	1.5	-	49.0	40.9	8.1
11:00 PM - 11:05 PM	50.2	44.3	5.9	1.5	-	51.7	40.1	11.6
11:05 PM - 11:10 PM	50.5	41.5	9.0	0.5	-	52.5	39.9	12.6
11:10 PM - 11:15 PM	49.6	42.7	7.4	1.0	-	51.6	40.4	11.2
11:15 PM - 11:20 PM	49.9	42.3	7.6	0.5	-	52.4	40.3	12.1
11:20 PM - 11:25 PM	49.4	42.8	6.6	1.0	-	51.4	41.2	10.2
11:25 PM - 11:30 PM	50.5	44.2	6.3	1.5	-	52.0	42.1	9.9
11:30 PM - 11:35 PM	48.3	44.9	3.4	3.0	-	48.3	41.8	6.5
11:35 PM - 11:40 PM	49.2	43.0	6.2	1.5	-	50.7	41.1	9.6
11:40 PM - 11:45 PM	48.6	43.1	5.5	1.5	-	50.1	40.9	9.2
11:45 PM - 11:50 PM	48.3	45.0	3.3	1.0	-	48.3	42.2	6.1
11:50 PM - 11:55 PM	48.5	45.1	3.4	3.0	-	48.5	43.0	5.5
11:55 PM - 12:00 AM	48.3	44.8	3.5	2.0	-	49.3	43.1	6.2
12:00 AM - 12:05 AM	48.7	44.6	4.1	2.0	-	49.7	42.5	7.2
12:05 AM - 12:10 AM	48.1	45.0	3.1	4.5	-	47.6	41.6	6.0
12:10 AM - 12:15 AM	48.6	44.7	3.9	2.0	-	49.6	42.2	7.4
12:15 AM - 12:20 AM	48.0	44.6	3.4	3.0	-	48.0	43.0	5.0
12:20 AM - 12:25 AM	48.2	46.9	1.3	7.0	-	44.2	43.9	0.3

The above results are valid only for the analyzed sample(s) as indicated in this report. No part of this report or data file 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

Kanokorn Anek
Senior Manager

ADDRESS 104 Phatthakan Rd., Phatthakan Rd., Khwaeng Phatthakan, Khet San 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

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260065
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report Number: 2376434-1

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. : 2260065-6
Parameter : เสียงรบกวน
Location : บริเวณกลุ่มพืชผักสวนครัว (GPS 48Q 279216, 1888633)
Measurement Date : Jul 02 - 03, 2022
Measurement by : Sangwan Natasat
Sound Level Meter : 00472123

Page 2 of 3

เวลา	เสียงจากแหล่งกำเนิด	เสียงรบกวนไม่มีการควบคุม	ผลต่าง	ค่าปรับค่า	ปรับค่าเสียงจากแหล่งกำเนิด		เสียงพื้นฐาน	ค่าระดับการรบกวน
					กลางวัน	กลางคืน		
12:25 AM - 12:30 AM	49.5	49.3	-0.8	7.0	-	44.3	43.2	1.3
12:30 AM - 12:35 AM	47.9	45.8	2.1	4.5	-	46.4	44.2	2.2
12:35 AM - 12:40 AM	49.1	46.1	3.0	3.0	-	49.1	44.2	4.9
12:40 AM - 12:45 AM	48.2	44.9	3.3	3.0	-	48.2	41.6	6.6
12:45 AM - 12:50 AM	48.7	44.4	4.3	2.0	-	49.7	43.9	5.8
12:50 AM - 12:55 AM	48.4	43.9	4.5	1.5	-	49.9	42.5	7.4
12:55 AM - 01:00 AM	48.0	43.7	4.3	2.0	-	49.0	42.0	7.0
01:00 AM - 01:05 AM	48.9	43.5	5.4	1.5	-	50.4	41.4	9.0
01:05 AM - 01:10 AM	47.5	43.9	3.6	2.0	-	48.5	41.1	7.4
01:10 AM - 01:15 AM	47.7	42.7	5.0	1.5	-	49.2	40.2	9.0
01:15 AM - 01:20 AM	48.1	42.9	5.2	1.5	-	49.6	40.8	8.8
01:20 AM - 01:25 AM	47.5	45.5	2.0	4.5	-	46.0	43.8	2.2
01:25 AM - 01:30 AM	47.1	44.9	2.2	4.5	-	45.6	43.9	1.7
01:30 AM - 01:35 AM	47.3	48.3	-1.0	7.0	-	43.3	44.2	-0.9
01:35 AM - 01:40 AM	48.2	45.8	2.4	4.5	-	46.7	43.5	3.2
01:40 AM - 01:45 AM	48.5	48.5	0.0	7.0	-	44.5	46.6	-2.1
01:45 AM - 01:50 AM	48.7	47.6	1.1	7.0	-	44.7	45.5	-0.8
01:50 AM - 01:55 AM	47.9	48.6	-0.7	7.0	-	43.9	46.2	-2.3
01:55 AM - 02:00 AM	46.5	47.6	-1.1	7.0	-	42.5	45.4	-2.9
02:00 AM - 02:05 AM	48.2	44.6	3.6	2.0	-	49.2	42.5	6.7
02:05 AM - 02:10 AM	48.7	47.6	1.1	7.0	-	44.7	45.5	-0.8
02:10 AM - 02:15 AM	47.8	43.0	4.8	1.5	-	49.3	40.7	8.6
02:15 AM - 02:20 AM	46.9	43.7	3.2	3.0	-	46.9	40.9	6.0
02:20 AM - 02:25 AM	48.5	42.4	6.1	1.5	-	50.0	40.5	9.5
02:25 AM - 02:30 AM	48.7	43.1	5.6	1.5	-	49.8	40.4	9.4
02:30 AM - 02:35 AM	47.1	45.9	1.2	7.0	-	43.1	41.0	2.1
02:35 AM - 02:40 AM	47.0	43.1	3.9	2.0	-	48.0	40.9	7.1
02:40 AM - 02:45 AM	48.1	44.6	3.5	2.0	-	49.1	41.4	7.7
02:45 AM - 02:50 AM	49.9	43.6	6.3	1.5	-	51.4	41.4	10.0
02:50 AM - 02:55 AM	47.9	42.5	5.4	1.5	-	49.4	40.2	9.2
02:55 AM - 03:00 AM	48.1	43.6	4.5	1.5	-	49.6	41.1	8.5
03:00 AM - 03:05 AM	47.1	42.9	4.2	2.0	-	48.1	40.5	7.6
03:05 AM - 03:10 AM	48.0	42.7	5.3	1.5	-	49.5	40.7	8.8
03:10 AM - 03:15 AM	47.2	43.3	3.9	2.0	-	48.2	40.7	7.5
03:15 AM - 03:20 AM	46.9	43.6	3.3	3.0	-	46.9	40.6	6.3
03:20 AM - 03:25 AM	48.4	45.0	3.4	3.0	-	48.4	41.7	6.7
03:25 AM - 03:30 AM	47.1	48.0	-0.7	7.0	-	43.3	42.3	1.0
03:30 AM - 03:35 AM	47.4	47.0	0.4	7.0	-	43.4	42.1	1.3
03:35 AM - 03:40 AM	49.2	46.3	2.9	3.0	-	49.2	42.2	7.0
03:40 AM - 03:45 AM	49.2	45.9	3.3	3.0	-	49.2	41.9	7.3

The above results are valid only for the analyzed sample(s) as indicated in this report. No part of this report or data file 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

Kanokorn Anek
Senior Manager

ADDRESS 104 Phatthakan Rd., Phatthakan Rd., Khwaeng Phatthakan, Khet San 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

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260065
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report Number: 2376434-1

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. : 2260065-6
Parameter : เสียงรบกวน
Location : บริเวณกลุ่มพืชผักสวนครัว (GPS 48Q 279216, 1888633)
Measurement Date : Jul 02 - 03, 2022
Measurement by : Sangwan Natasat
Sound Level Meter : 00472123

Page 3 of 3

เวลา	ระดับเสียง (dB(A))				ปรับค่าเสียงจากแหล่งกำเนิด		เสียงพื้นฐาน	ค่าการรบกวน
	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการควบคุม	ผลต่างระดับเสียง	ตัวปรับค่า	กลางวัน	กลางคืน		
03:45 AM - 03:50 AM	49.7	45.1	4.6	1.5	-	51.2	40.8	10.4
03:50 AM - 03:55 AM	50.7	43.5	7.0	1.0	-	52.2	40.9	11.6
03:55 AM - 04:00 AM	50.2	44.1	6.1	1.5	-	51.7	41.1	10.6
04:00 AM - 04:05 AM	50.7	45.6	4.6	1.5	-	52.2	42.6	9.6
04:05 AM - 04:10 AM	52.2	45.6	6.6	1.0	-	54.2	42.7	11.5
04:10 AM - 04:15 AM	51.8	44.8	7.0	1.5	-	52.8	42.1	10.7
04:15 AM - 04:20 AM	51.7	44.2	7.5	0.5	-	54.2	41.4	12.8
04:20 AM - 04:25 AM	52.6	44.9	7.7	0.5	-	55.1	42.2	12.9
04:25 AM - 04:30 AM	52.4	47.6	4.8	1.5	-	53.9	43.2	10.7
04:30 AM - 04:35 AM	52.7	45.7	7.0	1.0	-	54.7	42.7	12.0
04:35 AM - 04:40 AM	52.6	45.1	7.5	0.5	-	55.1	42.1	13.0
04:40 AM - 04:45 AM	52.0	44.3	7.7	0.5	-	54.5	42.4	12.1
04:45 AM - 04:50 AM	52.7	44.0	8.7	0.5	-	55.2	41.9	13.3
04:50 AM - 04:55 AM	53.5	44.2	9.3	1.0	-	56.0	41.9	14.9
04:55 AM - 05:00 AM	53.7	43.4	10.3	0.5	-	56.2	41.4	14.8
05:00 AM - 05:05 AM	53.8	44.4	9.4	0.5	-	56.3	41.7	14.6
05:05 AM - 05:10 AM	54.0	44.4	9.6	0.5	-	56.5	41.1	15.4
05:10 AM - 05:15 AM	54.5	42.4	12.1	0.5	-	57.0	40.5	16.5
05:15 AM - 05:20 AM	53.9	48.8	5.1	1.5	-	55.4	41.0	14.4
05:20 AM - 05:25 AM	52.9	45.6	7.3	1.0	-	54.9	42.1	12.8
05:25 AM - 05:30 AM	52.7	43.5	8.7	0.5	-	54.7	41.1	13.6
05:30 AM - 05:35 AM	52.5	44.5	8.0	0.5	-	55.0	41.5	13.5
05:35 AM - 05:40 AM	53.3	43.3	10.0	0.5	-	55.8	41.3	14.5
05:40 AM - 05:45 AM	51.1	46.5	4.6	1.5	-	52.6	41.5	11.1
05:45 AM - 05:50 AM	51.6	44.9	6.7	1.0	-	53.7	42.1	11.5
05:50 AM - 05:55 AM	52.4	43.1	10.3	0.5	-	56.7	42.1	14.6
05:55 AM - 06:00 AM	53.6	43.9	10.5	0.5	-	56.1	41.2	14.9
06:00 AM - 07:00 AM	52.7	43.6	9.1	0.5	52.2	-	43.3	10.9
07:00 AM - 08:00 AM	51.8	2.4	50.0	20.0	58.0	-	49.0	1.0
08:00 AM - 09:00 AM	51.8	52.0	-0.2	7.0	44.8	-	50.2	-5.4
09:00 AM - 10:00 AM	60.2	51.6	8.6	0.5	59.7	-	49.7	10.0
10:00 AM - 11:00 AM	56.7	52.7	4.0	2.0	54.7	-	51.1	3.6



Analysis / Test Report



TESTING

No.0009

Lot ID: 2260065

Date Received: Jul 06, 2022

Date Reported: Jul 15, 2022

Report Number: 2376435-1

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. 2260065-7
Parameter เสียงรบกวน
Location บริเวณกลุ่มนิคมอุตสาหกรรม (GPS 48Q 279216, 1888633)
Measurement Date Jul 03 - 04, 2022
Measurement by Sangthwan Natsat
Sound Level Meter 00472123

Page 2 of 3

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ผลต่าง		ค่าปรับแก้	เสียงที่ฐาน		ค่าระดับการรบกวน
			รวมเสียง	ค่าปรับแก้		ค่าปรับแก้	ค่าปรับแก้	
12:25 AM - 12:30 AM	48.1	32.2	-4.1	7.0	-	44.1	49.8	-3.7
12:30 AM - 12:35 AM	49.1	33.0	-3.9	7.0	-	45.1	51.6	-6.5
12:35 AM - 12:40 AM	48.0	34.6	-6.6	7.0	-	44.0	52.9	-8.9
12:40 AM - 12:45 AM	47.5	34.9	-7.4	7.0	-	43.5	53.1	-9.6
12:45 AM - 12:50 AM	48.2	34.3	-6.1	7.0	-	44.2	52.1	-7.9
12:50 AM - 12:55 AM	48.0	33.8	-5.8	7.0	-	44.0	51.9	-7.9
12:55 AM - 01:00 AM	46.7	33.6	-6.9	7.0	-	42.7	52.2	-9.5
01:00 AM - 01:05 AM	46.4	33.0	-6.6	7.0	-	42.4	51.1	-8.7
01:05 AM - 01:10 AM	48.3	31.4	-3.1	7.0	-	44.3	49.0	-4.7
01:10 AM - 01:15 AM	48.2	31.2	-3.0	7.0	-	44.2	48.8	-4.6
01:15 AM - 01:20 AM	47.9	48.0	-0.1	7.0	-	43.9	43.0	0.9
01:20 AM - 01:25 AM	47.3	48.9	-1.6	7.0	-	43.3	45.9	-2.6
01:25 AM - 01:30 AM	47.4	48.2	-0.8	7.0	-	43.4	46.0	-2.6
01:30 AM - 01:35 AM	46.5	50.0	-3.5	7.0	-	42.5	47.9	-5.4
01:35 AM - 01:40 AM	48.2	50.6	-2.4	7.0	-	44.2	49.2	-5.0
01:40 AM - 01:45 AM	47.2	50.0	-2.8	7.0	-	43.5	48.6	-5.1
01:45 AM - 01:50 AM	47.2	50.4	-3.2	7.0	-	43.2	48.5	-5.4
01:50 AM - 01:55 AM	48.3	49.5	-1.2	7.0	-	44.3	47.1	-2.8
01:55 AM - 02:00 AM	47.9	47.8	0.1	7.0	-	43.9	46.3	-2.4
02:00 AM - 02:05 AM	48.4	47.3	1.1	7.0	-	44.4	45.2	-0.8
02:05 AM - 02:10 AM	48.1	49.0	-0.9	7.0	-	44.1	44.8	-0.7
02:10 AM - 02:15 AM	47.4	45.2	2.2	4.5	-	45.9	43.8	2.1
02:15 AM - 02:20 AM	47.2	45.1	2.1	4.5	-	45.7	42.9	2.8
02:20 AM - 02:25 AM	47.5	43.8	3.7	2.0	-	46.5	46.6	5.9
02:25 AM - 02:30 AM	46.8	43.4	3.4	3.0	-	46.8	41.7	5.1
02:30 AM - 02:35 AM	46.7	43.7	3.0	3.0	-	46.7	42.1	4.6
02:35 AM - 02:40 AM	46.6	43.4	3.2	3.0	-	46.6	41.5	5.1
02:40 AM - 02:45 AM	46.1	44.1	2.0	3.0	-	47.1	42.1	5.0
02:45 AM - 02:50 AM	47.4	44.6	2.8	3.0	-	47.4	42.7	4.7
02:50 AM - 02:55 AM	47.4	44.6	2.8	3.0	-	47.4	42.6	4.8
02:55 AM - 03:00 AM	47.0	46.1	0.9	7.0	-	43.0	42.6	0.4
03:00 AM - 03:05 AM	47.6	43.3	4.3	2.5	-	48.6	41.8	6.8
03:05 AM - 03:10 AM	47.2	45.5	1.7	4.5	-	45.7	41.7	2.6
03:10 AM - 03:15 AM	47.1	47.2	-0.1	7.0	-	43.1	42.6	0.5
03:15 AM - 03:20 AM	48.3	45.0	3.3	3.0	-	48.3	42.9	5.4
03:20 AM - 03:25 AM	47.8	47.7	0.1	7.0	-	43.8	43.0	0.8
03:25 AM - 03:30 AM	48.5	47.1	1.4	7.0	-	48.5	43.6	0.9
03:30 AM - 03:35 AM	47.9	48.6	-0.7	7.0	-	43.9	43.7	0.2
03:35 AM - 03:40 AM	49.6	49.4	0.2	7.0	-	45.6	45.7	-0.1
03:40 AM - 03:45 AM	48.3	46.8	1.5	4.5	-	46.8	43.1	3.7

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

Approved by

Kasat Phol
Kanokorn Anek
Senior Manager

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

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER



Analysis / Test Report



TESTING

No.0009

Lot ID: 2260065

Date Received: Jul 06, 2022

Date Reported: Jul 15, 2022

Report Number: 2376436-1

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. 2260066-1
Parameter เสียงรบกวน
Location บริเวณกลุ่มนิคมอุตสาหกรรม (GPS 48Q 279462, 1888929)
Measurement Date Jun 27 - 28, 2022
Measurement by Sangthwan Natsat
Sound Level Meter 900075

Page 1 of 3

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ผลต่าง		ค่าปรับแก้	เสียงที่ฐาน		ค่าระดับการรบกวน
			รวมเสียง	ค่าปรับแก้		ค่าปรับแก้	ค่าปรับแก้	
11:00 AM - 11:05 PM	57.7	49.0	8.7	0.5	57.2	-	47.4	9.8
11:05 PM - 01:00 PM	54.0	51.4	2.6	3.0	51.0	-	50.0	1.0
01:00 PM - 02:00 PM	58.1	53.6	4.5	1.5	56.6	-	51.9	4.7
02:00 PM - 03:00 PM	54.2	52.6	1.6	4.5	49.7	-	50.6	-0.9
03:00 PM - 04:00 PM	56.2	54.3	1.9	4.5	51.7	-	50.9	-0.8
04:00 PM - 05:00 PM	57.3	54.7	2.6	3.0	54.3	-	52.8	1.5
05:00 PM - 06:00 PM	55.4	53.3	2.1	4.5	50.9	-	51.1	-0.2
06:00 PM - 07:00 PM	56.3	50.2	6.1	1.5	54.8	-	46.7	8.1
07:00 PM - 08:00 PM	55.7	46.7	9.0	0.5	55.2	-	43.6	11.6
08:00 PM - 09:00 PM	54.2	46.4	7.8	0.5	53.7	-	42.9	10.8
09:00 PM - 10:00 PM	53.0	44.9	8.1	0.5	52.5	-	42.7	9.8
10:00 PM - 10:05 PM	52.0	45.8	6.2	1.5	-	53.5	42.6	10.9
10:05 PM - 10:10 PM	51.2	47.7	6.5	1.0	-	53.2	42.9	10.3
10:10 PM - 10:15 PM	56.1	45.2	10.9	0.5	-	58.6	43.1	15.5
10:15 PM - 10:20 PM	49.4	45.5	3.9	2.0	-	50.4	43.5	6.9
10:20 PM - 10:25 PM	52.4	45.9	6.5	1.0	-	54.4	43.1	11.3
10:25 PM - 10:30 PM	50.8	45.1	5.7	1.5	-	52.3	43.0	9.3
10:30 PM - 10:35 PM	50.8	45.8	5.0	1.5	-	52.3	42.8	9.5
10:35 PM - 10:40 PM	50.2	46.0	4.2	2.0	-	51.2	43.3	7.9
10:40 PM - 10:45 PM	50.4	45.2	5.2	1.5	-	51.9	42.6	9.3
10:45 PM - 10:50 PM	51.7	45.9	5.8	1.5	-	52.2	43.2	9.0
10:50 PM - 10:55 PM	51.1	45.7	5.4	1.5	-	51.6	43.0	8.6
10:55 PM - 11:00 PM	45.6	45.4	0.2	7.0	-	41.6	43.0	-1.4
11:00 PM - 11:05 PM	49.5	45.7	3.8	2.0	-	45.5	43.4	2.1
11:05 PM - 11:10 PM	52.7	46.4	6.3	1.5	-	52.8	43.0	9.8
11:10 PM - 11:15 PM	50.2	44.7	5.5	1.5	-	51.7	42.2	9.5
11:15 PM - 11:20 PM	54.1	45.9	8.2	0.5	-	56.6	43.4	13.2
11:20 PM - 11:25 PM	55.3	45.9	9.4	0.5	-	57.8	43.9	13.9
11:25 PM - 11:30 PM	53.0	45.9	7.1	1.5	-	52.9	42.9	10.0
11:30 PM - 11:35 PM	54.6	48.2	6.4	1.5	-	56.1	43.0	13.1
11:35 PM - 11:40 PM	50.1	43.9	6.2	1.5	-	51.6	42.2	9.4
11:40 PM - 11:45 PM	51.1	44.2	6.9	1.0	-	53.1	41.9	11.2
11:45 PM - 11:50 PM	52.7	44.5	8.2	1.5	-	54.2	42.0	12.2
11:50 PM - 11:55 PM	50.3	44.4	5.9	1.5	-	51.8	42.8	9.0
11:55 PM - 12:00 AM	54.2	45.8	8.4	0.5	-	56.7	42.6	14.1
12:00 AM - 12:05 PM	48.9	44.1	4.8	1.5	-	50.4	42.3	8.1
12:05 AM - 12:10 AM	49.4	45.2	4.2	1.5	-	50.4	41.7	8.7
12:10 AM - 12:15 AM	49.1	42.9	6.2	1.5	-	50.6	41.3	9.3
12:15 AM - 12:20 AM	48.9	43.6	5.3	1.5	-	50.4	41.8	8.6
12:20 AM - 12:25 AM	52.2	43.7	8.5	0.5	-	54.7	41.7	13.0

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

Approved by

Kasat Phol
Kanokorn Anek
Senior Manager

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

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER



Analysis / Test Report



TESTING

No.0009

Lot ID: 2260065

Date Received: Jul 06, 2022

Date Reported: Jul 15, 2022

Report Number: 2376435-1

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. 2260065-7
Parameter เสียงรบกวน
Location บริเวณกลุ่มนิคมอุตสาหกรรม (GPS 48Q 279216, 1888633)
Measurement Date Jul 03 - 04, 2022
Measurement by Sangthwan Natsat
Sound Level Meter 00472123

Page 3 of 3

ระดับเสียง (dB(A))								
เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ผลต่างระดับเสียง	ค่าปรับแก้	ปรับค่าเสียงจากแหล่งกำเนิด		เสียงที่ฐาน	ค่าระดับการรบกวน
					ค่าบวก	ค่าลบ		
03:45 AM - 03:50 AM	49.2	45.6	3.6	2.0	-	50.2	42.4	7.8
03:50 AM - 03:55 AM	48.6	46.6	2.0	4.5	-	47.1	43.4	3.7
03:55 AM - 04:00 AM	48.7	45.5	3.2	3.0	-	48.7	42.8	5.9
04:00 AM - 04:05 AM	48.6	46.7	1.9	4.5	-	47.1	43.9	3.2
04:05 AM - 04:10 AM	48.8	46.3	2.5	3.0	-	48.8	43.5	5.3
04:10 AM - 04:15 AM	49.2	45.6	3.6	2.0	-	50.2	42.4	7.8
04:15 AM - 04:20 AM	49.8	45.1	4.7	1.5	-	51.3	42.3	9.0
04:20 AM - 04:25 AM	49.4	45.3	4.1	2.0	-	50.4	42.6	7.8
04:25 AM - 04:30 AM	49.7	44.8	4.9	1.5	-	51.2	42.8	8.4
04:30 AM - 04:35 AM	50.0	46.0	4.0	2.0	-	51.0	42.7	8.3
04:35 AM - 04:40 AM	50.2	46.1	4.1	2.0	-	51.2	42.7	8.5
04:40 AM - 04:45 AM	51.0	44.9	6.1	1.5	-	52.5	42.6	9.9
04:45 AM - 04:50 AM	50.9	44.6	6.3	1.5	-	52.4	42.4	10.0
04:50 AM - 04:55 AM	51.8	44.0	7.8	0.5	-	54.3	42.1	11.9
04:55 AM - 05:00 AM	51.7	45.1	6.6	1.0	-	53.7	42.1	11.6
05:00 AM - 05:05 AM	51.6	43.3	8.3	0.5	-	54.1	41.6	12.5
05:05 AM - 05:10 AM	52.6	43.5	9.1	0.5	-	55.1	41.7	13.4
05:10 AM - 05:15 AM	51.5	42.4	9.1	0.5	-	54.0	41.5	12.5
05:15 AM - 05:20 AM	52.5	43.6	8.9	0.5	-	55.0	41.4	13.6
05:20 AM - 05:25 AM	52.0	45.0	7.0	1.0	-	54.0	42.3	11.7
05:25 AM - 05:30 AM	53.0	44.2	8.8	0.5	-	55.5	42.6	12.9
05:30 AM - 05:35 AM	52.4	43.8	8.6	0.5	-	54.9	41.7	13.2
05:35 AM - 05:40 AM	51.7	45.7	6.0	1.5	-	53.2	42.2	11.0
05:40 AM - 05:45 AM	51.4	45.8	6.6	1.0	-	53.4	42.0	11.4
05:45 AM - 05:50 AM	52.4	45.3	7.0	1.0	-	54.4	41.5	12.9
05:50 AM - 05:55 AM	51.4	43.7	7.7	0.5	-	53.9	42.0	11.9
05:55 AM - 06:00 AM	53.6	43.9	9.7	0.5	-	56.1	42.0	14.1
06:00 AM - 07:00 AM	44.0	44.0	7.5	0.5	51.5	-	41.9	9.6
07:00 AM - 08:00 AM	52.5	43.5	9.0	0.5	52.0	-	41.5	10.5
08:00 AM - 09:00 AM	53.9	44.2	9.7	0.5	54.4	-	41.2	12.2
09:00 AM - 10:00 AM	55.0	43.6	11.4	0.5	54.5	-	41.1	13.4
10:00 AM - 11:00 AM	53.2	42.8	10.4	0.5	52.7	-	40.9	11.0
ค่าเฉลี่ยรวม								5.10



Analysis / Test Report



TESTING

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260066
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report Number: 2376437-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 3 of 3

Sample No. 2260066-1
Parameter เลื่อนขาม
Location ในพื้นที่ชุมชนบ้านโคกขาม (GPS 48Q 279462, 1888929)
Measurement Date Jun 28 - 29, 2022
Measurement by Sangwan Natasat
Sound Level Meter 900075

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ระดับเสียง (dB(A))		พื้นที่เสียงจากแหล่งกำเนิด	เสียงที่ฐาน	ค่าระดับเสียง
			ทิศทาง	ค่าปรับค่า			
03:45 AM - 03:50 AM	48.9	48.2	0.7	7.0	-	44.9	45.5
03:50 AM - 03:55 AM	55.4	47.0	8.4	0.5	-	57.9	44.6
03:55 AM - 04:00 AM	51.1	47.0	4.1	2.0	-	52.1	43.0
04:00 AM - 04:05 AM	54.2	46.9	7.3	1.0	-	56.2	44.3
04:05 AM - 04:10 AM	50.7	46.6	4.1	2.0	-	51.7	44.2
04:10 AM - 04:15 AM	51.8	47.6	4.2	2.0	-	52.8	44.8
04:15 AM - 04:20 AM	51.8	46.0	5.8	1.5	-	53.3	44.0
04:20 AM - 04:25 AM	51.1	47.1	6.0	2.0	-	52.1	44.0
04:25 AM - 04:30 AM	51.4	50.0	1.4	7.0	-	47.4	46.6
04:30 AM - 04:35 AM	51.9	51.2	0.7	7.0	-	47.9	45.5
04:35 AM - 04:40 AM	52.0	49.1	2.9	1.8	-	54.0	42.5
04:40 AM - 04:45 AM	52.2	48.0	4.2	2.0	-	53.2	44.6
04:45 AM - 04:50 AM	52.8	46.6	6.2	1.5	-	54.3	43.3
04:50 AM - 04:55 AM	53.1	46.3	6.8	1.0	-	55.1	43.3
04:55 AM - 05:00 AM	52.0	45.2	6.8	1.0	-	54.0	42.5
05:00 AM - 05:05 AM	51.6	45.1	6.5	0.5	-	51.7	43.0
05:05 AM - 05:10 AM	52.2	45.6	7.6	0.5	-	55.7	43.8
05:10 AM - 05:15 AM	55.1	44.7	10.4	0.5	-	57.6	43.0
05:15 AM - 05:20 AM	54.9	46.2	8.7	0.5	-	57.4	44.2
05:20 AM - 05:25 AM	53.8	47.0	6.8	1.0	-	55.8	44.2
05:25 AM - 05:30 AM	54.2	49.0	5.2	1.5	-	55.7	44.9
05:30 AM - 05:35 AM	55.4	47.7	7.7	0.5	-	57.9	44.4
05:35 AM - 05:40 AM	51.9	46.7	5.2	1.5	-	53.4	44.0
05:40 AM - 05:45 AM	51.1	47.3	3.8	2.0	-	52.1	44.5
05:45 AM - 05:50 AM	53.6	47.0	6.6	1.0	-	55.6	44.6
05:50 AM - 05:55 AM	53.0	47.7	5.3	1.5	-	54.5	45.3
05:55 AM - 06:00 AM	53.4	47.4	6.0	1.5	-	54.9	44.1
06:00 AM - 07:00 AM	55.3	48.6	6.7	1.0	54.3	46.1	8.2
07:00 AM - 08:00 AM	55.9	50.1	5.8	1.5	54.4	48.7	5.7
08:00 AM - 09:00 AM	56.4	50.9	5.5	1.5	54.9	49.8	5.1
09:00 AM - 10:00 AM	57.1	46.2	7.9	0.5	56.6	47.8	8.8
10:00 AM - 11:00 AM	57.4	52.5	4.9	1.5	55.9	50.3	5.6

Reference Method : Based on ISO 1996-1 and ISO 1996-2
หมายเหตุ

1. ประกาศกระทรวงสาธารณสุข เรื่อง กำหนดค่าระดับเสียงจากยานพาหนะและเครื่องมือเสียงที่เกิดจากกิจกรรมการประกอบกิจการโรงงาน พ.ศ. 2548
2. ประกาศกระทรวงสาธารณสุข เรื่อง กำหนดค่าระดับเสียงจากยานพาหนะ พ.ศ. 2550
3. ประกาศกระทรวงสาธารณสุข เรื่อง กำหนดค่าระดับเสียงจากเครื่องมือเสียงที่เกิดจากกิจกรรมการประกอบกิจการโรงงาน พ.ศ. 2553
4. ประกาศกระทรวงสาธารณสุข เรื่อง กำหนดค่าระดับเสียงจากเครื่องมือเสียงที่เกิดจากกิจกรรมการประกอบกิจการที่เป็นอันตรายต่อสุขภาพ พ.ศ. 2561

ระดับเสียงที่ฐานเสียงจากแหล่งกำเนิด (Sample No. 2260101-1) วันที่ตรวจ 28-29 มิถุนายน 2565

The above results are valid only for the analyzed (tested) sample(s) as indicated in the 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

Kanokorn Anek
Senior 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



TESTING

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260066
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report Number: 2376437-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260066-2
Parameter เลื่อนขาม
Location ในพื้นที่ชุมชนบ้านโคกขาม (GPS 48Q 279462, 1888929)
Measurement Date Jun 28 - 29, 2022
Measurement by Sangwan Natasat
Sound Level Meter 900075

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ระดับเสียง (dB(A))		พื้นที่เสียงจากแหล่งกำเนิด	เสียงที่ฐาน	ค่าระดับเสียง
			ทิศทาง	ค่าปรับค่า			
11:00 AM - 12:00 PM	55.8	45.4	10.4	0.5	-	55.3	-
12:00 PM - 01:00 PM	54.6	45.0	9.4	0.5	-	53.9	-
01:00 PM - 02:00 PM	56.0	44.2	11.8	0.5	-	55.5	-
02:00 PM - 03:00 PM	56.8	50.1	6.7	1.0	-	55.8	-
03:00 PM - 04:00 PM	55.4	51.3	4.1	2.0	-	53.4	-
04:00 PM - 05:00 PM	55.7	54.1	1.6	4.5	-	51.2	-
05:00 PM - 06:00 PM	54.6	51.0	3.6	2.0	-	52.6	-
06:00 PM - 07:00 PM	56.8	47.2	9.6	0.5	-	56.3	-
07:00 PM - 08:00 PM	55.5	56.7	-1.2	7.0	-	48.5	-
08:00 PM - 09:00 PM	52.3	56.8	-4.5	7.0	-	45.3	-
09:00 PM - 10:00 PM	52.7	49.5	3.2	3.0	-	49.7	-
10:00 PM - 10:05 PM	51.5	51.0	0.5	7.0	-	47.5	-
10:05 PM - 10:10 PM	54.6	51.3	3.3	3.0	-	54.6	-
10:10 PM - 10:15 PM	50.4	51.1	-0.7	7.0	-	46.4	-
10:15 PM - 10:20 PM	53.7	44.5	9.2	0.5	-	56.2	-
10:20 PM - 10:25 PM	49.7	50.3	-0.6	7.0	-	45.7	-
10:25 PM - 10:30 PM	54.1	43.2	10.9	0.5	-	56.6	-
10:30 PM - 10:35 PM	53.2	43.9	9.6	0.5	-	56.0	-
10:35 PM - 10:40 PM	51.9	43.0	8.9	0.5	-	54.4	-
10:40 PM - 10:45 PM	51.7	50.3	1.4	7.0	-	47.7	-
10:45 PM - 10:50 PM	48.9	50.9	-2.0	7.0	-	44.9	-
10:50 PM - 10:55 PM	51.5	51.2	0.3	7.0	-	47.5	-
10:55 PM - 11:00 PM	53.4	51.6	1.8	4.5	-	51.9	-
11:00 PM - 11:05 PM	51.3	51.7	-0.4	7.0	-	47.3	-
11:05 PM - 11:10 PM	51.0	48.7	2.3	4.5	-	49.5	-
11:10 PM - 11:15 PM	51.9	45.8	6.1	1.5	-	53.4	-
11:15 PM - 11:20 PM	52.1	45.6	6.5	1.0	-	54.1	-
11:20 PM - 11:25 PM	49.1	45.2	6.9	1.0	-	54.1	-
11:25 PM - 11:30 PM	49.8	45.2	4.6	1.5	-	54.3	-
11:30 PM - 11:35 PM	51.8	44.9	6.9	1.0	-	53.8	-
11:35 PM - 11:40 PM	49.2	47.6	1.6	4.5	-	47.7	-
11:40 PM - 11:45 PM	49.7	48.4	1.3	7.0	-	45.7	-
11:45 PM - 11:50 PM	50.2	47.2	3.0	3.0	-	50.2	-
11:50 PM - 11:55 PM	50.0	45.1	4.9	1.5	-	51.5	-
11:55 PM - 12:00 AM	51.3	45.8	5.5	1.5	-	52.8	-
12:00 AM - 12:05 AM	48.8	45.5	3.3	3.0	-	48.8	-
12:05 AM - 12:10 AM	52.5	46.0	6.5	0.5	-	54.9	-
12:10 AM - 12:15 AM	49.1	45.7	3.4	3.0	-	49.1	-
12:15 AM - 12:20 AM	48.6	44.4	4.2	2.0	-	49.6	-
12:20 AM - 12:25 AM	50.7	43.7	7.0	1.0	-	52.7	-

The above results are valid only for the analyzed (tested) sample(s) as indicated in the 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

Kanokorn Anek
Senior 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



TESTING

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260066
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report Number: 2376437-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260066-2
Parameter เลื่อนขาม
Location ในพื้นที่ชุมชนบ้านโคกขาม (GPS 48Q 279462, 1888929)
Measurement Date Jun 28 - 29, 2022
Measurement by Sangwan Natasat
Sound Level Meter 900075

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ระดับเสียง (dB(A))		พื้นที่เสียงจากแหล่งกำเนิด	เสียงที่ฐาน	ค่าระดับเสียง
			ทิศทาง	ค่าปรับค่า			
12:25 AM - 12:30 AM	50.7	43.2	7.5	0.5	-	53.2	41.7
12:30 AM - 12:35 AM	51.7	43.5	8.2	0.5	-	54.2	42.6
12:35 AM - 12:40 AM	52.7	42.7	10.0	0.5	-	55.2	42.0
12:40 AM - 12:45 AM	49.9	42.5	7.4	1.0	-	51.9	41.7
12:45 AM - 12:50 AM	50.1	51.6	-1.5	7.0	-	46.1	42.7
12:50 AM - 12:55 AM	53.6	45.5	8.1	0.5	-	56.1	42.2
12:55 AM - 01:00 AM	52.6	49.4	3.2	3.0	-	52.6	43.3
01:00 AM - 01:05 AM	49.5	45.1	4.4	2.0	-	50.5	43.4
01:05 AM - 01:10 AM	50.6	44.9	5.7	1.5	-	52.1	42.8
01:10 AM - 01:15 AM	51.5	45.1	6.4	1.5	-	56.0	42.5
01:15 AM - 01:20 AM	48.9	44.1	4.8	1.5	-	50.4	41.6
01:20 AM - 01:25 AM	50.7	44.3	6.4	1.5	-	52.2	42.2
01:25 AM - 01:30 AM	51.1	46.9	4.2	2.0	-	52.1	45.2
01:30 AM - 01:35 AM	52.6	46.3	6.3	1.5	-	54.1	44.4
01:35 AM - 01:40 AM	51.2	49.7	1.5	4.5	-	49.7	45.6
01:40 AM - 01:45 AM	50.4	47.2	3.2	3.0	-	50.4	44.9
01:45 AM - 01:50 AM	50.3	49.9	0.4	7.0	-	46.3	48.0
01:50 AM - 01:55 AM	52.9	3.5	5.0	0.0	-	53.9	46.9
01:55 AM - 02:00 AM	51.7	50.0	1.7	4.5	-	50.2	47.6
02:00 AM - 02:05 AM	49.7	49.0	0.7	7.0	-	45.7	46.8
02:05 AM - 02:10 AM	51.4	46.9	4.5	0.5	-	52.9	43.9
02:10 AM - 02:15 AM	52.6	44.7	7.9	0.5	-	55.1	43.0
02:15 AM - 02:20 AM	50.2	44.4	5.8	1.5	-	51.7	42.1
02:20 AM - 02:25 AM	51.4	45.1	6.3	1.5	-	52.9	42.3
02:25 AM - 02:30 AM	49.0	44.8	4.2	1.5	-	50.5	41.9
02:30 AM - 02:35 AM	50.7	44.5	6.2	1.5	-	52.2	41.8
02:35 AM - 02:40 AM	50.2	47.3	2.9	3.0	-	50.2	42.4
02:40 AM - 02:45 AM	49.5	44.5	5.0	1.5	-	51.0	42.3
02:45 AM - 02:50 AM	52.3	46.0	6.3	1.5	-	52.3	42.8
02:50 AM - 02:55 AM	51.5	45.0	6.5	1.0	-	53.5	42.8
02:55 AM - 03:00 AM	55.8	43.9	11.9	0.5	-	58.3	41.6
03:00 AM - 03:05 AM	50.5	45.0	5.5	1.5	-	52.0	42.5
03:05 AM - 03:10 AM	48.9	44.5	4.4	1.5	-	50.4	41.9
03:10 AM - 03:15 AM	50.3	44.1	6.2	1.5	-	51.8	42.1
03:15 AM - 03:20 AM	52.6	44.7	7.9	0.5	-	55.1	42.1
03:20 AM - 03:25 AM	51.1	45.0	6.1	1.5	-	52.6	42.0
03:25 AM - 03:30 AM	50.9	46.1	4.5	1.5	-	54.4	43.1
03:30 AM - 03:35 AM	50.1	49.4	0.7	7.0	-	46.1	43.9
03:35 AM - 03:40 AM	52.3	48.4	3.9	2.0	-	53.3	43.5
03:40 AM - 03:45 AM	50.7	47.7	3.0	3.0	-	50.7	43.6

The above results are valid only for the analyzed (tested) sample(s) as indicated in the 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

Kanokorn Anek
Senior 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.



Analysis / Test Report



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260066
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report Number : 2376438-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260066-3
Parameter เสียงรบกวน
Location บริเวณพื้นที่ด้านทิศเหนือ (GPS 48Q 279462, 188929)
Measurement Date Jun 29 - 30, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 900075

เวลา	เสียงจากแหล่งกำเนิด	เสียงรบกวน ไม่มีการควบคุม	ระดับเสียง (dB(A))		พื้นที่เสียงจากแหล่งกำเนิด	เสียงที่ปรากฏ	ค่าระดับเสียง
			ผลต่าง	ตัวปรับค่า			
11:00 AM - 12:00 PM	56.4	44.1	12.3	0.5	55.9	-	41.6
12:00 PM - 01:00 PM	53.9	44.7	9.2	0.5	53.4	-	41.9
01:00 PM - 02:00 PM	56.8	55.7	1.1	7.0	49.8	-	52.5
02:00 PM - 03:00 PM	55.6	45.8	9.8	0.5	55.1	-	43.0
03:00 PM - 04:00 PM	56.8	44.9	11.9	0.5	56.3	-	42.3
04:00 PM - 05:00 PM	55.9	47.3	8.6	0.5	55.4	-	43.5
05:00 PM - 06:00 PM	55.4	45.4	10.0	0.5	54.9	-	42.6
06:00 PM - 07:00 PM	56.1	47.2	8.9	0.5	55.6	-	43.0
07:00 PM - 08:00 PM	54.1	47.8	6.3	1.5	52.6	-	46.6
08:00 PM - 09:00 PM	53.8	47.2	6.6	1.0	52.8	-	45.9
09:00 PM - 10:00 PM	52.0	48.5	3.5	2.0	50.0	-	45.0
10:00 PM - 10:55 PM	51.5	48.6	2.9	3.0	-	51.5	43.2
10:55 PM - 11:00 PM	53.3	52.8	0.5	7.0	-	49.3	51.3
11:00 PM - 11:15 PM	51.6	52.8	-1.2	7.0	-	47.6	51.2
11:15 PM - 11:30 PM	51.2	52.9	-1.7	7.0	-	47.2	51.3
11:30 PM - 11:45 PM	49.7	53.0	-3.3	7.0	-	44.7	51.2
11:45 PM - 12:00 AM	51.2	52.7	-1.5	7.0	-	47.2	51.2
12:00 AM - 12:30 PM	49.4	52.0	-2.6	7.0	-	45.4	42.9
12:30 PM - 12:45 PM	52.3	44.1	8.2	0.5	-	54.8	43.0
12:45 PM - 01:00 PM	50.0	44.0	6.0	1.5	-	51.5	43.0
01:00 PM - 01:30 PM	51.8	44.2	7.6	0.5	-	54.3	43.1
01:30 PM - 01:55 PM	53.1	44.2	8.9	0.5	-	55.6	43.2
01:55 PM - 11:00 PM	50.6	45.0	5.6	1.5	-	52.1	43.2
11:00 PM - 11:05 PM	52.5	48.9	3.6	2.0	-	53.5	46.1
11:05 PM - 11:10 PM	51.1	44.3	6.8	1.0	-	53.1	43.1
11:10 PM - 11:15 PM	52.8	44.5	8.3	0.5	-	55.3	43.6
11:15 PM - 11:20 PM	51.6	44.6	7.0	1.0	-	53.6	44.1
11:20 PM - 11:25 PM	50.7	43.9	6.8	1.0	-	52.7	43.1
11:25 PM - 11:30 PM	51.5	43.5	8.0	1.0	-	53.5	43.9
11:30 PM - 11:35 PM	50.2	44.3	5.9	1.5	-	51.7	43.5
11:35 PM - 11:40 PM	50.1	45.7	4.4	2.0	-	51.1	44.8
11:40 PM - 11:45 PM	47.1	45.7	1.4	7.0	-	43.1	44.7
11:45 PM - 11:50 PM	49.3	46.4	2.9	4.5	-	46.8	45.0
11:50 PM - 11:55 PM	49.0	45.4	3.6	2.0	-	50.0	44.4
11:55 PM - 12:00 AM	49.9	46.0	3.9	2.0	-	50.9	44.2
12:00 AM - 12:05 AM	50.3	45.6	4.6	1.5	-	51.7	44.7
12:05 AM - 12:10 AM	49.3	44.8	4.5	2.0	-	49.3	44.0
12:10 AM - 12:15 AM	50.6	44.2	6.4	1.5	-	52.1	43.2
12:15 AM - 12:20 AM	49.7	44.7	5.0	1.5	-	51.2	43.9
12:20 AM - 12:25 AM	50.4	44.2	6.2	1.5	-	51.9	43.5

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

Kasat Phol
Kasat Phol
Senior 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



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260066
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report Number : 2376438-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 3 of 3

Sample No. 2260066-3
Parameter เสียงรบกวน
Location บริเวณพื้นที่ด้านทิศเหนือ (GPS 48Q 279462, 188929)
Measurement Date Jun 29 - 30, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 900075

เวลา	เสียงจากแหล่งกำเนิด	เสียงรบกวน ไม่มีการควบคุม	ระดับเสียง (dB(A))		พื้นที่เสียงจากแหล่งกำเนิด	เสียงที่ปรากฏ	ค่าระดับเสียง
			ผลต่าง	ตัวปรับค่า			
03:45 AM - 03:50 AM	51.7	48.0	3.7	2.0	-	52.7	45.8
03:50 AM - 03:55 AM	49.4	49.4	0.0	3.0	-	52.3	46.9
03:55 AM - 04:00 AM	50.8	49.9	0.9	7.0	-	46.8	47.3
04:00 AM - 04:05 AM	51.0	52.4	-1.4	7.0	-	47.0	50.0
04:05 AM - 04:10 AM	52.2	54.4	-2.2	7.0	-	48.2	52.5
04:10 AM - 04:15 AM	52.3	53.9	-1.6	7.0	-	48.3	52.4
04:15 AM - 04:20 AM	51.7	53.0	-1.3	7.0	-	47.1	51.8
04:20 AM - 04:25 AM	51.1	49.8	1.3	7.0	-	47.1	46.7
04:25 AM - 04:30 AM	49.8	48.9	0.9	7.0	-	45.8	46.8
04:30 AM - 04:35 AM	51.2	53.1	-1.9	7.0	-	47.2	51.7
04:35 AM - 04:40 AM	50.2	52.9	-2.7	7.0	-	46.1	51.1
04:40 AM - 04:45 AM	49.4	50.8	-1.4	7.0	-	45.4	49.0
04:45 AM - 04:50 AM	50.9	52.9	-2.0	7.0	-	46.9	51.2
04:50 AM - 04:55 AM	52.9	53.2	-0.3	7.0	-	48.9	51.9
04:55 AM - 05:00 AM	53.5	53.7	-0.2	7.0	-	49.5	50.3
05:00 AM - 05:05 AM	52.3	48.9	3.4	3.0	-	52.3	46.3
05:05 AM - 05:10 AM	52.9	48.8	4.1	2.0	-	53.9	47.0
05:10 AM - 05:15 AM	51.7	47.9	3.8	2.0	-	52.7	45.9
05:15 AM - 05:20 AM	51.8	47.0	4.8	1.0	-	55.8	44.9
05:20 AM - 05:25 AM	54.6	46.5	8.1	0.5	-	57.1	44.5
05:25 AM - 05:30 AM	53.2	46.0	7.2	1.0	-	55.2	44.2
05:30 AM - 05:35 AM	53.5	46.8	6.7	1.0	-	55.8	44.7
05:35 AM - 05:40 AM	54.2	46.5	7.7	1.5	-	55.7	46.7
05:40 AM - 05:45 AM	53.7	48.4	5.3	1.5	-	55.2	46.4
05:45 AM - 05:50 AM	54.0	46.5	7.5	0.5	-	56.5	44.3
05:50 AM - 05:55 AM	54.5	47.0	7.5	0.5	-	57.0	44.5
05:55 AM - 06:00 AM	53.9	47.3	6.6	1.0	-	55.9	45.3
06:00 AM - 07:00 AM	56.0	48.6	7.4	1.0	55.0	-	45.5
07:00 AM - 08:00 AM	57.0	46.9	10.1	0.5	56.5	-	44.2
08:00 AM - 09:00 AM	55.4	45.0	10.4	0.5	54.9	-	42.6
09:00 AM - 10:00 AM	59.2	44.1	15.1	0.0	59.2	-	42.1
10:00 AM - 11:00 AM	55.8	44.9	10.9	0.5	55.3	-	42.3

ค่ามาตรฐาน

Reference Method : Based on ISO 1996-1 and ISO 1996-2
หมายเหตุ
1. ผลการตรวจวัดเสียงรบกวน (ทั้ง ค่าเฉลี่ยและค่าสูงสุด) เป็นค่าเฉลี่ยของค่าที่ได้จากการตรวจวัดเสียงรบกวน ณ เวลา 2550
2. ผลการตรวจวัดเสียงรบกวน (ทั้ง ค่าเฉลี่ยและค่าสูงสุด) เป็นค่าเฉลี่ยของค่าที่ได้จากการตรวจวัดเสียงรบกวน ณ เวลา 2550
3. ผลการตรวจวัดเสียงรบกวน (ทั้ง ค่าเฉลี่ยและค่าสูงสุด) เป็นค่าเฉลี่ยของค่าที่ได้จากการตรวจวัดเสียงรบกวน ณ เวลา 2550
4. ผลการตรวจวัดเสียงรบกวน (ทั้ง ค่าเฉลี่ยและค่าสูงสุด) เป็นค่าเฉลี่ยของค่าที่ได้จากการตรวจวัดเสียงรบกวน ณ เวลา 2550
ระดับเสียงที่ปรากฏในรายงาน (Sample No.2260101-1) ในเวลา 29-30 มิถุนายน 2565

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

Kasat Phol
Kasat Phol
Senior 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



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260066
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report Number : 2376438-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260066-3
Parameter เสียงรบกวน
Location บริเวณพื้นที่ด้านทิศเหนือ (GPS 48Q 279462, 188929)
Measurement Date Jun 29 - 30, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 900075

เวลา	เสียงจากแหล่งกำเนิด	เสียงรบกวน ไม่มีการควบคุม	ระดับเสียง (dB(A))		พื้นที่เสียงจากแหล่งกำเนิด	เสียงที่ปรากฏ	ค่าระดับเสียง
			ผลต่าง	ตัวปรับค่า			
12:25 AM - 12:30 AM	49.4	44.9	4.5	1.5	-	50.9	43.7
12:30 AM - 12:35 AM	52.1	45.1	7.0	1.0	-	54.1	43.8
12:35 AM - 12:40 AM	49.2	46.4	2.8	3.0	-	49.2	45.1
12:40 AM - 12:45 AM	49.4	45.6	3.8	2.0	-	50.4	44.9
12:45 AM - 12:50 AM	49.2	45.5	3.7	2.0	-	50.2	44.3
12:50 AM - 12:55 AM	50.5	46.1	4.4	2.0	-	51.5	43.6
12:55 AM - 01:00 AM	49.5	45.1	4.4	2.0	-	50.5	44.4
01:00 AM - 01:05 AM	52.4	46.0	6.4	1.5	-	53.9	44.8
01:05 AM - 01:10 AM	49.8	48.1	1.7	4.5	-	48.3	47.0
01:10 AM - 01:15 AM	52.2	48.8	3.4	3.0	-	52.2	47.7
01:15 AM - 01:20 AM	49.1	48.9	0.2	7.0	-	45.1	47.7
01:20 AM - 01:25 AM	49.6	49.3	0.3	7.0	-	45.6	47.0
01:25 AM - 01:30 AM	49.1	50.8	-1.7	7.0	-	45.1	49.7
01:30 AM - 01:35 AM	49.5	50.3	-0.8	7.0	-	45.5	48.2
01:35 AM - 01:40 AM	50.0	45.7	4.3	2.0	-	51.0	44.7
01:40 AM - 01:45 AM	50.2	46.8	3.4	3.0	-	50.2	45.6
01:45 AM - 01:50 AM	50.4	47.4	3.0	3.0	-	50.4	46.1
01:50 AM - 01:55 AM	49.6	48.1	1.5	4.5	-	48.1	46.4
01:55 AM - 02:00 AM	49.3	48.5	0.8	7.0	-	45.3	46.4
02:00 AM - 02:05 AM	51.1	47.4	3.7	2.0	-	52.1	46.6
02:05 AM - 02:10 AM	50.9	46.2	4.7	1.5	-	52.4	45.5
02:10 AM - 02:15 AM	49.1	46.7	2.4	4.5	-	47.6	45.4
02:15 AM - 02:20 AM	50.7	46.1	4.6	1.5	-	52.2	44.8
02:20 AM - 02:25 AM	49.1	47.3	1.8	4.5	-	47.6	45.9
02:25 AM - 02:30 AM	51.2	47.1	4.1	3.0	-	52.2	45.9
02:30 AM - 02:35 AM	49.7	47.2	2.5	3.0	-	49.7	46.0
02:35 AM - 02:40 AM	49.8	48.1	1.7	4.5	-	48.3	47.3
02:40 AM - 02:45 AM	53.5	48.3	5.2	1.5	-	55.0	47.5
02:45 AM - 02:50 AM	51.8	48.4	3.4	3.0	-	51.8	47.5
02:50 AM - 02:55 AM	49.0	48.7	0.3	7.0	-	45.0	47.9
02:55 AM - 03:00 AM	51.5	48.5	3.0	3.0	-	51.5	47.4
03:00 AM - 03:05 AM	51.6	47.7	4.3	2.0	-	52.9	47.0
03:05 AM - 03:10 AM	49.8	49.0	-0.2	7.0	-	45.8	48.0
03:10 AM - 03:15 AM	50.5	49.4	1.1	7.0	-	46.5	48.2
03:15 AM - 03:20 AM	47.6	49.7	-2.1	7.0	-	43.6	48.7
03:20 AM - 03:25 AM	50.6	49.7	0.9	7.0	-	46.9	48.2
03:25 AM - 03:30 AM	54.9	51.4	3.4	3.0	-	54.8	50.0
03:30 AM - 03:35 AM	49.7	50.4	-0.7	7.0	-	45.7	49.3
03:35 AM - 03:40 AM	53.8	49.8	4.0	2.0	-	54.8	48.5
03:40 AM - 03:45 AM	50.0	49.8	0.2	7.0	-	46.0	48.7

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



Analysis / Test Report



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2260066
Date Received Jul 06, 2022
Date Reported Jul 15, 2022
Report Number : 2376442-1

Page 1 of 3

Sample No. 2260066-7
Parameter เลืองตาม
Location บริเวณกลุ่มปื๊อหัดหัดหัดหัด (GPS 48Q 279462, 1888929)
Measurement Date Jul 03 - 04, 2022
Measurement by Sangwan Natasat
Sound Level Meter 900075

เวลา	เสียงจากแหล่งกำเนิด	เสียงรบกวน	ระดับเสียง (dB(A))		เสียงรบกวน	ค่าเฉลี่ย
			ค่าเฉลี่ย	ค่าสูงสุด		
11:00 AM - 12:00 PM	54.7	44.4	11.2	0.5	55.4	-
12:00 PM - 01:00 PM	54.7	43.5	11.2	0.5	54.2	-
01:00 PM - 02:00 PM	54.1	45.8	8.3	0.5	53.6	-
02:00 PM - 03:00 PM	55.5	43.5	12.0	0.5	55.0	-
03:00 PM - 04:00 PM	55.8	47.5	8.3	0.5	55.3	-
04:00 PM - 05:00 PM	56.1	54.9	1.2	7.0	49.1	-
05:00 PM - 06:00 PM	57.2	53.7	1.5	4.5	52.7	-
06:00 PM - 07:00 PM	56.3	48.3	8.0	0.5	55.8	-
07:00 PM - 08:00 PM	55.4	48.1	7.3	1.0	54.4	-
08:00 PM - 09:00 PM	54.3	46.5	7.7	0.5	53.8	-
09:00 PM - 10:00 PM	53.8	44.4	9.4	0.5	53.3	-
10:00 PM - 10:05 PM	52.4	48.0	4.4	2.0	-	53.4
10:05 PM - 10:10 PM	53.0	46.2	6.8	1.0	-	55.0
10:10 PM - 10:15 PM	53.0	41.9	11.1	0.5	-	55.5
10:15 PM - 10:20 PM	51.3	48.8	2.5	3.0	-	51.3
10:20 PM - 10:25 PM	52.6	51.4	1.2	7.0	-	48.6
10:25 PM - 10:30 PM	51.5	49.6	1.9	4.5	-	50.0
10:30 PM - 10:35 PM	50.3	49.0	1.3	7.0	-	46.3
10:35 PM - 10:40 PM	52.0	49.5	2.5	3.0	-	52.0
10:40 PM - 10:45 PM	52.3	48.5	3.8	2.0	-	53.3
10:45 PM - 10:50 PM	52.5	48.3	4.2	2.0	-	53.5
10:50 PM - 10:55 PM	49.8	48.8	2.1	4.5	-	49.4
10:55 PM - 11:00 PM	49.8	48.7	1.1	7.0	-	45.8
11:00 PM - 11:05 PM	51.0	49.0	2.0	4.5	-	49.5
11:05 PM - 11:10 PM	53.1	46.1	7.0	1.0	-	55.1
11:10 PM - 11:15 PM	51.5	44.0	7.5	0.5	-	54.0
11:15 PM - 11:20 PM	50.4	45.1	5.3	1.5	-	51.9
11:20 PM - 11:25 PM	52.4	47.0	5.4	1.5	-	53.9
11:25 PM - 11:30 PM	50.9	50.4	0.5	7.0	-	46.9
11:30 PM - 11:35 PM	51.4	53.9	-0.5	7.0	-	47.4
11:35 PM - 11:40 PM	50.6	51.5	-0.9	7.0	-	46.6
11:40 PM - 11:45 PM	52.3	52.3	0.0	7.0	-	48.3
11:45 PM - 11:50 PM	49.6	51.0	-1.4	7.0	-	45.6
11:50 PM - 11:55 PM	53.1	50.1	3.0	3.0	-	53.1
11:55 PM - 12:00 AM	53.6	49.3	4.1	2.0	-	54.6
12:00 AM - 12:05 AM	49.4	51.1	-1.7	7.0	-	45.4
12:05 AM - 12:10 AM	50.0	49.3	0.7	7.0	-	46.0
12:10 AM - 12:15 AM	46.9	48.6	-1.7	7.0	-	42.9
12:15 AM - 12:20 AM	49.3	47.2	2.1	4.5	-	47.8
12:20 AM - 12:25 AM	49.1	51.3	-2.2	7.0	-	45.1

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

Approved by

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2260066
Date Received Jul 06, 2022
Date Reported Jul 15, 2022
Report Number : 2376442-1

Page 2 of 3

Sample No. 2260066-7
Parameter เลืองตาม
Location บริเวณกลุ่มปื๊อหัดหัดหัดหัด (GPS 48Q 279462, 1888929)
Measurement Date Jul 03 - 04, 2022
Measurement by Sangwan Natasat
Sound Level Meter 900075

เวลา	เสียงจากแหล่งกำเนิด	เสียงรบกวน	ระดับเสียง (dB(A))		เสียงรบกวน	ค่าเฉลี่ย
			ค่าเฉลี่ย	ค่าสูงสุด		
12:25 AM - 12:30 AM	50.9	52.2	-1.3	7.0	-	46.9
12:30 AM - 12:35 AM	51.6	53.0	-1.4	7.0	-	47.6
12:35 AM - 12:40 AM	50.6	54.6	-4.0	7.0	-	46.6
12:40 AM - 12:45 AM	50.3	54.9	-4.6	7.0	-	46.3
12:45 AM - 12:50 AM	51.2	54.3	-3.1	7.0	-	47.2
12:50 AM - 12:55 AM	52.8	53.8	-1.0	7.0	-	48.8
12:55 AM - 01:00 AM	48.9	53.6	-4.7	7.0	-	44.9
01:00 AM - 01:05 AM	50.8	53.0	-2.2	7.0	-	46.8
01:05 AM - 01:10 AM	51.1	51.4	-0.3	7.0	-	47.1
01:10 AM - 01:15 AM	48.3	51.2	-2.9	7.0	-	44.3
01:15 AM - 01:20 AM	48.7	48.0	0.7	7.0	-	46.7
01:20 AM - 01:25 AM	49.8	48.9	0.9	7.0	-	45.8
01:25 AM - 01:30 AM	50.1	48.2	1.9	4.5	-	48.6
01:30 AM - 01:35 AM	44.9	50.0	-5.1	7.0	-	40.9
01:35 AM - 01:40 AM	48.0	50.6	-2.6	7.0	-	44.0
01:40 AM - 01:45 AM	49.8	50.0	-0.2	7.0	-	45.8
01:45 AM - 01:50 AM	50.9	50.4	0.5	7.0	-	46.9
01:50 AM - 01:55 AM	48.6	49.5	-0.9	7.0	-	44.6
01:55 AM - 02:00 AM	49.4	47.8	1.6	4.5	-	47.9
02:00 AM - 02:05 AM	48.1	47.3	0.8	7.0	-	44.1
02:05 AM - 02:10 AM	50.3	49.0	1.3	7.0	-	46.3
02:10 AM - 02:15 AM	50.9	45.2	5.7	1.5	-	52.4
02:15 AM - 02:20 AM	48.9	45.1	3.8	2.0	-	49.9
02:20 AM - 02:25 AM	50.1	43.8	6.3	1.5	-	51.6
02:25 AM - 02:30 AM	47.4	43.4	4.0	2.0	-	48.4
02:30 AM - 02:35 AM	51.1	43.7	7.4	1.0	-	53.1
02:35 AM - 02:40 AM	50.7	43.4	7.3	1.0	-	52.7
02:40 AM - 02:45 AM	46.8	44.1	2.7	3.0	-	46.8
02:45 AM - 02:50 AM	50.7	44.6	6.1	1.5	-	52.2
02:50 AM - 02:55 AM	51.7	45.6	6.1	1.0	-	53.7
02:55 AM - 03:00 AM	50.3	46.1	4.2	2.0	-	51.3
03:00 AM - 03:05 AM	50.0	43.3	6.7	1.0	-	52.0
03:05 AM - 03:10 AM	49.5	45.5	4.0	2.0	-	50.5
03:10 AM - 03:15 AM	52.1	47.2	4.9	1.5	-	53.6
03:15 AM - 03:20 AM	50.3	45.0	5.3	1.5	-	51.8
03:20 AM - 03:25 AM	51.6	47.7	3.9	2.0	-	52.6
03:25 AM - 03:30 AM	49.9	47.1	2.8	3.0	-	49.9
03:30 AM - 03:35 AM	48.2	48.6	-0.4	7.0	-	44.2
03:35 AM - 03:40 AM	50.8	49.4	1.4	7.0	-	46.8
03:40 AM - 03:45 AM	49.6	46.8	2.8	3.0	-	49.6

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

Approved by

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2260066
Date Received Jul 06, 2022
Date Reported Jul 15, 2022
Report Number : 2376442-1

Page 3 of 3

Sample No. 2260066-7
Parameter เลืองตาม
Location บริเวณกลุ่มปื๊อหัดหัดหัดหัด (GPS 48Q 279462, 1888929)
Measurement Date Jul 03 - 04, 2022
Measurement by Sangwan Natasat
Sound Level Meter 900075

เวลา	เสียงจากแหล่งกำเนิด	เสียงรบกวน	ระดับเสียง (dB(A))		เสียงรบกวน	ค่าเฉลี่ย
			ค่าเฉลี่ย	ค่าสูงสุด		
03:45 AM - 03:50 AM	50.6	45.8	5.0	1.5	-	52.1
03:50 AM - 03:55 AM	49.9	46.6	4.3	2.0	-	51.9
03:55 AM - 04:00 AM	52.1	45.5	6.6	1.0	-	54.1
04:00 AM - 04:05 AM	51.2	46.7	4.5	1.5	-	52.7
04:05 AM - 04:10 AM	53.1	46.3	6.8	1.0	-	55.1
04:10 AM - 04:15 AM	51.0	45.6	5.4	1.5	-	53.4
04:15 AM - 04:20 AM	51.7	45.1	6.6	1.0	-	53.7
04:20 AM - 04:25 AM	50.1	45.3	4.8	1.5	-	51.6
04:25 AM - 04:30 AM	52.0	44.8	7.2	1.0	-	54.0
04:30 AM - 04:35 AM	49.5	46.0	3.5	2.0	-	54.6
04:35 AM - 04:40 AM	49.1	46.1	3.0	3.0	-	49.1
04:40 AM - 04:45 AM	52.2	44.9	7.3	1.0	-	54.2
04:45 AM - 04:50 AM	50.8	44.6	6.2	1.5	-	52.3
04:50 AM - 04:55 AM	53.1	44.0	9.1	0.5	-	54.6
04:55 AM - 05:00 AM	50.5	45.1	5.4	1.5	-	52.0
05:00 AM - 05:05 AM	51.9	43.3	8.6	0.5	-	54.4
05:05 AM - 05:10 AM	50.4	43.5	6.9	1.0	-	52.4
05:10 AM - 05:15 AM	52.5	43.4	9.1	0.5	-	55.0
05:15 AM - 05:20 AM	55.1	43.6	11.5	0.5	-	57.6
05:20 AM - 05:25 AM	54.1	45.0	9.1	0.5	-	56.6
05:25 AM - 05:30 AM	52.9	44.2	8.7	0.5	-	55.4
05:30 AM - 05:35 AM	53.7	43.8	9.9	0.5	-	56.2
05:35 AM - 05:40 AM	54.6	45.7	8.9	0.5	-	57.1
05:40 AM - 05:45 AM	52.6	44.8	7.8	0.5	-	55.1
05:45 AM - 05:50 AM	53.6	45.1	8.5	0.5	-	56.1
05:50 AM - 05:55 AM	54.5	43.7	10.8	0.5	-	57.0
05:55 AM - 06:00 AM	55.9	43.9	12.0	0.5	-	58.4
06:00 AM - 07:00 AM	57.3	44.1	13.2	0.0	57.3	-
07:00 AM - 08:00 AM	56.9	43.5	13.4	0.0	56.9	-
08:00 AM - 09:00 AM	56.2	44.2	12.0	0.5	57.2	-
09:00 AM - 10:00 AM	55.8	43.6	12.2	0.5	55.3	-
10:00 AM - 11:00 AM	56.6	42.8	13.8	0.0	56.6	-

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

1. ผู้ตรวจการตรวจสอบคุณภาพเสียง (ผู้ตรวจการตรวจสอบคุณภาพเสียง) เป็นผู้ดำเนินการตรวจสอบคุณภาพเสียง (ผู้ตรวจการตรวจสอบคุณภาพเสียง) ตามมาตรฐาน ISO 1996-1 และ ISO 1996-2
2. ผู้ตรวจการตรวจสอบคุณภาพเสียง (ผู้ตรวจการตรวจสอบคุณภาพเสียง) เป็นผู้ดำเนินการตรวจสอบคุณภาพเสียง (ผู้ตรวจการตรวจสอบคุณภาพเสียง) ตามมาตรฐาน ISO 1996-1 และ ISO 1996-2
3. ผู้ตรวจการตรวจสอบคุณภาพเสียง (ผู้ตรวจการตรวจสอบคุณภาพเสียง) เป็นผู้ดำเนินการตรวจสอบคุณภาพเสียง (ผู้ตรวจการตรวจสอบคุณภาพเสียง) ตามมาตรฐาน ISO 1996-1 และ ISO 1996-2

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

Approved by

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2260066
Date Received Jul 06, 2022
Date Reported Jul 15, 2022
Report Number : 2376442-1

Page 1 of 3

Sample No. 2260066-7
Parameter เลืองตาม
Location บริเวณกลุ่มปื๊อหัดหัดหัดหัด (GPS 48Q 279462, 1888929)
Measurement Date Jun 27 - 28, 2022
Measurement by Sangwan Natasat
Sound Level Meter 00371914

เวลา	ระดับเสียง (dB(A))						เสียงรบกวน การประเมิน	
	เสียงจาก แหล่งกำเนิด	เสียงรบกวน จากกิจกรรมบน เรือ	ผลรวม ระดับเสียง	ปรับค่าเสียงจากแหล่งกำเนิด		เสียงรบกวน การประเมิน		
				ค่าปรับ	ค่าปรับ			
12:00 PM - 01:00 PM	54.0	-	3.1	-	56.9	49.9	1.1	
01:00 PM - 02:00 PM	53.2	-	3.1	2.0	51.2	48.2	3.0	
02:00 PM - 03:00 PM	53.2	49.1	4.1	2.0	51.2	47.6	3.6	
03:00 PM - 04:00 PM	49.0	48.0	1.6	4.5	45.1	46.2	-1.1	
04:00 PM - 05:00 PM	44.1	46.4	-2.3	7.0	37.1	41.1	-4.0	
05:00 PM - 06:00 PM	46.8	41.3	5.6	1.5	45.4	40.4	5.0	
06:00 PM - 07:00 PM	45.2	43.4	-1.8	4.5	40.7	40.9	-0.2	
07:00 PM - 08:00 PM	43.7	44.5	-0.8	7.0	36.7	37.9	-1.2	
08:00 PM - 09:00 PM	42.8	43.0	-0.2	7.0	35.8	37.3	-1.5	
09:00 PM - 10:00 PM	44.6	44.2	0.2	7.0	37.8	35.5	2.3	
10:00 PM - 05:00 PM	39.7	38.2	-1.5	7.0	37.7	36.4	1.0	
10:05 PM - 10:10 PM	37.8	38.6	-0.8	7.0	-	33.8	36.0	-2.2
10:10 PM - 10:15 PM	39.7	38.8	0.9	7.0	-	35.7	35.6	0.1
10:15 PM - 10:20 PM	38.4	39.2	-0.8	7.0	-	34.2	35.5	-1.3
10:20 PM - 10:25 PM	40.2	38.3	1.9	4.5	-	38.7	36.1	2.6
10:25 PM - 10:30 PM	38.4	43.1	-4.7	7.0	-	34.4	35.4	-1.0
10:30 PM - 10:35 PM	39.4	40.4	-1.0	7.0	-	35.4	35.9	-0.5
10:35 PM - 10:40 PM	40.6	1.39	3.9	7.0	-	37.5	37.1	0.4
10:40 PM - 10:45 PM	45.1	41.7	3.4	3.0	-	45.1	37.2	7.9
10:45 PM - 10:50 PM	42.6	43.0	-0.4	7.0	-	38.6	36.4	2.2
10:50 PM - 10:55 PM	38.8	43.2	-4.4	7.0	-	34.8	38.6	-3.8
10:55 PM - 11:00 PM	45.1	38.8	6.3	1.5	-	46.6	35.7	10.9
11:00 PM - 11:05 PM	44.4	46.0	-1.6	4.0	-	40.4	36.4	4.0
11:05 PM - 11:10 PM	42.6	49.1	-6.5	7.0	-	38.6	42.6	-4.0
11:10 PM - 11:15 PM	43.2	43.7	-0.5	7.0	-	39.2	38.5	0.7
11:15 PM - 11:20 PM	41.5	41.8	-0.3	7.0	-	37.5	39.3	-1.8
11:20 PM - 11:25 PM	42.5	41.1	0.6	7.0	-	38.5	37.8	0.7
11:25 PM - 11:30 PM	43.7	42.5	1.2	7.0	-	39.7	38.4	1.3
11:30 PM - 11:35 PM	42.9	42.0	0.9	7.0	-	38.9	39.8	-0.9
11:35 PM - 11:40 PM	41.6	40.6	1.0	7.0	-	37.6	38.6	-1.0
11:40 PM - 11:45 PM	41.4	40.6	3.8	7.0	-	37.9	37.9	0.0
11:45 PM - 11:50 PM	41.8	43.2	-1.4	7.0	-	37.8	39.8	-2.0
11:50 PM - 11:55 PM	43.3	42.1	1.2	7.0	-	39.3	37.4	1.9
11:55 PM - 12:00 AM	39.6	39.6	0.0	7.0	-	35.6	36.5	-0.9
12:00 AM - 12:05 AM	39.2	39.7	-0.5	7.0	-	35.2	35.5	-0.3
12:05 AM - 12:10 AM	41.2	40.6	0.6	7.0	-	37.2	35.1	2.1
12:10 AM - 12:15 AM	42.4	40.1	2.3	4.5	-	40.9	35.4	5.5
12:15 AM - 12:20 AM	42.0	41.4	0.6	7.0	-	38.0	35.3	2.7
12:20 AM - 12:25 AM	43.1	39.0	3.4	3.0	-	40.4	36.4	4.0
12:25 AM - 12:30 AM	45.7	43.8	1.9	4.5	-	44.2	36.8	7.4



Analysis / Test Report

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. 2260067-1
Parameter เสียงรบกวน
Location บ้านกลุ่มบ้านวัดคันแสด (GPS 48Q 277638, 1888807)
Measurement Date Jun 27 - 28, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371914

ระดับเสียง (dB(A))									
เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการขนถ่าย	ผลต่างระดับเสียง	ค่าปรับค่า	ปรับค่าเสียงจากแหล่งกำเนิด	เสียงที่ขนถ่าย	ค่าปรับค่า	การขนถ่าย	ค่าปรับค่า
12:30 AM - 12:35 AM	40.0	43.1	-3.1	7.0	-	36.0	36.3	-0.3	-
12:35 AM - 12:40 AM	46.3	38.6	7.7	0.5	-	48.8	36.1	12.7	-
12:40 AM - 12:45 AM	49.7	36.8	12.9	3.0	-	49.7	36.4	13.3	-
12:45 AM - 12:50 AM	46.7	38.4	8.3	0.5	-	49.2	35.6	13.6	-
01:00 AM - 01:05 AM	41.2	38.4	2.8	3.0	-	41.2	35.5	5.7	-
01:05 AM - 01:10 AM	40.9	38.4	2.5	3.0	-	40.9	35.7	5.2	-
01:10 AM - 01:15 AM	41.3	42.4	-1.1	7.0	-	37.3	36.2	1.1	-
01:15 AM - 01:20 AM	39.7	39.9	-0.2	7.0	-	35.7	36.1	-0.4	-
01:20 AM - 01:25 AM	38.0	39.2	-1.2	7.0	-	34.0	35.8	-1.8	-
01:25 AM - 01:30 AM	45.1	40.3	4.8	1.5	-	46.6	35.8	10.8	-
01:30 AM - 01:35 AM	40.9	37.5	3.4	3.0	-	40.9	34.9	6.0	-
01:35 AM - 01:40 AM	42.6	41.3	1.3	7.0	-	38.6	35.8	2.8	-
01:40 AM - 01:45 AM	41.2	41.2	0.0	7.0	-	37.2	35.7	1.5	-
01:45 AM - 01:50 AM	42.4	39.7	2.7	3.0	-	42.4	35.4	7.0	-
01:50 AM - 01:55 AM	47.3	38.9	8.4	0.5	-	49.8	35.2	14.6	-
01:55 AM - 02:00 AM	44.8	38.1	6.7	1.0	-	46.8	35.4	11.4	-
02:00 AM - 02:05 AM	39.4	38.3	1.1	7.0	-	35.4	36.5	-1.1	-
02:05 AM - 02:10 AM	40.9	39.1	1.8	4.5	-	39.4	37.0	2.4	-
02:10 AM - 02:15 AM	38.8	38.5	0.3	7.0	-	34.8	36.1	-1.3	-
02:15 AM - 02:20 AM	38.7	38.8	-0.1	7.0	-	34.7	36.1	-1.4	-
02:20 AM - 02:25 AM	39.2	38.4	0.8	7.0	-	35.2	35.6	-0.4	-
02:25 AM - 02:30 AM	39.2	42.2	-3.0	7.0	-	35.2	36.0	-0.8	-
02:30 AM - 02:35 AM	40.1	43.3	-3.2	7.0	-	36.1	36.8	-0.7	-
02:35 AM - 02:40 AM	42.5	44.3	-1.8	7.0	-	38.5	38.0	0.5	-
02:40 AM - 02:45 AM	45.5	44.5	1.0	3.0	-	41.5	37.8	3.7	-
02:45 AM - 02:50 AM	41.0	44.5	-3.5	7.0	-	37.0	38.3	-1.3	-
02:50 AM - 02:55 AM	40.8	43.7	-2.9	7.0	-	36.8	38.5	-1.7	-
02:55 AM - 03:00 AM	41.5	42.8	-1.3	7.0	-	37.5	37.3	0.2	-
03:00 AM - 03:05 AM	40.8	43.6	-2.8	7.0	-	36.8	37.0	-0.2	-
03:05 AM - 03:10 AM	41.4	43.3	-1.9	7.0	-	37.4	37.3	0.1	-
03:10 AM - 03:15 AM	46.4	45.8	0.6	7.0	-	42.4	43.6	-1.2	-
03:15 AM - 03:20 AM	52.3	46.1	6.2	1.5	-	53.8	44.5	9.3	-
03:20 AM - 03:25 AM	41.2	45.7	-4.5	7.0	-	34.8	44.4	-10.6	-
03:25 AM - 03:30 AM	47.4	45.4	2.0	4.5	-	45.9	44.0	1.9	-
03:30 AM - 03:35 AM	47.5	44.6	2.9	3.0	-	47.5	44.2	3.3	-
03:35 AM - 03:40 AM	47.3	43.5	3.8	2.0	-	48.3	41.9	6.4	-
03:40 AM - 03:45 AM	47.6	42.9	4.7	1.5	-	49.1	41.8	7.3	-
03:45 AM - 03:50 AM	44.8	45.1	-0.3	7.0	-	48.8	41.8	6.8	-
03:50 AM - 03:55 AM	46.4	45.2	1.2	7.0	-	42.4	42.4	-1.6	-
03:55 AM - 04:00 AM	46.4	45.2	1.2	7.0	-	42.4	43.2	-0.8	-

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

Approved by

Kanokorn Anek
Senior 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 : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. 2260067-2
Parameter เสียงรบกวน
Location บ้านกลุ่มบ้านวัดคันแสด (GPS 48Q 277638, 1888807)
Measurement Date Jun 28 - 29, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371914

ระดับเสียง (dB(A))									
เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการขนถ่าย	ผลต่างระดับเสียง	ตัวปรับค่า	ปรับค่าเสียงจากแหล่งกำเนิด		เสียงที่ขนถ่าย	ตัวปรับค่าการขนถ่าย	
					ค่าจริง	ค่าปรับ			
12:00 PM - 01:00 PM	55.1	50.5	4.6	1.5	53.6	-	49.0	4.6	
01:00 PM - 02:00 PM	52.9	49.6	3.3	3.0	49.9	-	47.4	2.5	
02:00 PM - 03:00 PM	48.9	47.0	1.9	4.5	44.4	-	45.4	-1.0	
03:00 PM - 04:00 PM	47.4	38.5	8.9	0.5	46.9	-	36.2	10.7	
04:00 PM - 05:00 PM	43.6	40.2	3.4	3.0	40.6	-	37.1	3.5	
05:00 PM - 06:00 PM	42.7	39.8	2.9	3.0	39.7	-	44.1	-4.4	
06:00 PM - 07:00 PM	45.7	42.6	3.1	3.0	42.7	-	39.1	3.6	
07:00 PM - 08:00 PM	45.5	41.6	3.9	1.5	46.0	-	37.6	8.4	
08:00 PM - 09:00 PM	45.5	42.4	3.1	3.0	42.5	-	37.2	5.3	
09:00 PM - 10:00 PM	44.7	42.3	2.4	4.5	40.2	-	44.6	-4.4	
10:00 PM - 10:05 PM	44.4	48.4	-4.0	7.0	-	40.4	38.1	2.3	
10:05 PM - 10:10 PM	42.9	43.5	-0.6	7.0	-	38.9	36.7	2.2	
10:10 PM - 10:15 PM	38.4	45.9	-7.5	7.0	-	34.4	35.3	-0.9	
10:15 PM - 10:20 PM	42.9	42.9	0.0	7.0	-	44.1	34.3	9.8	
10:20 PM - 10:25 PM	42.2	37.8	4.4	2.0	-	43.2	34.9	8.3	
10:25 PM - 10:30 PM	43.3	38.9	4.4	2.0	-	44.3	35.2	9.1	
10:30 PM - 10:35 PM	41.3	42.3	-1.0	7.0	-	37.3	35.4	1.9	
10:35 PM - 10:40 PM	41.1	47.8	-6.7	7.0	-	34.6	34.9	-0.3	
10:40 PM - 10:45 PM	48.9	45.5	3.4	3.0	-	48.9	35.9	13.0	
10:45 PM - 10:50 PM	39.3	44.0	-4.7	7.0	-	35.3	35.2	0.1	
10:50 PM - 10:55 PM	41.0	36.0	5.0	1.5	-	42.5	34.6	7.9	
10:55 PM - 11:00 PM	38.6	38.1	0.5	7.0	-	34.6	35.3	-0.7	
11:00 PM - 11:05 PM	42.0	41.3	0.7	7.0	-	38.0	34.3	3.7	
11:05 PM - 11:10 PM	39.6	37.1	2.5	3.0	-	39.6	34.2	5.4	
11:10 PM - 11:15 PM	41.0	36.6	4.4	2.0	-	42.0	34.5	7.5	
11:15 PM - 11:20 PM	39.6	36.5	3.1	3.0	-	39.6	33.9	5.7	
11:20 PM - 11:25 PM	38.7	37.3	1.4	7.0	-	34.7	34.3	0.4	
11:25 PM - 11:30 PM	38.7	35.4	3.3	3.0	-	38.7	34.0	4.7	
11:30 PM - 11:35 PM	42.2	35.3	6.9	1.0	-	44.2	33.9	10.3	
11:35 PM - 11:40 PM	41.3	46.0	-4.6	7.0	-	37.3	34.6	2.7	
11:40 PM - 11:45 PM	40.6	39.9	0.7	7.0	-	36.6	35.7	0.9	
11:45 PM - 11:50 PM	41.2	38.2	3.0	3.0	-	41.2	24.8	6.4	
11:50 PM - 11:55 PM	42.9	40.0	2.9	3.0	-	42.9	34.7	8.2	
11:55 PM - 12:00 AM	37.9	39.7	-1.8	7.0	-	33.9	34.9	-1.0	
12:00 AM - 12:05 AM	41.5	39.3	2.2	4.5	-	40.0	37.0	3.0	
12:05 AM - 12:10 AM	41.8	40.0	1.8	4.5	-	40.3	35.8	4.5	
12:10 AM - 12:15 AM	42.3	38.5	3.8	2.0	-	43.3	36.0	7.3	
12:15 AM - 12:20 AM	42.9	38.1	4.8	3.0	-	43.9	36.0	7.9	
12:20 AM - 12:25 AM	47.5	39.2	8.3	0.5	-	50.0	36.4	13.6	
12:25 AM - 12:30 AM	39.7	40.3	-0.6	7.0	-	35.7	37.3	-1.6	

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

Approved by

Kanokorn Anek
Senior 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 : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. 2260067-1
Parameter เสียงรบกวน
Location บ้านกลุ่มบ้านวัดคันแสด (GPS 48Q 277638, 1888807)
Measurement Date Jun 27 - 28, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371914

ระดับเสียง (dB(A))									
เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการขนถ่าย	ผลต่างระดับเสียง	ค่าปรับค่า	ปรับค่าเสียงจากแหล่งกำเนิด		เสียงที่ขนถ่าย	ค่าปรับค่าการขนถ่าย	ค่าปรับค่า
					กลางวัน	กลางคืน			
03:50 AM - 03:55 AM	48.1	45.0	3.1	3.0	-	48.1	45.2	4.9	-
03:55 AM - 04:00 AM	47.8	44.6	3.2	3.0	-	47.8	42.8	5.0	-
04:00 AM - 04:05 AM	47.8	44.9	2.9	3.0	-	47.8	42.9	4.9	-
04:05 AM - 04:10 AM	45.9	45.6	0.3	7.0	-	41.9	43.2	-1.3	-
04:10 AM - 04:15 AM	44.9	48.2	-3.3	7.0	-	40.9	43.4	-2.5	-
04:15 AM - 04:20 AM	43.6	47.6	-4.0	7.0	-	39.6	42.9	-3.3	-
04:20 AM - 04:25 AM	43.3	43.9	-0.6	7.0	-	39.3	42.2	-2.9	-
04:25 AM - 04:30 AM	43.9	43.5	0.4	7.0	-	39.9	42.1	-2.2	-
04:30 AM - 04:35 AM	43.5	43.6	-0.1	7.0	-	39.5	41.9	-2.4	-
04:35 AM - 04:40 AM	44.1	43.3	0.8	7.0	-	40.1	41.6	-1.5	-
04:40 AM - 04:45 AM	44.4	42.9	1.5	4.5	-	42.9	41.6	1.3	-
04:45 AM - 04:50 AM	43.3	41.7	1.6	4.5	-	41.8	40.7	1.1	-
04:50 AM - 04:55 AM	41.6	42.1	-0.5	7.0	-	37.6	40.1	-2.5	-
04:55 AM - 05:00 AM	42.3	41.1	1.2	7.0	-	38.3	40.0	-1.7	-
05:00 AM - 05:05 AM	42.5	45.0	-2.5	7.0	-	38.5	36.8	1.7	-
05:05 AM - 05:10 AM	40.0	40.4	-0.4	3.0	-	43.0	36.9	6.1	-
05:10 AM - 05:15 AM	42.6	38.6	4.0	2.0	-	43.6	35.9	7.7	-
05:15 AM - 05:20 AM	48.1	38.7	9.4	0.5	-	50.6	36.5	14.1	-
05:20 AM - 05:25 AM	45.0	37.5	7.5	0.5	-	47.5	35.7	11.8	-
05:25 AM - 05:30 AM	43.9	41.3	2.6	3.0	-	43.9	35.7	8.2	-
05:30 AM - 05:35 AM	43.4	40.1	3.3	3.0	-	43.4	37.8	5.6	-
05:35 AM - 05:40 AM	48.1	41.0	7.1	1.0	-	50.1	37.5	12.6	-
05:40 AM - 05:45 AM	49.2	42.9	6.3	1.5	-	50.7	38.5	12.2	-
05:45 AM - 05:50 AM	48.5	40.7	7.8	0.5	-	51.0	38.4	12.6	-
05:50 AM - 05:55 AM	49.1	39.3	9.8	0.5	-	51.6	37.1	14.5	-
05:55 AM - 06:00 AM	45.9	39.0	6.9	1.0	-	47.9	36.7	11.2	-
06:00 AM - 07:00 AM	46.8	46.0	0.8	7.0	39.8	-	39.6	0.2	-
07:00 AM - 08:00 AM	43.1	43.8	-0.7	7.0	36.1	-	39.0	-2.9	-
08:00 AM - 09:00 AM	52.1	49.3	2.8	3.0	49.2	-	48.2	3.9	-
09:00 AM - 10:00 AM	50.0	49.7	0.3	2.0	52.0	-	49.0	-3.0	-
10:00 AM - 11:00 AM	54.5	50.1	7.4	1.0	53.5	-	49.9	7.6	-
11:00 AM - 12:00 PM	54.0	50.0	4.0	2.0	52.0	-	45.0	9.0	-
ค่าปรับค่า									5.0



Analysis / Test Report



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Khe, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260067
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report Number : 2376454-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260067-5
Parameter เสียงรบกวน
Location บริเวณพื้นที่ขุดทำเหมืองแร่ (GPS 48Q 277638, 1888807)
Measurement Date Jul 01 - 02, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371914

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ผลต่างระดับเสียง	ค่าปรับค่า	ปรับค่าเสียงจากแหล่งกำเนิด		เสียงพื้นฐาน	ค่าระดับการรบกวน
					กลางวัน (DCT)	กลางคืน (NCT)		
12:30 AM - 12:35 AM	45.5	43.0	2.5	3.0	-	45.5	35.9	9.6
12:35 AM - 12:40 AM	50.9	40.4	10.5	0.5	-	51.4	35.8	17.6
12:40 AM - 12:45 AM	44.9	41.7	3.2	3.0	-	44.9	36.0	8.9
12:45 AM - 12:50 AM	48.9	43.6	5.3	1.5	-	50.4	37.1	13.3
12:50 AM - 12:55 AM	45.4	45.1	0.3	7.0	-	41.4	37.3	4.1
12:55 AM - 01:00 AM	43.1	40.9	2.2	4.5	-	41.6	36.4	5.2
01:00 AM - 01:05 AM	43.3	42.1	1.2	7.0	-	39.3	36.9	2.4
01:05 AM - 01:10 AM	46.5	42.8	3.7	2.0	-	47.5	36.6	10.9
01:10 AM - 01:15 AM	46.4	40.9	5.5	1.5	-	47.9	36.9	11.0
01:15 AM - 01:20 AM	46.6	43.0	3.6	2.0	-	47.6	40.2	7.4
01:20 AM - 01:25 AM	50.6	42.0	8.6	0.5	-	53.1	39.7	13.4
01:25 AM - 01:30 AM	46.4	44.7	1.7	4.5	-	44.9	39.6	5.3
01:30 AM - 01:35 AM	47.2	46.8	0.4	7.0	-	43.2	40.3	2.9
01:35 AM - 01:40 AM	46.7	43.8	2.9	3.0	-	46.7	41.0	5.7
01:40 AM - 01:45 AM	46.4	42.2	4.2	2.0	-	47.4	39.7	7.7
01:45 AM - 01:50 AM	48.1	44.8	3.3	3.0	-	48.1	39.8	8.3
01:50 AM - 01:55 AM	51.0	47.4	3.6	2.0	-	52.0	41.8	10.2
01:55 AM - 02:00 AM	50.4	50.7	-0.3	7.0	-	46.4	42.8	3.6
02:00 AM - 02:05 AM	50.9	45.7	7.2	1.0	-	52.9	40.7	12.2
02:05 AM - 02:10 AM	49.1	45.0	4.1	2.0	-	50.1	40.1	10.0
02:10 AM - 02:15 AM	44.9	44.4	0.5	7.0	-	40.9	40.0	0.9
02:15 AM - 02:20 AM	45.6	42.8	2.8	3.0	-	45.6	39.3	6.3
02:20 AM - 02:25 AM	47.3	44.2	3.1	3.0	-	47.3	40.3	7.0
02:25 AM - 02:30 AM	46.6	45.7	0.9	7.0	-	42.6	41.5	1.1
02:30 AM - 02:35 AM	46.5	48.3	-1.8	7.0	-	42.5	41.2	1.3
02:35 AM - 02:40 AM	45.8	45.3	0.5	7.0	-	41.8	40.9	0.9
02:40 AM - 02:45 AM	47.2	45.2	2.0	4.5	-	45.7	39.9	5.8
02:45 AM - 02:50 AM	48.5	43.2	5.3	1.5	-	50.0	40.4	9.6
02:50 AM - 02:55 AM	48.7	45.1	3.6	2.0	-	49.7	40.4	9.3
02:55 AM - 03:00 AM	49.6	45.1	4.5	1.5	-	51.1	40.1	11.0
03:00 AM - 03:05 AM	49.6	44.1	5.5	1.5	-	51.1	40.1	11.0
03:05 AM - 03:10 AM	45.4	45.0	0.4	7.0	-	41.4	40.2	1.2
03:10 AM - 03:15 AM	46.3	51.3	-5.0	7.0	-	42.3	40.8	1.5
03:15 AM - 03:20 AM	47.7	51.2	-3.5	7.0	-	43.7	41.2	2.5
03:20 AM - 03:25 AM	46.6	43.5	3.1	3.0	-	46.6	40.6	6.0
03:25 AM - 03:30 AM	44.8	42.9	1.9	4.5	-	43.3	41.0	2.3
03:30 AM - 03:35 AM	43.9	44.4	-0.5	7.0	-	39.9	39.0	0.9
03:35 AM - 03:40 AM	46.7	43.5	3.2	3.0	-	46.7	38.4	8.3
03:40 AM - 03:45 AM	45.0	39.8	5.2	1.5	-	46.5	37.7	8.8
03:45 AM - 03:50 AM	46.4	41.0	5.4	1.5	-	47.9	38.3	9.6

The above results are valid only for the unprocessed 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. A.S. Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

Approved by

Kasat Phol Sugar Co., Ltd.

Kanokorn Anek
Senior Manager

ADDRESS 104 Phatthananan Rd., Phatthananan Rd., Khwaeng Phatthananan, 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 : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Khe, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260067
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report Number : 2376455-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260067-6
Parameter เสียงรบกวน
Location บริเวณพื้นที่ขุดทำเหมืองแร่ (GPS 48Q 277638, 1888807)
Measurement Date Jul 02 - 03, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371914

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ผลต่างระดับเสียง	ค่าปรับค่า	ปรับค่าเสียงจากแหล่งกำเนิด		เสียงพื้นฐาน	ค่าระดับการรบกวน
					กลางวัน (DCT)	กลางคืน (NCT)		
12:00 PM - 12:05 PM	52.4	49.7	2.7	3.0	49.4	-	47.5	1.9
12:05 PM - 12:10 PM	53.9	49.8	4.1	2.0	51.9	-	48.8	3.1
12:10 PM - 12:15 PM	54.1	50.2	3.9	2.0	52.1	-	48.9	3.2
12:15 PM - 12:20 PM	53.1	49.1	4.0	2.0	51.1	-	47.8	3.3
12:20 PM - 12:25 PM	50.8	47.4	3.4	3.0	47.6	-	46.1	1.5
12:25 PM - 12:30 PM	52.8	45.2	7.6	0.5	52.3	-	43.9	8.4
12:30 PM - 12:35 PM	53.0	44.4	8.6	0.5	52.5	-	39.4	13.1
12:35 PM - 12:40 PM	44.7	45.2	-0.5	7.0	37.7	-	39.2	-1.5
12:40 PM - 12:45 PM	45.6	43.2	2.4	4.5	41.1	-	37.4	3.7
12:45 PM - 12:50 PM	47.1	42.6	4.5	1.5	45.6	-	37.6	8.1
12:50 PM - 12:55 PM	44.6	47.4	-2.8	7.0	-	40.6	42.3	-1.7
12:55 PM - 13:00 PM	46.7	46.4	0.3	7.0	-	42.7	41.2	1.5
13:00 PM - 13:05 PM	46.4	46.5	-0.1	4.5	-	46.9	41.4	5.5
13:05 PM - 13:10 PM	41.3	50.7	-9.4	7.0	-	37.3	42.4	-5.1
13:10 PM - 13:15 PM	46.4	49.4	-3.0	7.0	-	42.4	42.0	0.4
13:15 PM - 13:20 PM	41.2	49.0	-7.8	7.0	-	37.2	41.8	-4.6
13:20 PM - 13:25 PM	41.6	52.1	-10.5	7.0	-	33.6	41.6	-8.0
13:25 PM - 13:30 PM	41.5	46.7	-5.2	7.0	-	37.5	41.7	-4.2
13:30 PM - 13:35 PM	41.5	49.4	-7.9	7.0	-	37.5	41.6	-4.1
13:35 PM - 13:40 PM	41.6	46.3	-4.7	7.0	-	37.6	41.8	-4.2
13:40 PM - 13:45 PM	45.6	48.6	-3.0	7.0	-	41.6	42.7	-1.1
13:45 PM - 13:50 PM	47.6	50.3	-2.7	7.0	-	43.6	42.9	0.7
13:50 PM - 13:55 PM	43.7	43.3	0.4	4.5	-	44.2	38.0	6.2
13:55 PM - 14:00 PM	41.1	41.8	-0.7	7.0	-	37.1	38.5	-1.4
14:00 PM - 14:05 PM	41.8	44.1	-2.3	7.0	-	38.8	39.5	-0.7
14:05 PM - 14:10 PM	41.8	45.6	-3.8	7.0	-	40.1	38.5	1.6
14:10 PM - 14:15 PM	42.0	51.7	-9.7	7.0	-	38.0	39.8	-1.8
14:15 PM - 14:20 PM	41.9	51.7	-9.8	7.0	-	37.9	40.3	-2.4
14:20 PM - 14:25 PM	42.4	49.8	-7.4	7.0	-	38.4	38.7	0.3
14:25 PM - 14:30 PM	42.2	48.2	-6.0	7.0	-	38.2	38.7	-0.5
14:30 PM - 14:35 PM	43.1	53.9	-10.8	7.0	-	39.1	39.2	-0.1
14:35 PM - 14:40 PM	43.9	42.6	1.3	7.0	-	39.9	38.1	1.8
14:40 PM - 14:45 PM	43.0	46.8	-3.8	7.0	-	40.0	37.6	2.4
14:45 PM - 14:50 PM	43.7	47.5	-3.8	7.0	-	39.7	37.4	2.3
14:50 PM - 14:55 PM	46.5	49.2	-2.7	7.0	-	42.5	38.1	4.4
14:55 PM - 15:00 PM	41.5	46.8	-5.3	7.0	-	37.5	38.4	-0.9
15:00 PM - 15:05 PM	41.1	41.1	0.0	7.0	-	41.1	37.0	4.1
15:05 PM - 15:10 PM	43.7	42.0	1.7	4.5	-	42.2	37.8	4.4
15:10 PM - 15:15 PM	42.5	39.4	3.1	3.0	-	42.5	37.3	5.2
15:15 PM - 15:20 PM	42.7	48.7	-6.0	7.0	-	38.7	38.1	0.6

The above results are valid only for the unprocessed 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. A.S. Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

Approved by

Kasat Phol Sugar Co., Ltd.

Kanokorn Anek
Senior Manager

ADDRESS 104 Phatthananan Rd., Phatthananan Rd., Khwaeng Phatthananan, 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 : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Khe, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260067
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report Number : 2376454-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 3 of 3

Sample No. 2260067-5
Parameter เสียงรบกวน
Location บริเวณพื้นที่ขุดทำเหมืองแร่ (GPS 48Q 277638, 1888807)
Measurement Date Jul 01 - 02, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371914

เวลา	ระดับเสียง (dB(A))					ปรับค่าเสียงจากแหล่งกำเนิด		เสียงพื้นฐาน	ค่าระดับการรบกวน
	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ผลต่างระดับเสียง	ค่าปรับค่า	ปรับค่าเสียงจากแหล่งกำเนิด				
					กลางวัน (DCT)	กลางคืน (NCT)			
03:50 AM - 03:55 AM	44.0	42.4	1.6	4.5	-	42.5	39.0	3.5	
03:55 AM - 04:00 AM	46.7	42.5	4.2	2.0	-	47.7	38.3	9.4	
04:00 AM - 04:05 AM	44.6	48.4	-3.8	7.0	-	46.6	47.3	-0.7	
04:05 AM - 04:10 AM	45.0	48.1	-3.1	7.0	-	41.0	47.0	-6.0	
04:10 AM - 04:15 AM	45.4	47.9	-2.5	7.0	-	41.4	46.8	-5.4	
04:15 AM - 04:20 AM	46.3	47.4	-1.1	7.0	-	42.3	46.4	-4.1	
04:20 AM - 04:25 AM	46.8	47.5	-0.7	7.0	-	42.8	46.6	-3.8	
04:25 AM - 04:30 AM	46.8	47.4	-0.6	7.0	-	42.8	46.4	-3.6	
04:30 AM - 04:35 AM	46.7	46.4	0.3	7.0	-	42.7	45.1	-2.4	
04:35 AM - 04:40 AM	47.2	45.8	1.4	7.0	-	43.2	44.5	-1.3	
04:40 AM - 04:45 AM	46.0	46.0	0.0	7.0	-	42.0	45.1	-3.1	
04:45 AM - 04:50 AM	46.7	45.3	-0.8	7.0	-	40.7	43.7	-3.0	
04:50 AM - 04:55 AM	44.0	44.3	-0.3	7.0	-	40.0	42.9	-2.9	
04:55 AM - 05:00 AM	43.6	46.6	-3.0	7.0	-	39.6	43.0	-3.4	
05:00 AM - 05:05 AM	43.3	47.0	-3.7	7.0	-	39.3	43.3	-4.0	
05:05 AM - 05:10 AM	43.3	45.3	-2.0	7.0	-	39.3	44.1	-4.8	
05:10 AM - 05:15 AM	43.3	44.5	-1.2	7.0	-	39.3	43.7	-4.4	
05:15 AM - 05:20 AM	43.5	44.1	-0.6	7.0	-	39.5	42.7	-3.2	
05:20 AM - 05:25 AM	44.3	42.7	1.6	4.5	-	42.8	41.9	0.9	
05:25 AM - 05:30 AM	45.1	40.9	4.2	2.0	-	46.1	38.9	7.2	
05:30 AM - 05:35 AM	55.4	44.9	10.5	0.5	-	57.9	40.1	17.8	
05:35 AM - 05:40 AM	52.9	45.2	7.7	0.5	-	55.4	40.3	15.1	
05:40 AM - 05:45 AM	46.4	49.1	-2.7	7.0	-	42.4	41.3	1.1	
05:45 AM - 05:50 AM	47.1	49	2.8	3.0	-	46.6	40.6	6.5	
05:50 AM - 05:55 AM	48.2	44.5	3.7	3.0	-	49.2	41.9	7.3	
05:55 AM - 06:00 AM	47.4	45.7	1.7	4.5	-	45.9	42.7	3.2	
06:00 AM - 07:00 AM	49.1	49.0	0.1	7.0	-	49.1	43.9	0.2	
07:00 AM - 08:00 AM	54.9	52.0	2.9	3.0	-	51.9	50.0	1.9	
08:00 AM - 09:00 AM	54.5	55.3	-0.8	3.1	56.3	-	51.0	5.3	
09:00 AM - 10:00 AM	57.1	50.7	6.4	3.0	51.1	-	49.2	1.9	
10:00 AM - 11:00 AM	54.6	51.3	3.3	3.0	51.6	-	49.7	1.9	
11:00 AM - 12:00 PM	57.7	51.1	6.6	1.9	56.7	-	49.4	7.3	
ค่ามาตรฐาน								≤ 10	



Analysis / Test Report

Client : Kasol Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. 2260067-6
Parameter เสียงรบกวน
Location บริเวณกลุ่มป่าห้วยน้ำค้อตะวันตก (GPS 48Q 277638, 1888807)
Measurement Date Jul 02 - 03, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371914



TESTING

No.0009
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report Number : 2376455-1

Page 3 of 3

ระดับเสียง (dB(A))									
เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ผลต่าง	ตัวปรับค่า	ปรับค่าเสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ผลต่าง	ตัวปรับค่า	ค่าระดับการรบกวน
03:30 AM - 03:35 AM	45.6	42.1	3.5	2.0	-	46.6	40.4	6.2	-
03:35 AM - 04:00 AM	47.2	42.6	4.6	1.5	-	48.7	39.8	8.9	-
04:00 AM - 04:05 AM	49.8	46.9	2.9	3.0	-	49.8	40.3	9.5	-
04:05 AM - 04:10 AM	50.0	48.6	1.4	7.0	-	46.0	40.2	5.8	-
04:10 AM - 04:15 AM	48.5	43.3	5.2	1.5	-	50.0	39.6	10.4	-
04:15 AM - 04:20 AM	47.2	41.3	5.9	1.5	-	48.7	39.0	9.7	-
04:20 AM - 04:25 AM	47.8	42.3	5.5	1.5	-	49.3	39.4	9.9	-
04:25 AM - 04:30 AM	45.9	43.8	2.1	4.5	-	44.4	39.8	4.6	-
04:30 AM - 04:35 AM	44.3	42.6	1.7	4.5	-	42.8	40.2	2.6	-
04:35 AM - 04:40 AM	43.9	45.2	-1.3	7.0	-	39.9	40.7	-0.8	-
04:40 AM - 04:45 AM	45.2	42.6	2.6	3.0	-	45.2	40.9	4.3	-
04:45 AM - 04:50 AM	44.7	42.9	1.8	4.5	-	43.2	41.0	2.2	-
04:50 AM - 04:55 AM	42.9	45.7	-2.8	7.0	-	38.9	42.1	-3.2	-
04:55 AM - 05:00 AM	42.8	47.1	-4.3	7.0	-	38.8	42.3	-3.5	-
05:00 AM - 05:05 AM	43.8	46.1	-2.3	7.0	-	39.8	44.3	-4.5	-
05:05 AM - 05:10 AM	42.7	45.8	-3.1	7.0	-	38.7	44.0	-5.3	-
05:10 AM - 05:15 AM	41.2	45.1	-3.9	7.0	-	37.2	43.8	-6.6	-
05:15 AM - 05:20 AM	42.0	42.4	-0.4	7.0	-	38.0	41.3	-3.3	-
05:20 AM - 05:25 AM	45.4	42.3	3.1	3.0	-	45.4	40.9	4.5	-
05:25 AM - 05:30 AM	45.0	44.2	0.8	7.0	-	41.0	41.6	-0.6	-
05:30 AM - 05:35 AM	46.2	45.8	0.4	7.0	-	42.2	42.3	-0.1	-
05:35 AM - 05:40 AM	47.9	47.1	0.8	7.0	-	42.1	43.0	-0.9	-
05:40 AM - 05:45 AM	46.5	47.9	-1.4	7.0	-	42.5	43.1	-0.6	-
05:45 AM - 05:50 AM	46.6	47.6	-1.0	7.0	-	42.6	44.1	-1.5	-
05:50 AM - 05:55 AM	49.1	46.6	2.5	3.0	-	49.1	44.1	5.0	-
05:55 AM - 06:00 AM	47.9	47.1	0.8	7.0	-	43.9	44.4	-0.5	-
06:00 AM - 07:00 AM	46.3	47.6	-1.3	7.0	39.3	42.2	43.2	-3.9	-
07:00 AM - 08:00 AM	53.7	45.5	8.2	0.5	53.2	-	42.3	10.9	-
08:00 AM - 09:00 AM	51.2	51.1	0.1	7.0	44.2	-	49.8	-5.6	-
09:00 AM - 10:00 AM	43.7	51.0	-7.3	7.0	35.7	-	50.1	-13.4	-
10:00 AM - 11:00 AM	45.6	50.0	-4.4	7.0	38.6	-	48.8	-10.2	-
11:00 AM - 12:00 PM	45.4	49.7	-4.3	7.0	38.4	-	48.7	-10.3	-
ค่ามาตรฐาน								5.10	

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

- หมายเหตุ :
1. ปกติค่าระดับเสียงที่รายงานนี้ เป็น ค่าเฉลี่ยของเสียงที่วัดได้จากการประกอบกิจการโรงงาน พ.ศ. 2558
 2. ปกติค่าระดับเสียงที่รายงานนี้ เป็น ค่าเฉลี่ยของเสียงที่วัดได้จากการประกอบกิจการโรงงาน พ.ศ. 2558
 3. ปกติค่าระดับเสียงที่รายงานนี้ เป็น ค่าเฉลี่ยของเสียงที่วัดได้จากการประกอบกิจการโรงงาน พ.ศ. 2558 และค่าเฉลี่ยของเสียงที่วัดได้จากการประกอบกิจการโรงงาน พ.ศ. 2558
 4. ปกติค่าระดับเสียงที่รายงานนี้ เป็น ค่าเฉลี่ยของเสียงที่วัดได้จากการประกอบกิจการโรงงาน พ.ศ. 2558 และค่าเฉลี่ยของเสียงที่วัดได้จากการประกอบกิจการโรงงาน พ.ศ. 2558
 5. ปกติค่าระดับเสียงที่รายงานนี้ เป็น ค่าเฉลี่ยของเสียงที่วัดได้จากการประกอบกิจการโรงงาน พ.ศ. 2558 และค่าเฉลี่ยของเสียงที่วัดได้จากการประกอบกิจการโรงงาน พ.ศ. 2558

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

Approved by

Kanokorn Anek
Senior Manager

ADDRESS 104 Phatthanaikan 40, Phatthanaikan Rd., Khwaeng Phatthanaikan, 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 : Kasol Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. 2260067-7
Parameter เสียงรบกวน
Location บริเวณกลุ่มป่าห้วยน้ำค้อตะวันตก (GPS 48Q 277638, 1888807)
Measurement Date Jul 03 - 04, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371914



TESTING

No.0009
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report Number : 2376455-1

Page 2 of 3

ระดับเสียง (dB(A))									
เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ผลต่าง	ตัวปรับค่า	ปรับค่าเสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ผลต่าง	ตัวปรับค่า	ค่าระดับการรบกวน
12:30 AM - 12:35 AM	49.3	39.9	9.4	0.5	-	51.8	37.1	14.7	-
12:35 AM - 12:40 AM	41.2	40.7	0.5	7.0	-	37.2	36.4	0.8	-
12:40 AM - 12:45 AM	42.7	39.1	3.6	2.0	-	42.7	37.1	5.6	-
12:45 AM - 12:50 AM	44.1	40.4	3.7	2.0	-	45.1	37.4	7.7	-
12:50 AM - 12:55 AM	43.4	45.9	-2.5	7.0	-	39.4	39.4	0.0	-
12:55 AM - 01:00 AM	44.2	44.4	-0.2	7.0	-	40.2	38.2	2.0	-
01:00 AM - 01:05 AM	47.6	43.2	4.4	2.0	-	48.6	38.3	10.3	-
01:05 AM - 01:10 AM	47.3	46.5	0.8	7.0	-	43.3	37.9	5.4	-
01:10 AM - 01:15 AM	42.0	50.3	-8.3	7.0	-	38.0	47.3	-9.3	-
01:15 AM - 01:20 AM	42.8	48.5	-5.7	7.0	-	38.8	44.3	-5.5	-
01:20 AM - 01:25 AM	42.9	44.5	-1.6	7.0	-	38.9	39.4	-0.5	-
01:25 AM - 01:30 AM	43.7	44.5	-0.8	7.0	-	39.7	38.8	0.9	-
01:30 AM - 01:35 AM	41.3	44.9	-3.6	7.0	-	37.3	38.2	-0.9	-
01:35 AM - 01:40 AM	41.7	42.2	-0.5	7.0	-	37.7	36.7	1.0	-
01:40 AM - 01:45 AM	40.8	40.6	0.2	7.0	-	36.8	37.4	-0.6	-
01:45 AM - 01:50 AM	43.4	43.4	0.0	7.0	-	39.4	37.8	1.6	-
01:50 AM - 01:55 AM	43.2	42.6	0.6	7.0	-	39.2	38.0	1.2	-
01:55 AM - 02:00 AM	40.5	43.6	-3.1	7.0	-	36.5	38.2	-1.7	-
02:00 AM - 02:05 AM	42.1	42.2	-0.1	7.0	-	38.1	37.0	1.1	-
02:05 AM - 02:10 AM	46.1	41.6	4.5	1.5	-	47.6	36.0	11.6	-
02:10 AM - 02:15 AM	45.1	41.5	3.6	2.0	-	46.1	36.9	9.2	-
02:15 AM - 02:20 AM	41.5	41.1	0.4	7.0	-	37.5	36.4	1.1	-
02:20 AM - 02:25 AM	41.3	43.4	-2.1	7.0	-	37.3	36.8	0.5	-
02:25 AM - 02:30 AM	44.0	43.1	0.9	7.0	-	40.0	38.0	2.0	-
02:30 AM - 02:35 AM	42.9	43.6	-0.7	7.0	-	38.9	38.8	0.1	-
02:35 AM - 02:40 AM	44.6	41.1	3.5	3.0	-	44.6	38.4	6.2	-
02:40 AM - 02:45 AM	43.5	45.5	-2.0	7.0	-	39.5	38.7	0.8	-
02:45 AM - 02:50 AM	42.4	44.8	-2.4	7.0	-	38.4	38.6	-0.2	-
02:50 AM - 02:55 AM	41.1	47.0	-5.9	7.0	-	37.1	38.9	-1.8	-
02:55 AM - 03:00 AM	41.7	41.7	0.0	7.0	-	37.7	36.3	1.4	-
03:00 AM - 03:05 AM	43.9	40.3	3.6	2.0	-	44.9	36.2	8.7	-
03:05 AM - 03:10 AM	44.0	46.7	-2.7	7.0	-	40.0	38.9	1.1	-
03:10 AM - 03:15 AM	41.2	42.8	-1.6	7.0	-	37.2	36.7	0.5	-
03:15 AM - 03:20 AM	42.7	38.0	4.7	3.0	-	42.3	36.6	5.7	-
03:20 AM - 03:25 AM	43.4	43.6	-0.2	7.0	-	38.4	37.8	0.6	-
03:25 AM - 03:30 AM	45.0	41.3	3.7	2.0	-	46.0	37.7	8.3	-
03:30 AM - 03:35 AM	43.2	43.4	-0.2	7.0	-	39.2	37.6	1.6	-
03:35 AM - 03:40 AM	43.0	44.0	-1.0	7.0	-	39.0	40.3	-1.3	-
03:40 AM - 03:45 AM	42.8	41.3	1.5	4.5	-	41.3	38.0	3.3	-
03:45 AM - 03:50 AM	42.4	41.8	0.6	7.0	-	38.4	38.1	0.3	-
ค่ามาตรฐาน								5.10	

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

- หมายเหตุ :
1. ปกติค่าระดับเสียงที่รายงานนี้ เป็น ค่าเฉลี่ยของเสียงที่วัดได้จากการประกอบกิจการโรงงาน พ.ศ. 2558
 2. ปกติค่าระดับเสียงที่รายงานนี้ เป็น ค่าเฉลี่ยของเสียงที่วัดได้จากการประกอบกิจการโรงงาน พ.ศ. 2558
 3. ปกติค่าระดับเสียงที่รายงานนี้ เป็น ค่าเฉลี่ยของเสียงที่วัดได้จากการประกอบกิจการโรงงาน พ.ศ. 2558 และค่าเฉลี่ยของเสียงที่วัดได้จากการประกอบกิจการโรงงาน พ.ศ. 2558
 4. ปกติค่าระดับเสียงที่รายงานนี้ เป็น ค่าเฉลี่ยของเสียงที่วัดได้จากการประกอบกิจการโรงงาน พ.ศ. 2558 และค่าเฉลี่ยของเสียงที่วัดได้จากการประกอบกิจการโรงงาน พ.ศ. 2558
 5. ปกติค่าระดับเสียงที่รายงานนี้ เป็น ค่าเฉลี่ยของเสียงที่วัดได้จากการประกอบกิจการโรงงาน พ.ศ. 2558 และค่าเฉลี่ยของเสียงที่วัดได้จากการประกอบกิจการโรงงาน พ.ศ. 2558

ADDRESS 104 Phatthanaikan 40, Phatthanaikan Rd., Khwaeng Phatthanaikan, 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 : Kasol Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. 2260067-7
Parameter เสียงรบกวน
Location บริเวณกลุ่มป่าห้วยน้ำค้อตะวันตก (GPS 48Q 277638, 1888807)
Measurement Date Jul 03 - 04, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371914



TESTING

No.0009
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report Number : 2376455-1

Page 1 of 3

ระดับเสียง (dB(A))									
เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ผลต่างระดับเสียง	ตัวปรับค่า	ปรับค่าเสียงจากแหล่งกำเนิด		เสียงขณะไม่มีการรบกวน	ผลต่างระดับเสียง	ตัวปรับค่าการรบกวน
					การแก้ไข (dBA)	การแก้ไข (dBA)			
12:00 PM - 01:00 PM	56.8	50.7	6.1	1.5	55.3	-	49.7	5.6	-
01:00 PM - 02:00 PM	55.4	49.8	5.6	1.5	53.9	-	49.0	4.9	-
02:00 PM - 03:00 PM	55.6	49.5	6.1	1.5	54.1	-	48.4	5.7	-
03:00 PM - 04:00 PM	52.7	48.1	4.6	1.5	51.7	-	47.1	5.1	-
04:00 PM - 05:00 PM	48.6	44.4	4.2	2.0	46.6	-	37.7	8.9	-
05:00 PM - 06:00 PM	46.1	45.0	1.1	7.0	39.1	-	39.0	0.1	-
06:00 PM - 07:00 PM	45.3	45.6	-0.3	7.0	38.3	-	41.7	-3.4	-
07:00 PM - 08:00 PM	45.9	45.0	0.9	7.0	38.9	-	39.0	-0.4	-
08:00 PM - 09:00 PM	49.1	47.6	1.5	4.5	44.6	-	39.0	5.6	-
09:00 PM - 10:00 PM	44.7	44.2	0.5	7.0	37.7	-	38.0	-0.3	-
10:00 PM - 10:05 PM	39.1	43.5	-4.4	7.0	-	35.1	35.6	-0.5	-
10:05 PM - 10:10 PM	40.3	39.0	1.3	7.0	-	36.3	34.4	1.9	-
10:10 PM - 10:15 PM	40.6	43.2	-2.6	7.0	-	36.6	35.6	1.0	-
10:15 PM - 10:20 PM	38.6	44.2	-5.6	7.0	-	34.6	36.2	-1.6	-
10:20 PM - 10:25 PM	43.5	42.4	1.1	7.0	-	39.5	35.4	4.1	-
10:25 PM - 10:30 PM	46.7	40.6	6.1	1.5	-	48.2	33.8	14.4	-
10:30 PM - 10:35 PM	42.4	42.8	-0.4	7.0	-	38.4	34.2	4.2	-
10:35 PM - 10:40 PM	43.0	39.8	3.2	3.0	-	43.0	35.1	7.9	-
10:40 PM - 10:45 PM	40.7	41.8	-1.1	7.0	-	36.7	34.9	1.8	-
10:45 PM - 10:50 PM	40.3	41.5	-1.2	7.0	-	36.3	35.7	0.6	-
10:50 PM - 10:55 PM	41.5	39.1	2.4	4.5	40.0	-	35.1	4.9	-
10:55 PM - 11:00 PM	38.8	44.3	-5.5	7.0	-	34.8	34.5	0.3	-
11:00 PM - 11:05 PM	46.0	38.3	7.7	0.5	-	48.5	34.9	13.6	-
11:05 PM - 11:10 PM	29.5	38.8	-9.3	7.0	-	35.5	34.3	1.2	-
11:10 PM - 11:15 PM	42.3	39.1	3.2	3.0	-	42.3	35.5	6.8	-
11:15 PM - 11:20 PM	44.2	40.8	3.4	3.0	-	44.2	34.9	9.3	-
11:20 PM - 11:25 PM	42.3	39.9	2.9	2.0	-	44.8	35.1	9.7	-
11:25 PM - 11:30 PM	40.1	38.9	1.2	7.0	-	36.1	35.0	1.1	-
11:30 PM - 11:35 PM	41.7	43.1	-1.4	7.0	-	37.7	34.4	3.3	-
11:35 PM - 11:40 PM	44.2	43.2	1.0	7.0	-	41.0	37.0	4.0	-
11:40 PM - 11:45 PM	40.8	40.0	0.8	7.0	-	36.8	34.8	2.0	-
11:45 PM - 11:50 PM	41.8	42.0	-0.2	7.0	-	37.8	36.1	1.7	-
11:50 PM - 11:55 PM	41.5	41.8	-0.3	7.0	-	37.5	35.7	1.8	-
11:55 PM - 12:00 AM	40.5	40.5	0.0	7.0	-	38.4	34.8	3.6	-
12:00 AM - 12:05 AM	41.7	42.2	-0.5	7.0	-	36.7	36.5	0.2	-
12:05 AM - 12:10 AM	40.6	45.5	-5.9	7.0	-	36.6	37.0	-0.4	-
12:10 AM - 12:15 AM	41.3	46.6	-5.3	7.0	-	37.3	37.3	0.0	-
12:15 AM - 12:20 AM	41.6	40.7	1.0	7.0	-	37.6	37.3	0.3	-
12:20 AM - 12:25 AM	40.5	40.5	0.0	7.0	-	36.3	36.3	0.0	-
12:25 AM - 12:30 AM	47.4	43.3	7.1	1.0	-	49.4	37.2	12.2	-



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphavapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :



TESTING

No.0009
Lot ID: 2260068
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report Number: 2376457-1

Sample No. 2260068-1
Parameter เสียงรบกวน
Location โรงเรือนฆ่าเชื้อกล้วย (GPS 49Q 279854, 1889320)
Measurement Date Jun 27 - 28, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472124

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ผลต่าง	ตัวปรับค่า	ปรับค่าเสียงจากแหล่งกำเนิด		เสียงพื้นฐาน	ค่าระดับการรบกวน
					กลางคืน	กลางวัน		
01:00 PM - 02:00 PM	50.4	48.5	1.9	4.5	45.9	-	43.4	2.5
02:00 PM - 03:00 PM	51.6	48.5	3.1	3.0	48.6	-	42.6	6.0
03:00 PM - 04:00 PM	51.2	47.5	3.7	2.0	49.2	-	44.0	5.2
04:00 PM - 05:00 PM	56.9	49.1	7.8	0.5	56.4	-	43.9	12.5
05:00 PM - 06:00 PM	53.5	46.7	6.8	1.0	52.5	-	40.8	11.7
06:00 PM - 07:00 PM	51.7	47.4	4.3	2.0	49.7	-	44.3	5.4
07:00 PM - 08:00 PM	49.2	48.6	0.6	7.0	42.2	-	42.9	-0.7
08:00 PM - 09:00 PM	48.5	47.5	1.0	7.0	41.5	-	45.1	-3.6
09:00 PM - 10:00 PM	47.1	45.4	1.7	4.5	42.6	-	44.1	-1.5
10:00 PM - 10:05 PM	46.4	46.4	0.0	7.0	42.4	-	47.6	-5.2
10:05 PM - 10:10 PM	47.0	47.7	-0.7	7.0	-	43.0	45.5	-2.5
10:10 PM - 10:15 PM	46.3	45.5	0.8	7.0	-	42.3	44.6	-2.3
10:15 PM - 10:20 PM	46.3	45.5	-3.2	7.0	-	42.3	44.9	-2.6
10:20 PM - 10:25 PM	46.4	47.5	-1.1	7.0	-	42.4	45.9	-3.5
10:25 PM - 10:30 PM	46.1	46.5	-0.4	7.0	-	42.1	46.0	-3.9
10:30 PM - 10:35 PM	46.5	47.1	-0.6	7.0	-	42.5	45.6	-3.1
10:35 PM - 10:40 PM	45.4	49.3	-3.9	7.0	-	41.4	45.9	-4.5
10:40 PM - 10:45 PM	45.6	46.1	-0.5	7.0	-	41.6	45.3	-3.7
10:45 PM - 10:50 PM	47.2	47.2	0.0	7.0	-	43.2	46.4	-3.2
10:50 PM - 10:55 PM	44.9	46.8	-1.9	7.0	-	40.9	44.7	-3.8
10:55 PM - 11:00 PM	47.1	49.4	-2.3	7.0	-	43.1	45.7	-2.6
11:00 PM - 11:05 PM	45.1	43.8	2.3	4.5	-	44.6	41.5	3.1
11:05 PM - 11:10 PM	45.3	43.8	1.5	4.5	-	44.8	41.8	2.0
11:10 PM - 11:15 PM	45.6	46.0	-0.4	7.0	-	41.6	43.4	-1.8
11:15 PM - 11:20 PM	45.5	45.4	0.1	7.0	-	41.5	43.9	-2.4
11:20 PM - 11:25 PM	46.8	47.8	-1.0	7.0	-	42.8	44.7	-1.9
11:25 PM - 11:30 PM	47.0	46.8	0.2	7.0	-	43.0	44.7	-1.7
11:30 PM - 11:35 PM	45.7	45.0	0.7	7.0	-	41.7	44.4	-2.7
11:35 PM - 11:40 PM	45.6	46.0	-0.4	7.0	-	41.6	44.5	-2.9
11:40 PM - 11:45 PM	46.4	47.4	-1.0	7.0	-	42.4	44.6	-2.2
11:45 PM - 11:50 PM	44.8	45.6	-0.8	7.0	-	40.8	45.2	-4.4
11:50 PM - 11:55 PM	46.4	45.6	0.8	7.0	-	42.4	45.1	-2.7
11:55 PM - 12:00 AM	46.9	47.9	-1.0	7.0	-	42.9	45.1	-2.2
12:00 AM - 12:05 AM	45.7	46.7	-1.0	7.0	-	41.7	45.8	-4.1
12:05 AM - 12:10 AM	44.5	46.7	-2.2	7.0	-	40.5	45.6	-5.1
12:10 AM - 12:15 AM	46.2	46.5	-0.3	7.0	-	42.2	44.6	-2.4
12:15 AM - 12:20 AM	45.7	46.3	-0.6	7.0	-	41.7	45.2	-3.5
12:20 AM - 12:25 AM	44.4	44.9	-0.5	7.0	-	40.4	43.6	-3.2
12:25 AM - 12:30 AM	45.5	46.0	-0.5	7.0	-	41.5	43.4	-1.9
12:30 AM - 12:35 AM	44.8	45.4	-0.6	7.0	-	40.8	43.9	-3.1

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

Approved by

Kanokorn Anek
Senior 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 : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphavapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. 2260068-1
Parameter เสียงรบกวน
Location โรงเรือนฆ่าเชื้อกล้วย (GPS 49Q 279854, 1889320)
Measurement Date Jun 27 - 28, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472124

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ผลต่าง	ตัวปรับค่า	ปรับค่าเสียงจากแหล่งกำเนิด		เสียงพื้นฐาน	ค่าระดับการรบกวน
					กลางคืน	กลางวัน		
12:35 AM - 12:40 AM	44.4	44.9	-0.5	7.0	-	40.4	43.6	-3.2
12:40 AM - 12:45 AM	44.3	44.3	0.0	7.0	-	40.1	43.4	-3.3
12:45 AM - 12:50 AM	45.6	44.7	0.9	7.0	-	41.6	43.9	-2.3
12:50 AM - 12:55 AM	46.3	47.9	-1.6	7.0	-	42.3	44.0	-1.7
12:55 AM - 01:00 AM	45.4	45.3	0.1	7.0	-	41.4	44.1	-2.7
01:00 AM - 01:05 AM	49.4	50.3	-0.9	7.0	-	45.6	44.0	1.6
01:05 AM - 01:10 AM	44.8	45.9	-1.1	7.0	-	40.8	43.6	-2.8
01:10 AM - 01:15 AM	46.2	44.4	1.8	4.5	-	44.7	43.8	0.9
01:15 AM - 01:20 AM	45.4	44.4	1.0	7.0	-	41.4	43.8	-2.4
01:20 AM - 01:25 AM	45.3	44.7	0.9	7.0	-	41.6	44.1	-2.5
01:25 AM - 01:30 AM	45.8	45.3	0.5	7.0	-	41.8	44.0	-2.2
01:30 AM - 01:35 AM	45.0	44.9	0.1	7.0	-	41.0	43.5	-2.5
01:35 AM - 01:40 AM	45.4	44.3	1.1	7.0	-	41.4	43.3	-1.9
01:40 AM - 01:45 AM	45.3	43.4	2.4	4.5	-	44.3	43.0	1.3
01:45 AM - 01:50 AM	44.8	44.6	0.2	7.0	-	40.8	43.6	-2.8
01:50 AM - 01:55 AM	45.3	44.7	0.6	7.0	-	41.3	42.9	-1.6
01:55 AM - 02:00 AM	45.0	45.2	-0.2	7.0	-	41.0	43.4	-2.4
02:00 AM - 02:05 AM	44.2	47.1	-2.8	7.0	-	40.2	45.2	-4.9
02:05 AM - 02:10 AM	45.4	43.8	1.6	4.5	-	43.9	41.5	2.4
02:10 AM - 02:15 AM	44.5	43.8	0.7	7.0	-	40.5	41.8	-1.3
02:15 AM - 02:20 AM	45.0	44.4	0.6	7.0	-	41.0	43.9	-2.9
02:20 AM - 02:25 AM	46.7	45.4	1.3	7.0	-	42.7	44.9	-2.2
02:25 AM - 02:30 AM	45.6	45.5	0.1	7.0	-	41.6	44.9	-3.3
02:30 AM - 02:35 AM	45.0	46.0	-1.0	7.0	-	41.0	45.4	-4.4
02:35 AM - 02:40 AM	45.4	45.8	-0.4	7.0	-	41.4	45.1	-3.7
02:40 AM - 02:45 AM	45.3	47.0	-1.7	7.0	-	41.3	45.9	-4.6
02:45 AM - 02:50 AM	44.7	46.3	-1.6	7.0	-	40.7	45.5	-4.8
02:50 AM - 02:55 AM	46.4	45.0	1.4	7.0	-	42.4	43.8	-1.4
02:55 AM - 03:00 AM	46.1	45.1	1.0	7.0	-	42.1	43.4	-1.3
03:00 AM - 03:05 AM	47.4	44.6	2.8	3.0	-	47.4	43.9	3.5
03:05 AM - 03:10 AM	45.2	44.2	1.0	7.0	-	41.2	43.3	-2.1
03:10 AM - 03:15 AM	50.5	44.8	5.7	1.5	-	52.0	49.1	8.9
03:15 AM - 03:20 AM	50.9	43.3	7.6	0.5	-	53.4	41.8	11.6
03:20 AM - 03:25 AM	48.1	43.7	4.5	1.5	-	49.6	41.9	7.7
03:25 AM - 03:30 AM	49.3	44.4	4.9	1.5	-	50.8	42.6	8.2
03:30 AM - 03:35 AM	47.1	45.5	1.6	4.5	-	45.6	42.0	3.6
03:35 AM - 03:40 AM	46.7	44.9	1.8	4.5	-	45.2	41.9	3.3
03:40 AM - 03:45 AM	47.6	44.5	3.1	7.0	-	47.6	41.4	6.2
03:45 AM - 03:50 AM	48.0	43.2	4.8	1.5	-	49.5	41.3	8.2
03:50 AM - 03:55 AM	49.0	43.8	5.2	1.5	-	50.5	41.9	8.6

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

Approved by

Kanokorn Anek
Senior 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 : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphavapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. 2260068-1
Parameter เสียงรบกวน
Location โรงเรือนฆ่าเชื้อกล้วย (GPS 49Q 279854, 1889320)
Measurement Date Jun 27 - 28, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472124

เวลา	ระดับเสียง (dB(A))				ปรับค่าเสียงจากแหล่งกำเนิด		เสียงพื้นฐาน	ค่าระดับการรบกวน
	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ผลต่างระดับเสียง	ตัวปรับค่า	กลางคืน	กลางวัน		
03:55 AM - 04:00 AM	49.2	44.8	4.4	2.0	-	50.2	41.4	8.8
04:00 AM - 04:05 AM	50.5	47.9	2.6	3.0	-	50.5	41.8	8.7
04:05 AM - 04:10 AM	53.0	47.4	5.6	1.5	-	54.5	42.2	12.3
04:10 AM - 04:15 AM	53.3	41.3	12.0	0.5	-	55.8	32.3	23.5
04:15 AM - 04:20 AM	53.6	40.4	13.2	0.0	-	56.6	32.4	24.2
04:20 AM - 04:25 AM	54.2	40.3	13.9	0.0	-	57.2	36.7	20.5
04:25 AM - 04:30 AM	52.6	46.6	6.0	1.5	-	54.1	40.8	13.3
04:30 AM - 04:35 AM	51.9	47.7	4.2	2.0	-	52.9	42.1	10.8
04:35 AM - 04:40 AM	51.5	55.4	-3.9	7.0	-	45.7	42.9	4.6
04:40 AM - 04:45 AM	49.7	49.7	0.0	7.0	-	45.7	41.5	4.2
04:45 AM - 04:50 AM	51.0	49.7	6.3	1.5	-	52.5	40.3	12.2
04:50 AM - 04:55 AM	54.7	46.7	8.0	0.5	-	57.2	40.5	16.7
04:55 AM - 05:00 AM	57.8	49.4	8.4	0.5	-	60.3	38.8	21.5
05:00 AM - 05:05 AM	51.8	44.6	7.2	1.0	-	53.8	39.5	14.3
05:05 AM - 05:10 AM	51.3	44.2	7.1	1.0	-	53.3	38.2	15.1
05:10 AM - 05:15 AM	49.1	47.0	2.1	4.5	-	47.6	39.1	8.5
05:15 AM - 05:20 AM	50.7	44.9	5.8	1.5	-	52.2	41.9	10.3
05:20 AM - 05:25 AM	50.3	44.5	5.8	1.5	-	51.8	41.4	10.4
05:25 AM - 05:30 AM	49.7	44.3	5.4	1.5	-	51.2	38.4	12.8
05:30 AM - 05:35 AM	51.0	44.3	6.7	1.0	-	53.0	37.3	15.7
05:35 AM - 05:40 AM	51.0	45.8	5.2	1.5	-	52.5	38.8	13.7
05:40 AM - 05:45 AM	54.3	46.7	7.6	0.5	-	56.8	38.9	17.9
05:45 AM - 05:50 AM	51.1	44.8	6.3	1.5	-	52.6	41.4	11.2
05:50 AM - 05:55 AM	49.4	44.3	5.1	1.5	-	50.9	37.3	13.6
05:55 AM - 06:00 AM	53.4	45.8	7.6	0.5	-	55.9	38.8	17.1
06:00 AM - 07:00 AM	51.9	46.4	5.5	1.5	50.4	-	42.1	8.3
07:00 AM - 08:00 AM	56.5	49.8	6.7	1.0	55.5	-	42.6	12.9
08:00 AM - 09:00 AM	51.1	49.5	1.6	4.5	46.6	-	43.2	3.4
09:00 AM - 10:00 AM	50.2	48.9	1.3	7.0	42.2	-	41.5	1.7
10:00 AM - 11:00 AM	50.7	48.7	2.0	4.5	46.2	-	43.0	3.2
11:00 AM - 12:00 PM	48.5	48.5	0.0	7.0	41.5	-	42.8	-1.3
12:00 PM - 01:00 PM	48.7	49.1	-0.4	7.0	41.7	-	44.3	-6.6



Analysis / Test Report



TESTING

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260068
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report Number: 2376458-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260068-2
Parameter เสียงรบกวน
Location โรงเรือนฆ่าเชื้อกล้วย (GPS 48Q 279854, 1889320)
Measurement Date Jun 28 - 29, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472124

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ผลต่างระดับเสียง	ค่าปรับค่า	ปรับค่าเสียงจากแหล่งกำเนิด		เสียงพื้นฐาน	ค่าระดับการรบกวน
					ค่าจริง	ค่าปรับ		
12:35 AM - 12:40 AM	45.2	43.3	1.9	4.5	-	43.7	40.6	3.1
12:40 AM - 12:45 AM	46.4	44.9	1.5	4.5	-	44.9	40.7	4.2
12:45 AM - 12:50 AM	44.3	42.2	2.1	4.5	-	42.7	41.1	1.7
12:50 AM - 12:55 AM	45.8	42.1	3.7	2.0	-	46.8	41.1	5.7
12:55 AM - 01:00 AM	45.6	42.1	3.5	2.0	-	46.6	41.2	5.4
01:00 AM - 01:05 AM	44.5	41.8	2.7	4.5	-	43.0	41.5	1.4
01:05 AM - 01:10 AM	46.4	43.1	3.3	3.0	-	46.4	41.5	4.9
01:10 AM - 01:15 AM	47.9	42.7	5.2	2.0	-	48.0	41.5	6.5
01:15 AM - 01:20 AM	46.4	42.2	4.2	2.0	-	47.4	41.2	6.2
01:20 AM - 01:25 AM	45.9	42.5	3.4	3.0	-	45.9	41.5	4.4
01:25 AM - 01:30 AM	44.7	43.9	0.8	7.0	-	40.7	43.0	-2.3
01:30 AM - 01:35 AM	45.0	44.3	0.7	7.0	-	41.0	43.4	-2.4
01:35 AM - 01:40 AM	45.1	44.4	0.7	7.0	-	41.1	43.6	-2.5
01:40 AM - 01:45 AM	44.8	44.9	-0.1	7.0	-	40.8	43.9	-3.1
01:45 AM - 01:50 AM	46.5	44.2	2.3	4.5	-	45.0	41.9	3.1
01:50 AM - 01:55 AM	45.5	42.5	3.0	3.0	-	45.5	41.4	4.1
01:55 AM - 02:00 AM	47.3	43.9	3.4	3.0	-	47.3	42.9	4.4
02:00 AM - 02:05 AM	45.3	43.5	1.8	4.5	-	43.8	41.4	2.4
02:05 AM - 02:10 AM	45.0	41.8	3.2	3.0	-	45.0	40.9	4.1
02:10 AM - 02:15 AM	45.4	43.1	2.3	4.5	-	43.9	41.9	2.0
02:15 AM - 02:20 AM	46.1	43.5	2.6	3.0	-	46.1	41.6	4.5
02:20 AM - 02:25 AM	46.0	43.3	2.7	3.0	-	46.0	41.9	4.2
02:25 AM - 02:30 AM	46.4	44.8	1.6	4.5	-	44.9	41.5	3.4
02:30 AM - 02:35 AM	45.2	44.5	0.7	7.0	-	41.2	40.9	0.3
02:35 AM - 02:40 AM	46.1	44.6	1.5	4.5	-	44.6	41.0	3.6
02:40 AM - 02:45 AM	44.9	42.3	2.6	7.0	-	40.9	40.0	0.9
02:45 AM - 02:50 AM	45.3	43.1	2.2	4.5	-	43.8	40.7	3.1
02:50 AM - 02:55 AM	46.0	41.6	4.4	2.0	-	47.0	40.5	6.5
02:55 AM - 03:00 AM	46.8	40.7	6.1	1.5	-	48.3	40.0	8.3
03:00 AM - 03:05 AM	45.8	40.5	5.3	1.5	-	47.3	39.8	7.4
03:05 AM - 03:10 AM	46.1	40.5	5.6	1.5	-	47.6	39.8	7.8
03:10 AM - 03:15 AM	46.9	41.3	5.6	1.5	-	48.4	40.0	8.4
03:15 AM - 03:20 AM	47.0	42.6	4.4	2.0	-	48.0	40.4	7.6
03:20 AM - 03:25 AM	47.4	42.3	5.1	1.0	-	48.9	40.8	8.1
03:25 AM - 03:30 AM	46.4	35.6	10.8	0.5	-	48.9	29.9	19.0
03:30 AM - 03:35 AM	47.0	43.6	3.4	3.0	-	47.0	29.3	17.7
03:35 AM - 03:40 AM	46.9	42.0	4.9	1.5	-	48.4	27.9	20.5
03:40 AM - 03:45 AM	46.7	42.0	4.7	1.5	-	48.2	27.9	20.3
03:45 AM - 03:50 AM	48.0	43.3	4.7	1.5	-	49.5	41.7	7.8
03:50 AM - 03:55 AM	48.5	43.7	4.8	1.5	-	50.0	42.3	7.7

The above results are valid only for the analyzed/checked 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

Kasat Phol
Kasat Phol
Senior Manager

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



Analysis / Test Report

TESTING

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260068
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report Number: 2376459-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260068-3
Parameter เสียงรบกวน
Location โรงเรือนฆ่าเชื้อกล้วย (GPS 48Q 279854, 1889320)
Measurement Date Jun 29 - 30, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472124

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ผลต่างระดับเสียง	ค่าปรับค่า	ปรับค่าเสียงจากแหล่งกำเนิด		เสียงพื้นฐาน	ค่าระดับการรบกวน
					ค่าจริง	ค่าปรับ		
01:00 PM - 02:00 PM	50.2	46.4	3.8	2.0	48.2	-	40.0	8.2
02:00 PM - 03:00 PM	51.2	45.4	5.8	1.5	49.7	-	39.3	10.4
03:00 PM - 04:00 PM	50.6	47.3	3.3	3.0	47.6	-	41.5	7.6
04:00 PM - 05:00 PM	50.5	48.1	2.4	4.5	46.0	-	40.6	5.4
05:00 PM - 06:00 PM	51.7	48.5	3.2	3.0	48.7	-	42.8	5.9
06:00 PM - 07:00 PM	48.8	52.9	-4.1	7.0	41.8	-	41.5	0.3
07:00 PM - 08:00 PM	48.8	47.8	1.0	7.0	41.8	-	41.5	0.3
08:00 PM - 09:00 PM	48.7	46.4	2.3	4.5	44.2	-	41.5	2.7
09:00 PM - 10:00 PM	48.9	44.5	4.4	2.0	46.9	-	40.1	6.8
10:00 PM - 10:05 PM	48.7	43.5	5.2	1.5	-	50.2	41.9	8.3
10:05 PM - 10:10 PM	46.0	42.9	3.1	4.5	-	46.0	42.0	4.0
10:10 PM - 10:15 PM	47.5	44.6	2.9	3.0	-	47.5	42.4	5.1
10:15 PM - 10:20 PM	47.3	46.9	0.4	7.0	-	43.3	42.8	0.5
10:20 PM - 10:25 PM	46.8	49.7	-2.9	7.0	-	42.8	39.1	-3.7
10:25 PM - 10:30 PM	46.6	44.2	2.4	3.0	-	46.6	41.0	5.6
10:30 PM - 10:35 PM	46.5	44.0	2.5	3.0	-	46.5	41.9	4.6
10:35 PM - 10:40 PM	47.7	44.2	3.5	2.0	-	47.7	42.1	5.6
10:40 PM - 10:45 PM	46.8	44.3	2.5	3.0	-	46.8	42.2	4.6
10:45 PM - 10:50 PM	46.0	43.7	2.3	4.5	-	46.0	41.8	4.2
10:50 PM - 10:55 PM	45.9	45.2	0.7	7.0	-	41.9	41.9	0.0
10:55 PM - 11:00 PM	45.1	47.6	-2.5	7.0	-	41.1	45.1	-4.0
11:00 PM - 11:05 PM	45.9	39.6	6.3	1.5	-	47.4	38.8	8.6
11:05 PM - 11:10 PM	45.2	40.0	5.2	1.5	-	46.7	39.7	7.0
11:10 PM - 11:15 PM	45.1	41.2	3.9	2.0	-	46.1	38.9	7.2
11:15 PM - 11:20 PM	44.2	42.4	1.8	4.5	-	42.7	39.5	3.2
11:20 PM - 11:25 PM	45.0	39.0	6.0	1.5	-	46.5	36.1	10.4
11:25 PM - 11:30 PM	45.6	40.2	5.4	1.5	-	45.6	37.3	8.3
11:30 PM - 11:35 PM	46.7	41.4	5.3	1.5	-	48.2	38.5	9.7
11:35 PM - 11:40 PM	45.7	40.0	5.7	1.5	-	47.2	38.9	8.3
11:40 PM - 11:45 PM	46.4	40.1	6.3	1.5	-	47.9	39.5	8.4
11:45 PM - 11:50 PM	46.9	40.3	6.6	1.5	-	48.5	39.9	8.6
11:50 PM - 11:55 PM	45.7	39.3	6.4	1.5	-	47.2	38.5	8.7
11:55 PM - 12:00 PM	45.9	39.4	6.5	1.0	-	47.9	37.4	10.5
12:00 AM - 12:05 AM	46.5	41.4	5.1	1.5	-	48.0	38.9	9.1
12:05 AM - 12:10 AM	46.5	42.4	4.1	2.0	-	46.5	39.5	7.0
12:10 AM - 12:15 AM	46.4	39.0	7.4	1.0	-	48.4	36.1	12.3
12:15 AM - 12:20 AM	44.9	40.2	4.7	1.5	-	46.4	37.3	9.1
12:20 AM - 12:25 AM	45.3	41.4	3.9	2.0	-	46.3	38.5	7.8
12:25 AM - 12:30 AM	45.4	40.3	5.1	1.5	-	45.4	39.9	5.5
12:30 AM - 12:35 AM	46.0	41.5	4.5	1.5	-	47.5	40.2	7.3

The above results are valid only for the analyzed/checked 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

Kasat Phol
Kasat Phol
Senior Manager

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



Analysis / Test Report



TESTING

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

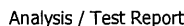
Lot ID: 2260068
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report Number: 2376458-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 3 of 3

Sample No. 2260068-2
Parameter เสียงรบกวน
Location โรงเรือนฆ่าเชื้อกล้วย (GPS 48Q 279854, 1889320)
Measurement Date Jun 28 - 29, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472124

ตรวจเสียง (dB(A))								
เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ผลต่างระดับเสียง	ค่าปรับค่า	ปรับค่าเสียงจากแหล่งกำเนิด		เสียงพื้นฐาน	ค่าระดับการรบกวน
					ค่าจริง	ค่าปรับ		
03:55 AM - 04:00 AM	50.0	42.8	7.2	1.0	-	52.0	41.6	10.4
04:00 AM - 04:05 AM	49.9	42.5	7.4	1.0	-	51.9	41.4	10.5
04:05 AM - 04:10 AM	50.1	43.1	7.0	1.0	-	52.1	41.8	10.3
04:10 AM - 04:15 AM	53.2	42.9	10.3	0.5	-	55.7	41.4	14.3
04:15 AM - 04:20 AM	53.8	42.6	11.2	0.5	-	56.3	40.9	15.4
04:20 AM - 04:25 AM	51.8	42.3	9.5	0.5	-	54.3	40.9	13.4
04:25 AM - 04:30 AM	51.6	41.8	6.8	1.0	-	53.6	36.3	17.3
04:30 AM - 04:35 AM	53.3	38.5	14.8	0.0	-	56.3	36.1	20.2
04:35 AM - 04:40 AM	49.3	38.9	10.4	0.5	-	51.8	36.8	15.0
04:40 AM - 04:45 AM	49.9	40.1	9.8	0.5	-	52.4	37.7	14.7
04:45 AM - 04:50 AM	50.1	41.6	8.5	0.5	-	52.6	38.0	14.6
04:50 AM - 04:55 AM	50.8	39.6	11.2	0.5	-	53.3	37.9	15.4
04:55 AM - 05:00 AM	49.1	39.6	9.5	0.5	-	51.6	38.4	13.2
05:00 AM - 05:05 AM	49.4	43.1	6.3	1.5	-	50.9	37.4	13.5
05:05 AM - 05:10 AM	51.2	49.1	2.1	4.5	-	49.7	38.1	11.6
05:10 AM - 05:15 AM	49.9	53.2	-3.3	7.0	-	45.9	41.5	4.4
05:15 AM - 05:20 AM	50.8	52.7	-1.9	7.0	-	46.8	45.8	1.0
05:20 AM - 05:25 AM	51.4	54.7	-3.3	7.0	-	47.4	46.6	0.8
05:25 AM - 05:30 AM	52.6	51.7	0.9	7.0	-	48.6	46.3	2.3
05:30 AM - 05:35 AM	49.9	52.1	-2.2	7.0	-	45.9	45.8	0.1
05:35 AM - 05:40 AM	50.8	50.6	0.2	7.0	-	46.8	46.1	0.7
05:40 AM - 05:45 AM	53.2	50.6	2.6	3.0	-	53.2	46.5	6.7
05:45 AM - 05:50 AM	52.2	48.8	3.4	3.0	-	52.2	42.5	9.7
05:50 AM - 05:55 AM	51.3	51.0	0.3	7.0	-	47.3	45.3	2.0
05:55 AM - 06:00 AM	52.1	57.0	-4.9	7.0	-	48.1	44.4	3.7
06:00 AM - 07:00 AM	52.3	53.2	-0.9	7.0	45.3	-	44.7	0.6
07:00 AM - 08:00 AM	51.4	48.2	3.2	7.0	48.1	-	44.7	6.7
08:00 AM - 09:00 AM	48.7	48.4	0.3	7.0	41.7	-	41.0	0.7
09:00 AM - 10:00 AM	52.0	48.4	3.4	3.0	49.0	-	40.7	9.3
10:00 AM - 11:00 AM	49.3	48.4	0.9	7.0	42.3	-	41.2	1.1
11:00 AM - 12:00 PM	49.2	47.9	1.3	7.0	42.2	-	41.3	0.9
12:00 PM - 01:00 PM	47.8	49.5	-1.6	7.0	40.9	-	40.0	0.9
ค่ารวม								5.10



Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9 Pa Kho, Kumohawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No.	2260068-5
Parameter	เสียงรบกวน
Location	บริเวณหน้าหน้าห้องนอน (GPS 48Q 279854, 1889320)
Measurement Date	Jul 01 - 02, 2022
Measurement by	Sangtawan Natasat
Sound Level Meter	00472124

เวลา	ระดับเสียง (dB(A))					พื้นที่อาศัยจากแหล่งกำเนิดเสียง		เสียงรบกวน การพักผ่อน	ค่าดัชนี การรบกวน
	เสียงจาก แหล่งกำเนิด	เสียงจาก โถงการจราจร	แหล่ง รถยนต์	ด้านทิศ ใต้	ด้านทิศ เหนือ	กลางแจ้ง	ภายใน		
01:00 PM - 02:00 PM	59.4	45.0	5.4	1.5	48.9	-	43.1	3.8	
02:00 PM - 03:00 PM	49.9	48.2	1.7	4.5	45.4	-	39.2	6.5	
03:00 PM - 04:00 PM	49.4	48.0	1.4	7.0	42.4	-	45.1	-2.7	
04:00 PM - 05:00 PM	50.1	46.6	3.5	2.0	48.1	-	44.3	3.8	
05:00 PM - 06:00 PM	49.2	45.8	3.4	3.0	46.2	-	42.6	3.6	
06:00 PM - 07:00 PM	49.7	46.1	3.6	2.0	47.7	-	45.1	2.6	
07:00 PM - 08:00 PM	49.5	47.2	2.3	4.5	45.0	-	39.9	5.1	
08:00 PM - 09:00 PM	49.4	45.0	4.4	2.0	47.4	-	39.2	8.2	
09:00 PM - 10:00 PM	49.5	45.5	4.0	2.0	47.5	-	41.0	6.6	
10:00 PM - 10:05 PM	50.0	44.2	5.8	1.5	-	51.5	41.8	9.2	
10:05 PM - 10:10 PM	49.2	44.3	4.9	1.5	-	50.7	42.5	8.2	
10:10 PM - 10:15 PM	49.7	46.4	4.3	2.0	-	51.7	42.2	19.5	
10:15 PM - 10:20 PM	49.4	44.1	5.3	1.5	-	50.9	32.6	18.3	
10:20 PM - 10:25 PM	50.6	44.3	6.3	1.5	-	52.4	32.3	9.6	
10:25 PM - 10:30 PM	49.9	43.9	6.6	1.0	-	51.9	31.4	20.5	
10:30 PM - 10:35 PM	49.3	44.3	3.8	2.0	-	48.9	32.6	16.3	
10:35 PM - 10:40 PM	50.6	48.2	1.4	7.0	-	45.6	31.7	13.9	
10:40 PM - 10:45 PM	50.8	44.8	6.0	1.5	-	52.3	30.8	10.5	
10:45 PM - 10:50 PM	50.6	44.5	6.1	1.5	-	52.1	40.1	11.2	
10:50 PM - 10:55 PM	48.4	45.0	3.4	3.0	-	48.4	38.5	9.9	
10:55 PM - 11:00 PM	47.7	44.4	3.3	3.0	-	47.7	34.4	13.3	
11:00 PM - 11:05 PM	47.6	44.3	3.3	3.0	-	47.6	42.5	5.1	
11:05 PM - 11:10 PM	45.7	45.0	7.0	7.0	-	41.7	44.6	-21.9	
11:10 PM - 11:15 PM	46.0	41.4	6.6	1.0	-	50.0	33.6	16.4	
11:15 PM - 11:20 PM	50.3	48.2	2.1	4.5	-	48.8	31.7	17.1	
11:20 PM - 11:25 PM	52.5	41.8	10.7	0.5	-	55.0	33.3	24.7	
11:25 PM - 11:30 PM	47.6	44.7	2.9	3.0	-	47.6	32.4	13.2	
11:30 PM - 11:35 PM	46.1	44.5	1.6	4.5	-	44.6	41.4	3.2	
11:35 PM - 11:40 PM	46.6	46.0	0.6	7.0	-	42.6	44.6	-2.0	
11:40 PM - 11:45 PM	46.3	45.7	0.6	7.0	-	42.3	44.6	-2.3	
11:45 PM - 11:50 PM	48.5	45.8	3.3	3.0	-	48.5	44.5	4.0	
11:50 PM - 11:55 PM	49.8	44.8	5.0	1.5	-	51.3	41.5	9.8	
11:55 PM - 12:00 AM	47.8	44.5	3.3	3.0	-	47.8	39.9	6.9	
12:00 AM - 12:05 AM	46.9	44.9	2.0	4.5	-	45.4	30.8	14.6	
12:05 AM - 12:10 AM	47.3	44.1	3.2	3.0	-	47.3	32.3	17.3	
12:10 AM - 12:15 AM	46.9	44.3	2.6	3.0	-	46.9	42.5	4.4	
12:15 AM - 12:20 AM	47.9	43.8	4.1	2.0	-	48.9	39.3	9.6	
12:20 AM - 12:25 AM	48.1	44.9	3.2	3.0	-	48.1	39.9	8.2	
12:25 AM - 12:30 AM	53.0	45.7	7.3	1.0	-	55.0	44.6	10.4	
12:30 AM - 12:35 AM	51.9	45.2	8.7	1.0	-	53.1	32.6	21.0	

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. AL5 Laboratory Group (Thailand) Limited.

Approved by _____

Kanok Korn Anek
Senior 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
 AIS LABORATORY GROUP (THAILAND) CO., LTD. An AIS Limited Company

Life Sciences www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER



Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No.	2260068-5
Parameter	Kecepatan
Location	Sungai Kumpang (GPS 48Q 279854, 1889320)
Measurement Date	Jul 01 - 02, 2022
Measurement by	Sangtawan Natasat
Sound Level Meter	00472124

เวลา	เสียงจากแหล่งกำเนิด	ระดับเสียง (dB(A))				พื้นที่เสียงจากแหล่งกำเนิด		เสียงพื้นฐาน	ค่ารวมการคำนวณ
		เสียงจาก "โรงการคำนวณ"	แหล่งกำเนิดเสียง	ค่าพื้นที่	พื้นที่เสียงจากแหล่งกำเนิด	ค่ารวมการคำนวณ			
03:55 AM - 04:00 AM	50.2	43.6	6.6	1.0	-	52.2	40.0	12.2	
04:00 AM - 04:05 AM	49.0	44.3	4.7	1.5	-	52.5	40.5	9.9	
04:05 AM - 04:10 AM	49.0	44.3	4.7	1.5	-	50.5	40.7	9.8	
04:10 AM - 04:15 AM	50.8	44.3	6.5	1.0	-	52.8	40.2	12.6	
04:15 AM - 04:20 AM	51.8	46.0	5.8	1.5	-	53.3	44.6	8.7	
04:20 AM - 04:25 AM	48.1	45.7	2.4	4.5	-	46.6	44.6	2.0	
04:25 AM - 04:30 AM	50.2	45.8	4.4	2.0	-	51.2	44.5	6.7	
04:30 AM - 04:35 AM	49.9	45.2	4.7	1.5	-	51.4	32.6	18.8	
04:35 AM - 04:40 AM	49.4	46.4	3.0	3.0	-	49.4	32.2	17.2	
04:40 AM - 04:45 AM	50.6	46.0	4.6	1.5	-	52.1	44.6	7.5	
04:45 AM - 04:50 AM	50.6	45.7	4.9	1.5	-	49.1	44.6	7.5	
04:50 AM - 04:55 AM	48.6	45.8	2.8	3.0	-	48.6	44.5	4.1	
04:55 AM - 05:00 AM	50.8	44.5	6.3	1.5	-	52.3	40.9	11.4	
05:00 AM - 05:05 AM	45.4	3.7	2.0	1.0	-	50.4	44.6	5.8	
05:05 AM - 05:10 AM	49.0	46.9	2.1	4.5	-	47.5	43.3	2.2	
05:10 AM - 05:15 AM	48.9	46.4	2.5	3.0	-	48.9	44.9	4.0	
05:15 AM - 05:20 AM	50.6	44.1	6.5	1.0	-	52.6	32.6	20.0	
05:20 AM - 05:25 AM	44.6	43.3	2.0	1.5	-	49.8	42.5	7.1	
05:25 AM - 05:30 AM	49.2	44.3	4.3	2.0	-	50.2	30.8	19.4	
05:30 AM - 05:35 AM	49.8	44.3	5.5	1.5	-	51.3	43.4	7.9	
05:35 AM - 05:40 AM	47.7	44.4	3.3	3.0	-	47.7	45.6	4.1	
05:40 AM - 05:45 AM	47.6	44.9	2.7	3.0	-	47.6	43.9	3.7	
05:45 AM - 05:50 AM	48.9	44.2	4.7	1.5	-	50.4	41.9	8.5	
05:50 AM - 05:55 AM	49.0	45.7	3.3	3.0	-	49.0	44.6	4.4	
05:55 AM - 06:00 AM	49.8	45.2	4.6	1.5	-	51.3	32.6	18.7	
06:00 AM - 07:00 AM	48.7	45.1	4.6	1.5	48.2	41.9	41.9	6.3	
07:00 AM - 08:00 AM	50.2	45.3	4.9	1.5	48.7	-	42.3	6.4	
08:00 AM - 09:00 AM	49.9	46.0	3.9	2.0	47.9	-	44.3	3.6	
09:00 AM - 10:00 AM	48.9	47.8	1.1	7.0	41.9	-	45.8	-3.9	
10:00 AM - 11:00 AM	49.1	31.1	3.0	7.0	46.1	-	44.2	-4.1	
11:00 AM - 12:00 PM	48.8	47.6	1.2	7.0	41.8	-	46.1	-4.3	
12:00 PM - 01:00 PM	50.2	46.4	3.8	2.0	48.2	-	43.5	4.7	

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

[illegible]

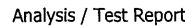
The above results are valid only for the analyzed/tested sample(s) as indicated in this report. No part of this report or certificate may be reproduced in any form without written consent from the Laboratory. M.S. Laboratory Group (Thailand) Co., Ltd. 11/11/2558

Approved by _____

Kanok Korn Anek
Kanok Korn Anek
Senior 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



Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No.	2260068-5
Parameter	เสียงรบกวน
Location	วัดในพื้นที่ชุมชนซอย (GPS 49Q 279854, 1889320)
Measurement Date	Jul 01 - 02, 2022
Measurement by	Sangtawan Natasat
Sound Level Meter	00472124

ระดับเสียง (dB(A))								
เวลา	เสียงจากแหล่งกำเนิด ^(a)	เสียงจากทะเล ^(b)	รวมแล้ว ระดับเสียง	ตัวปรับค่า	ปริมาณเสียงจากแหล่งกำเนิด ค่าเฉลี่ย ^(c)	เสียงที่หูคน ค่าเฉลี่ย ^(d)	ค่าสัมประสิทธิ์การคำนวณ	
12:35 AM - 12:40 AM	47.4	46.4	1.0	7.0	43.4	32.2	11.2	
12:40 AM - 12:45 AM	47.2	46.3	2.9	3.0	-	47.2	42.5	4.7
12:45 AM - 12:50 AM	50.4	44.5	5.9	1.5	-	51.9	42.7	9.2
12:50 AM - 12:55 AM	49.0	44.2	4.7	1.5	-	50.4	42.2	8.2
12:55 AM - 01:00 AM	48.9	44.0	4.9	1.5	-	50.5	40.5	10.0
01:00 AM - 01:05 AM	52.4	51.8	0.6	7.0	-	43.4	33.6	14.8
01:05 AM - 01:10 AM	50.0	45.2	4.8	1.5	-	51.5	32.6	18.9
01:10 AM - 01:15 AM	48.3	46.0	1.9	4.5	-	46.8	32.2	14.6
01:15 AM - 01:20 AM	46.1	46.0	2.1	4.5	-	46.6	44.6	2.0
01:20 AM - 01:25 AM	46.3	45.7	0.6	7.0	-	42.3	44.6	2.3
01:25 AM - 01:30 AM	48.7	45.8	2.9	7.0	-	42.7	44.5	1.8
01:30 AM - 01:35 AM	46.4	44.5	1.9	4.5	-	44.9	40.9	4.0
01:35 AM - 01:40 AM	46.9	44.9	2.0	4.5	-	45.4	30.8	14.6
01:40 AM - 01:45 AM	46.3	44.0	2.3	7.0	-	42.8	32.8	10.0
01:45 AM - 01:50 AM	46.0	46.5	-0.5	7.0	-	42.0	31.9	10.1
01:50 AM - 01:55 AM	46.2	46.1	0.1	7.0	-	42.2	32.3	9.9
01:55 AM - 02:00 AM	47.2	44.9	2.3	4.5	-	45.7	30.8	14.9
02:00 AM - 02:05 AM	47.5	45.5	-1.0	7.0	-	42.3	41.1	1.4
02:05 AM - 02:10 AM	46.3	49.4	-3.1	7.0	-	42.3	44.0	-1.7
02:10 AM - 02:15 AM	51.0	49.9	1.1	7.0	-	47.0	44.8	2.2
02:15 AM - 02:20 AM	45.8	50.4	-4.6	7.0	-	41.8	44.8	-3.0
02:20 AM - 02:25 AM	46.3	48.9	-2.6	7.0	-	42.3	44.2	-1.9
02:25 AM - 02:30 AM	47.3	48.3	-1.0	7.0	-	43.3	45.3	-2.0
02:30 AM - 02:35 AM	46.7	46.8	-0.1	7.0	-	42.7	45.2	-2.5
02:35 AM - 02:40 AM	47.4	45.9	1.5	4.5	-	45.9	44.2	1.7
02:40 AM - 02:45 AM	47.4	45.6	1.8	4.5	-	45.9	43.9	2.0
02:45 AM - 02:50 AM	48.0	49.0	-1.0	3.0	-	48.0	42.8	5.6
02:50 AM - 02:55 AM	49.2	46.5	2.7	1.5	-	49.2	42.7	6.5
02:55 AM - 03:00 AM	50.3	45.4	4.9	3.0	-	51.8	43.2	8.6
03:00 AM - 03:05 AM	48.3	44.0	4.3	2.0	-	49.3	41.3	8.0
03:05 AM - 03:10 AM	48.6	44.0	4.6	1.5	-	50.1	41.5	8.6
03:10 AM - 03:15 AM	48.0	44.5	3.5	2.0	-	49.0	41.4	7.6
03:15 AM - 03:20 AM	48.9	44.6	5.2	1.5	-	51.3	40.4	10.9
03:20 AM - 03:25 AM	49.8	42.6	6.4	1.5	-	51.4	39.7	11.7
03:25 AM - 03:30 AM	48.9	45.4	3.5	1.5	-	48.9	32.2	16.7
03:30 AM - 03:35 AM	50.4	44.8	5.6	1.5	-	51.9	39.9	12.0
03:35 AM - 03:40 AM	49.4	44.8	4.6	1.5	-	50.9	40.1	10.8
03:40 AM - 03:45 AM	50.1	44.9	5.2	1.5	-	51.6	30.8	20.8
03:45 AM - 03:50 AM	49.9	45.4	4.5	1.5	-	51.4	39.9	11.5
03:50 AM - 03:55 AM	50.3	44.9	5.9	2.0	-	51.3	32.2	19.1

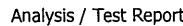
The above results are valid only for the analysed/tested sample(s) as indicated in this report. No part of this report or certificate may be reproduced in any form without written consent from the Laboratory. A.L.S. Laboratory Group (Thailand) - www.als-lab.com or e-mail: als.thailand@als-lab.com and contact our nearest ALS office.

Approved by _____

Kanokkorn Anek
Senior 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 : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No.	2250068-6
Parameter	เสียงรบกวน
Location	โรงโม่หินบ้านห้วยทองสี (GPS 48Q 279854, 1889320)
Measurement Date	Jul 02 - 03, 2022
Measurement by	Sangtawan Natasat
Sound Level Meter	00472124

ระดับเสียง (dB(A))						
เวลา	เสียงจากแหล่งกำเนิดเสียง	เสียงจากตัวไม่มีการกั้นเสียง	ระดับเสียงหลังกำแพง	ตัวแปรค่า	ปรับค่าเสียงจากแหล่งกำเนิดเสียงตามค่าปรับ	เสียงที่หูคน
					ค่าปรับ	การคำนวณ
01:00 PM - 02:00 PM	50.4	47.3	2.7	3.0	-	46.6 0.8
02:00 PM - 03:00 PM	51.6	44.7	6.9	1.0	50.6	- 43.4 8.8
03:00 PM - 04:00 PM	55.6	47.9	7.7	0.5	55.1	- 44.0 11.1
05:00 PM - 06:00 PM	48.8	45.8	3.0	3.0	-	35.0 10.8
06:00 PM - 07:00 PM	51.7	48.9	2.8	2.0	48.7	46.6 2.1
07:00 PM - 08:00 PM	52.4	48.2	4.2	2.0	50.4	- 46.5 3.9
08:00 PM - 09:00 PM	51.4	46.5	4.9	1.5	49.9	- 40.9 9.0
09:00 PM - 10:00 PM	52.0	47.4	2.6	3.0	47.0	- 39.5 7.5
10:00 PM - 10:05 PM	52.7	47.3	5.4	1.5	-	44.3 8.4
10:05 PM - 10:10 PM	53.8	48.2	4.6	1.5	-	54.3 4.0 13.0
10:10 PM - 10:15 PM	52.6	50.0	2.6	3.0	-	52.6 40.8 11.8
10:15 PM - 10:20 PM	52.5	44.8	7.7	0.5	-	55.0 39.1 15.9
10:20 PM - 10:25 PM	51.4	47.2	4.2	-	-	52.4 40.4 12.0
10:25 PM - 10:30 PM	51.0	45.3	5.7	1.5	-	52.5 37.8 14.7
10:30 PM - 10:35 PM	50.7	48.2	2.5	3.0	-	50.7 41.1 9.6
10:35 PM - 10:40 PM	51.1	45.8	5.3	1.5	-	52.6 40.3 12.3
10:40 PM - 10:45 PM	49.7	47.5	2.2	-	-	48.2 38.7 9.5
10:45 PM - 10:50 PM	47.1	45.9	1.2	7.0	-	43.1 43.8 0.7
10:50 PM - 10:55 PM	47.0	46.1	0.9	7.0	-	43.0 38.3 4.7
10:55 PM - 11:00 PM	50.3	46.8	3.5	2.0	-	51.3 40.9 10.4
11:00 PM - 11:05 PM	50.7	46.3	4.4	2.0	-	51.7 40.3 11.4
11:05 PM - 11:10 PM	52.1	46.1	6.0	1.5	-	53.0 40.7 13.3
11:10 PM - 11:15 PM	52.7	46.1	6.6	1.0	-	54.7 40.1 14.6
11:15 PM - 11:20 PM	48.9	43.8	5.1	1.5	-	50.4 38.7 11.7
11:20 PM - 11:23 PM	46.4	45.0	1.4	7.0	-	42.4 43.4 1.0
11:23 PM - 11:30 PM	46.8	46.4	0.4	7.0	-	42.8 38.4 4.4
11:30 PM - 11:35 PM	46.9	46.2	0.7	7.0	-	42.9 38.7 4.2
11:35 PM - 11:40 PM	46.4	45.3	1.1	7.0	-	42.4 37.8 4.6
11:40 PM - 11:45 PM	47.4	46.0	1.4	7.0	-	43.4 39.3 4.1
11:45 PM - 11:50 PM	49.1	45.9	3.2	1.5	-	50.6 39.4 12.2
11:50 PM - 11:55 PM	48.1	45.1	3.0	3.0	-	48.1 39.2 8.9
11:55 PM - 12:00 AM	47.9	46.6	1.3	7.0	-	43.9 39.5 4.4
12:00 AM - 12:05 AM	47.1	46.8	-2.7	7.0	-	43.1 48.4 -5.3
12:05 AM - 12:10 AM	46.1	45.0	1.0	7.0	-	42.1 47.5 -5.4
12:10 AM - 12:15 AM	46.8	49.2	-2.4	7.0	-	42.8 47.7 -4.9
12:15 AM - 12:20 AM	46.1	48.9	-2.8	7.0	-	42.1 47.5 -5.4
12:20 AM - 12:25 AM	46.1	48.0	-1.9	7.0	-	42.1 46.8 -4.7
12:25 AM - 12:30 AM	45.2	45.0	-0.8	7.0	-	41.3 47.7 -6.5
12:30 AM - 12:35 AM	46.8	45.8	1.0	7.0	-	42.4 46.2 5.8

The above results are valid only for the analyzed/described 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) Limited also made this report is not reproduced except in full.

Approved by _____

Kanok Korn Anek
Kanok Korn Anek
Senior Manager

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 319

Life Sciences www.alsglobal.com



Analysis / Test Report



TESTING
No.0008

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260068
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report Number : 2376463-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 3 of 3

Sample No. 2260068-7
Parameter เลืองนกาม
Location โรงไฟฟ้าห้วยหลวง (GPS 48Q 27954, 1889320)
Measurement Date Jul 03 - 04, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472124

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการทำงาน	ผลต่าง	ตัวปรับค่า	ปรับค่าเสียงจากแหล่งกำเนิด		เสียงพื้นฐาน	ค่าระดับการก่อกวน
					ค่าจริง	ค่าปรับ		
03:55 AM - 04:00 AM	54.2	38.6	15.6	0.0	54.2	37.5	19.7	
04:00 AM - 04:05 AM	52.8	40.1	12.7	0.0	52.8	37.9	18.0	
04:05 AM - 04:10 AM	51.4	38.7	12.7	0.0	51.4	38.1	16.3	
04:10 AM - 04:15 AM	53.0	38.3	14.7	0.0	56.0	37.7	18.3	
04:15 AM - 04:20 AM	53.7	38.3	15.4	0.0	56.7	37.1	19.0	
04:20 AM - 04:25 AM	51.2	37.8	13.4	0.0	54.2	37.2	17.0	
04:25 AM - 04:30 AM	51.8	47.7	4.1	2.0	52.8	37.5	15.3	
04:30 AM - 04:35 AM	50.2	40.7	9.5	0.5	52.7	37.6	15.1	
04:35 AM - 04:40 AM	51.8	37.6	14.2	0.0	54.8	37.1	17.7	
04:40 AM - 04:45 AM	50.2	38.1	12.1	0.5	52.7	36.6	16.1	
04:45 AM - 04:50 AM	50.6	37.9	12.7	0.0	53.6	36.5	17.1	
04:50 AM - 04:55 AM	49.7	37.2	12.5	0.0	52.7	36.4	16.3	
04:55 AM - 05:00 AM	49.5	37.1	12.4	0.5	52.0	36.5	15.5	
05:00 AM - 05:05 AM	50.0	37.7	12.3	0.5	52.5	35.9	16.6	
05:05 AM - 05:10 AM	51.1	47.0	4.1	2.0	52.1	35.4	16.7	
05:10 AM - 05:15 AM	51.1	37.5	13.6	0.0	54.1	36.2	17.9	
05:15 AM - 05:20 AM	50.8	36.6	14.2	0.0	53.9	35.5	17.5	
05:20 AM - 05:25 AM	50.7	37.6	13.1	0.0	53.7	36.6	17.1	
05:25 AM - 05:30 AM	50.0	36.2	13.8	0.0	53.0	35.1	17.9	
05:30 AM - 05:35 AM	50.4	35.8	14.6	0.0	53.4	34.6	18.8	
05:35 AM - 05:40 AM	52.5	35.4	17.1	0.0	55.5	34.1	21.4	
05:40 AM - 05:45 AM	49.8	36.0	13.8	0.0	52.8	33.3	19.5	
05:45 AM - 05:50 AM	49.9	34.5	15.4	0.0	52.9	33.2	19.7	
05:50 AM - 05:55 AM	50.7	34.5	16.2	0.0	52.7	33.3	20.4	
05:55 AM - 06:00 AM	51.7	33.0	18.7	0.0	54.7	33.7	21.0	
06:00 AM - 07:00 AM	52.2	39.9	12.3	0.5	51.7	35.9	15.8	
07:00 AM - 08:00 AM	51.3	49.2	2.1	4.5	46.8	40.3	4.5	
08:00 AM - 09:00 AM	50.4	48.9	1.5	4.5	45.9	41.6	4.3	
09:00 AM - 10:00 AM	49.1	47.5	1.6	4.5	44.6	40.7	3.9	
10:00 AM - 11:00 AM	49.1	49.5	-0.4	7.0	42.1	39.0	3.1	
11:00 AM - 12:00 PM	48.1	46.9	1.2	7.0	41.1	46.0	-4.9	
12:00 PM - 01:00 PM	47.5	46.6	0.9	7.0	40.5	45.5	-5.0	
ค่ามาตรฐาน							≤ 10	

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

- หมายเหตุ
1. ประกาศกระทรวงอุตสาหกรรม เรื่อง ค่าระดับเสียงจากเครื่องจักรและเครื่องมือที่ใช้ในการประกอบกิจการโรงงาน พ.ศ. 2548
 2. ประกาศกระทรวงมหาดไทย เรื่อง ค่าระดับเสียงชุมชน พ.ศ. 2550
 3. ประกาศกระทรวงสาธารณสุข เรื่อง วิธีการตรวจวัดระดับเสียง พ.ศ. 2550 และประกาศกระทรวงสาธารณสุข เรื่อง วิธีการตรวจวัดระดับเสียงของเครื่องจักรกลโรงงาน พ.ศ. 2550 และประกาศกระทรวงสาธารณสุข เรื่อง วิธีการตรวจวัดระดับเสียงของเครื่องจักรกลโรงงาน พ.ศ. 2553
 4. ประกาศกระทรวงสาธารณสุข เรื่อง ค่าระดับเสียงจากเครื่องจักรและเครื่องมือที่ใช้ในการประกอบกิจการที่เป็นอันตรายต่อสุขภาพ พ.ศ. 2561
- ระดับเสียงพื้นฐานและระดับเสียงขณะไม่มีการทำงาน (Sample No.2260104-1 ตรวจวัดวันที่ 03-04 กรกฎาคม 2565)

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

Kasorn Anuk
Senior 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



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260069
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report Number : 2376464-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260069-1
Parameter เลืองนกาม
Location โรงไฟฟ้า (GPS 48Q 276877, 1887945)
Measurement Date Jun 27 - 28, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 01173614

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการทำงาน	ผลต่าง	ตัวปรับค่า	ปรับค่าเสียงจากแหล่งกำเนิด		เสียงพื้นฐาน	ค่าระดับการก่อกวน
					ค่าจริง	ค่าปรับ		
12:20 AM - 12:25 AM	52.8	44.9	7.9	0.5	55.3	43.6	11.7	
12:25 AM - 12:30 AM	52.8	46.0	6.8	1.0	54.8	43.4	11.4	
12:30 AM - 12:35 AM	53.2	45.4	7.8	0.5	55.7	43.9	11.8	
12:35 AM - 12:40 AM	53.0	44.9	8.1	0.5	55.5	43.6	11.9	
12:40 AM - 12:45 AM	52.4	44.3	8.1	0.5	54.9	43.4	11.5	
12:45 AM - 12:50 AM	48.1	44.7	3.4	3.0	48.1	43.9	4.2	
12:50 AM - 12:55 AM	47.5	47.9	-0.4	7.0	43.5	44.0	-0.5	
12:55 AM - 01:00 AM	47.4	45.3	2.1	4.5	45.9	44.1	1.8	
01:00 AM - 01:05 AM	45.2	50.3	-5.1	7.0	41.2	44.0	-2.8	
01:05 AM - 01:10 AM	45.2	45.8	-0.6	7.0	41.3	43.6	-2.4	
01:10 AM - 01:15 AM	45.3	44.4	0.9	7.0	41.3	43.8	-2.5	
01:15 AM - 01:20 AM	45.5	44.4	1.1	7.0	41.5	43.8	-2.3	
01:20 AM - 01:25 AM	47.3	44.7	2.6	3.0	47.3	44.1	3.2	
01:25 AM - 01:30 AM	46.1	45.3	0.8	7.0	42.1	44.0	-1.9	
01:30 AM - 01:35 AM	46.6	44.9	1.7	4.5	45.1	43.5	1.6	
01:35 AM - 01:40 AM	43.9	44.3	-0.4	7.0	39.9	43.7	-3.4	
01:40 AM - 01:45 AM	43.1	43.4	-0.3	7.0	39.1	42.8	-3.7	
01:45 AM - 01:50 AM	43.1	44.6	-1.5	7.0	39.1	43.6	-4.5	
01:50 AM - 01:55 AM	42.8	44.7	-1.9	7.0	38.8	42.9	-4.1	
01:55 AM - 02:00 AM	43.4	45.2	-1.8	7.0	39.4	43.4	-4.0	
02:00 AM - 02:05 AM	46.5	47.1	-0.6	7.0	42.5	45.3	-2.7	
02:05 AM - 02:10 AM	51.6	43.8	7.8	0.5	54.1	41.5	12.6	
02:10 AM - 02:15 AM	43.5	43.8	-0.3	7.0	39.5	41.8	-2.3	
02:15 AM - 02:20 AM	46.3	44.4	1.9	4.5	44.8	43.9	0.9	
02:20 AM - 02:25 AM	45.8	45.4	0.4	7.0	41.9	44.9	-3.0	
02:25 AM - 02:30 AM	51.8	45.5	6.3	1.5	53.3	44.9	8.4	
02:30 AM - 02:35 AM	42.9	46.0	-3.1	7.0	38.9	45.4	-6.5	
02:35 AM - 02:40 AM	43.2	45.8	-2.6	7.0	39.2	45.1	-5.9	
02:40 AM - 02:45 AM	42.5	47.0	-4.5	7.0	37.9	45.7	-7.8	
02:45 AM - 02:50 AM	47.9	46.3	1.6	4.5	46.4	45.5	0.9	
02:50 AM - 02:55 AM	46.8	45.0	1.8	4.5	45.3	43.8	1.5	
02:55 AM - 03:00 AM	47.2	44.5	2.7	4.5	45.7	43.4	2.3	
03:00 AM - 03:05 AM	51.9	44.6	7.3	2.0	48.9	43.7	5.2	
03:05 AM - 03:10 AM	47.8	44.2	3.6	2.0	48.8	43.3	5.5	
03:10 AM - 03:15 AM	48.1	44.8	3.3	3.0	48.1	43.1	5.0	
03:15 AM - 03:20 AM	49.4	43.3	6.1	1.5	49.6	43.8	5.8	
03:20 AM - 03:25 AM	51.4	43.6	7.8	0.5	51.4	43.6	7.8	
03:25 AM - 03:30 AM	43.2	44.4	-1.2	7.0	39.2	42.6	-3.4	
03:30 AM - 03:35 AM	42.4	45.5	-3.1	7.0	38.4	42.0	-3.6	
03:35 AM - 03:40 AM	42.4	44.9	-2.5	7.0	38.4	41.9	-3.5	
ค่ามาตรฐาน							≤ 10	

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

Kasorn Anuk
Senior 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



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260069
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report Number : 2376464-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260069-1
Parameter เลืองนกาม
Location โรงไฟฟ้า (GPS 48Q 276877, 1887945)
Measurement Date Jun 27 - 28, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 01173614

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการทำงาน	ระดับเสียง (dB(A))		ปรับค่าเสียงจากแหล่งกำเนิด		เสียงพื้นฐาน	ค่าระดับการก่อกวน	
			ผลต่าง	ตัวปรับค่า	ค่าจริง	ค่าปรับ			
10:00 AM - 11:00 AM	52.4	48.7	3.7	2.0	50.4	-	43.0	7.4	
11:00 AM - 12:00 PM	52.3	48.5	3.8	2.0	50.3	-	42.8	7.5	
12:00 PM - 01:00 PM	51.3	49.1	2.2	4.5	46.8	-	44.3	2.5	
01:00 PM - 02:00 PM	51.4	48.5	2.9	3.0	48.4	-	43.4	5.0	
02:00 PM - 03:00 PM	51.6	48.5	3.1	3.0	48.4	-	43.6	5.8	
03:00 PM - 04:00 PM	52.1	47.5	4.6	1.5	50.6	-	44.0	6.6	
04:00 PM - 05:00 PM	53.5	49.1	4.4	2.0	51.5	-	43.9	7.6	
05:00 PM - 06:00 PM	51.3	46.7	4.6	1.5	49.8	-	40.8	9.0	
06:00 PM - 07:00 PM	51.5	47.4	4.1	2.0	49.5	-	44.1	5.2	
07:00 PM - 08:00 PM	48.6	48.6	0.0	7.0	41.6	-	42.9	-1.3	
08:00 PM - 09:00 PM	49.9	47.5	2.4	4.5	45.4	-	45.1	0.3	
09:00 PM - 10:00 PM	49.0	45.4	3.6	2.0	47.0	-	44.1	2.9	
10:00 PM - 11:00 PM	48.1	48.4	-0.3	7.0	-	44.1	47.6	-3.5	
11:00 PM - 12:00 AM	48.4	47.7	0.7	7.0	-	44.4	45.3	-1.1	
12:00 AM - 01:00 PM	48.1	45.5	2.6	3.0	-	48.1	44.6	3.5	
01:00 PM - 02:00 PM	47.4	49.5	-2.1	7.0	-	43.4	44.9	-1.5	
02:00 PM - 03:00 PM	50.2	47.5	2.7	3.0	-	50.2	45.9	4.3	
03:00 PM - 04:00 PM	53.1	46.5	6.6	1.0	-	55.1	46.0	9.1	
04:00 PM - 05:00 PM	47.6	47.1	0.5	7.0	-	43.6	45.6	-2.0	
05:00 PM - 06:00 PM	47.5	49.3	-1.8	7.0	-	43.5	45.9	-2.4	
06:00 PM - 07:00 PM	46.6	46.1	0.5	7.0	-	42.6	45.3	-2.7	
07:00 PM - 08:00 PM	45.5	47.2	-1.7	7.0	-	41.5	46.4	-4.9	
08:00 PM - 09:00 PM	45.6	46.8	-1.2	7.0	-	41.6	44.7	-3.1	
09:00 PM - 10:00 PM	48.1	49.4	-1.3	7.0	-	44.1	45.7	-1.6	
10:00 PM - 11:00 PM	52.6	43.8	8.8	0.5	-	55.1	41.8	13.3	
11:00 PM - 12:00 AM	52.6	46.0	6.6	1.0	-	54.6	43.4	11.2	
12:00 AM - 01:00 PM	52.8	45.4	7.4	1.0	-	54.8	43.9	10.9	
01:00 PM - 02:00 PM	54.2	47.8	6.4	1.5	-	55.7	44.7	11.0	
02:00 PM - 03:00 PM	51.4	46.8	4.6	1.5	-	52.9	44.7	8.2	
03:00 PM - 04:00 PM	52.4	46.8	5.6	1.0	-	54.3	44.4	9.9	
04:00 PM - 05:00 PM	53.0	45.0	8.0	1.0	-	55.0	44.5	10.5	
05:00 PM - 06:00 PM	53.0	45.4	7.6	0.5	-	55.5	44.9	10.6	
06:00 PM - 07:00 PM	53.0	45.6	7.4	0.5	-	55.0	45.2	9.8	
07:00 PM - 08:00 PM	52.9	46.6	6.3	1.0	-	54.9	45.1	9.8	
08:00 PM - 09:00 PM	50.3	47.7	2.6	1.1	7.0	-	50.0	45.1	-0.1
09:00 PM - 10:00 PM	49.0	46.7	2.3	3.0	7.0	-	45.3	45.8	-0.5
10:00 AM - 11:00 AM	46.2	46.7	-0.5	7.0	-	42.2	45.6	-3.4	
11:00 AM - 12:00 PM	48.3	48.5	-0.2	7.0	-	44.8	45.6	-0.8	
12:00 PM - 01:00 PM	44.4	46.3	-1.9	7.0	-	43.4	45.2	-1.8	



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. : 2260069-2
Parameter : เสียงรบกวน
Location : วัดสุราษฎร์ (GPS 48Q 276877, 1887945)
Measurement Date : Jun 28 - 29, 2022
Measurement by : Sangtawan Natasat
Sound Level Meter : 01173614



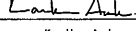
TESTING

No.0009
Lot ID: 2260069
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report Number: 2376465-1

Page 1 of 3

เวลา	เสียงจากแหล่งกำเนิด	เสียงรบกวนไม่มีการรบกวน	ผลต่างระดับเสียง	ค่าปรับค่า	ปรับค่าเสียงจากแหล่งกำเนิด		เสียงรบกวน	ค่าระดับ
					กลางวัน	กลางคืน		
10:00 AM - 11:00 AM	52.0	48.4	3.6	2.0	50.0	-	41.2	8.8
11:00 AM - 12:00 PM	50.9	47.9	3.0	2.0	48.9	-	40.3	9.7
12:00 PM - 01:00 PM	49.5	46.5	3.0	2.0	47.5	-	39.5	10.5
01:00 PM - 02:00 PM	48.5	45.5	3.0	2.0	46.5	-	38.5	11.5
02:00 PM - 03:00 PM	50.8	46.5	4.3	2.0	48.8	-	40.4	10.4
03:00 PM - 04:00 PM	50.7	45.8	4.9	2.0	48.7	-	40.0	9.2
04:00 PM - 05:00 PM	51.0	47.5	3.5	2.0	49.0	-	38.8	8.2
05:00 PM - 06:00 PM	51.4	50.2	1.2	2.0	49.4	-	42.2	2.2
06:00 PM - 07:00 PM	50.3	51.0	-0.7	2.0	48.3	-	42.2	1.1
07:00 PM - 08:00 PM	50.8	46.0	4.8	1.5	49.3	-	44.5	6.8
08:00 PM - 09:00 PM	50.3	43.4	6.9	1.0	49.3	-	41.9	7.4
09:00 PM - 10:00 PM	49.1	41.6	7.5	0.5	48.6	-	39.5	9.1
10:00 PM - 11:00 PM	47.6	41.0	6.6	1.0	46.6	-	39.5	10.1
11:00 PM - 12:00 PM	47.8	43.5	4.3	2.0	45.8	-	39.9	8.9
12:00 PM - 01:00 PM	49.6	43.3	6.3	1.5	48.1	-	40.0	11.1
01:00 PM - 02:00 PM	48.1	42.1	6.0	1.5	46.6	-	40.6	9.0
02:00 PM - 03:00 PM	49.6	42.3	7.3	1.0	48.6	-	40.8	10.8
03:00 PM - 04:00 PM	47.2	42.0	5.2	1.5	45.7	-	40.1	8.6
04:00 PM - 05:00 PM	47.6	41.6	6.0	1.5	46.1	-	40.3	8.8
05:00 PM - 06:00 PM	47.3	40.5	6.8	1.0	46.3	-	39.7	9.6
06:00 PM - 07:00 PM	50.4	43.2	7.2	1.0	49.4	-	39.8	12.6
07:00 PM - 08:00 PM	47.2	43.1	4.1	2.0	45.2	-	39.9	8.3
08:00 PM - 09:00 PM	47.9	42.8	5.1	1.5	46.4	-	40.4	9.0
09:00 PM - 10:00 PM	47.5	42.6	4.9	1.5	44.9	-	40.7	8.3
10:00 PM - 11:00 PM	47.6	44.0	3.6	2.0	45.6	-	41.3	7.3
11:00 PM - 12:00 PM	47.5	44.0	3.5	2.0	45.5	-	41.5	7.0
12:00 PM - 01:00 PM	47.4	44.5	2.9	3.0	44.9	-	41.4	6.0
01:00 PM - 02:00 PM	47.8	44.6	3.2	3.0	44.6	-	40.4	7.4
02:00 PM - 03:00 PM	53.8	43.5	10.3	0.5	53.3	-	39.7	16.6
03:00 PM - 04:00 PM	49.6	44.3	5.3	1.5	48.1	-	40.0	11.1
04:00 PM - 05:00 PM	46.8	44.6	2.2	4.5	42.3	-	39.9	5.4
05:00 PM - 06:00 PM	47.3	44.8	2.5	3.0	44.3	-	40.1	7.2
06:00 PM - 07:00 PM	47.0	42.3	4.7	1.5	45.5	-	39.9	8.6
07:00 PM - 08:00 PM	46.7	44.0	2.7	3.0	42.7	-	40.1	8.6
08:00 PM - 09:00 PM	47.5	42.9	4.6	1.5	46.0	-	41.4	7.6
09:00 PM - 10:00 PM	46.5	43.6	2.9	3.0	43.5	-	40.6	6.0
10:00 AM - 11:00 AM	44.6	44.3	0.3	7.0	44.3	-	40.7	3.6
11:00 AM - 12:00 PM	45.2	44.3	0.9	7.0	44.3	-	40.7	3.6
12:00 PM - 01:00 PM	45.1	44.3	0.8	7.0	44.3	-	40.2	0.9
01:00 PM - 02:00 PM	45.0	44.6	0.4	7.0	44.6	-	39.9	1.1

The above results are valid only for the analyzed/tested sample(s) as indicated in this report. The part of the report or certificate may be reproduced in any form without written consent from the Laboratory. ALS Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

Approved by 
Kanokorn Anek
Senior Manager

ADDRESS 104 Phatthanaikan 40, Phatthanaikan Rd., Khwaeng Phatthanaikan, 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 : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. : 2260069-2
Parameter : เสียงรบกวน
Location : วัดสุราษฎร์ (GPS 48Q 276877, 1887945)
Measurement Date : Jun 28 - 29, 2022
Measurement by : Sangtawan Natasat
Sound Level Meter : 01173614



TESTING

No.0009
Lot ID: 2260069
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report Number: 2376465-1

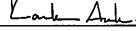
Page 2 of 3

เวลา	เสียงจากแหล่งกำเนิด	เสียงรบกวนไม่มีการรบกวน	ผลต่างระดับเสียง	ค่าปรับค่า	ปรับค่าเสียงจากแหล่งกำเนิด		เสียงรบกวน	ค่าระดับ
					กลางวัน	กลางคืน		
03:40 AM - 03:45 AM	43.0	43.3	-0.3	7.0	-	39.0	41.8	-2.8
03:45 AM - 03:50 AM	44.6	43.1	1.5	7.0	-	40.6	41.7	-1.1
03:50 AM - 03:55 AM	47.0	43.7	3.3	3.0	-	47.0	42.3	4.7
03:55 AM - 04:00 AM	45.0	42.8	2.2	4.5	-	43.5	41.6	1.9
04:00 AM - 04:05 AM	44.1	42.5	1.6	4.5	-	42.6	41.4	1.2
04:05 AM - 04:10 AM	52.0	43.1	8.9	0.5	54.5	-	41.8	12.7
04:10 AM - 04:15 AM	43.2	42.5	0.7	7.0	-	39.2	41.4	-2.2
04:15 AM - 04:20 AM	42.1	42.1	0.0	7.0	-	38.1	40.9	-2.8
04:20 AM - 04:25 AM	42.7	42.3	0.4	7.0	-	38.7	40.9	-2.2
04:25 AM - 04:30 AM	44.3	44.3	0.0	7.0	-	40.3	36.3	4.0
04:30 AM - 04:35 AM	45.5	38.3	7.0	1.0	-	47.5	36.1	11.4
04:35 AM - 04:40 AM	54.1	38.9	15.2	0.0	-	57.1	36.8	20.3
04:40 AM - 04:45 AM	55.4	40.1	15.3	0.0	-	58.4	37.7	20.7
04:45 AM - 04:50 AM	54.7	41.6	13.1	0.0	-	57.7	38.0	19.7
04:50 AM - 04:55 AM	52.1	39.6	12.5	0.0	-	55.1	37.9	17.2
04:55 AM - 05:00 AM	54.7	39.6	15.1	0.0	-	57.7	38.4	19.3
05:00 AM - 05:05 AM	53.1	43.1	10.0	0.5	-	55.6	37.4	18.2
05:05 AM - 05:10 AM	54.4	49.1	5.3	1.5	-	55.9	38.1	17.8
05:10 AM - 05:15 AM	53.1	53.2	-0.1	7.0	-	49.1	41.5	7.6
05:15 AM - 05:20 AM	52.2	52.7	-0.5	7.0	-	48.2	45.8	2.4
05:20 AM - 05:25 AM	50.5	54.7	-4.2	7.0	-	46.3	46.6	-0.3
05:25 AM - 05:30 AM	53.6	51.8	1.8	4.5	-	52.1	46.3	5.8
05:30 AM - 05:35 AM	49.9	52.1	-2.2	7.0	-	45.9	45.8	0.1
05:35 AM - 05:40 AM	51.0	50.6	0.4	7.0	-	47.0	46.1	0.9
05:40 AM - 05:45 AM	51.3	50.6	0.7	7.0	-	47.3	46.5	0.8
05:45 AM - 05:50 AM	51.8	48.8	3.0	1.0	-	57.8	42.5	15.3
05:50 AM - 05:55 AM	50.4	51.0	-0.6	7.0	-	46.4	45.3	1.1
05:55 AM - 06:00 AM	50.1	57.0	-6.9	7.0	-	46.1	44.4	1.7
06:00 AM - 07:00 AM	50.9	53.2	-2.3	7.0	45.9	-	44.7	-0.8
07:00 AM - 08:00 AM	51.6	54.0	-2.4	3.0	48.6	-	41.7	6.9
08:00 AM - 09:00 AM	51.8	48.4	3.4	3.0	48.8	-	41.0	7.8
09:00 AM - 10:00 AM	50.2	48.6	1.6	4.5	45.7	-	40.7	5.0

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

1. วัตถุประสงค์ของงานทดสอบ เพื่อ กำหนดระดับเสียงรบกวนตามระดับเสียงที่คาดการณ์ไว้จากข้อมูลการจราจรทางบกพร่อง ณ.ศ. 2548
2. วัตถุประสงค์ของงานทดสอบเพื่อ กำหนด ระดับเสียงรบกวน ณ.ศ. 2550
3. วัตถุประสงค์ของงานทดสอบเพื่อ กำหนด ระดับเสียงรบกวนตามระดับเสียงที่คาดการณ์ไว้จากข้อมูลการจราจรทางบกพร่อง ณ.ศ. 2553
4. วัตถุประสงค์ของงานทดสอบเพื่อ กำหนด ระดับเสียงรบกวนตามระดับเสียงที่คาดการณ์ไว้จากข้อมูลการจราจรทางบกพร่อง ณ.ศ. 2556
5. วัตถุประสงค์ของงานทดสอบเพื่อ กำหนด ระดับเสียงรบกวนตามระดับเสียงที่คาดการณ์ไว้จากข้อมูลการจราจรทางบกพร่อง ณ.ศ. 2559
6. วัตถุประสงค์ของงานทดสอบเพื่อ กำหนด ระดับเสียงรบกวนตามระดับเสียงที่คาดการณ์ไว้จากข้อมูลการจราจรทางบกพร่อง ณ.ศ. 2562

The above results are valid only for the analyzed/tested sample(s) as indicated in this report. The part of the report or certificate may be reproduced in any form without written consent from the Laboratory. ALS Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

Approved by 
Kanokorn Anek
Senior Manager

ADDRESS 104 Phatthanaikan 40, Phatthanaikan Rd., Khwaeng Phatthanaikan, 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 : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. : 2260069-2
Parameter : เสียงรบกวน
Location : วัดสุราษฎร์ (GPS 48Q 276877, 1887945)
Measurement Date : Jun 28 - 29, 2022
Measurement by : Sangtawan Natasat
Sound Level Meter : 01173614



TESTING

No.0009
Lot ID: 2260069
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report Number: 2376465-1

Page 2 of 3

เวลา	เสียงจากแหล่งกำเนิด ⁽¹⁾	เสียงรบกวนไม่มีการรบกวน ⁽²⁾	ผลต่างระดับเสียง ⁽³⁾		ปรับค่าเสียงจากแหล่งกำเนิด ⁽⁴⁾	เสียงรบกวน ⁽⁵⁾	ค่าระดับการคำนวณ	
			กลางวัน ^(6a)	กลางคืน ^(6b)				
								ค่าปรับ ⁽⁷⁾
12:20 AM - 12:25 AM	50.5	43.5	7.0	1.0	-	52.5	40.2	12.3
12:25 AM - 12:30 AM	44.8	44.2	7.2	1.0	-	52.4	40.1	12.3
12:30 AM - 12:35 AM	50.4	44.9	-0.1	7.0	-	40.8	40.8	0.0
12:35 AM - 12:40 AM	45.2	43.3	1.9	4.5	-	43.7	40.6	3.1
12:40 AM - 12:45 AM	46.5	44.9	1.6	4.5	-	45.0	40.7	4.3
12:45 AM - 12:50 AM	46.1	42.2	3.9	2.0	-	47.1	41.1	6.0
12:50 AM - 12:55 AM	44.8	42.1	2.7	3.0	-	44.8	41.1	3.7
12:55 AM - 01:00 AM	44.9	42.1	2.8	3.0	-	44.9	41.2	3.7
01:00 AM - 01:05 AM	44.7	42.8	1.9	4.5	-	43.2	41.6	1.6
01:05 AM - 01:10 AM	46.2	43.1	3.1	3.0	-	46.2	41.9	4.3
01:10 AM - 01:15 AM	44.9	42.7	2.2	4.5	-	43.4	41.5	1.9
01:15 AM - 01:20 AM	45.4	42.2	3.2	3.0	-	45.4	41.2	4.2
01:20 AM - 01:25 AM	45.5	42.5	3.0	3.0	-	45.5	41.5	4.0
01:25 AM - 01:30 AM	46.7	43.9	2.8	3.0	-	46.7	41.8	3.7
01:30 AM - 01:35 AM	45.5	44.3	1.2	7.0	-	41.5	43.4	-1.9
01:35 AM - 01:40 AM	45.4	44.4	1.0	7.0	-	41.4	43.6	-2.2
01:40 AM - 01:45 AM	45.2	44.9	0.3	7.0	-	41.2	43.9	-2.7
01:45 AM - 01:50 AM	45.1	44.2	0.9	7.0	-	41.1	41.9	-0.8
01:50 AM - 01:55 AM	46.1	42.5	3.6	2.0	-	47.1	41.4	5.7
01:55 AM - 02:00 AM	48.2	43.9	4.3	2.0	-	49.2	42.9	6.3
02:00 AM - 02:05 AM	47.3	43.5	3.8	2.0	-	48.3	41.4	6.9
02:05 AM - 02:10 AM	47.1	41.8	5.6	1.5	-	48.9	40.9	8.0
02:10 AM - 02:15 AM	45.9	43.1	2.8	3.0	-	45.9	41.0	4.9
02:15 AM - 02:20 AM	50.7	43.5	7.2	1.0	-	52.7	41.6	11.1
02:20 AM - 02:25 AM	38.5	43.3	15.2	0.0	-	61.5	41.8	19.7
02:25 AM - 02:30 AM	46.5	44.8	1.7	4.5	-	45.0	41.5	3.5
02:30 AM - 02:35 AM	45.1	44.5	0.6	7.0	-	41.1	40.9	0.2
02:35 AM - 02:40 AM	43.4	44.6	-1.2	7.0	-	39.4	41.0	-1.6
02:40 AM - 02:45 AM	43.7	44.0	-0.3	7.0	-	39.7	40.9	-1.2
02:45 AM - 02:50 AM	43.5	43.1	0.4	7.0	-	39.5	40.7	-1.2
02:50 AM - 02:55 AM	44.7	44.1	0.6	7.0	-	41.1	40.6	0.5
02:55 AM - 03:00 AM	43.0	40.7	2.3	4.5	-	41.5	40.0	1.5
03:00 AM - 03:05 AM	43.1	40.5	2.6	3.0	-	43.1	39.9	3.2
03:05 AM - 03:10 AM	42.7	40.5	2.2	4.5	-	41.2	39.8	1.4
03:10 AM - 03:15 AM	41.7	41.3	0.4	7.0	-	41.2	40.6	0.6
03:15 AM - 03:20 AM	42.8	42.6	0.2	7.0	-	38.8	40.4	-1.6
03:20 AM - 03:25 AM	41.4	42.3	0.1	7.0	-	38.4	40.8	-2.4
03:25 AM - 03:30 AM	42.3	35.6	6.7	1.0	-	44.3	29.9	14.4
03:30 AM - 03:35 AM	42.2	41.6	0.6	1.4	-	42.3	38.3	4.0
03:35 AM - 03:40 AM	42.7	40.2	0.4	7.0	-	38.4	27.9	10.5



Analysis / Test Report

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. 2250069-3
Parameter เลืองนกาน
Location รังนก (GPS 48Q 276877, 1887945)
Measurement Date Jun 29 - 30, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 01173614



Analysis / Test Report

TESTING
No.0009
Lot ID: 2260069
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report Number: 2376466-1

Page 2 of 3

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการทำงาน	ผลต่าง	ตัวแปรค่า	ระดับเสียง (dB(A))		เสียงที่ปรากฏ	ค่าระดับการก่อกวน
					ค่าจริง	ค่าเฉลี่ย		
12:20 AM - 12:25 AM	50.6	41.4	9.2	0.5	-	53.1	38.5	14.6
12:25 AM - 12:30 AM	48.6	40.9	7.7	0.5	-	51.1	39.9	11.2
12:30 AM - 12:35 AM	49.3	41.5	7.8	0.5	-	51.8	40.2	11.6
12:35 AM - 12:40 AM	49.6	41.4	8.2	0.5	-	52.1	40.4	11.7
12:40 AM - 12:45 AM	47.5	41.5	6.0	1.5	-	50.0	40.2	9.8
12:45 AM - 12:50 AM	48.9	40.7	8.2	0.5	-	51.4	39.3	12.1
12:50 AM - 12:55 AM	48.5	39.7	8.8	0.5	-	51.0	38.6	12.4
12:55 AM - 01:00 AM	48.6	40.0	8.6	0.5	-	51.1	38.9	12.2
01:00 AM - 01:05 AM	47.9	42.3	5.6	1.5	-	49.4	41.3	8.1
01:05 AM - 01:10 AM	48.0	41.8	6.2	1.5	-	49.5	41.2	8.3
01:10 AM - 01:15 AM	48.4	41.6	6.8	1.0	-	50.4	40.9	9.5
01:15 AM - 01:20 AM	48.7	41.7	7.0	1.0	-	50.7	40.9	9.8
01:20 AM - 01:25 AM	49.5	42.8	6.7	1.5	-	51.0	40.6	10.4
01:25 AM - 01:30 AM	49.1	42.0	7.1	1.0	-	51.1	41.2	9.9
01:30 AM - 01:35 AM	48.5	42.4	6.1	1.5	-	50.0	41.8	8.2
01:35 AM - 01:40 AM	48.6	42.3	6.3	1.5	-	50.1	41.7	8.4
01:40 AM - 01:45 AM	48.8	42.3	6.5	1.0	-	50.8	41.7	9.1
01:45 AM - 01:50 AM	47.6	41.8	5.8	1.5	-	49.1	41.2	7.9
01:50 AM - 01:55 AM	46.7	41.8	4.9	1.5	-	48.2	41.0	7.2
01:55 AM - 02:00 AM	47.0	41.3	5.7	1.5	-	48.5	39.9	8.6
02:00 AM - 02:05 AM	46.9	40.0	6.9	1.0	-	48.9	37.4	11.5
02:05 AM - 02:10 AM	46.7	40.1	6.6	1.0	-	48.7	36.7	12.0
02:10 AM - 02:15 AM	46.1	38.5	7.6	0.5	-	48.6	36.4	12.2
02:15 AM - 02:20 AM	44.2	40.7	3.5	2.0	-	45.2	37.8	7.4
02:20 AM - 02:25 AM	44.3	41.8	2.5	3.5	-	44.3	36.6	7.7
02:25 AM - 02:30 AM	45.9	38.7	7.2	1.0	-	47.9	36.5	11.4
02:30 AM - 02:35 AM	46.5	41.6	4.9	1.5	-	48.0	35.7	12.3
02:35 AM - 02:40 AM	46.7	40.9	5.8	1.5	-	48.2	35.9	8.3
02:40 AM - 02:45 AM	45.4	41.0	4.4	2.0	-	46.4	40.2	6.2
02:45 AM - 02:50 AM	42.7	41.4	1.3	7.0	-	38.7	40.4	-1.7
02:50 AM - 02:55 AM	42.9	41.5	1.4	7.0	-	38.9	40.2	-1.3
02:55 AM - 03:00 AM	43.0	40.7	2.3	4.5	-	41.5	39.3	2.2
03:00 AM - 03:05 AM	44.2	40.3	3.9	1.5	-	45.2	39.4	5.8
03:05 AM - 03:10 AM	45.7	40.1	5.6	1.5	-	47.2	39.4	7.8
03:10 AM - 03:15 AM	46.1	39.8	6.3	1.5	-	47.6	39.0	8.6
03:15 AM - 03:20 AM	45.1	40.1	5.0	1.5	-	46.6	39.1	7.5
03:20 AM - 03:25 AM	42.9	42.1	-0.2	7.5	-	38.9	38.4	0.5
03:25 AM - 03:30 AM	42.7	42.0	0.7	7.0	-	38.7	38.8	-0.1
03:30 AM - 03:35 AM	44.1	39.0	5.1	1.5	-	45.6	37.7	7.9
03:35 AM - 03:40 AM	45.1	40.5	4.6	1.5	-	46.6	37.5	9.1

The above results are valid only for the unmodified sample(s) as indicated in this report. No part of the report or data 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

Kasat Phol
Kasat Phol
Senior Manager

ADDRESS 104 Phatthanaikan 40, Phatthanaikan Rd., Khwaeng Phatthanaikan, 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 : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. 2250069-4
Parameter เลืองนกาน
Location รังนก (GPS 48Q 276877, 1887945)
Measurement Date Jun 30 - Jul 01, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 01173614

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการทำงาน	ผลต่าง	ตัวแปรค่า	ระดับเสียง (dB(A))		เสียงที่ปรากฏ	ค่าระดับการก่อกวน
					ค่าจริง	ค่าเฉลี่ย		
10:00 AM - 11:00 AM	49.9	45.8	4.1	3.0	46.9	-	45.1	1.8
11:00 AM - 12:00 PM	50.4	45.7	4.7	1.5	46.9	-	44.2	2.7
12:00 PM - 01:00 PM	50.0	45.7	4.3	2.0	48.0	-	44.5	3.5
01:00 PM - 02:00 PM	50.1	47.8	2.3	4.5	45.6	-	41.3	4.3
02:00 PM - 03:00 PM	50.3	47.8	2.5	3.0	47.3	-	45.8	1.5
03:00 PM - 04:00 PM	50.4	46.6	4.4	2.0	46.4	-	44.2	2.2
04:00 PM - 05:00 PM	49.7	47.6	2.1	4.5	45.2	-	46.1	-0.9
05:00 PM - 06:00 PM	50.2	46.4	3.8	2.0	46.8	-	43.5	3.2
06:00 PM - 07:00 PM	50.3	44.8	5.5	1.5	48.8	-	43.4	5.4
07:00 PM - 08:00 PM	49.8	47.7	2.1	2.5	46.3	-	42.8	3.5
08:00 PM - 09:00 PM	49.9	45.5	4.4	2.0	47.9	-	42.4	5.5
09:00 PM - 10:00 PM	50.3	48.2	2.1	4.5	45.8	-	46.3	-0.5
10:00 PM - 10:05 PM	48.5	46.6	1.9	4.5	-	47.0	40.0	7.0
10:05 PM - 10:10 PM	48.7	47.1	1.6	7.5	-	50.2	39.4	10.8
10:10 PM - 10:15 PM	49.6	50.2	-0.6	7.0	-	45.6	39.7	5.9
10:15 PM - 10:20 PM	49.9	43.4	6.5	1.0	-	51.9	38.7	13.2
10:20 PM - 10:25 PM	50.3	48.4	1.9	4.5	-	48.8	40.3	8.5
10:25 PM - 10:30 PM	49.9	46.4	3.5	2.0	-	45.2	40.5	10.4
10:30 PM - 10:35 PM	50.8	51.7	-0.9	7.0	-	46.8	39.6	7.2
10:35 PM - 10:40 PM	48.5	41.2	7.3	1.0	-	50.5	39.5	11.0
10:40 PM - 10:45 PM	48.8	43.4	5.4	1.5	-	50.2	40.4	9.9
10:45 PM - 10:50 PM	49.9	42.0	7.9	0.5	-	52.4	39.9	12.5
10:50 PM - 10:55 PM	50.9	42.0	8.9	0.5	-	53.4	39.9	13.5
10:55 PM - 11:00 PM	50.5	42.3	8.2	0.5	-	53.0	39.8	13.2
11:00 PM - 11:05 PM	48.8	43.4	5.4	1.5	-	50.3	40.4	9.9
11:05 PM - 11:10 PM	49.1	41.6	7.5	0.5	-	51.1	40.5	10.6
11:10 PM - 11:15 PM	49.4	43.0	6.4	1.5	-	50.9	40.4	10.5
11:15 PM - 11:20 PM	49.5	42.8	6.7	1.0	-	51.5	40.5	11.0
11:20 PM - 11:25 PM	48.8	43.8	5.0	1.5	-	50.3	40.5	9.8
11:25 PM - 11:30 PM	50.1	43.8	6.3	1.5	-	51.6	40.5	11.1
11:30 PM - 11:35 PM	48.8	44.9	3.9	2.0	-	49.8	41.4	8.4
11:35 PM - 11:40 PM	48.6	44.6	4.0	2.0	-	49.6	40.3	9.3
11:40 PM - 11:45 PM	50.9	44.2	6.7	1.0	-	52.9	40.7	12.2
11:45 PM - 11:50 PM	50.5	44.4	6.1	1.5	-	52.0	41.0	11.0
11:50 PM - 11:55 PM	47.4	44.3	3.1	3.0	-	47.4	39.7	7.7
11:55 PM - 12:00 AM	48.1	43.8	4.3	2.0	-	49.1	39.8	9.3
12:00 AM - 12:05 AM	50.9	45.0	5.9	1.5	-	52.4	40.1	12.3
12:05 AM - 12:10 AM	50.1	42.8	7.3	1.0	-	52.1	39.9	12.2
12:10 AM - 12:15 AM	50.8	42.0	8.8	0.5	-	53.3	38.6	14.7
12:15 AM - 12:20 AM	49.8	44.1	5.7	1.5	-	51.3	39.6	11.7

The above results are valid only for the unmodified sample(s) as indicated in this report. No part of the report or data 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

Kasat Phol
Kasat Phol
Senior Manager

ADDRESS 104 Phatthanaikan 40, Phatthanaikan Rd., Khwaeng Phatthanaikan, 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 : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. 2250069-3
Parameter เลืองนกาน
Location รังนก (GPS 48Q 276877, 1887945)
Measurement Date Jun 29 - 30, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 01173614

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการทำงาน	ระดับเสียง (dB(A))		ปรับค่าเสียงตามแหล่งกำเนิด		เสียงที่ปรากฏ	ค่าระดับการก่อกวน
			ผลต่าง	ตัวแปรค่า	ค่าจริง	ค่าเฉลี่ย		
03:40 AM - 03:45 AM	44.6	40.9	3.7	2.0	-	45.6	39.9	5.7
03:45 AM - 03:50 AM	47.5	41.5	6.0	1.5	-	49.0	40.2	8.8
03:50 AM - 03:55 AM	48.9	40.0	8.9	0.5	-	51.4	38.8	12.6
03:55 AM - 04:00 AM	48.1	41.9	6.2	1.5	-	49.6	38.9	10.7
04:00 AM - 04:05 AM	44.1	39.3	4.8	1.5	-	45.6	38.5	7.1
04:05 AM - 04:10 AM	42.1	39.4	2.7	3.0	-	45.1	37.4	7.7
04:10 AM - 04:15 AM	42.5	39.0	3.5	2.0	-	43.5	37.6	5.9
04:15 AM - 04:20 AM	42.5	38.0	4.5	1.5	-	44.0	36.9	7.1
04:20 AM - 04:25 AM	42.5	40.0	2.5	3.0	-	42.5	37.4	5.1
04:25 AM - 04:30 AM	42.3	40.1	2.2	4.5	-	40.8	36.7	4.1
04:30 AM - 04:35 AM	44.9	38.5	6.4	1.5	-	46.4	36.4	10.0
04:35 AM - 04:40 AM	53.5	40.7	12.8	0.0	-	56.5	37.8	18.7
04:40 AM - 04:45 AM	49.3	41.8	7.5	0.5	-	51.8	36.6	15.2
04:45 AM - 04:50 AM	51.6	38.7	12.9	0.0	-	54.6	36.5	18.1
04:50 AM - 04:55 AM	53.8	43.6	10.2	0.5	-	56.3	35.7	20.6
04:55 AM - 05:00 AM	50.8	45.5	5.3	0.5	-	53.3	36.2	17.1
05:00 AM - 05:05 AM	51.3	43.1	8.2	0.5	-	53.8	38.8	15.0
05:05 AM - 05:10 AM	51.5	47.3	4.2	2.0	-	52.5	38.8	14.2
05:10 AM - 05:15 AM	48.4	50.8	-2.4	7.0	-	44.4	39.4	5.0
05:15 AM - 05:20 AM	48.7	55.2	-6.5	7.0	-	44.7	42.4	2.3
05:20 AM - 05:25 AM	51.6	52.3	-0.7	7.0	-	47.6	45.7	1.9
05:25 AM - 05:30 AM	54.9	51.4	3.5	2.0	-	55.9	45.7	10.2
05:30 AM - 05:35 AM	52.0	50.8	1.2	7.0	-	49.0	45.9	3.1
05:35 AM - 05:40 AM	54.2	51.0	3.2	3.0	-	54.2	45.4	8.8
05:40 AM - 05:45 AM	53.1	50.7	2.4	4.5	-	51.6	45.6	6.0
05:45 AM - 05:50 AM	53.7	49.0	4.7	1.5	-	55.2	45.8	12.7
05:50 AM - 05:55 AM	53.4	51.9	1.5	4.5	-	51.9	45.9	6.0
05:55 AM - 06:00 AM	53.1	50.7	2.4	4.5	-	51.6	45.5	6.1
06:00 AM - 07:00 AM	51.4	49.5	1.9	4.5	46.9	-	43.1	3.8
07:00 AM - 08:00 AM	48.8	49.6	1.2	7.0	43.8	-	42.5	1.3
08:00 AM - 09:00 AM	51.9	48.5	3.4	3.0	48.4	-	46.2	5.8
09:00 AM - 10:00 AM	51.9	47.0	4.9	1.5	50.4	-	41.6	7.8
ค่าเฉลี่ยรวม								5.10



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. 2260069-4
Parameter เสียงรบกวน
Location รังสิตใหญ่ (GPS 48Q 276877, 1887945)
Measurement Date Jun 30 - Jul 01, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 01173614



TESTING

No.0009
Lot ID: 2260069
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report Number : 2376467-1

Page 3 of 3

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ผลต่างระดับเสียง	ค่าปรับค่า	ปรับค่าเสียงจากแหล่งกำเนิด		เสียงพื้นฐาน	ค่าระดับเสียง
					กลางวัน	กลางคืน		
03:40 AM - 03:45 AM	48.1	43.4	4.7	1.5	-	49.6	42.6	7.0
03:45 AM - 03:50 AM	50.8	44.3	6.5	1.0	-	52.8	43.1	9.7
03:50 AM - 03:55 AM	49.8	44.4	5.4	1.5	-	51.3	42.8	8.5
03:55 AM - 04:00 AM	49.0	44.6	4.4	2.0	-	50.0	43.7	6.7
04:00 AM - 04:05 AM	48.2	44.7	3.5	2.0	-	49.2	43.3	5.9
04:05 AM - 04:10 AM	48.5	44.7	3.8	2.0	-	49.5	43.1	6.4
04:10 AM - 04:15 AM	48.9	44.5	4.4	2.0	-	49.9	42.9	7.0
04:15 AM - 04:20 AM	48.6	44.2	4.4	2.0	-	49.6	42.8	6.8
04:20 AM - 04:25 AM	48.6	44.4	4.2	2.0	-	49.6	42.8	6.8
04:25 AM - 04:30 AM	48.7	43.9	4.8	1.5	-	50.2	41.8	8.4
04:30 AM - 04:35 AM	48.9	43.6	5.3	1.5	-	50.4	42.1	8.3
04:35 AM - 04:40 AM	48.1	43.8	4.3	1.5	-	49.8	41.3	8.5
04:40 AM - 04:45 AM	48.1	43.4	4.7	1.5	-	49.6	41.7	7.9
04:45 AM - 04:50 AM	48.3	43.6	4.7	1.5	-	49.8	42.2	7.6
04:50 AM - 04:55 AM	47.7	43.5	4.2	2.0	-	48.7	42.0	6.7
04:55 AM - 05:00 AM	49.9	43.3	6.6	1.0	-	51.9	42.9	9.0
05:00 AM - 05:05 AM	48.2	42.7	5.5	1.5	-	49.7	41.6	8.1
05:05 AM - 05:10 AM	47.4	42.4	5.0	1.5	-	48.9	41.4	7.5
05:10 AM - 05:15 AM	47.6	43.0	4.6	1.5	-	49.1	41.0	7.2
05:15 AM - 05:20 AM	47.8	42.8	4.9	1.5	-	49.3	40.7	7.6
05:20 AM - 05:25 AM	47.4	43.0	4.4	2.0	-	48.4	42.0	6.4
05:25 AM - 05:30 AM	48.2	43.0	5.2	1.5	-	49.7	41.6	8.1
05:30 AM - 05:35 AM	48.3	42.9	5.6	1.5	-	50.0	41.2	8.8
05:35 AM - 05:40 AM	49.9	43.1	6.4	1.0	-	51.8	42.1	9.8
05:40 AM - 05:45 AM	49.2	43.2	6.0	1.5	-	50.7	41.9	8.8
05:45 AM - 05:50 AM	48.7	43.6	5.1	1.5	-	50.2	41.4	8.8
05:50 AM - 05:55 AM	49.8	43.5	6.3	1.5	-	51.3	41.8	9.5
05:55 AM - 06:00 AM	50.8	44.3	6.5	1.0	-	52.8	42.6	10.2
06:00 AM - 07:00 AM	49.9	43.5	6.4	1.5	48.4	-	42.0	6.4
07:00 AM - 08:00 AM	50.2	43.9	6.3	1.0	48.2	-	41.6	6.6
08:00 AM - 09:00 AM	50.5	42.7	7.8	3.0	47.5	-	40.7	6.7
09:00 AM - 10:00 AM	50.5	46.3	4.2	2.0	48.5	-	45.0	3.5

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

หมายเหตุ

1. ผลการทดสอบจะแตกต่างกันไป เนื่องจากการเปลี่ยนแปลงของระดับเสียงที่เกิดจากกิจกรรมการจราจรในเวลากลางคืน
2. ผลการทดสอบจะแตกต่างกันไป เนื่องจากการเปลี่ยนแปลงของระดับเสียงที่เกิดจากกิจกรรมการจราจรในเวลากลางคืน
3. ผลการทดสอบจะแตกต่างกันไป เนื่องจากการเปลี่ยนแปลงของระดับเสียงที่เกิดจากกิจกรรมการจราจรในเวลากลางคืน
4. ผลการทดสอบจะแตกต่างกันไป เนื่องจากการเปลี่ยนแปลงของระดับเสียงที่เกิดจากกิจกรรมการจราจรในเวลากลางคืน

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

Approved by

Kanokorn Anek
Senior 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 : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. 2260069-5
Parameter เสียงรบกวน
Location รังสิตใหญ่ (GPS 48Q 276877, 1887945)
Measurement Date Jul 01 - 02, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 01173614



TESTING

No.0009
Lot ID: 2260069
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report Number : 2376468-1

Page 2 of 3

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ผลต่างระดับเสียง	ค่าปรับค่า	ปรับค่าเสียงจากแหล่งกำเนิด		เสียงพื้นฐาน	ค่าระดับเสียง
					กลางวัน	กลางคืน		
12:20 AM - 12:25 AM	48.8	44.9	3.9	2.0	-	49.1	39.9	9.9
12:25 AM - 12:30 AM	49.1	45.7	3.4	3.0	-	49.1	44.6	4.5
12:30 AM - 12:35 AM	50.1	45.2	4.9	1.5	-	51.6	32.6	19.0
12:35 AM - 12:40 AM	49.6	46.4	3.2	3.0	-	49.6	32.2	17.4
12:40 AM - 12:45 AM	49.4	44.3	5.1	1.5	-	50.9	42.5	8.4
12:45 AM - 12:50 AM	49.4	44.5	4.9	1.5	-	50.9	42.7	8.2
12:50 AM - 12:55 AM	50.3	44.2	6.1	1.5	-	51.8	42.2	9.6
12:55 AM - 01:00 AM	49.8	44.0	5.8	1.5	-	51.3	42.0	9.3
01:00 AM - 01:05 AM	49.3	43.8	5.5	2.0	-	49.3	33.8	11.7
01:05 AM - 01:10 AM	51.1	45.2	5.9	1.5	-	52.6	32.6	20.5
01:10 AM - 01:15 AM	50.5	46.4	4.1	2.0	-	51.5	32.2	19.3
01:15 AM - 01:20 AM	51.3	46.0	5.3	1.5	-	52.8	44.6	8.2
01:20 AM - 01:25 AM	50.6	45.7	4.9	1.5	-	52.1	44.6	7.5
01:25 AM - 01:30 AM	49.8	45.8	4.0	2.0	-	50.8	44.5	6.3
01:30 AM - 01:35 AM	51.1	44.5	6.6	1.0	-	53.1	40.9	12.2
01:35 AM - 01:40 AM	50.5	44.9	5.6	1.5	-	52.0	30.8	21.2
01:40 AM - 01:45 AM	49.7	49.0	0.7	7.0	-	49.7	32.8	16.9
01:45 AM - 01:50 AM	49.2	46.5	2.7	3.0	-	49.2	31.9	17.3
01:50 AM - 01:55 AM	49.8	46.1	3.7	2.0	-	50.8	32.3	18.5
01:55 AM - 02:00 AM	50.2	44.9	5.3	1.5	-	51.7	30.8	20.9
02:00 AM - 02:05 AM	49.7	48.5	1.2	7.0	-	49.7	42.1	3.6
02:05 AM - 02:10 AM	49.9	48.4	1.5	7.0	-	49.9	44.0	5.9
02:10 AM - 02:15 AM	50.0	49.9	0.1	7.0	-	49.9	44.8	5.1
02:15 AM - 02:20 AM	50.0	50.4	-0.4	7.0	-	49.9	44.6	5.3
02:20 AM - 02:25 AM	49.7	49.8	-0.1	7.0	-	49.7	44.3	5.4
02:25 AM - 02:30 AM	49.6	49.3	0.3	7.0	-	49.6	45.3	0.6
02:30 AM - 02:35 AM	49.2	46.8	2.4	4.5	-	47.7	45.2	2.5
02:35 AM - 02:40 AM	49.6	45.9	3.7	2.0	-	50.6	44.2	6.4
02:40 AM - 02:45 AM	49.3	45.6	3.7	2.0	-	50.3	43.9	6.4
02:45 AM - 02:50 AM	49.4	45.4	4.0	2.0	-	50.4	42.4	8.0
02:50 AM - 02:55 AM	49.4	46.5	2.9	3.0	-	49.4	42.7	6.7
02:55 AM - 03:00 AM	49.5	45.4	4.1	2.0	-	50.5	43.2	7.3
03:00 AM - 03:05 AM	49.8	44.0	5.8	1.5	-	51.3	41.3	10.0
03:05 AM - 03:10 AM	50.0	44.0	6.0	1.5	-	51.5	41.5	10.0
03:10 AM - 03:15 AM	49.2	44.5	4.7	1.5	-	50.7	41.4	9.3
03:15 AM - 03:20 AM	50.2	44.6	5.6	1.5	-	51.7	40.4	11.3
03:20 AM - 03:25 AM	50.0	43.5	6.5	1.0	-	52.0	39.7	12.3
03:25 AM - 03:30 AM	50.1	46.4	3.7	2.0	-	51.1	32.2	18.9
03:30 AM - 03:35 AM	50.2	44.6	5.6	1.5	-	51.7	39.9	11.8
03:35 AM - 03:40 AM	50.5	44.8	5.7	1.5	-	52.0	40.1	11.9

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

Approved by

Kanokorn Anek
Senior 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 : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. 2260069-5
Parameter เสียงรบกวน
Location รังสิตใหญ่ (GPS 48Q 276877, 1887945)
Measurement Date Jul 01 - 02, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 01173614



TESTING

No.0009
Lot ID: 2260069
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report Number : 2376468-1

Page 1 of 3

เวลา	เสียงจากแหล่งกำเนิด ^(A)	เสียงขณะไม่มีการรบกวน ^(B)	ผลต่างระดับเสียง ^(C)	ค่าปรับค่า ^(D)	ปรับค่าเสียงจากแหล่งกำเนิด ^(E)		เสียงพื้นฐาน ^(F)	ค่าระดับเสียงรวม ^(G)
					กลางวัน ^(E1)	กลางคืน ^(E2)		
10:00 AM - 11:00 AM	50.4	46.0	4.4	2.0	48.4	-	44.2	4.2
11:00 AM - 12:00 PM	50.5	47.6	2.9	3.0	47.5	-	46.1	1.4
12:00 PM - 01:00 PM	49.4	46.4	3.0	3.0	46.4	-	43.5	2.9
01:00 PM - 02:00 PM	50.1	45.0	5.1	1.5	48.6	-	43.1	5.5
02:00 PM - 03:00 PM	50.3	48.2	2.1	4.5	45.8	-	39.2	6.6
03:00 PM - 04:00 PM	50.4	48.0	2.4	4.5	45.9	-	45.1	0.8
04:00 PM - 05:00 PM	51.1	46.6	4.5	1.5	49.6	-	44.3	5.3
05:00 PM - 06:00 PM	50.0	45.8	4.2	2.0	48.0	-	42.6	5.4
06:00 PM - 07:00 PM	49.7	46.1	3.6	2.0	47.7	-	45.1	2.6
07:00 PM - 08:00 PM	50.4	47.2	3.2	3.0	47.4	-	39.9	7.5
08:00 PM - 09:00 PM	49.8	45.0	4.8	1.5	48.3	-	39.2	9.1
09:00 PM - 10:00 PM	50.2	45.5	4.7	1.5	48.7	-	41.3	7.4
10:00 PM - 10:05 PM	50.2	44.2	6.0	1.5	-	51.7	41.9	9.8
10:05 PM - 10:10 PM	50.5	44.3	6.2	1.5	-	52.0	42.5	9.5
10:10 PM - 10:15 PM	51.4	46.4	5.0	1.5	-	52.9	32.2	20.7
10:15 PM - 10:20 PM	52.0	44.1	7.9	0.5	-	54.5	32.6	21.9
10:20 PM - 10:25 PM	49.3	44.3	5.0	1.5	-	50.8	42.5	8.3
10:25 PM - 10:30 PM	51.1	43.3	7.8	0.5	-	53.6	31.4	22.2
10:30 PM - 10:35 PM	50.5	44.1	6.4	1.5	-	52.0	32.6	19.4
10:35 PM - 10:40 PM	49.7	48.2	1.5	4.5	-	48.2	31.7	16.5
10:40 PM - 10:45 PM	49.2	44.8	4.4	2.0	-	50.2	41.5	8.7
10:45 PM - 10:50 PM	49.8	44.5	5.3	1.5	-	51.3	40.9	10.4
10:50 PM - 10:55 PM	50.2	45.0	5.2	1.5	-	51.7	38.5	13.2
10:55 PM - 11:00 PM	49.7	44.4	5.3	1.5	-	51.2	34.4	16.8
11:00 PM - 11:05 PM	50.3	44.3	6.0	1.5	-	51.8	42.5	9.3
11:05 PM - 11:10 PM	49.7	45.7	4.0	1.5	-	52.0	44.6	7.4
11:10 PM - 11:15 PM	49.4	41.4	8.0	0.5	-	51.9	33.6	18.3
11:15 PM - 11:20 PM	49.2	48.2	1.0	7.0	-	45.2	31.7	13.5
11:20 PM - 11:25 PM	49.4	41.8	7.6	0.5	-	51.9	33.3	18.6
11:25 PM - 11:30 PM	49.1	44.7	4.6	1.5	-	50.8	32.4	18.4
11:30 PM - 11:35 PM	50.6	44.5	6.1	1.5	-	51.1	41.4	10.7
11:35 PM - 11:40 PM	51.4	46.0	5.4	1.5	-	52.9	44.6	8.3
11:40 PM - 11:45 PM	49.8	45.7	4.1	2.0	-	50.8	44.6	6.2
11:45 PM - 11:50 PM	49.3	45.8	3.5	2.0	-	50.3	44.5	5.8
11:50 PM - 11:55 PM	48.7	44.8	3.9	2.0	-	49.7	41.5	8.2
11:55 PM - 12:00 AM	50.0	44.5	5.5	1.5	-	51.5	40.9	10.6
12:00 AM - 12:05 AM	50.2	44.9	5.3	1.5	-	51.7	30.8	20.9
12:05 AM - 12:10 AM	48.8	44.1	4.7	1.5	-	50.3	32.6	17.7
12:10 AM - 12:15 AM	49.8	44.3	4.5	1.5	-	50.7	32.8	17.0
12:15 AM - 12:20 AM	49.5	43.8	5.7	1.0	-	49.5	32.5	13.2



Analysis / Test Report



TESTING

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

No.0009
Lot ID: 2260069-6
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report Number: 2376469-1

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. 2260069-6
Parameter เลื่อนขบวน
Location โรงสุกร (GPS 48Q 276877, 1887945)
Measurement Date Jul 02 - 03, 2022
Measurement by Sangwan Natasat
Sound Level Meter 01173614

Page 1 of 3

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ผลต่างระดับเสียง	ค่าปรับค่า	ปรับค่าเสียงจากแหล่งกำเนิด		เสียงพื้นฐาน	ค่าระดับการรบกวน
					กลางคืน	กลางวัน		
10:00 AM - 11:00 AM	52.1	46.5	5.6	2.0	50.1	-	45.0	5.1
11:00 AM - 12:00 PM	51.5	47.9	3.6	2.0	49.5	-	44.0	5.5
12:00 PM - 01:00 PM	51.0	47.9	3.1	3.0	48.0	-	43.1	4.9
01:00 PM - 02:00 PM	51.7	47.7	4.0	2.0	49.7	-	46.6	3.1
02:00 PM - 03:00 PM	50.6	44.7	5.9	1.5	49.1	-	42.8	6.3
03:00 PM - 04:00 PM	51.9	48.3	3.5	2.0	49.8	-	44.4	5.4
04:00 PM - 05:00 PM	50.8	47.9	2.9	3.0	47.8	-	44.0	3.8
05:00 PM - 06:00 PM	51.9	45.8	6.1	1.5	50.4	-	35.0	15.4
06:00 PM - 07:00 PM	50.3	48.9	1.4	2.0	49.3	-	46.6	-3.3
07:00 PM - 08:00 PM	51.7	48.2	3.5	2.0	49.7	-	45.6	4.2
08:00 PM - 09:00 PM	53.0	46.5	6.5	1.0	52.0	-	40.9	11.1
09:00 PM - 10:00 PM	53.2	47.4	5.8	1.5	51.7	-	39.5	12.2
10:00 PM - 10:05 PM	55.6	47.3	8.3	0.5	-	58.1	41.2	16.9
10:05 PM - 10:10 PM	55.3	48.2	7.1	1.0	-	57.3	40.4	16.9
10:10 PM - 10:15 PM	50.5	50.0	0.5	7.0	-	46.5	40.8	5.7
10:15 PM - 10:20 PM	51.5	44.8	6.7	1.0	-	53.5	39.1	14.4
10:20 PM - 10:25 PM	52.0	47.2	4.8	1.5	-	53.5	40.4	13.1
10:25 PM - 10:30 PM	52.2	45.3	6.9	1.0	-	54.2	37.8	16.4
10:30 PM - 10:35 PM	53.0	48.2	4.8	1.5	-	54.5	41.1	13.4
10:35 PM - 10:40 PM	52.3	45.8	6.5	1.0	-	54.3	40.3	14.0
10:40 PM - 10:45 PM	52.4	47.5	4.9	1.5	-	53.9	38.7	15.2
10:45 PM - 10:50 PM	52.3	48.2	5.9	1.5	-	53.8	40.4	13.4
10:50 PM - 10:55 PM	51.3	46.1	5.2	1.5	-	52.8	38.3	14.5
10:55 PM - 11:00 PM	51.3	46.8	4.5	1.5	-	52.8	40.9	11.9
11:00 PM - 11:05 PM	50.4	46.3	4.1	2.0	-	51.4	40.3	11.1
11:05 PM - 11:10 PM	50.6	48.1	7.5	1.5	-	52.1	40.3	11.8
11:10 PM - 11:15 PM	50.7	46.1	4.5	1.5	-	52.2	40.1	12.1
11:15 PM - 11:20 PM	50.6	43.8	6.8	1.0	-	52.6	38.7	13.9
11:20 PM - 11:25 PM	50.4	45.0	5.4	1.5	-	51.9	41.4	10.5
11:25 PM - 11:30 PM	50.5	48.4	2.1	4.5	-	49.0	41.4	7.6
11:30 PM - 11:35 PM	52.0	46.2	5.8	1.5	-	53.5	38.7	14.8
11:35 PM - 11:40 PM	51.3	45.3	6.0	1.5	-	52.8	37.8	15.0
11:40 PM - 11:45 PM	50.8	46.0	4.8	1.5	-	52.3	39.3	13.0
11:45 PM - 11:50 PM	50.8	46.0	4.8	1.5	-	52.3	38.4	14.4
11:50 PM - 11:55 PM	50.9	45.1	5.8	1.0	-	52.4	39.2	13.2
11:55 PM - 12:00 AM	51.6	46.6	5.0	1.5	-	53.1	39.5	13.6
12:00 AM - 12:05 AM	50.7	49.8	0.9	7.0	-	46.7	48.4	-1.7
12:05 AM - 12:10 AM	50.6	49.1	1.5	4.5	-	49.1	47.5	1.6
12:10 AM - 12:15 AM	50.5	49.2	1.3	7.0	-	46.5	47.7	-1.2
12:15 AM - 12:20 AM	50.4	48.9	1.5	4.5	-	48.9	47.5	1.4

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

Approved by

Kanokorn Anek
Senior 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 : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

No.0009
Lot ID: 2260069-6
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report Number: 2376469-1

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. 2260069-6
Parameter เลื่อนขบวน
Location โรงสุกร (GPS 48Q 276877, 1887945)
Measurement Date Jul 02 - 03, 2022
Measurement by Sangwan Natasat
Sound Level Meter 01173614

Page 2 of 3

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	ผลต่างระดับเสียง	ค่าปรับค่า	ปรับค่าเสียงจากแหล่งกำเนิด		เสียงพื้นฐาน	ค่าระดับการรบกวน
					กลางคืน	กลางวัน		
03:45 AM - 03:45 AM	47.5	50.6	-3.1	7.0	-	43.5	43.1	0.4
03:45 AM - 03:50 AM	47.4	45.3	2.1	4.5	-	45.9	37.8	8.1
03:50 AM - 03:55 AM	47.3	45.6	1.7	4.5	-	46.1	41.7	5.1
03:55 AM - 04:00 AM	55.1	45.2	9.9	0.5	-	57.6	43.0	14.6
04:00 AM - 04:05 AM	47.2	45.6	1.6	4.5	-	45.7	42.6	3.1
04:05 AM - 04:10 AM	50.1	45.8	4.3	2.0	-	51.1	42.4	8.7
04:10 AM - 04:15 AM	47.3	44.2	3.0	3.0	-	47.3	42.2	5.1
04:15 AM - 04:20 AM	50.3	49.8	0.5	7.0	-	46.3	48.4	-2.1
04:20 AM - 04:25 AM	50.8	49.1	1.7	4.5	-	49.3	47.5	1.8
04:25 AM - 04:30 AM	49.1	49.2	-0.1	7.0	-	45.1	47.7	-2.6
04:30 AM - 04:35 AM	58.4	48.9	9.5	0.5	-	58.9	47.5	11.4
04:35 AM - 04:40 AM	48.1	48.0	0.1	7.0	-	44.1	46.8	-2.7
04:40 AM - 04:45 AM	55.5	49.0	6.5	1.0	-	57.5	47.7	9.8
04:45 AM - 04:50 AM	56.7	49.2	7.5	0.5	-	59.2	48.2	11.0
04:50 AM - 04:55 AM	53.8	48.9	4.9	1.5	-	55.3	47.5	7.8
04:55 AM - 05:00 AM	56.4	48.0	8.4	0.5	-	58.9	46.8	12.1
05:00 AM - 05:05 AM	51.5	49.3	2.2	4.5	-	50.9	42.5	7.5
05:05 AM - 05:10 AM	50.7	49.9	0.8	7.0	-	46.7	41.9	4.8
05:10 AM - 05:15 AM	49.6	47.8	1.8	4.5	-	48.1	40.4	7.7
05:15 AM - 05:20 AM	54.3	48.3	6.0	1.5	-	55.8	41.5	14.3
05:20 AM - 05:25 AM	54.1	46.3	7.8	0.5	-	58.6	39.0	17.6
05:25 AM - 05:30 AM	54.5	45.3	9.2	0.5	-	57.0	37.8	19.2
05:30 AM - 05:35 AM	52.8	48.8	-6.0	2.0	-	53.9	39.2	14.6
05:35 AM - 05:40 AM	54.5	45.7	8.8	1.5	-	54.5	39.9	14.6
05:40 AM - 05:45 AM	54.1	43.4	10.7	0.5	-	56.6	40.1	16.5
05:45 AM - 05:50 AM	51.3	45.2	6.1	1.5	-	52.8	41.2	11.6
05:50 AM - 05:55 AM	50.4	47.5	2.9	2.0	-	50.4	43.4	7.0
05:55 AM - 06:00 AM	50.2	48.8	-8.6	5.0	-	55.7	38.5	17.2
06:00 AM - 07:00 AM	52.0	48.9	3.1	3.0	49.0	-	46.8	4.9
07:00 AM - 08:00 AM	53.2	47.7	5.5	1.5	51.7	-	45.0	7.0
08:00 AM - 09:00 AM	53.0	46.2	6.7	1.0	52.0	-	45.1	7.9
09:00 AM - 10:00 AM	54.2	46.8	7.4	1.0	53.2	-	45.1	9.1

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

- หมายเหตุ
1. ประกาศกระทรวงอุตสาหกรรม เรื่อง กำหนดค่าเสียงจากโรงงานและสถานประกอบการที่อาจก่อให้เกิดผลกระทบต่อสุขภาพของประชาชน พ.ศ. 2548
 2. ประกาศกระทรวงอุตสาหกรรม เรื่อง กำหนดค่าเสียงจากโรงงานและสถานประกอบการที่อาจก่อให้เกิดผลกระทบต่อสุขภาพของประชาชน พ.ศ. 2550
 3. ประกาศกระทรวงสาธารณสุข เรื่อง กำหนดค่าเสียงจากโรงงานและสถานประกอบการที่อาจก่อให้เกิดผลกระทบต่อสุขภาพของประชาชน พ.ศ. 2550 และประกาศกระทรวงสาธารณสุข เรื่อง กำหนดค่าเสียงจากโรงงานและสถานประกอบการที่อาจก่อให้เกิดผลกระทบต่อสุขภาพของประชาชน พ.ศ. 2551
 4. ประกาศกระทรวงสาธารณสุข เรื่อง กำหนดค่าเสียงจากโรงงานและสถานประกอบการที่อาจก่อให้เกิดผลกระทบต่อสุขภาพของประชาชน พ.ศ. 2561
- ระดับเสียงจากแหล่งกำเนิด พิกัดกรวดกรวด วันที่ 02-03 กรกฎาคม 2565
ระดับเสียงจากแหล่งกำเนิดโดยเฉลี่ย (Sample No.2260104-6 พิกัดกรวด 02-03 กรกฎาคม 2565)

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

Approved by

Kanokorn Anek
Senior 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 : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. 2260069-6
Parameter เลื่อนขบวน
Location โรงสุกร (GPS 48Q 276877, 1887945)
Measurement Date Jul 02 - 03, 2022
Measurement by Sangwan Natasat
Sound Level Meter 01173614

Page 2 of 3

เวลา	เสียงจากแหล่งกำเนิด	เสียงขณะไม่มีการรบกวน	มาตรฐานเสียง (dB(A))		ปรับค่าเสียงจากแหล่งกำเนิด		เสียงพื้นฐาน	ค่าระดับการรบกวน
			ผลต่างระดับเสียง	ค่าปรับค่า	กลางคืน	กลางวัน		
12:20 AM - 12:25 AM	50.4	48.0	2.4	4.5	-	48.9	46.8	2.1
12:25 AM - 12:30 AM	50.4	49.0	1.4	7.0	-	46.4	47.7	-1.3
12:30 AM - 12:35 AM	50.3	49.2	1.1	7.0	-	46.3	48.2	-1.9
12:35 AM - 12:40 AM	50.1	50.1	0.0	7.0	-	46.1	49.1	-3.0
12:40 AM - 12:45 AM	52.0	49.7	2.3	4.5	-	50.5	48.6	1.9
12:45 AM - 12:50 AM	51.9	49.2	2.7	3.0	-	51.9	48.3	2.6
12:50 AM - 12:55 AM	51.6	48.3	3.3	3.0	-	51.6	46.0	5.6
12:55 AM - 01:00 AM	51.7	48.3	3.4	3.0	-	51.7	45.4	6.3
01:00 AM - 01:05 AM	51.5	44.3	7.2	1.0	-	53.5	42.2	11.3
01:05 AM - 01:10 AM	50.7	49.6	1.1	7.0	-	46.7	48.4	-1.7
01:10 AM - 01:15 AM	49.9	49.1	0.8	7.0	-	45.9	48.3	-2.4
01:15 AM - 01:20 AM	50.0	49.1	0.9	7.0	-	46.0	48.4	-2.4
01:20 AM - 01:25 AM	49.9	48.4	1.5	4.5	-	48.4	47.2	1.2
01:25 AM - 01:30 AM	50.3	48.5	1.8	4.5	-	48.8	47.6	1.2
01:30 AM - 01:35 AM	49.5	48.4	1.1	7.0	-	45.5	47.1	-1.6
01:35 AM - 01:40 AM	49.1	48.4	0.7	7.0	-	45.1	47.4	-2.3
01:40 AM - 01:45 AM	49.2	48.5	0.7	7.0	-	45.2	47.2	-2.0
01:45 AM - 01:50 AM	49.3	48.6	0.7	7.0	-	45.3	47.6	-2.3
01:50 AM - 01:55 AM	49.5	48.6	0.9	7.0	-	45.5	47.0	-1.5
01:55 AM - 02:00 AM	49.5	47.7	1.8	4.5	-	48.0	46.6	1.4
02:00 AM - 02:05 AM	49.6	47.7	1.9	4.5	-	48.1	46.6	1.5
02:05 AM - 02:10 AM	49.0	48.8	0.2	7.0	-	45.0	47.8	-2.8
02:10 AM - 02:15 AM	49.2	47.2	2.0	4.5	-	47.7	44.2	3.5
02:15 AM - 02:20 AM	49.0	48.6	0.4	7.0	-	45.0	47.6	-2.6
02:20 AM - 02:25 AM	49.1	48.3	0.8	7.0	-	45.1	47.3	-2.2
02:25 AM - 02:30 AM	48.7	48.0	-0.7	7.0	-	44.7	46.9	-2.2
02:30 AM - 02:35 AM	48.5	48.6	-0.1	7.0	-	44.5	47.6	-3.1
02:35 AM - 02:40 AM	48.7	48.7	0.0	7.0	-	44.7	47.5	-2.8
02:40 AM - 02:45 AM	48.2	48.0	0.2	7.0	-	44.2	47.8	-3.6
02:45 AM - 02:50 AM	50.7	47.9	2.8	0.0	-	50.7	47.9	2.8
02:50 AM - 02:55 AM	51.5	44.0	7.5	0.5	-	54.0	43.4	10.6
02:55 AM - 03:00 AM	48.0	43.8	4.2	2.0	-	49.0	40.2	8.8
03:00 AM - 03:05 AM	47.9	44.2	3.7	2.0	-	48.9	40.6	8.3
03:05 AM - 03:10 AM	57.5	45.9	11.6	0.5	-	60.0	43.8	16.2
03:10 AM - 03:15 AM	50.6	46.1	4.5	1.5	-	52.1	43.8	8.3
03:15 AM - 03:20 AM	53.8	44.3	9.5	0.5	-	56.3	43.2	13.1
03:20 AM - 03:25 AM	50.4	47.7	2.7	3.0	-	50.4	43.7	6.7
03:25 AM - 03:30 AM	50.3	51.8	-1.5	7.0	-	46.3	43.7	2.6
03:30 AM - 03:35 AM	51.3	44.0	7.3	0.0	-	51.3	43.4	7.9
03:35 AM - 03:40 AM	47.3	49.7	-2.4	7.0	-	43.3	48.6	-5.3



Analysis / Test Report



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260050
Date Received Jul 06, 2022
Date Reported Jul 15, 2022
Report No.: 2376422-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 3 of 3

Sample No. 2260050-1
Parameter Noise
Location บ้านกุ่มพรวนน้ำตาล (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jun 27 - 28, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 AM - 04:05 AM	46.9	64.3	44.3
04:05 AM - 04:10 AM	46.8	62.1	44.2
04:10 AM - 04:15 AM	47.6	54.8	44.8
04:15 AM - 04:20 AM	46.0	54.6	44.0
04:20 AM - 04:25 AM	47.1	53.7	44.0
04:25 AM - 04:30 AM	50.0	59.8	46.6
04:30 AM - 04:35 AM	51.2	62.2	45.5
04:35 AM - 04:40 AM	49.1	58.2	43.5
04:40 AM - 04:45 AM	48.0	61.1	44.6
04:45 AM - 04:50 AM	46.6	60.6	43.3
04:50 AM - 04:55 AM	46.3	59.7	43.3
04:55 AM - 05:00 AM	45.3	59.3	42.5
05:00 AM - 05:05 AM	45.1	59.2	43.0
05:05 AM - 05:10 AM	45.8	55.6	43.8
05:10 AM - 05:15 AM	44.7	61.5	43.0
05:15 AM - 05:20 AM	46.2	52.4	44.2
05:20 AM - 05:25 AM	47.0	55.9	44.2
05:25 AM - 05:30 AM	49.0	61.4	44.9
05:30 AM - 05:35 AM	47.7	61.9	44.4
05:35 AM - 05:40 AM	46.7	58.7	44.0
05:40 AM - 05:45 AM	47.3	57.4	44.5
05:45 AM - 05:50 AM	47.0	60.5	44.6
05:50 AM - 05:55 AM	47.7	59.0	45.3
05:55 AM - 06:00 AM	47.4	61.8	44.1
06:00 AM - 07:00 AM	48.6	66.9	46.1
07:00 AM - 08:00 AM	50.1	60.7	48.7
08:00 AM - 09:00 AM	50.9	55.3	49.8
09:00 AM - 10:00 AM	49.2	55.0	47.8
10:00 AM - 11:00 AM	52.5	66.1	50.3
11:00 AM - 12:00 PM	49.0	57.3	47.4
12:00 PM - 01:00 PM	51.4	57.1	50.0
01:00 PM - 02:00 PM	53.6	56.8	51.9

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

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

Approved by

Kanokorn Anek
Senior Manager

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



Analysis / Test Report



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260050
Date Received Jul 06, 2022
Date Reported Jul 15, 2022
Report No.: 2376422-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260050-2
Parameter Noise
Location บ้านกุ่มพรวนน้ำตาล (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jun 28 - 29, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:40 AM - 12:45 AM	42.5	45.9	41.7
12:45 AM - 12:50 AM	51.6	54.3	48.7
12:50 AM - 12:55 AM	45.5	53.9	42.2
12:55 AM - 01:00 AM	49.4	51.5	43.3
01:00 AM - 01:05 AM	45.1	55.7	43.4
01:05 AM - 01:10 AM	44.9	57.2	42.8
01:10 AM - 01:15 AM	45.3	62.4	42.5
01:15 AM - 01:20 AM	44.1	56.0	41.6
01:20 AM - 01:25 AM	44.3	55.3	42.2
01:25 AM - 01:30 AM	46.9	57.0	45.2
01:30 AM - 01:35 AM	46.3	57.2	44.4
01:35 AM - 01:40 AM	46.9	68.7	45.6
01:40 AM - 01:45 AM	47.2	53.2	44.9
01:45 AM - 01:50 AM	49.9	59.9	48.0
01:50 AM - 01:55 AM	49.0	59.0	45.9
01:55 AM - 02:00 AM	50.0	57.1	47.6
02:00 AM - 02:05 AM	49.0	59.9	46.8
02:05 AM - 02:10 AM	46.0	54.6	43.0
02:10 AM - 02:15 AM	44.7	50.8	43.9
02:15 AM - 02:20 AM	44.9	54.7	42.1
02:20 AM - 02:25 AM	45.1	60.2	42.3
02:25 AM - 02:30 AM	43.8	56.2	41.9
02:30 AM - 02:35 AM	44.5	59.1	41.8
02:35 AM - 02:40 AM	47.3	57.4	42.4
02:40 AM - 02:45 AM	44.5	54.6	42.4
02:45 AM - 02:50 AM	46.0	59.4	42.8
02:50 AM - 02:55 AM	45.0	55.1	42.8
02:55 AM - 03:00 AM	43.9	55.6	41.6
03:00 AM - 03:05 AM	45.0	55.2	42.5
03:05 AM - 03:10 AM	44.3	56.5	41.9
03:10 AM - 03:15 AM	44.1	57.1	42.1
03:15 AM - 03:20 AM	44.1	55.0	42.1
03:20 AM - 03:25 AM	45.0	53.5	42.0
03:25 AM - 03:30 AM	46.4	61.5	43.1
03:30 AM - 03:35 AM	49.4	60.9	43.9
03:35 AM - 03:40 AM	48.4	59.9	43.5
03:40 AM - 03:45 AM	47.7	66.4	43.6
03:45 AM - 03:50 AM	47.3	62.3	43.3
03:50 AM - 03:55 AM	46.5	60.7	42.6
03:55 AM - 04:00 AM	44.9	58.0	42.3



Analysis / Test Report



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260050
Date Received Jul 06, 2022
Date Reported Jul 15, 2022
Report No.: 2376422-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260050-2
Parameter Noise
Location บ้านกุ่มพรวนน้ำตาล (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jun 28 - 29, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	50.1	55.9	48.0
03:00 PM - 04:00 PM	51.3	57.5	49.3
04:00 PM - 05:00 PM	54.1	62.2	52.1
05:00 PM - 06:00 PM	51.0	62.3	48.9
06:00 PM - 07:00 PM	47.2	66.9	43.6
07:00 PM - 08:00 PM	50.7	63.8	55.2
08:00 PM - 09:00 PM	56.8	68.1	55.4
09:00 PM - 10:00 PM	49.5	61.8	47.3
10:00 PM - 10:05 PM	51.0	56.0	48.9
10:05 PM - 10:10 PM	51.3	54.2	49.4
10:10 PM - 10:15 PM	51.1	54.3	48.9
10:15 PM - 10:20 PM	44.5	53.6	42.0
10:20 PM - 10:25 PM	50.3	54.8	42.7
10:25 PM - 10:30 PM	43.2	47.1	41.8
10:30 PM - 10:35 PM	43.9	52.8	42.5
10:35 PM - 10:40 PM	43.0	46.9	41.7
10:40 PM - 10:45 PM	50.3	54.3	46.0
10:45 PM - 10:50 PM	50.9	54.0	48.8
10:50 PM - 10:55 PM	51.2	54.3	49.1
10:55 PM - 11:00 PM	51.6	54.9	49.8
11:00 PM - 11:05 PM	51.7	54.7	49.8
11:05 PM - 11:10 PM	48.7	54.8	44.2
11:10 PM - 11:15 PM	45.8	48.2	44.0
11:15 PM - 11:20 PM	45.6	49.0	44.4
11:20 PM - 11:25 PM	45.2	47.8	43.4
11:25 PM - 11:30 PM	45.2	49.0	44.1
11:30 PM - 11:35 PM	44.9	49.1	43.3
11:35 PM - 11:40 PM	47.6	51.3	43.9
11:40 PM - 11:45 PM	48.4	53.0	46.6
11:45 PM - 11:50 PM	47.2	51.3	44.9
11:50 PM - 11:55 PM	45.1	48.3	44.0
11:55 PM - 12:00 AM	45.8	50.0	44.2
12:00 AM - 12:05 AM	45.5	48.9	44.1
12:05 AM - 12:10 AM	46.0	50.0	45.2
12:10 AM - 12:15 AM	45.7	49.2	44.3
12:15 AM - 12:20 AM	44.4	49.0	43.5
12:20 AM - 12:25 AM	43.7	47.8	41.6
12:25 AM - 12:30 AM	43.0	50.1	41.7
12:30 AM - 12:35 AM	43.5	47.4	42.6
12:35 AM - 12:40 AM	42.7	45.0	42.0

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

Approved by

Kanokorn Anek
Senior Manager

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



Analysis / Test Report



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260050
Date Received Jul 06, 2022
Date Reported Jul 15, 2022
Report No.: 2376422-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260050-2
Parameter Noise
Location บ้านกุ่มพรวนน้ำตาล (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jun 28 - 29, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 AM - 04:05 AM	45.5	60.8	42.5
04:05 AM - 04:10 AM	43.8	53.5	41.8
04:10 AM - 04:15 AM	45.7	60.2	42.2
04:15 AM - 04:20 AM	44.4	53.1	42.1
04:20 AM - 04:25 AM	45.3	62.1	42.1
04:25 AM - 04:30 AM	44.8	53.6	42.1
04:30 AM - 04:35 AM	44.5	54.5	41.9
04:35 AM - 04:40 AM	45.8	55.6	42.4
04:40 AM - 04:45 AM	44.7	57.2	42.2
04:45 AM - 04:50 AM	46.1	57.2	42.5
04:50 AM - 04:55 AM	44.2	53.3	41.8
04:55 AM - 05:00 AM	44.2	51.0	42.5
05:00 AM - 05:05 AM	50.4	56.6	46.2
05:05 AM - 05:10 AM	46.6	52.4	45.2
05:10 AM - 05:15 AM	46.5	55.1	44.3
05:15 AM - 05:20 AM	45.2	50.9	44.0
05:20 AM - 05:25 AM	44.8	52.7	43.1
05:25 AM - 05:30 AM	45.1	54.2	43.5
05:30 AM - 05:35 AM	44.8	55.0	42.9
05:35 AM - 05:40 AM	45.4	52.2	43.5
05:40 AM - 05:45 AM	46.0	50.8	44.3
05:45 AM - 05:50 AM	46.0	57.7	44.0
05:50 AM - 05:55 AM	47.5	64.4	44.0
05:55 AM - 06:00 AM	44.7	48.9	43.2
06:00 AM - 07:00 AM	48.4	65.8	44.8
07:00 AM - 08:00 AM	46.6	66.0	44.1
08:00 AM - 09:00 AM	45.7	63.1	43.3
09:00 AM - 10:00 AM	45.4	68.8	43.2
10:00 AM - 11:00 AM	45.2	62.6	42.9
11:00 AM - 12:00 PM	45.4	63.0	42.5
12:00 PM - 01:00 PM	45.0	67.5	42.5
01:00 PM - 02:00 PM	44.2	58.6	42.2

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

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

Approved by

Kanokorn Anek
Senior Manager

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

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



Analysis / Test Report



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260050
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376423-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260050-3
Parameter Noise
Location บ้านพักคนงาน/บ้านพักคนงาน (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jun 29 - 30, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	45.8	66.1	43.0
03:00 PM - 04:00 PM	44.9	66.0	42.3
04:00 PM - 05:00 PM	47.3	71.4	43.5
05:00 PM - 06:00 PM	45.4	65.0	42.6
06:00 PM - 07:00 PM	47.2	63.8	43.9
07:00 PM - 08:00 PM	47.8	58.6	46.6
08:00 PM - 09:00 PM	47.2	54.0	45.9
09:00 PM - 10:00 PM	48.5	56.1	45.0
10:00 PM - 10:03 PM	48.6	54.8	43.2
10:03 PM - 10:10 PM	52.8	56.3	51.3
10:10 PM - 10:15 PM	52.8	55.1	51.2
10:15 PM - 10:20 PM	52.9	55.3	51.3
10:20 PM - 10:25 PM	53.0	56.0	51.5
10:25 PM - 10:30 PM	52.7	55.0	51.2
10:30 PM - 10:35 PM	52.0	55.2	42.9
10:35 PM - 10:40 PM	44.1	54.0	43.0
10:40 PM - 10:45 PM	44.0	48.6	43.0
10:45 PM - 10:50 PM	44.2	50.6	43.1
10:50 PM - 10:55 PM	44.2	48.1	43.2
10:55 PM - 11:00 PM	45.0	48.9	43.2
11:00 PM - 11:05 PM	48.9	54.5	46.1
11:05 PM - 11:10 PM	44.3	48.8	43.1
11:10 PM - 11:15 PM	44.5	49.9	43.6
11:15 PM - 11:20 PM	44.6	48.2	44.1
11:20 PM - 11:25 PM	43.9	46.1	43.3
11:25 PM - 11:30 PM	44.6	47.6	43.9
11:30 PM - 11:35 PM	44.3	50.1	43.5
11:35 PM - 11:40 PM	45.7	52.7	44.8
11:40 PM - 11:45 PM	45.9	58.5	44.7
11:45 PM - 11:50 PM	46.4	56.4	44.7
11:50 PM - 11:55 PM	45.4	47.8	44.4
11:55 PM - 12:00 AM	46.0	49.0	44.2
12:00 AM - 12:05 AM	45.6	48.2	44.7
12:05 AM - 12:10 AM	44.8	48.8	44.0
12:10 AM - 12:15 AM	44.2	46.5	43.2
12:15 AM - 12:20 AM	44.7	48.1	43.9
12:20 AM - 12:25 AM	44.2	47.0	43.5
12:25 AM - 12:30 AM	44.9	47.6	43.7
12:30 AM - 12:35 AM	45.1	48.2	43.8
12:35 AM - 12:40 AM	46.4	53.2	45.1

The above results are valid only for the analyzed/monitored 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

Kanokorn Anek
Kanokorn Anek
Senior 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



Analysis / Test Report



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260050
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376423-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260050-3
Parameter Noise
Location บ้านพักคนงาน/บ้านพักคนงาน (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jun 29 - 30, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:40 AM - 12:45 AM	45.6	47.5	44.9
12:45 AM - 12:50 AM	45.5	48.3	44.3
12:50 AM - 12:55 AM	46.1	63.0	43.6
12:55 AM - 01:00 AM	45.1	47.4	44.4
01:00 AM - 01:05 AM	46.0	50.2	44.8
01:05 AM - 01:10 AM	48.1	53.2	47.0
01:10 AM - 01:15 AM	48.8	51.0	47.7
01:15 AM - 01:20 AM	48.9	51.3	47.7
01:20 AM - 01:25 AM	49.3	53.1	47.0
01:25 AM - 01:30 AM	50.8	53.8	49.7
01:30 AM - 01:35 AM	50.3	53.3	48.2
01:35 AM - 01:40 AM	45.7	59.4	44.7
01:40 AM - 01:45 AM	46.8	53.8	45.6
01:45 AM - 01:50 AM	47.4	50.2	46.1
01:50 AM - 01:55 AM	48.1	56.6	46.4
01:55 AM - 02:00 AM	48.5	54.6	46.4
02:00 AM - 02:05 AM	47.4	51.5	46.6
02:05 AM - 02:10 AM	46.2	49.5	45.4
02:10 AM - 02:15 AM	46.7	48.9	45.5
02:15 AM - 02:20 AM	46.1	50.0	44.8
02:20 AM - 02:25 AM	47.3	56.2	45.9
02:25 AM - 02:30 AM	47.3	49.6	45.9
02:30 AM - 02:35 AM	47.2	50.5	46.3
02:35 AM - 02:40 AM	48.1	52.1	47.0
02:40 AM - 02:45 AM	48.3	50.5	47.5
02:45 AM - 02:50 AM	48.4	51.1	47.5
02:50 AM - 02:55 AM	48.7	51.0	47.9
02:55 AM - 03:00 AM	48.5	52.7	47.4
03:00 AM - 03:05 AM	47.7	50.5	45.9
03:05 AM - 03:10 AM	50.0	53.3	48.0
03:10 AM - 03:15 AM	49.4	52.4	48.2
03:15 AM - 03:20 AM	49.7	52.6	48.3
03:20 AM - 03:25 AM	50.0	53.6	48.2
03:25 AM - 03:30 AM	51.4	54.6	50.0
03:30 AM - 03:35 AM	50.4	52.9	49.3
03:35 AM - 03:40 AM	49.8	51.4	48.5
03:40 AM - 03:45 AM	49.8	56.8	48.7
03:45 AM - 03:50 AM	48.0	56.5	45.8
03:50 AM - 03:55 AM	49.4	52.7	46.9
03:55 AM - 04:00 AM	49.9	53.3	47.3

The above results are valid only for the analyzed/monitored 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

Kanokorn Anek
Kanokorn Anek
Senior 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



Analysis / Test Report



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260050
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376423-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260050-3
Parameter Noise
Location บ้านพักคนงาน/บ้านพักคนงาน (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jun 29 - 30, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 AM - 04:05 AM	52.4	57.5	50.0
04:05 AM - 04:10 AM	54.4	57.6	52.5
04:10 AM - 04:15 AM	53.9	58.3	52.4
04:15 AM - 04:20 AM	53.0	55.5	51.8
04:20 AM - 04:25 AM	49.8	55.1	46.7
04:25 AM - 04:30 AM	48.9	55.9	46.8
04:30 AM - 04:35 AM	53.1	56.3	51.7
04:35 AM - 04:40 AM	52.9	55.7	51.1
04:40 AM - 04:45 AM	50.8	55.0	49.0
04:45 AM - 04:50 AM	52.9	56.3	51.2
04:50 AM - 04:55 AM	53.7	63.4	51.9
04:55 AM - 05:00 AM	53.7	57.0	50.3
05:00 AM - 05:05 AM	48.9	57.8	46.3
05:05 AM - 05:10 AM	48.8	53.7	47.0
05:10 AM - 05:15 AM	47.9	55.4	45.9
05:15 AM - 05:20 AM	47.0	56.8	44.0
05:20 AM - 05:25 AM	46.5	52.7	44.5
05:25 AM - 05:30 AM	46.0	51.8	44.2
05:30 AM - 05:35 AM	46.6	53.9	44.7
05:35 AM - 05:40 AM	49.5	55.4	46.7
05:40 AM - 05:45 AM	48.4	57.7	46.4
05:45 AM - 05:50 AM	46.5	57.4	44.5
05:50 AM - 05:55 AM	47.0	59.1	44.3
05:55 AM - 06:00 AM	47.3	56.5	45.3
06:00 AM - 07:00 AM	48.6	64.4	45.5
07:00 AM - 08:00 AM	46.9	65.9	44.2
08:00 AM - 09:00 AM	45.0	68.0	42.6
09:00 AM - 10:00 AM	44.1	63.5	42.1
10:00 AM - 11:00 AM	44.9	61.9	42.3
11:00 AM - 12:00 PM	44.1	63.2	41.6
12:00 PM - 01:00 PM	44.7	67.1	41.9
01:00 PM - 02:00 PM	55.7	80.0	52.5

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

The above results are valid only for the analyzed/monitored 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

Kanokorn Anek
Kanokorn Anek
Senior Manager



Analysis / Test Report



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260050
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376423-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260050-4
Parameter Noise
Location บ้านพักคนงาน/บ้านพักคนงาน (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jun 30 - Jul 01, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	50.9	81.1	46.0
03:00 PM - 04:00 PM	54.7	70.9	51.2
04:00 PM - 05:00 PM	52.7	72.2	48.1
05:00 PM - 06:00 PM	48.0	64.4	45.7
06:00 PM - 07:00 PM	50.2	67.4	50.6
07:00 PM - 08:00 PM	53.9	61.7	51.7
08:00 PM - 09:00 PM	54.7	69.5	49.2
09:00 PM - 10:00 PM	56.0	61.8	54.4
10:00 PM - 10:05 PM	56.9	60.1	55.6
10:05 PM - 10:10 PM	56.7	59.5	55.6
10:10 PM - 10:15 PM	56.0	59.5	54.3
10:15 PM - 10:20 PM	54.4	58.0	52.9
10:20 PM - 10:25 PM	53.5	56.5	52.0
10:25 PM - 10:30 PM	53.1	58.5	51.3
10:30 PM - 10:35 PM	52.5	56.7	50.6
10:35 PM - 10:40 PM	48.4	54.9	46.1
10:40 PM - 10:45 PM	46.4	52.0	45.6
10:45 PM - 10:50 PM	46.0	52.5	44.5
10:50 PM - 10:55 PM	46.9	51.9	44.8
10:55 PM - 11:00 PM	46.1	51.5	44.9
11:00 PM - 11:05 PM	46.2	53.6	44.4
11:05 PM - 11:10 PM	46.5	51.3	44.3
11:10 PM - 11:15 PM	46.0	49.1	44.7
11:15 PM - 11:20 PM	45.7	52.8	44.7
11:20 PM - 11:25 PM	45.7	48.8	45.0
11:25 PM - 11:30 PM	46.0	54.0	44.3
11:30 PM - 11:35 PM	46.0	51.7	44.4
11:35 PM - 11:40 PM	48.7	55.3	46.6
11:40 PM - 11:45 PM	50.3	54.5	48.3
11:45 PM - 11:50 PM	50.7	53.4	49.4
11:50 PM - 11:55 PM	49.5	53.6	48.0
11:55 PM - 12:00 AM	49.8	53.9	48.6
12:00 AM - 12:05 AM	48.9	54.6	46.1
12:05 AM - 12:10 AM	49.2	54.0	46.0
12:10 AM - 12:15 AM	50.2	57.4	47.1
12:15 AM - 12:20 AM	50.6	57.7	49.1
12:20 AM - 12:25 AM	48.6	54.2	44.6
12:25 AM - 12:30 AM	47.3	54.0	45.1
12:30 AM - 12:35 AM	47.4	50.5	46.1
12:35 AM - 12:40 AM	51.9	58.9	49.1

The above results are valid only for the analyzed/monitored 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

Kanokorn Anek
Kanokorn Anek
Senior 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



Analysis / Test Report



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260050
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376424-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260050-4
Parameter Noise
Location บริเวณกลุ่มบ้านพักคนงาน (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jun 30 - Jul 01, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:40 AM - 12:45 AM	54.0	57.5	51.6
12:45 AM - 12:50 AM	54.5	57.8	52.9
12:50 AM - 12:55 AM	54.6	57.8	52.9
12:55 AM - 01:00 AM	53.2	57.0	51.6
01:00 AM - 01:05 AM	52.0	55.4	50.5
01:05 AM - 01:10 AM	51.9	55.4	50.5
01:10 AM - 01:15 AM	51.7	54.4	50.4
01:15 AM - 01:20 AM	51.7	54.6	50.1
01:20 AM - 01:25 AM	48.3	54.0	45.2
01:25 AM - 01:30 AM	45.2	51.0	43.6
01:30 AM - 01:35 AM	45.6	52.6	43.5
01:35 AM - 01:40 AM	44.1	51.7	43.0
01:40 AM - 01:45 AM	43.9	52.3	42.2
01:45 AM - 01:50 AM	43.0	46.6	42.2
01:50 AM - 01:55 AM	43.3	49.6	42.0
01:55 AM - 02:00 AM	44.3	52.2	41.9
02:00 AM - 02:05 AM	45.1	59.7	43.3
02:05 AM - 02:10 AM	45.0	55.3	42.6
02:10 AM - 02:15 AM	44.1	49.0	42.9
02:15 AM - 02:20 AM	44.4	48.8	43.0
02:20 AM - 02:25 AM	48.9	57.2	43.6
02:25 AM - 02:30 AM	47.1	52.1	40.4
02:30 AM - 02:35 AM	47.1	52.3	43.5
02:35 AM - 02:40 AM	49.6	54.4	46.0
02:40 AM - 02:45 AM	51.5	54.2	48.8
02:45 AM - 02:50 AM	51.6	54.4	50.0
02:50 AM - 02:55 AM	51.3	54.1	49.5
02:55 AM - 03:00 AM	50.1	53.7	41.6
03:00 AM - 03:05 AM	52.7	61.5	50.6
03:05 AM - 03:10 AM	51.4	52.0	49.0
03:10 AM - 03:15 AM	47.2	60.9	44.8
03:15 AM - 03:20 AM	48.0	56.6	44.6
03:20 AM - 03:25 AM	50.4	63.1	45.9
03:25 AM - 03:30 AM	49.0	56.8	45.9
03:30 AM - 03:35 AM	49.9	63.7	46.8
03:35 AM - 03:40 AM	49.8	70.3	45.5
03:40 AM - 03:45 AM	48.0	55.3	46.0
03:45 AM - 03:50 AM	48.4	55.8	45.6
03:50 AM - 03:55 AM	48.4	56.9	45.0
03:55 AM - 04:00 AM	47.5	65.6	45.4



Analysis / Test Report



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260050
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376424-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260050-4
Parameter Noise
Location บริเวณกลุ่มบ้านพักคนงาน (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jun 30 - Jul 01, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 AM - 04:05 AM	46.3	59.2	44.5
04:05 AM - 04:10 AM	46.7	58.0	44.4
04:10 AM - 04:15 AM	47.6	62.6	45.3
04:15 AM - 04:20 AM	46.7	59.2	44.2
04:20 AM - 04:25 AM	47.6	58.7	45.0
04:25 AM - 04:30 AM	46.9	57.0	45.3
04:30 AM - 04:35 AM	47.7	52.3	44.5
04:35 AM - 04:40 AM	49.2	58.6	46.6
04:40 AM - 04:45 AM	51.3	61.5	49.2
04:45 AM - 04:50 AM	50.7	58.3	46.7
04:50 AM - 04:55 AM	49.1	59.2	44.6
04:55 AM - 05:00 AM	49.2	60.0	47.3
05:00 AM - 05:05 AM	46.3	57.4	44.7
05:05 AM - 05:10 AM	47.6	56.8	45.1
05:10 AM - 05:15 AM	47.9	54.9	44.9
05:15 AM - 05:20 AM	46.9	54.3	44.8
05:20 AM - 05:25 AM	46.8	61.3	44.5
05:25 AM - 05:30 AM	47.1	53.8	45.1
05:30 AM - 05:35 AM	47.8	61.2	45.2
05:35 AM - 05:40 AM	48.6	70.2	43.7
05:40 AM - 05:45 AM	46.5	58.3	44.6
05:45 AM - 05:50 AM	46.8	66.7	44.4
05:50 AM - 05:55 AM	46.6	54.3	44.1
05:55 AM - 06:00 AM	46.3	58.6	44.2
06:00 AM - 07:00 AM	50.2	70.2	46.8
07:00 AM - 08:00 AM	50.9	71.1	47.6
08:00 AM - 09:00 AM	51.4	63.0	48.6
09:00 AM - 10:00 AM	51.1	60.0	48.6
10:00 AM - 11:00 AM	51.9	69.1	48.3
11:00 AM - 12:00 PM	48.4	58.1	44.4
12:00 PM - 01:00 PM	47.8	68.6	44.7
01:00 PM - 02:00 PM	47.6	73.3	44.4

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

Approved by

Kanokorn Anek
Senior Manager

Approved by

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260050
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376425-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260050-5
Parameter Noise
Location บริเวณกลุ่มบ้านพักคนงาน (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jul 01 - 02, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	48.4	72.4	44.4
03:00 PM - 04:00 PM	47.8	72.0	44.4
04:00 PM - 05:00 PM	49.3	67.6	45.6
05:00 PM - 06:00 PM	48.0	65.9	45.2
06:00 PM - 07:00 PM	49.6	64.6	46.2
07:00 PM - 08:00 PM	48.8	65.9	46.6
08:00 PM - 09:00 PM	55.5	66.1	52.6
09:00 PM - 10:00 PM	54.6	65.5	51.5
10:00 PM - 10:05 PM	47.7	52.7	46.2
10:05 PM - 10:10 PM	46.1	48.0	45.2
10:10 PM - 10:15 PM	45.0	53.1	43.6
10:15 PM - 10:20 PM	44.9	53.2	43.1
10:20 PM - 10:25 PM	47.5	64.9	45.9
10:25 PM - 10:30 PM	54.5	71.1	46.7
10:30 PM - 10:35 PM	56.7	74.6	51.2
10:35 PM - 10:40 PM	49.9	64.4	46.7
10:40 PM - 10:45 PM	53.5	62.6	47.3
10:45 PM - 10:50 PM	58.6	66.7	56.4
10:50 PM - 10:55 PM	55.1	65.9	50.4
10:55 PM - 11:00 PM	52.0	61.6	49.8
11:00 PM - 11:05 PM	54.7	65.4	50.7
11:05 PM - 11:10 PM	54.2	65.6	51.5
11:10 PM - 11:15 PM	47.7	60.8	45.8
11:15 PM - 11:20 PM	49.0	58.6	46.0
11:20 PM - 11:25 PM	48.0	52.6	46.2
11:25 PM - 11:30 PM	47.8	54.3	46.6
11:30 PM - 11:35 PM	48.6	54.4	45.9
11:35 PM - 11:40 PM	47.7	51.2	46.4
11:40 PM - 11:45 PM	46.9	50.4	45.7
11:45 PM - 11:50 PM	48.5	53.1	47.2
11:50 PM - 11:55 PM	47.8	50.9	46.1
11:55 PM - 12:00 AM	47.2	50.4	46.3
12:00 AM - 12:05 AM	51.6	60.8	46.7
12:05 AM - 12:10 AM	50.7	61.4	46.3
12:10 AM - 12:15 AM	46.5	50.4	45.4
12:15 AM - 12:20 AM	44.5	50.8	43.6
12:20 AM - 12:25 AM	45.6	52.2	44.4
12:25 AM - 12:30 AM	46.3	53.5	44.9
12:30 AM - 12:35 AM	44.1	52.3	43.4
12:35 AM - 12:40 AM	44.0	48.3	43.3

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

Approved by

Kanokorn Anek
Senior Manager

Approved by

Kanokorn Anek
Senior 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

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 : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260050
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376425-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 3 of 3

Sample No. 2260050-5
Parameter Noise
Location โรงกลั่นน้ำตาลทรายขาว (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jul 01 - 02, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 AM - 04:05 AM	51.6	56.0	50.6
04:05 AM - 04:10 AM	51.3	55.5	50.3
04:10 AM - 04:15 AM	50.3	60.0	51.0
04:15 AM - 04:20 AM	52.5	61.7	51.1
04:20 AM - 04:25 AM	56.6	65.9	52.4
04:25 AM - 04:30 AM	58.2	65.3	54.2
04:30 AM - 04:35 AM	57.2	68.2	54.7
04:35 AM - 04:40 AM	55.8	64.1	54.0
04:40 AM - 04:45 AM	54.8	58.4	53.6
04:45 AM - 04:50 AM	54.5	61.9	53.3
04:50 AM - 04:55 AM	54.2	57.8	53.2
04:55 AM - 05:00 AM	54.0	58.4	53.0
05:00 AM - 05:05 AM	61.4	65.9	55.2
05:05 AM - 05:10 AM	55.1	62.4	52.9
05:10 AM - 05:15 AM	58.7	64.9	50.6
05:15 AM - 05:20 AM	53.3	61.6	51.8
05:20 AM - 05:25 AM	53.0	62.3	50.7
05:25 AM - 05:30 AM	52.9	58.4	51.0
05:30 AM - 05:35 AM	51.7	60.8	49.4
05:35 AM - 05:40 AM	55.9	66.5	52.9
05:40 AM - 05:45 AM	55.2	62.9	50.6
05:45 AM - 05:50 AM	53.6	59.8	50.7
05:50 AM - 05:55 AM	52.3	60.5	47.7
05:55 AM - 06:00 AM	48.2	60.3	46.5
06:00 AM - 07:00 AM	51.5	68.7	47.8
07:00 AM - 08:00 AM	51.0	68.5	46.6
08:00 AM - 09:00 AM	53.5	83.1	49.9
09:00 AM - 10:00 AM	47.4	68.8	44.8
10:00 AM - 11:00 AM	49.7	68.6	45.4
11:00 AM - 12:00 PM	45.8	62.6	43.0
12:00 PM - 01:00 PM	46.7	62.9	43.1
01:00 PM - 02:00 PM	46.4	60.8	42.9

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

The above results are valid only for the analyzed/monitored sample(s) as indicated in this report. No part of this report or any findings 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

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260050
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376426-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260050-6
Parameter Noise
Location โรงกลั่นน้ำตาลทรายขาว (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jul 02 - 03, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:40 AM - 12:45 AM	44.9	51.8	43.6
12:45 AM - 12:50 AM	44.4	51.7	43.0
12:50 AM - 12:55 AM	43.9	54.8	42.3
12:55 AM - 01:00 AM	43.7	54.3	42.0
01:00 AM - 01:05 AM	43.5	55.8	41.4
01:05 AM - 01:10 AM	43.9	61.0	41.1
01:10 AM - 01:15 AM	42.7	54.6	40.2
01:15 AM - 01:20 AM	42.9	53.9	40.8
01:20 AM - 01:25 AM	45.5	55.6	43.8
01:25 AM - 01:30 AM	44.9	55.8	43.0
01:30 AM - 01:35 AM	48.3	67.3	44.2
01:35 AM - 01:40 AM	45.8	51.8	43.5
01:40 AM - 01:45 AM	48.5	58.5	46.6
01:45 AM - 01:50 AM	47.6	57.6	45.5
01:50 AM - 01:55 AM	48.6	55.7	46.2
01:55 AM - 02:00 AM	47.6	58.5	45.4
02:00 AM - 02:05 AM	44.6	55.2	42.5
02:05 AM - 02:10 AM	43.3	49.4	41.6
02:10 AM - 02:15 AM	43.0	53.3	40.7
02:15 AM - 02:20 AM	43.7	58.8	40.9
02:20 AM - 02:25 AM	42.4	54.8	40.5
02:25 AM - 02:30 AM	43.1	57.7	40.4
02:30 AM - 02:35 AM	45.9	66.0	41.0
02:35 AM - 02:40 AM	43.1	53.2	40.9
02:40 AM - 02:45 AM	44.6	58.0	41.4
02:45 AM - 02:50 AM	43.6	53.7	41.4
02:50 AM - 02:55 AM	42.5	54.2	40.2
02:55 AM - 03:00 AM	43.6	53.8	41.1
03:00 AM - 03:05 AM	42.9	55.1	40.9
03:05 AM - 03:10 AM	42.7	55.7	40.7
03:10 AM - 03:15 AM	43.3	53.6	40.7
03:15 AM - 03:20 AM	43.6	52.1	40.6
03:20 AM - 03:25 AM	45.0	60.1	41.7
03:25 AM - 03:30 AM	48.0	59.5	42.5
03:30 AM - 03:35 AM	47.0	58.5	42.1
03:35 AM - 03:40 AM	46.3	65.0	42.2
03:40 AM - 03:45 AM	45.8	60.8	41.9
03:45 AM - 03:50 AM	45.1	59.3	40.8
03:50 AM - 03:55 AM	43.5	56.6	40.9
03:55 AM - 04:00 AM	44.1	59.4	41.1

The above results are valid only for the analyzed/monitored sample(s) as indicated in this report. No part of this report or any findings 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

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260050
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376426-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260050-6
Parameter Noise
Location โรงกลั่นน้ำตาลทรายขาว (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jul 02 - 03, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	45.7	60.5	43.0
03:00 PM - 04:00 PM	47.2	65.5	44.7
04:00 PM - 05:00 PM	49.0	69.3	47.7
05:00 PM - 06:00 PM	49.3	63.9	48.1
06:00 PM - 07:00 PM	49.7	56.4	46.7
07:00 PM - 08:00 PM	51.1	64.7	49.0
08:00 PM - 09:00 PM	47.4	54.1	45.8
09:00 PM - 10:00 PM	44.1	61.3	41.7
10:00 PM - 10:05 PM	45.0	61.1	41.6
10:05 PM - 10:10 PM	43.3	59.2	40.8
10:10 PM - 10:15 PM	44.5	57.2	42.0
10:15 PM - 10:20 PM	44.0	59.2	41.6
10:20 PM - 10:25 PM	44.5	54.9	41.5
10:25 PM - 10:30 PM	46.8	63.5	41.8
10:30 PM - 10:35 PM	42.5	52.7	40.8
10:35 PM - 10:40 PM	42.8	57.3	40.5
10:40 PM - 10:45 PM	43.1	59.7	41.6
10:45 PM - 10:50 PM	43.0	54.0	41.4
10:50 PM - 10:55 PM	44.4	57.7	41.2
10:55 PM - 11:00 PM	42.7	52.0	40.9
11:00 PM - 11:05 PM	44.3	61.0	40.1
11:05 PM - 11:10 PM	41.5	49.9	39.9
11:10 PM - 11:15 PM	42.2	50.5	40.4
11:15 PM - 11:20 PM	42.3	50.7	40.3
11:20 PM - 11:25 PM	42.8	54.6	41.2
11:25 PM - 11:30 PM	44.2	55.2	42.1
11:30 PM - 11:35 PM	44.9	62.1	41.8
11:35 PM - 11:40 PM	43.0	52.6	41.1
11:40 PM - 11:45 PM	43.1	57.8	40.9
11:45 PM - 11:50 PM	45.0	54.0	42.3
11:50 PM - 11:55 PM	45.1	56.6	43.0
11:55 PM - 12:00 AM	44.8	54.3	43.1
12:00 AM - 12:05 AM	44.6	50.5	42.5
12:05 AM - 12:10 AM	47.0	71.2	41.6
12:10 AM - 12:15 AM	44.7	68.1	42.2
12:15 AM - 12:20 AM	44.6	55.1	43.0
12:20 AM - 12:25 AM	46.9	68.9	43.9
12:25 AM - 12:30 AM	49.3	59.4	43.2
12:30 AM - 12:35 AM	45.8	52.5	44.2
12:35 AM - 12:40 AM	46.1	53.2	44.2

The above results are valid only for the analyzed/monitored sample(s) as indicated in this report. No part of this report or any findings 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

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260050
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376426-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 3 of 3

Sample No. 2260050-6
Parameter Noise
Location โรงกลั่นน้ำตาลทรายขาว (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jul 02 - 03, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 AM - 04:05 AM	46.1	56.8	42.6
04:05 AM - 04:10 AM	45.6	53.4	42.7
04:10 AM - 04:15 AM	44.8	58.2	41.9
04:15 AM - 04:20 AM	44.2	52.0	41.4
04:20 AM - 04:25 AM	44.9	52.9	42.2
04:25 AM - 04:30 AM	42.9	56.5	42.2
04:30 AM - 04:35 AM	45.7	58.4	41.3
04:35 AM - 04:40 AM	45.1	56.9	42.1
04:40 AM - 04:45 AM	44.3	59.6	42.4
04:45 AM - 04:50 AM	44.0	64.0	41.9
04:50 AM - 04:55 AM	44.2	55.9	41.1
04:55 AM - 05:00 AM	43.4	53.4	41.4
05:00 AM - 05:05 AM	44.4	53.6	41.7
05:05 AM - 05:10 AM	44.5	54.6	41.1
05:10 AM - 05:15 AM	42.4	50.9	40.5
05:15 AM - 05:20 AM	48.8	69.7	41.0
05:20 AM - 05:25 AM	45.6	58.5	42.1
05:25 AM - 05:30 AM	43.5	54.8	41.1
05:30 AM - 05:35 AM	44.5	56.2	41.5
05:35 AM - 05:40 AM	43.3	55.5	41.3
05:40 AM - 05:45 AM	46.3	60.5	41.5
05:45 AM - 05:50 AM	44.9	52.9	42.1
05:50 AM - 05:55 AM	43.9	53.7	42.1
05:55 AM - 06:00 AM	43.1	58.0	41.2
06:00 AM - 07:00 AM	43.6	59.0	41.3
07:00 AM - 08:00 AM	41.4	55.7	39.0
08:00 AM - 09:00 AM	50.4	55.4	50.2
09:00 AM - 10:00 AM	51.6	57.8	49.7
10:00 AM - 11:00 AM	52.7	60.6	51.1
11:00 AM - 12:00 PM	53.3	61.1	51.5
12:00 PM - 01:00 PM	51.8	60.7	49.6
01:00 PM - 02:00 PM	48.3	61.5	44.4

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

The above results are valid only for the analyzed/monitored sample(s) as indicated in this report. No part of this report or any findings 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

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260050
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376427-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260050-7
Parameter Noise
Location บ้านกุดชุมพภูมิมหาวิทยาลัย (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jul 03 - 04, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	43.5	60.7	40.8
03:00 PM - 04:00 PM	47.5	65.5	44.4
04:00 PM - 05:00 PM	54.9	62.4	53.3
05:00 PM - 06:00 PM	55.7	66.7	54.4
06:00 PM - 07:00 PM	48.3	60.4	46.3
07:00 PM - 08:00 PM	48.1	54.8	45.5
08:00 PM - 09:00 PM	46.6	53.5	44.5
09:00 PM - 10:00 PM	44.4	52.9	42.6
10:00 PM - 10:05 PM	48.0	56.1	41.9
10:05 PM - 10:10 PM	46.2	51.9	40.9
10:10 PM - 10:15 PM	41.9	46.9	40.3
10:15 PM - 10:20 PM	48.8	54.5	45.5
10:20 PM - 10:25 PM	51.4	54.5	49.8
10:25 PM - 10:30 PM	49.8	53.9	47.1
10:30 PM - 10:35 PM	49.0	51.7	47.3
10:35 PM - 10:40 PM	49.5	52.1	48.0
10:40 PM - 10:45 PM	45.5	51.3	46.6
10:45 PM - 10:50 PM	48.3	51.0	46.3
10:50 PM - 10:55 PM	48.8	52.1	46.9
10:55 PM - 11:00 PM	48.7	51.9	46.3
11:00 PM - 11:05 PM	49.0	53.0	47.0
11:05 PM - 11:10 PM	46.1	51.7	42.6
11:10 PM - 11:15 PM	44.0	46.5	42.8
11:15 PM - 11:20 PM	45.1	53.3	43.5
11:20 PM - 11:25 PM	47.0	55.4	44.1
11:25 PM - 11:30 PM	50.4	53.0	47.6
11:30 PM - 11:35 PM	51.9	55.4	50.4
11:35 PM - 11:40 PM	51.5	55.3	50.0
11:40 PM - 11:45 PM	52.3	55.7	50.8
11:45 PM - 11:50 PM	51.0	56.1	48.4
11:50 PM - 11:55 PM	50.1	54.4	48.6
11:55 PM - 12:00 AM	49.5	54.4	47.5
12:00 AM - 12:05 AM	51.1	54.7	48.8
12:05 AM - 12:10 AM	49.3	54.7	48.8
12:10 AM - 12:15 AM	48.6	60.8	44.8
12:15 AM - 12:20 AM	47.2	59.5	45.1
12:20 AM - 12:25 AM	51.3	55.9	47.6
12:25 AM - 12:30 AM	52.2	55.9	49.8
12:30 AM - 12:35 AM	53.0	56.5	51.6
12:35 AM - 12:40 AM	54.6	57.8	52.9

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

Approved by

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260050
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376427-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 3 of 3

Sample No. 2260050-7
Parameter Noise
Location บ้านกุดชุมพภูมิมหาวิทยาลัย (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jul 03 - 04, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 AM - 04:05 AM	46.7	58.8	43.9
04:05 AM - 04:10 AM	46.3	53.4	43.5
04:10 AM - 04:15 AM	45.6	55.0	43.1
04:15 AM - 04:20 AM	45.1	56.8	42.3
04:20 AM - 04:25 AM	45.3	53.7	42.8
04:25 AM - 04:30 AM	44.8	52.2	42.6
04:30 AM - 04:35 AM	46.0	54.3	42.7
04:35 AM - 04:40 AM	46.1	64.6	42.7
04:40 AM - 04:45 AM	44.9	54.7	42.6
04:45 AM - 04:50 AM	44.6	63.9	42.4
04:50 AM - 04:55 AM	44.0	56.2	42.4
04:55 AM - 05:00 AM	45.1	56.7	42.1
05:00 AM - 05:05 AM	43.3	58.6	41.6
05:05 AM - 05:10 AM	43.5	53.9	41.7
05:10 AM - 05:15 AM	43.4	53.9	41.3
05:15 AM - 05:20 AM	43.6	60.6	41.4
05:20 AM - 05:25 AM	45.0	61.6	42.3
05:25 AM - 05:30 AM	44.2	55.2	41.7
05:30 AM - 05:35 AM	43.8	57.0	42.6
05:35 AM - 05:40 AM	45.7	59.2	45.2
05:40 AM - 05:45 AM	44.8	54.5	42.0
05:45 AM - 05:50 AM	45.4	61.7	41.5
05:50 AM - 05:55 AM	43.7	58.6	42.0
05:55 AM - 06:00 AM	43.9	50.8	42.0
06:00 AM - 07:00 AM	44.1	67.4	41.9
07:00 AM - 08:00 AM	43.5	61.2	41.5
08:00 AM - 09:00 AM	44.2	61.6	41.2
09:00 AM - 10:00 AM	43.6	61.1	41.1
10:00 AM - 11:00 AM	42.8	58.9	40.9
11:00 AM - 12:00 PM	44.4	64.7	41.5
12:00 PM - 01:00 PM	44.8	64.8	40.9
01:00 PM - 02:00 PM	45.8	70.0	42.0

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

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

Approved by

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260050
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376427-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260050-7
Parameter Noise
Location บ้านกุดชุมพภูมิมหาวิทยาลัย (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jul 03 - 04, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:40 AM - 12:45 AM	54.9	58.1	53.1
12:45 AM - 12:50 AM	54.3	58.3	52.1
12:50 AM - 12:55 AM	53.8	57.0	51.9
12:55 AM - 01:00 AM	53.6	56.4	52.2
01:00 AM - 01:05 AM	53.0	56.7	51.1
01:05 AM - 01:10 AM	51.4	55.1	49.0
01:10 AM - 01:15 AM	51.2	55.1	48.8
01:15 AM - 01:20 AM	48.0	54.0	43.0
01:20 AM - 01:25 AM	48.9	53.7	45.9
01:25 AM - 01:30 AM	48.2	53.2	44.8
01:30 AM - 01:35 AM	50.0	53.5	47.1
01:35 AM - 01:40 AM	50.6	58.5	49.2
01:40 AM - 01:45 AM	50.0	59.1	48.6
01:45 AM - 01:50 AM	50.4	55.1	48.6
01:50 AM - 01:55 AM	49.5	55.8	47.1
01:55 AM - 02:00 AM	47.8	52.4	46.3
02:00 AM - 02:05 AM	47.3	60.9	45.2
02:05 AM - 02:10 AM	49.0	55.2	44.8
02:10 AM - 02:15 AM	45.2	51.0	43.8
02:15 AM - 02:20 AM	45.1	53.7	42.9
02:20 AM - 02:25 AM	43.8	49.5	42.6
02:25 AM - 02:30 AM	43.4	51.3	41.7
02:30 AM - 02:35 AM	43.7	52.8	42.1
02:35 AM - 02:40 AM	43.4	53.6	41.5
02:40 AM - 02:45 AM	44.1	50.8	42.1
02:45 AM - 02:50 AM	44.6	48.4	42.9
02:50 AM - 02:55 AM	44.6	56.3	42.6
02:55 AM - 03:00 AM	46.1	63.0	42.6
03:00 AM - 03:05 AM	43.3	48.5	41.8
03:05 AM - 03:10 AM	45.5	62.5	43.1
03:10 AM - 03:15 AM	47.2	64.2	42.5
03:15 AM - 03:20 AM	45.0	56.4	42.9
03:20 AM - 03:25 AM	47.7	62.2	43.0
03:25 AM - 03:30 AM	47.1	57.9	43.6
03:30 AM - 03:35 AM	46.6	57.9	43.7
03:35 AM - 03:40 AM	49.4	58.8	45.7
03:40 AM - 03:45 AM	46.8	59.3	43.1
03:45 AM - 03:50 AM	45.6	57.8	42.4
03:50 AM - 03:55 AM	46.6	53.8	43.4
03:55 AM - 04:00 AM	45.5	55.2	42.8

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

Approved by

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260100
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376471-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260100-1
Parameter Noise
Location บ้านกุดชุมพภูมิมหาวิทยาลัย (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jun 27 - 28, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	52.6	59.2	50.6
03:00 PM - 04:00 PM	54.3	62.0	52.6
04:00 PM - 05:00 PM	54.7	62.5	52.8
05:00 PM - 06:00 PM	53.3	62.1	51.1
06:00 PM - 07:00 PM	50.2	62.9	46.7
07:00 PM - 08:00 PM	46.7	65.4	43.6
08:00 PM - 09:00 PM	46.7	71.1	42.9
09:00 PM - 10:00 PM	44.9	66.4	42.7
10:00 PM - 10:05 PM	45.8	56.7	42.6
10:05 PM - 10:10 PM	44.7	61.2	42.9
10:10 PM - 10:15 PM	45.2	63.7	43.0
10:15 PM - 10:20 PM	45.5	56.0	43.5
10:20 PM - 10:25 PM	45.9	61.0	43.1
10:25 PM - 10:30 PM	45.1	55.2	43.0
10:30 PM - 10:35 PM	45.8	65.4	42.8
10:35 PM - 10:40 PM	46.0	60.9	43.3
10:40 PM - 10:45 PM	45.2	62.7	42.6
10:45 PM - 10:50 PM	45.9	55.3	43.2
10:50 PM - 10:55 PM	45.7	55.4	43.0
10:55 PM - 11:00 PM	45.4	53.0	43.0
11:00 PM - 11:05 PM	45.7	57.3	43.4
11:05 PM - 11:10 PM	46.4	62.5	43.0
11:10 PM - 11:15 PM	46.0	60.6	42.2
11:15 PM - 11:20 PM	45.9	58.6	43.4
11:20 PM - 11:25 PM	45.4	60.6	43.0
11:25 PM - 11:30 PM	45.9	55.4	42.9
11:30 PM - 11:35 PM	46.2	64.9	43.0
11:35 PM - 11:40 PM	43.9	54.1	42.2
11:40 PM - 11:45 PM	44.2	58.7	43.0
11:45 PM - 11:50 PM	44.5	52.1	41.9
11:50 PM - 11:55 PM	44.4	55.4	42.8
11:55 PM - 12:00 AM	45.8	59.1	42.6
12:00 AM - 12:05 AM	44.1	53.4	42.3
12:05 AM - 12:10 AM	45.7	62.4	41.5
12:10 AM - 12:15 AM	42.9	51.3	41.3
12:15 AM - 12:20 AM	43.6	51.9	41.8
12:20 AM - 12:25 AM	43.7	52.1	41.7
12:25 AM - 12:30 AM	44.2	56.0	42.6
12:30 AM - 12:35 AM	45.4	56.4	43.5
12:35 AM - 12:40 AM	46.3	63.5	43.2

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

Approved by

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260100
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376471-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 2

Sample No. 2260100-1
Parameter Noise
Location บริเวณกลุ่มโรงงานน้ำตาล (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jun 27 - 28, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:40 AM - 12:45 AM	44.4	54.0	42.5
12:45 AM - 12:50 AM	44.5	59.2	42.3
12:50 AM - 12:55 AM	46.4	55.4	43.6
12:55 AM - 01:00 AM	46.5	58.0	44.4
01:00 AM - 01:05 AM	46.2	55.7	44.5
01:05 AM - 01:10 AM	46.0	51.9	43.9
01:10 AM - 01:15 AM	48.4	57.4	43.0
01:15 AM - 01:20 AM	46.1	69.5	43.6
01:20 AM - 01:25 AM	46.0	56.5	44.4
01:25 AM - 01:30 AM	48.3	62.3	45.3
01:30 AM - 01:35 AM	50.7	60.8	44.6
01:35 AM - 01:40 AM	47.2	53.9	45.6
01:40 AM - 01:45 AM	47.5	54.6	46.6
01:45 AM - 01:50 AM	46.3	53.2	45.0
01:50 AM - 01:55 AM	45.8	53.1	44.4
01:55 AM - 02:00 AM	45.3	56.2	43.7
02:00 AM - 02:05 AM	46.8	53.1	44.2
02:05 AM - 02:10 AM	44.4	54.6	42.6
02:10 AM - 02:15 AM	47.0	62.1	42.4
02:15 AM - 02:20 AM	46.9	56.6	44.4
02:20 AM - 02:25 AM	46.9	56.7	44.6
02:25 AM - 02:30 AM	46.5	57.8	44.2
02:30 AM - 02:35 AM	48.3	61.4	44.7
02:35 AM - 02:40 AM	46.5	56.5	44.2
02:40 AM - 02:45 AM	46.8	53.1	44.2
02:45 AM - 02:50 AM	48.2	59.0	45.2
02:50 AM - 02:55 AM	47.8	64.0	45.3
02:55 AM - 03:00 AM	47.0	53.5	44.6
03:00 AM - 03:05 AM	48.6	58.3	45.6
03:05 AM - 03:10 AM	48.4	56.3	45.7
03:10 AM - 03:15 AM	46.7	59.1	44.2
03:15 AM - 03:20 AM	46.5	58.9	43.8
03:20 AM - 03:25 AM	45.2	51.5	43.0
03:25 AM - 03:30 AM	46.3	56.3	44.4
03:30 AM - 03:35 AM	46.9	54.3	43.9
03:35 AM - 03:40 AM	47.4	56.8	44.9
03:40 AM - 03:45 AM	47.7	55.7	45.2
03:45 AM - 03:50 AM	48.2	58.8	45.5
03:50 AM - 03:55 AM	47.0	55.8	44.6
03:55 AM - 04:00 AM	47.0	59.8	43.9

The above results are valid only for the and (un)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

Kanokorn Anek
Senior Manager

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



Analysis / Test Report



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260100
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376471-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 3 of 3

Sample No. 2260100-1
Parameter Noise
Location บริเวณกลุ่มโรงงานน้ำตาล (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jun 27 - 28, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 AM - 04:05 AM	46.9	64.3	44.3
04:05 AM - 04:10 AM	46.6	52.1	44.2
04:10 AM - 04:15 AM	47.6	54.8	44.8
04:15 AM - 04:20 AM	46.0	54.6	44.0
04:20 AM - 04:25 AM	47.1	53.7	44.0
04:25 AM - 04:30 AM	50.0	59.8	46.6
04:30 AM - 04:35 AM	51.2	63.2	45.3
04:35 AM - 04:40 AM	49.1	58.2	44.5
04:40 AM - 04:45 AM	48.0	61.1	44.6
04:45 AM - 04:50 AM	46.6	60.6	43.7
04:50 AM - 04:55 AM	46.9	59.7	43.3
04:55 AM - 05:00 AM	45.3	59.3	42.5
05:00 AM - 05:05 AM	45.1	59.2	43.0
05:05 AM - 05:10 AM	45.6	55.6	43.8
05:10 AM - 05:15 AM	44.7	61.5	43.0
05:15 AM - 05:20 AM	46.2	52.4	44.2
05:20 AM - 05:25 AM	47.0	55.9	44.2
05:25 AM - 05:30 AM	49.0	61.4	44.9
05:30 AM - 05:35 AM	47.7	61.9	44.4
05:35 AM - 05:40 AM	46.7	58.7	44.0
05:40 AM - 05:45 AM	47.3	57.4	44.5
05:45 AM - 05:50 AM	47.0	60.5	44.6
05:50 AM - 05:55 AM	47.7	59.0	45.3
05:55 AM - 06:00 AM	47.4	61.8	44.1
06:00 AM - 07:00 AM	48.6	66.9	46.1
07:00 AM - 08:00 AM	50.1	66.7	48.7
08:00 AM - 09:00 AM	50.9	55.3	49.1
09:00 AM - 10:00 AM	49.2	55.0	47.8
10:00 AM - 11:00 AM	52.5	66.1	50.3
11:00 AM - 12:00 PM	49.0	57.3	47.4
12:00 PM - 01:00 PM	51.4	57.1	50.1
01:00 PM - 02:00 PM	53.6	56.8	51.9

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

The above results are valid only for the and (un)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

Kanokorn Anek
Senior Manager

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



Analysis / Test Report



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260100
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376472-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 2

Sample No. 2260100-2
Parameter Noise
Location บริเวณกลุ่มโรงงานน้ำตาล (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jun 28 - 29, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
03:00 PM - 03:05 PM	50.1	53.5	48.0
03:05 PM - 04:00 PM	51.3	57.5	49.3
04:00 PM - 05:00 PM	54.1	62.2	52.1
05:00 PM - 06:00 PM	51.0	62.3	49.4
06:00 PM - 07:00 PM	47.2	66.9	45.8
07:00 PM - 08:00 PM	56.7	63.8	55.2
08:00 PM - 09:00 PM	56.8	68.1	55.4
09:00 PM - 10:00 PM	49.5	61.8	47.3
10:00 PM - 10:05 PM	51.0	56.0	48.9
10:05 PM - 10:10 PM	51.3	54.2	48.4
10:10 PM - 10:15 PM	51.1	54.3	48.9
10:15 PM - 10:20 PM	44.5	53.6	42.0
10:20 PM - 10:25 PM	50.1	54.8	42.7
10:25 PM - 10:30 PM	43.3	47.1	41.8
10:30 PM - 10:35 PM	43.9	52.8	42.5
10:35 PM - 10:40 PM	47.0	46.9	41.7
10:40 PM - 10:45 PM	50.1	54.3	46.0
10:45 PM - 10:50 PM	50.9	54.0	48.8
10:50 PM - 10:55 PM	51.2	54.3	49.1
10:55 PM - 11:00 PM	51.6	54.9	49.8
11:00 PM - 11:05 PM	51.7	54.7	49.8
11:05 PM - 11:10 PM	48.7	54.8	49.2
11:10 PM - 11:15 PM	45.8	48.2	44.0
11:15 PM - 11:20 PM	45.6	49.0	44.4
11:20 PM - 11:25 PM	45.3	47.8	43.4
11:25 PM - 11:30 PM	45.2	49.0	44.1
11:30 PM - 11:35 PM	44.9	49.1	43.3
11:35 PM - 11:40 PM	47.6	51.3	43.9
11:40 PM - 11:45 PM	48.4	53.0	46.6
11:45 PM - 11:50 PM	47.2	51.3	44.9
11:50 PM - 11:55 PM	48.1	48.3	44.2
11:55 PM - 12:00 AM	45.8	50.0	44.2
12:00 AM - 12:05 AM	45.5	48.9	44.1
12:05 AM - 12:10 AM	46.0	50.0	45.2
12:10 AM - 12:15 AM	45.7	49.2	44.3
12:15 AM - 12:20 AM	44.4	49.0	43.5
12:20 AM - 12:25 AM	43.7	47.8	41.6
12:25 AM - 12:30 AM	42.7	50.1	41.7
12:30 AM - 12:35 AM	43.5	47.4	42.6
12:35 AM - 12:40 AM	42.7	45.0	42.0

The above results are valid only for the and (un)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

Kanokorn Anek
Senior Manager

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



Analysis / Test Report



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260100
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376472-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 2

Sample No. 2260100-2
Parameter Noise
Location บริเวณกลุ่มโรงงานน้ำตาล (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jun 28 - 29, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:40 AM - 12:45 AM	42.5	45.9	41.7
12:45 AM - 12:50 AM	51.6	54.3	48.7
12:50 AM - 12:55 AM	45.5	53.9	42.2
12:55 AM - 01:00 AM	49.4	53.5	43.3
01:00 AM - 01:05 AM	45.1	55.7	43.4
01:05 AM - 01:10 AM	44.9	57.2	42.8
01:10 AM - 01:15 AM	45.3	62.4	42.5
01:15 AM - 01:20 AM	44.1	56.0	41.6
01:20 AM - 01:25 AM	44.3	55.3	42.2
01:25 AM - 01:30 AM	46.9	57.0	45.2
01:30 AM - 01:35 AM	46.3	57.2	44.4
01:35 AM - 01:40 AM	49.7	68.7	45.6
01:40 AM - 01:45 AM	47.2	53.2	44.9
01:45 AM - 01:50 AM	49.9	59.9	48.0
01:50 AM - 01:55 AM	49.0	59.0	46.9
01:55 AM - 02:00 AM	50.0	57.1	47.6
02:00 AM - 02:05 AM	49.0	59.9	46.8
02:05 AM - 02:10 AM	46.0	54.6	43.9
02:10 AM - 02:15 AM	46.7	59.8	43.0
02:15 AM - 02:20 AM	44.4	54.7	42.1
02:20 AM - 02:25 AM	45.1	60.2	42.3
02:25 AM - 02:30 AM	43.8	56.2	41.9
02:30 AM - 02:35 AM	46.5	58.1	44.6
02:35 AM - 02:40 AM	47.3	67.4	42.4
02:40 AM - 02:45 AM	44.5	54.6	42.3
02:45 AM - 02:50 AM	46.0	59.4	42.8
02:50 AM - 02:55 AM	45.0	55.1	42.8
02:55 AM - 03:00 AM	43.9	55.6	41.6
03:00 AM - 03:05 AM	45.0	55.2	42.5
03:05 AM - 03:10 AM	44.3	56.5	41.9
03:10 AM - 03:15 AM	44.1	57.1	42.1
03:15 AM - 03:20 AM	44.7	55.0	42.1
03:20 AM - 03:25 AM	45.0	53.5	42.0
03:25 AM - 03:30 AM	46.4	61.5	43.1
03:30 AM - 03:35 AM	49.4	60.9	43.9
03:35 AM - 03:40 AM	48.4	59.9	43.5
03:40 AM - 03:45 AM	46.4	66.4	43.6
03:45 AM - 03:50 AM	47.3	63.2	43.2
03:50 AM - 03:55 AM	46.5	60.7	42.3
03:55 AM - 04:00 AM	44.9	58.0	42.3

The above results are valid only for the and (un)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

Kanokorn Anek
Senior Manager

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



Analysis / Test Report



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphavapi, Udon Thani Thailand 41370

Lot ID: 2260100
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376472-1

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. 2260100-2
Parameter Noise
Location บริเวณกลุ่มโรงงานน้ำตาล (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jun 28 - 29, 2022
Measurement by Sangtawan Natsat
Sound Level Meter 00371916

Page 3 of 3

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 AM - 04:05 AM	45.5	60.8	42.5
04:05 AM - 04:10 AM	43.8	53.5	41.8
04:10 AM - 04:15 AM	45.7	60.2	42.2
04:15 AM - 04:20 AM	44.4	53.1	42.1
04:20 AM - 04:25 AM	45.3	62.1	42.1
04:25 AM - 04:30 AM	44.8	53.6	42.1
04:30 AM - 04:35 AM	44.5	54.5	41.9
04:35 AM - 04:40 AM	45.8	55.6	42.4
04:40 AM - 04:45 AM	44.7	57.7	42.2
04:45 AM - 04:50 AM	46.1	57.2	42.5
04:50 AM - 04:55 AM	44.2	51.3	41.8
04:55 AM - 05:00 AM	44.2	51.0	42.6
05:00 AM - 05:05 AM	50.4	56.6	46.2
05:05 AM - 05:10 AM	45.1	52.4	45.2
05:10 AM - 05:15 AM	46.5	55.1	44.3
05:15 AM - 05:20 AM	45.2	50.9	44.0
05:20 AM - 05:25 AM	44.8	52.7	43.1
05:25 AM - 05:30 AM	45.1	54.2	43.5
05:30 AM - 05:35 AM	44.8	55.0	42.9
05:35 AM - 05:40 AM	45.5	52.2	43.5
05:40 AM - 05:45 AM	46.0	50.8	44.3
05:45 AM - 05:50 AM	46.0	57.7	44.0
05:50 AM - 05:55 AM	47.5	64.4	44.0
05:55 AM - 06:00 AM	44.7	49.9	43.2
06:00 AM - 07:00 AM	48.4	65.6	44.8
07:00 AM - 08:00 AM	46.9	66.0	44.1
08:00 AM - 09:00 AM	45.7	63.1	43.3
09:00 AM - 10:00 AM	45.4	68.8	43.2
10:00 AM - 11:00 AM	45.2	62.6	42.9
11:00 AM - 12:00 PM	45.4	63.0	42.5
12:00 PM - 01:00 PM	45.0	67.5	42.5
01:00 PM - 02:00 PM	44.2	58.6	42.2

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

The above results are valid only for the test method 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

Kanokorn Anek
Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphavapi, Udon Thani Thailand 41370

Lot ID: 2260100
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376473-1

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. 2260100-3
Parameter Noise
Location บริเวณกลุ่มโรงงานน้ำตาล (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jun 29 - 30, 2022
Measurement by Sangtawan Natsat
Sound Level Meter 00371916

Page 2 of 3

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:40 AM - 12:45 AM	45.6	47.5	44.9
12:45 AM - 12:50 AM	45.5	48.3	44.3
12:50 AM - 12:55 AM	46.1	63.0	43.6
12:55 AM - 01:00 AM	45.1	47.4	44.4
01:00 AM - 01:05 AM	46.0	50.2	44.8
01:05 AM - 01:10 AM	48.1	52.2	47.0
01:10 AM - 01:15 AM	48.6	53.0	47.2
01:15 AM - 01:20 AM	48.9	51.3	47.7
01:20 AM - 01:25 AM	49.3	53.1	47.0
01:25 AM - 01:30 AM	50.8	53.6	48.7
01:30 AM - 01:35 AM	50.3	56.3	48.2
01:35 AM - 01:40 AM	45.7	59.4	44.7
01:40 AM - 01:45 AM	46.8	53.8	45.6
01:45 AM - 01:50 AM	47.4	50.2	46.1
01:50 AM - 01:55 AM	48.1	56.6	46.4
01:55 AM - 02:00 AM	48.5	54.6	46.4
02:00 AM - 02:05 AM	47.4	51.5	46.6
02:05 AM - 02:10 AM	46.2	49.5	45.4
02:10 AM - 02:15 AM	46.7	49.9	45.3
02:15 AM - 02:20 AM	46.1	50.0	44.8
02:20 AM - 02:25 AM	47.3	56.2	45.9
02:25 AM - 02:30 AM	47.3	49.6	45.9
02:30 AM - 02:35 AM	47.2	50.5	46.3
02:35 AM - 02:40 AM	48.1	52.1	47.0
02:40 AM - 02:45 AM	48.3	50.5	47.5
02:45 AM - 02:50 AM	48.4	51.1	47.5
02:50 AM - 02:55 AM	48.7	54.0	47.9
02:55 AM - 03:00 AM	48.5	52.7	47.4
03:00 AM - 03:05 AM	47.7	50.5	45.9
03:05 AM - 03:10 AM	50.0	53.3	48.0
03:10 AM - 03:15 AM	49.4	52.4	48.3
03:15 AM - 03:20 AM	49.7	52.6	48.3
03:20 AM - 03:25 AM	50.0	53.6	48.2
03:25 AM - 03:30 AM	51.4	54.6	50.0
03:30 AM - 03:35 AM	50.4	52.0	49.3
03:35 AM - 03:40 AM	49.8	53.4	48.5
03:40 AM - 03:45 AM	49.8	56.8	48.7
03:45 AM - 03:50 AM	48.0	56.5	45.8
03:50 AM - 03:55 AM	49.4	52.7	46.9
03:55 AM - 04:00 AM	49.9	53.3	47.3

The above results are valid only for the test method 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

Kanokorn Anek
Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphavapi, Udon Thani Thailand 41370

Lot ID: 2260100
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376473-1

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. 2260100-3
Parameter Noise
Location บริเวณกลุ่มโรงงานน้ำตาล (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jun 29 - 30, 2022
Measurement by Sangtawan Natsat
Sound Level Meter 00371916

Page 1 of 3

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	45.8	66.1	43.0
03:00 PM - 04:00 PM	45.9	66.0	42.3
04:00 PM - 05:00 PM	47.3	71.4	43.5
05:00 PM - 06:00 PM	45.4	65.0	42.6
06:00 PM - 07:00 PM	47.2	63.8	43.9
07:00 PM - 08:00 PM	47.8	58.6	46.6
08:00 PM - 09:00 PM	47.2	64.0	45.9
09:00 PM - 10:00 PM	48.5	56.1	45.0
10:00 PM - 10:05 PM	48.6	54.8	43.2
10:05 PM - 10:10 PM	52.8	56.3	51.3
10:10 PM - 10:15 PM	52.8	55.1	51.2
10:15 PM - 10:20 PM	52.9	55.3	51.3
10:20 PM - 10:25 PM	53.0	58.0	51.5
10:25 PM - 10:30 PM	52.7	55.0	51.2
10:30 PM - 10:35 PM	52.0	55.2	42.9
10:35 PM - 10:40 PM	44.1	54.0	43.0
10:40 PM - 10:45 PM	44.0	48.6	43.0
10:45 PM - 10:50 PM	44.2	50.6	43.1
10:50 PM - 10:55 PM	44.2	48.3	43.2
10:55 PM - 11:00 PM	48.9	45.0	43.2
11:00 PM - 11:05 PM	48.9	54.5	46.1
11:05 PM - 11:10 PM	49.3	48.8	43.1
11:10 PM - 11:15 PM	44.5	49.9	43.6
11:15 PM - 11:20 PM	44.6	48.2	44.1
11:20 PM - 11:25 PM	43.9	46.1	43.3
11:25 PM - 11:30 PM	44.5	47.6	43.9
11:30 PM - 11:35 PM	44.3	50.1	43.5
11:35 PM - 11:40 PM	45.7	52.7	44.8
11:40 PM - 11:45 PM	45.9	58.5	44.7
11:45 PM - 11:50 PM	46.4	56.6	45.0
11:50 PM - 11:55 PM	45.4	47.8	44.4
11:55 PM - 12:00 AM	46.0	49.0	44.2
12:00 AM - 12:05 AM	45.6	48.2	44.7
12:05 AM - 12:10 AM	44.8	46.8	44.0
12:10 AM - 12:15 AM	44.2	46.5	43.2
12:15 AM - 12:20 AM	44.7	48.1	43.9
12:20 AM - 12:25 AM	44.2	47.0	43.5
12:25 AM - 12:30 AM	44.9	47.5	43.7
12:30 AM - 12:35 AM	45.1	48.2	43.8
12:35 AM - 12:40 AM	46.4	53.2	45.1

The above results are valid only for the test method 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

Kanokorn Anek
Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphavapi, Udon Thani Thailand 41370

Lot ID: 2260100
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376473-1

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. 2260100-3
Parameter Noise
Location บริเวณกลุ่มโรงงานน้ำตาล (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jun 29 - 30, 2022
Measurement by Sangtawan Natsat
Sound Level Meter 00371916

Page 2 of 3

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 AM - 04:05 AM	52.4	57.5	50.8
04:05 AM - 04:10 AM	54.4	57.6	52.5
04:10 AM - 04:15 AM	53.9	58.3	52.4
04:15 AM - 04:20 AM	53.0	55.5	51.8
04:20 AM - 04:25 AM	49.8	55.1	46.7
04:25 AM - 04:30 AM	48.9	55.9	46.8
04:30 AM - 04:35 AM	52.7	56.3	51.7
04:35 AM - 04:40 AM	52.9	55.7	51.1
04:40 AM - 04:45 AM	50.8	55.0	49.0
04:45 AM - 04:50 AM	52.9	56.3	51.2
04:50 AM - 04:55 AM	53.2	63.4	51.9
04:55 AM - 05:00 AM	53.7	57.0	50.3
05:00 AM - 05:05 AM	48.9	57.8	46.3
05:05 AM - 05:10 AM	48.8	53.7	47.0
05:10 AM - 05:15 AM	47.9	55.4	45.9
05:15 AM - 05:20 AM	47.0	56.8	44.9
05:20 AM - 05:25 AM	46.5	52.7	44.5
05:25 AM - 05:30 AM	46.0	51.8	44.2
05:30 AM - 05:35 AM	46.3	49.3	44.7
05:35 AM - 05:40 AM	49.5	55.4	46.7
05:40 AM - 05:45 AM	48.4	57.7	46.4
05:45 AM - 05:50 AM	46.5	57.4	44.5
05:50 AM - 05:55 AM	47.9	59.1	44.3
05:55 AM - 06:00 AM	47.3	56.6	45.3
06:00 AM - 07:00 AM	48.6	64.4	45.5
07:00 AM - 08:00 AM	46.9	65.9	44.2
08:00 AM - 09:00 AM	46.0	68.0	42.6
09:00 AM - 10:00 AM	44.1	63.5	42.1
10:00 AM - 11:00 AM	44.9	61.9	42.3
11:00 AM - 12:00 PM	44.1	63.2	41.6
12:00 PM - 01:00 PM	47.1	67.1	41.9
01:00 PM - 02:00 PM	55.7	80.0	52.5

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

The above results are valid only for the test method 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

Kanokorn Anek
Kanokorn Anek
Senior 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

TESTING
No.0009Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370Lot ID: 2260100
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376474-1P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260100-4
Parameter Noise
Location บ้านกุ่มบัวบ้านกุ่มบัว (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jun 30 - Jul 01, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	50.9	61.1	46.0
03:00 PM - 04:00 PM	54.7	70.9	51.2
04:00 PM - 05:00 PM	52.7	72.2	49.1
05:00 PM - 06:00 PM	48.0	64.4	45.7
06:00 PM - 07:00 PM	50.2	67.4	46.2
07:00 PM - 08:00 PM	53.2	61.7	50.8
08:00 PM - 09:00 PM	54.7	69.5	49.2
09:00 PM - 10:00 PM	56.0	61.8	54.4
10:00 PM - 10:55 PM	56.9	60.1	55.8
10:55 PM - 10:10 PM	56.7	59.5	53.6
10:10 PM - 10:15 PM	56.0	59.3	54.3
10:15 PM - 10:20 PM	54.4	58.0	52.9
10:20 PM - 10:25 PM	53.5	56.3	52.0
10:25 PM - 10:30 PM	53.1	56.5	51.5
10:30 PM - 10:35 PM	52.5	56.7	50.6
10:35 PM - 10:40 PM	48.4	54.9	46.1
10:40 PM - 10:45 PM	46.4	52.0	45.6
10:45 PM - 10:50 PM	46.0	52.5	46.9
10:50 PM - 10:55 PM	46.9	51.9	44.8
10:55 PM - 11:00 PM	46.1	51.5	44.9
11:00 PM - 11:05 PM	46.2	53.6	44.4
11:05 PM - 11:10 PM	46.5	51.2	46.7
11:10 PM - 11:15 PM	46.0	49.1	44.7
11:15 PM - 11:20 PM	45.7	52.8	44.7
11:20 PM - 11:25 PM	45.7	48.8	45.0
11:25 PM - 11:30 PM	46.0	54.0	44.8
11:30 PM - 11:35 PM	46.0	51.7	44.4
11:35 PM - 11:40 PM	48.7	55.3	46.6
11:40 PM - 11:45 PM	50.3	54.5	46.3
11:45 PM - 11:50 PM	50.7	53.4	49.4
11:50 PM - 11:55 PM	49.5	53.6	48.6
11:55 PM - 12:00 AM	49.8	53.9	48.0
12:00 AM - 12:05 AM	49.9	54.0	46.1
12:05 AM - 12:10 AM	49.2	54.0	46.0
12:10 AM - 12:15 AM	50.0	57.4	47.1
12:15 AM - 12:20 AM	50.6	57.7	49.1
12:20 AM - 12:25 AM	48.6	54.2	44.6
12:25 AM - 12:30 AM	47.3	54.0	45.1
12:30 AM - 12:35 AM	47.4	50.5	46.1
12:35 AM - 12:40 AM	51.9	58.9	49.1

The above results are valid only for the and specified sample(s) as indicated in this report. The 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

Kanokorn Anek
Senior ManagerADDRESS 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 CompanyLife Sciences
www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER

Analysis / Test Report

TESTING
No.0009Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370Lot ID: 2260100
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376474-1P/O :
Project Name : EIA Monitoring
Project Location :

Page 3 of 3

Sample No. 2260100-4
Parameter Noise
Location บ้านกุ่มบัวบ้านกุ่มบัว (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jun 30 - Jul 01, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 AM - 04:05 AM	48.3	59.2	44.5
04:05 AM - 04:10 AM	46.7	56.0	44.4
04:10 AM - 04:15 AM	47.6	62.6	49.3
04:15 AM - 04:20 AM	46.7	59.2	44.2
04:20 AM - 04:25 AM	47.6	58.7	45.0
04:25 AM - 04:30 AM	48.0	57.0	46.3
04:30 AM - 04:35 AM	47.7	52.3	44.5
04:35 AM - 04:40 AM	49.2	58.6	46.6
04:40 AM - 04:45 AM	51.3	61.5	49.2
04:45 AM - 04:50 AM	50.7	58.2	46.7
04:50 AM - 04:55 AM	49.1	59.2	44.6
04:55 AM - 05:00 AM	49.2	60.0	47.3
05:00 AM - 05:05 AM	48.3	57.4	44.7
05:05 AM - 05:10 AM	47.6	54.8	42.1
05:10 AM - 05:15 AM	47.0	54.9	44.9
05:15 AM - 05:20 AM	46.9	54.3	44.8
05:20 AM - 05:25 AM	46.8	61.3	44.5
05:25 AM - 05:30 AM	47.1	53.8	45.1
05:30 AM - 05:35 AM	47.8	61.2	45.2
05:35 AM - 05:40 AM	48.6	70.2	43.7
05:40 AM - 05:45 AM	46.5	56.3	44.6
05:45 AM - 05:50 AM	46.8	66.7	44.4
05:50 AM - 05:55 AM	46.6	54.3	44.1
05:55 AM - 06:00 AM	46.3	58.6	44.2
06:00 AM - 07:00 AM	50.2	70.2	46.8
07:00 AM - 08:00 AM	50.2	71.1	47.6
08:00 AM - 09:00 AM	51.4	63.0	48.6
09:00 AM - 10:00 AM	51.1	60.0	48.6
10:00 AM - 11:00 AM	51.9	69.1	48.3
11:00 AM - 12:00 PM	48.4	58.1	44.4
12:00 PM - 01:00 PM	47.8	68.6	44.7
01:00 PM - 02:00 PM	47.6	73.3	44.4

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

The above results are valid only for the and specified sample(s) as indicated in this report. The 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

Kanokorn Anek
Senior ManagerADDRESS 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 CompanyLife Sciences
www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER

Analysis / Test Report

TESTING
No.0009Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370Lot ID: 2260100
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376474-1P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260100-4
Parameter Noise
Location บ้านกุ่มบัวบ้านกุ่มบัว (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jun 30 - Jul 01, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:40 AM - 12:45 AM	54.0	57.5	51.6
12:45 AM - 12:50 AM	54.5	57.8	52.9
12:50 AM - 12:55 AM	54.6	57.8	52.9
12:55 AM - 01:00 AM	52.2	57.0	51.6
01:00 AM - 01:05 AM	52.0	55.4	50.5
01:05 AM - 01:10 AM	51.9	56.4	50.5
01:10 AM - 01:15 AM	51.7	54.4	50.4
01:15 AM - 01:20 AM	51.7	54.6	50.1
01:20 AM - 01:25 AM	48.3	54.0	45.2
01:25 AM - 01:30 AM	45.2	51.0	43.6
01:30 AM - 01:35 AM	45.6	52.6	43.5
01:35 AM - 01:40 AM	44.1	51.7	43.0
01:40 AM - 01:45 AM	43.9	52.3	42.2
01:45 AM - 01:50 AM	43.0	46.6	42.2
01:50 AM - 01:55 AM	43.2	49.6	42.0
01:55 AM - 02:00 AM	44.3	52.2	41.9
02:00 AM - 02:05 AM	45.1	59.7	43.6
02:05 AM - 02:10 AM	45.0	56.3	42.3
02:10 AM - 02:15 AM	44.1	49.0	42.9
02:15 AM - 02:20 AM	44.4	48.8	43.0
02:20 AM - 02:25 AM	48.9	57.2	43.6
02:25 AM - 02:30 AM	47.1	52.1	40.4
02:30 AM - 02:35 AM	47.1	52.3	43.5
02:35 AM - 02:40 AM	49.6	54.4	46.0
02:40 AM - 02:45 AM	51.5	54.2	49.8
02:45 AM - 02:50 AM	51.6	54.4	50.0
02:50 AM - 02:55 AM	51.3	54.1	49.5
02:55 AM - 03:00 AM	50.1	53.7	41.6
03:00 AM - 03:05 AM	52.7	61.5	50.6
03:05 AM - 03:10 AM	51.4	62.0	49.0
03:10 AM - 03:15 AM	47.2	60.9	44.8
03:15 AM - 03:20 AM	48.0	56.6	44.6
03:20 AM - 03:25 AM	50.4	63.1	45.9
03:25 AM - 03:30 AM	49.0	56.8	45.9
03:30 AM - 03:35 AM	49.9	63.7	46.8
03:35 AM - 03:40 AM	49.8	70.3	45.5
03:40 AM - 03:45 AM	48.0	55.3	46.0
03:45 AM - 03:50 AM	48.4	55.8	45.6
03:50 AM - 03:55 AM	48.4	56.9	45.0
03:55 AM - 04:00 AM	47.5	65.6	45.4

The above results are valid only for the and specified sample(s) as indicated in this report. The 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

Kanokorn Anek
Senior ManagerADDRESS 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 CompanyLife Sciences
www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER

Analysis / Test Report

TESTING
No.0009Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370Lot ID: 2260100
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376474-1P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 2

Sample No. 2260100-5
Parameter Noise
Location บ้านกุ่มบัวบ้านกุ่มบัว (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jul 01 - 02, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	48.4	72.4	44.4
03:00 PM - 04:00 PM	47.8	72.0	44.4
04:00 PM - 05:00 PM	49.3	67.6	45.6
05:00 PM - 06:00 PM	48.0	65.9	45.2
06:00 PM - 07:00 PM	54.1	64.6	48.2
07:00 PM - 08:00 PM	48.8	65.9	46.6
08:00 PM - 09:00 PM	55.5	66.1	52.8
09:00 PM - 10:00 PM	54.6	65.5	51.5
10:00 PM - 10:05 PM	47.7	52.7	46.2
10:05 PM - 10:10 PM	46.1	48.0	45.2
10:10 PM - 10:15 PM	45.0	53.1	43.6
10:15 PM - 10:20 PM	44.9	53.2	43.1
10:20 PM - 10:25 PM	47.5	64.9	43.9
10:25 PM - 10:30 PM	54.5	71.1	46.7
10:30 PM - 10:35 PM	56.7	74.6	51.2
10:35 PM - 10:40 PM	49.9	64.4	46.7
10:40 PM - 10:45 PM	51.5	62.6	47.3
10:45 PM - 10:50 PM	58.6	66.7	55.4
10:50 PM - 10:55 PM	55.1	65.9	50.4
10:55 PM - 11:00 PM	52.0	61.6	49.8
11:00 PM - 11:05 PM	54.7	65.4	50.7
11:05 PM - 11:10 PM	54.2	65.6	51.5
11:10 PM - 11:15 PM	47.7	60.8	45.8
11:15 PM - 11:20 PM	48.0	58.6	45.0
11:20 PM - 11:25 PM	48.0	52.6	46.2
11:25 PM - 11:30 PM	47.8	54.3	46.6
11:30 PM - 11:35 PM	48.6	54.4	45.9
11:35 PM - 11:40 PM	47.7	51.2	46.2
11:40 PM - 11:45 PM	46.9	50.4	45.7
11:45 PM - 11:50 PM	48.5	53.1	47.4
11:50 PM - 11:55 PM	47.8	50.9	46.1
11:55 PM - 12:00 AM	47.2	50.4	46.3
12:00 AM - 12:05 AM	51.6	60.8	46.7
12:05 AM - 12:10 AM	50.7	61.4	46.3
12:10 AM - 12:15 AM	46.5	50.4	45.4
12:15 AM - 12:20 AM	44.5	50.8	43.8
12:20 AM - 12:25 AM	45.6	52.3	44.4
12:25 AM - 12:30 AM	46.3	53.5	44.4
12:30 AM - 12:35 AM	49.1	52.3	43.4
12:35 AM - 12:40 AM	44.0	48.3	43.3

The above results are valid only for the and specified sample(s) as indicated in this report. The 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

Kanokorn Anek
Senior ManagerADDRESS 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 CompanyLife Sciences
www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER



Analysis / Test Report



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260100
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376475-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260100-5
Parameter Noise
Location บริเวณใกล้ตัวบ้าน (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jul 01 - 02, 2022
Measurement by Sangtawan Natsat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:40 AM - 12:45 AM	43.9	45.9	43.2
12:45 AM - 12:50 AM	43.9	52.5	42.7
12:50 AM - 12:55 AM	43.9	48.5	43.0
12:55 AM - 01:00 AM	44.5	50.4	43.7
01:00 AM - 01:05 AM	46.1	54.8	44.5
01:05 AM - 01:10 AM	47.5	60.4	46.9
01:10 AM - 01:15 AM	46.1	55.5	45.0
01:15 AM - 01:20 AM	48.7	60.7	47.0
01:20 AM - 01:25 AM	48.4	61.8	47.0
01:25 AM - 01:30 AM	46.7	58.0	46.0
01:30 AM - 01:35 AM	45.7	55.1	44.9
01:35 AM - 01:40 AM	44.8	55.0	44.0
01:40 AM - 01:45 AM	44.2	52.8	43.1
01:45 AM - 01:50 AM	44.5	50.1	43.8
01:50 AM - 01:55 AM	44.4	51.8	43.2
01:55 AM - 02:00 AM	44.2	47.0	43.0
02:00 AM - 02:05 AM	45.0	50.4	43.9
02:05 AM - 02:10 AM	45.7	56.4	43.2
02:10 AM - 02:15 AM	44.3	48.4	43.2
02:15 AM - 02:20 AM	44.0	48.8	42.4
02:20 AM - 02:25 AM	42.6	48.8	42.1
02:25 AM - 02:30 AM	42.9	46.8	42.2
02:30 AM - 02:35 AM	44.5	54.1	42.4
02:35 AM - 02:40 AM	43.6	47.3	42.5
02:40 AM - 02:45 AM	44.0	47.1	42.8
02:45 AM - 02:50 AM	47.9	62.2	43.3
02:50 AM - 02:55 AM	48.9	62.3	42.8
02:55 AM - 03:00 AM	46.3	56.3	44.1
03:00 AM - 03:05 AM	44.4	51.2	43.2
03:05 AM - 03:10 AM	44.5	51.3	43.2
03:10 AM - 03:15 AM	56.9	63.2	46.4
03:15 AM - 03:20 AM	59.8	65.0	57.6
03:20 AM - 03:25 AM	58.0	63.8	54.4
03:25 AM - 03:30 AM	53.1	60.2	46.6
03:30 AM - 03:35 AM	55.2	59.3	52.9
03:35 AM - 03:40 AM	56.3	60.2	54.0
03:40 AM - 03:45 AM	56.0	64.2	53.4
03:45 AM - 03:50 AM	52.4	56.0	51.2
03:50 AM - 03:55 AM	52.1	59.5	50.9
03:55 AM - 04:00 AM	51.8	55.4	50.8

The above results are valid only for the analyzed/tested sample(s) as indicated in this report. No part of this report or data shall 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

Kanokorn Anek

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260100
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376476-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260100-6
Parameter Noise
Location บริเวณใกล้ตัวบ้าน (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jul 02 - 03, 2022
Measurement by Sangtawan Natsat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 02:05 PM	45.7	60.5	43.0
02:05 PM - 02:10 PM	47.2	65.3	46.7
02:10 PM - 02:15 PM	49.0	59.3	47.7
02:15 PM - 02:20 PM	49.3	53.9	48.1
02:20 PM - 02:25 PM	49.7	56.4	46.7
02:25 PM - 02:30 PM	51.1	64.7	49.0
02:30 PM - 02:35 PM	47.4	54.1	45.8
02:35 PM - 02:40 PM	44.1	61.3	41.6
02:40 PM - 02:45 PM	45.0	61.1	41.0
02:45 PM - 02:50 PM	43.3	59.2	40.8
02:50 PM - 02:55 PM	44.5	57.2	42.0
02:55 PM - 03:00 PM	44.0	59.2	41.6
03:00 PM - 03:05 PM	44.5	54.0	41.5
03:05 PM - 03:10 PM	46.8	63.5	41.6
03:10 PM - 03:15 PM	42.5	52.7	40.8
03:15 PM - 03:20 PM	42.8	57.3	40.5
03:20 PM - 03:25 PM	43.1	50.7	41.4
03:25 PM - 03:30 PM	43.0	54.0	41.4
03:30 PM - 03:35 PM	44.4	57.7	41.2
03:35 PM - 03:40 PM	42.7	52.0	40.9
03:40 PM - 03:45 PM	43.1	61.0	40.1
03:45 PM - 03:50 PM	44.3	57.8	41.4
03:50 PM - 03:55 PM	41.5	49.9	39.9
03:55 PM - 04:00 PM	42.2	50.5	40.4
04:00 PM - 04:05 PM	42.3	50.7	40.3
04:05 PM - 04:10 PM	42.8	54.6	42.0
04:10 PM - 04:15 PM	44.2	55.0	42.1
04:15 PM - 04:20 PM	44.9	62.1	41.8
04:20 PM - 04:25 PM	43.0	52.6	41.1
04:25 PM - 04:30 PM	43.1	57.8	40.9
04:30 PM - 04:35 PM	45.0	54.0	42.2
04:35 PM - 04:40 PM	45.1	56.6	43.0
04:40 PM - 04:45 PM	44.8	54.3	43.1
04:45 PM - 04:50 AM	44.6	50.5	41.6
04:50 AM - 04:55 AM	47.0	71.2	41.6
04:55 AM - 05:00 AM	44.7	68.1	42.2
05:00 AM - 05:05 AM	44.6	55.1	43.0
05:05 AM - 05:10 AM	46.9	60.9	43.2
05:10 AM - 05:15 AM	49.3	59.4	43.2
05:15 AM - 05:20 AM	45.8	52.5	44.2
05:20 AM - 05:25 AM	46.1	53.2	44.2

The above results are valid only for the analyzed/tested sample(s) as indicated in this report. No part of this report or data shall 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

Kanokorn Anek

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260100
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376475-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 3 of 3

Sample No. 2260100-5
Parameter Noise
Location บริเวณใกล้ตัวบ้าน (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jul 01 - 02, 2022
Measurement by Sangtawan Natsat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 AM - 04:05 AM	51.6	56.0	50.6
04:05 AM - 04:10 AM	51.3	55.5	50.5
04:10 AM - 04:15 AM	52.3	60.0	51.0
04:15 AM - 04:20 AM	52.5	61.7	51.1
04:20 AM - 04:25 AM	56.6	65.9	52.4
04:25 AM - 04:30 AM	56.7	69.3	54.2
04:30 AM - 04:35 AM	57.2	68.2	54.7
04:35 AM - 04:40 AM	55.8	64.1	54.0
04:40 AM - 04:45 AM	54.8	58.4	53.6
04:45 AM - 04:50 AM	54.5	61.9	52.9
04:50 AM - 04:55 AM	54.2	57.8	53.2
04:55 AM - 05:00 AM	54.0	58.4	53.0
05:00 AM - 05:05 AM	61.4	65.9	55.2
05:05 AM - 05:10 AM	55.1	62.4	52.9
05:10 AM - 05:15 AM	56.7	64.9	50.6
05:15 AM - 05:20 AM	53.3	61.6	51.8
05:20 AM - 05:25 AM	53.0	62.3	50.7
05:25 AM - 05:30 AM	52.9	58.4	51.3
05:30 AM - 05:35 AM	51.7	60.8	49.4
05:35 AM - 05:40 AM	55.9	66.5	52.9
05:40 AM - 05:45 AM	55.2	62.9	50.6
05:45 AM - 05:50 AM	53.6	59.6	50.7
05:50 AM - 05:55 AM	52.3	60.5	47.7
05:55 AM - 06:00 AM	48.2	60.3	46.5
06:00 AM - 07:00 AM	51.5	68.7	47.8
07:00 AM - 08:00 AM	51.9	68.5	46.8
08:00 AM - 09:00 AM	53.5	83.1	44.9
09:00 AM - 10:00 AM	47.4	68.8	44.8
10:00 AM - 11:00 AM	49.7	68.6	45.4
11:00 AM - 12:00 PM	43.8	62.6	43.0
12:00 PM - 01:00 PM	45.7	62.9	43.1
01:00 PM - 02:00 PM	46.4	60.8	42.9

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

The above results are valid only for the analyzed/tested sample(s) as indicated in this report. No part of this report or data shall 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

Kanokorn Anek

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260100
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376476-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260100-6
Parameter Noise
Location บริเวณใกล้ตัวบ้าน (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jul 02 - 03, 2022
Measurement by Sangtawan Natsat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:40 AM - 12:45 AM	44.9	51.8	43.6
12:45 AM - 12:50 AM	44.4	51.7	43.0
12:50 AM - 12:55 AM	43.9	54.8	42.3
12:55 AM - 01:00 AM	43.7	54.3	42.0
01:00 AM - 01:05 AM	43.5	55.8	41.4
01:05 AM - 01:10 AM	43.9	61.0	41.1
01:10 AM - 01:15 AM	43.7	54.6	40.2
01:15 AM - 01:20 AM	42.9	53.9	40.8
01:20 AM - 01:25 AM	45.5	55.6	43.8
01:25 AM - 01:30 AM	44.9	55.8	43.0
01:30 AM - 01:35 AM	48.3	67.3	44.3
01:35 AM - 01:40 AM	45.8	51.5	43.5
01:40 AM - 01:45 AM	48.5	58.5	46.6
01:45 AM - 01:50 AM	47.6	57.6	45.5
01:50 AM - 01:55 AM	48.6	55.7	46.2
01:55 AM - 02:00 AM	47.4	58.5	45.4
02:00 AM - 02:05 AM	44.6	53.2	42.5
02:05 AM - 02:10 AM	43.3	49.4	41.6
02:10 AM - 02:15 AM	43.0	53.3	40.7
02:15 AM - 02:20 AM	43.7	58.8	40.9
02:20 AM - 02:25 AM	42.4	54.8	40.5
02:25 AM - 02:30 AM	43.1	57.7	40.4
02:30 AM - 02:35 AM	45.9	66.0	41.0
02:35 AM - 02:40 AM	43.1	53.2	40.9
02:40 AM - 02:45 AM	44.6	58.0	41.4
02:45 AM - 02:50 AM	43.6	53.7	41.4
02:50 AM - 02:55 AM	42.5	54.2	40.2
02:55 AM - 03:00 AM	43.6	53.8	41.1
03:00 AM - 03:05 AM	42.9	55.1	40.5
03:05 AM - 03:10 AM	42.7	55.7	40.7
03:10 AM - 03:15 AM	43.3	51.6	40.7
03:15 AM - 03:20 AM	43.6	52.1	40.6
03:20 AM - 03:25 AM	45.0	60.1	41.7
03:25 AM - 03:30 AM	48.0	59.5	42.5
03:30 AM - 03:35 AM	47.0	58.5	42.1
03:35 AM - 03:40 AM	46.3	62.0	42.2
03:40 AM - 03:45 AM	45.9	60.8	41.9
03:45 AM - 03:50 AM	45.1	59.3	40.8
03:50 AM - 03:55 AM	43.5	56.6	40.9
03:55 AM - 04:00 AM	44.1	59.4	41.1

The above results are valid only for the analyzed/tested sample(s) as indicated in this report. No part of this report or data shall 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

Kanokorn Anek

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260100
Date Received Jul 06, 2022
Date Reported Jul 15, 2022
Report No. : 2376476-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260100-6
Parameter Noise
Location บ้านวังหลวงบ้านท่าช้าง (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jul 02 - 03, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 AM - 04:05 AM	46.1	56.8	42.6
04:05 AM - 04:10 AM	45.6	53.4	42.7
04:10 AM - 04:15 AM	44.8	54.2	41.9
04:15 AM - 04:20 AM	44.2	52.0	41.4
04:20 AM - 04:25 AM	44.9	52.9	42.2
04:25 AM - 04:30 AM	47.6	56.5	43.2
04:30 AM - 04:35 AM	45.7	58.4	41.3
04:35 AM - 04:40 AM	45.1	56.9	42.1
04:40 AM - 04:45 AM	44.3	59.5	42.4
04:45 AM - 04:50 AM	44.0	64.0	41.9
04:50 AM - 04:55 AM	44.2	55.9	41.1
04:55 AM - 05:00 AM	43.4	53.4	41.4
05:00 AM - 05:05 AM	44.4	53.8	41.7
05:05 AM - 05:10 AM	44.4	54.6	41.1
05:10 AM - 05:15 AM	42.4	50.9	40.5
05:15 AM - 05:20 AM	48.8	69.7	41.0
05:20 AM - 05:25 AM	45.6	58.5	42.1
05:25 AM - 05:30 AM	43.5	54.8	41.1
05:30 AM - 05:35 AM	44.5	58.2	41.5
05:35 AM - 05:40 AM	43.3	55.5	41.3
05:40 AM - 05:45 AM	46.3	60.5	41.5
05:45 AM - 05:50 AM	44.9	52.9	42.1
05:50 AM - 05:55 AM	43.9	53.7	42.1
05:55 AM - 06:00 AM	43.1	58.0	41.2
06:00 AM - 07:00 AM	43.6	59.0	41.3
07:00 AM - 08:00 AM	50.4	55.7	49.0
08:00 AM - 09:00 AM	53.0	55.4	50.2
09:00 AM - 10:00 AM	51.6	57.8	49.7
10:00 AM - 11:00 AM	52.7	60.6	51.1
11:00 AM - 12:00 PM	53.3	61.1	51.5
12:00 PM - 01:00 PM	51.8	60.7	49.6
01:00 PM - 02:00 PM	48.3	61.5	44.4

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

The above results are valid only for the end-pointed sample(s) as indicated in this report. No part of this report can be used or 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

Kanokorn Anek
Senior Manager

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand I PHONE +66 0 2760 3000 I 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 : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260100
Date Received Jul 06, 2022
Date Reported Jul 15, 2022
Report No. : 2376477-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260100-7
Parameter Noise
Location บ้านวังหลวงบ้านท่าช้าง (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jul 03 - 04, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:40 AM - 12:45 AM	54.9	58.1	53.1
12:45 AM - 12:50 AM	54.3	58.3	52.1
12:50 AM - 12:55 AM	53.8	57.0	51.9
12:55 AM - 01:00 AM	53.6	56.4	52.2
01:00 AM - 01:05 AM	53.0	56.7	51.1
01:05 AM - 01:10 AM	51.4	55.1	49.0
01:10 AM - 01:15 AM	51.2	55.2	48.8
01:15 AM - 01:20 AM	48.0	54.0	43.0
01:20 AM - 01:25 AM	48.9	53.7	45.9
01:25 AM - 01:30 AM	48.2	53.2	46.0
01:30 AM - 01:35 AM	50.0	53.5	47.9
01:35 AM - 01:40 AM	50.6	58.5	49.2
01:40 AM - 01:45 AM	50.0	59.1	48.6
01:45 AM - 01:50 AM	50.4	55.1	46.6
01:50 AM - 01:55 AM	49.5	55.8	47.1
01:55 AM - 02:00 AM	47.8	52.4	46.3
02:00 AM - 02:05 AM	47.3	60.9	45.2
02:05 AM - 02:10 AM	46.0	55.2	44.8
02:10 AM - 02:15 AM	45.2	51.0	43.8
02:15 AM - 02:20 AM	45.1	53.7	42.9
02:20 AM - 02:25 AM	43.8	49.5	42.6
02:25 AM - 02:30 AM	43.4	51.3	41.7
02:30 AM - 02:35 AM	43.7	52.8	42.1
02:35 AM - 02:40 AM	43.4	53.6	41.5
02:40 AM - 02:45 AM	44.1	50.8	42.1
02:45 AM - 02:50 AM	44.6	48.4	41.9
02:50 AM - 02:55 AM	44.6	56.3	42.6
02:55 AM - 03:00 AM	46.1	63.0	42.8
03:00 AM - 03:05 AM	49.3	48.5	41.6
03:05 AM - 03:10 AM	45.5	62.5	42.1
03:10 AM - 03:15 AM	47.2	64.2	42.6
03:15 AM - 03:20 AM	45.0	56.4	42.9
03:20 AM - 03:25 AM	47.7	62.2	43.0
03:25 AM - 03:30 AM	47.1	57.9	43.6
03:30 AM - 03:35 AM	48.6	57.9	43.7
03:35 AM - 03:40 AM	49.4	58.8	45.7
03:40 AM - 03:45 AM	46.8	59.3	43.1
03:45 AM - 03:50 AM	45.6	57.8	42.4
03:50 AM - 03:55 AM	46.6	53.9	43.4
03:55 AM - 04:00 AM	45.5	55.2	42.8



Analysis / Test Report



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260100
Date Received Jul 06, 2022
Date Reported Jul 15, 2022
Report No. : 2376477-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260100-7
Parameter Noise
Location บ้านวังหลวงบ้านท่าช้าง (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jul 03 - 04, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	43.5	60.7	40.8
03:00 PM - 04:00 PM	47.5	65.5	44.4
04:00 PM - 05:00 PM	54.9	54.9	53.3
05:00 PM - 06:00 PM	55.7	66.7	54.4
06:00 PM - 07:00 PM	48.3	60.4	46.3
07:00 PM - 08:00 PM	46.2	54.6	45.5
08:00 PM - 09:00 PM	46.6	53.5	44.5
09:00 PM - 10:00 PM	44.4	52.9	42.6
10:00 PM - 10:05 PM	48.0	52.1	41.9
10:05 PM - 10:10 PM	46.2	51.9	40.5
10:10 PM - 10:15 PM	41.9	46.9	40.3
10:15 PM - 10:20 PM	48.8	54.1	45.5
10:20 PM - 10:25 PM	51.4	54.5	49.8
10:25 PM - 10:30 PM	49.6	53.9	47.1
10:30 PM - 10:35 PM	49.0	51.7	47.3
10:35 PM - 10:40 PM	49.5	52.1	48.0
10:40 PM - 10:45 PM	48.5	51.3	46.6
10:45 PM - 10:50 PM	48.3	51.0	46.3
10:50 PM - 10:55 PM	48.8	52.1	46.9
10:55 PM - 11:00 PM	48.7	51.9	46.3
11:00 PM - 11:05 PM	49.0	52.0	47.0
11:05 PM - 11:10 PM	46.1	51.7	42.6
11:10 PM - 11:15 PM	44.0	46.5	42.8
11:15 PM - 11:20 PM	45.1	43.5	43.5
11:20 PM - 11:25 PM	47.0	55.4	44.1
11:25 PM - 11:30 PM	50.4	55.0	47.6
11:30 PM - 11:35 PM	51.9	55.4	50.4
11:35 PM - 11:40 PM	51.5	55.3	50.0
11:40 PM - 11:45 PM	52.3	55.7	50.8
11:45 PM - 11:50 PM	51.0	58.1	48.4
11:50 PM - 11:55 PM	50.1	54.4	48.6
11:55 PM - 12:00 AM	49.5	54.4	47.5
12:00 AM - 12:05 AM	51.1	54.7	48.8
12:05 AM - 12:10 AM	49.3	54.7	44.8
12:10 AM - 12:15 AM	48.6	60.8	44.8
12:15 AM - 12:20 AM	47.2	59.5	45.1
12:20 AM - 12:25 AM	53.9	57.9	47.6
12:25 AM - 12:30 AM	52.2	55.9	49.8
12:30 AM - 12:35 AM	53.0	56.5	51.6
12:35 AM - 12:40 AM	54.6	57.8	52.9

The above results are valid only for the end-pointed sample(s) as indicated in this report. No part of this report can be used or 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

Kanokorn Anek
Senior Manager

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand I PHONE +66 0 2760 3000 I 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 : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260100
Date Received Jul 06, 2022
Date Reported Jul 15, 2022
Report No. : 2376477-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260100-7
Parameter Noise
Location บ้านวังหลวงบ้านท่าช้าง (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jul 03 - 04, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 AM - 04:05 AM	46.7	58.8	43.9
04:05 AM - 04:10 AM	46.3	53.4	43.5
04:10 AM - 04:15 AM	45.8	55.0	43.1
04:15 AM - 04:20 AM	45.1	56.8	42.8
04:20 AM - 04:25 AM	45.3	53.7	42.6
04:25 AM - 04:30 AM	45.9	53.2	42.8
04:30 AM - 04:35 AM	46.0	54.3	43.7
04:35 AM - 04:40 AM	46.1	64.6	42.7
04:40 AM - 04:45 AM	44.9	54.7	42.6
04:45 AM - 04:50 AM	47.6	63.9	42.4
04:50 AM - 04:55 AM	44.0	56.2	42.4
04:55 AM - 05:00 AM	45.1	56.7	42.1
05:00 AM - 05:05 AM	43.3	58.6	41.6
05:05 AM - 05:10 AM	43.5	53.9	41.7
05:10 AM - 05:15 AM	43.4	53.9	41.5
05:15 AM - 05:20 AM	43.6	60.6	41.4
05:20 AM - 05:25 AM	45.0	61.6	42.3
05:25 AM - 05:30 AM	44.2	55.2	42.6
05:30 AM - 05:35 AM	43.8	57.0	41.7
05:35 AM - 05:40 AM	45.7	58.2	42.2
05:40 AM - 05:45 AM	44.8	54.5	42.0
05:45 AM - 05:50 AM	45.4	61.7	41.5
05:50 AM - 05:55 AM	43.7	58.6	42.0
05:55 AM - 06:00 AM	43.9	50.8	42.0
06:00 AM - 07:00 AM	44.1	67.4	41.9
07:00 AM - 08:00 AM	41.9	61.2	41.5
08:00 AM - 09:00 AM	44.2	61.6	41.1
09:00 AM - 10:00 AM	43.6	66.1	41.1
10:00 AM - 11:00 AM	42.8	58.9	40.9
11:00 AM - 12:00 PM	44.4	62.7	41.5
12:00 PM - 01:00 PM	43.5	64.6	40.9
01:00 PM - 02:00 PM	45.8	70.0	42.0

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

The above results are valid only for the end-pointed sample(s) as indicated in this report. No part of this report can be used or 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

Kanokorn Anek
Senior Manager

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

Life Sciences www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand I PHONE +66 0 2760 3000 I 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 : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260101
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376478-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. : 2260101-1
Parameter : Noise
Location : บ้านพักคนงานวัดบ้านหนองหิน (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date : Jun 27 - 28, 2022
Measurement by : Sangtawan Natasat
Sound Level Meter : 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	52.5	59.2	50.6
03:00 PM - 04:00 PM	54.3	62.0	52.6
04:00 PM - 05:00 PM	54.7	62.5	52.8
05:00 PM - 06:00 PM	53.3	62.1	51.1
06:00 PM - 07:00 PM	50.2	62.9	46.7
07:00 PM - 08:00 PM	46.7	65.4	43.6
08:00 PM - 09:00 PM	46.4	71.1	42.9
09:00 PM - 10:00 PM	44.9	60.4	42.7
10:00 PM - 10:05 PM	55.8	56.7	42.6
10:05 PM - 10:10 PM	44.7	61.2	42.9
10:10 PM - 10:15 PM	45.2	53.7	43.1
10:15 PM - 10:20 PM	45.5	56.0	43.5
10:20 PM - 10:25 PM	45.9	61.0	43.1
10:25 PM - 10:30 PM	45.1	55.2	43.0
10:30 PM - 10:35 PM	45.8	56.4	42.8
10:35 PM - 10:40 PM	46.0	66.9	43.3
10:40 PM - 10:45 PM	45.2	62.7	42.6
10:45 PM - 10:50 PM	45.9	55.3	43.2
10:50 PM - 10:55 PM	45.7	55.4	43.0
10:55 PM - 11:00 PM	45.4	53.0	43.0
11:00 PM - 11:05 PM	45.7	57.3	43.4
11:05 PM - 11:10 PM	46.4	62.5	43.0
11:10 PM - 11:15 PM	44.7	60.6	42.2
11:15 PM - 11:20 PM	45.9	58.6	43.4
11:20 PM - 11:25 PM	45.4	60.6	43.0
11:25 PM - 11:30 PM	45.9	55.4	42.9
11:30 PM - 11:35 PM	48.2	64.9	44.9
11:35 PM - 11:40 PM	43.9	54.1	42.2
11:40 PM - 11:45 PM	44.2	59.7	41.9
11:45 PM - 11:50 PM	44.5	52.1	43.0
11:50 PM - 11:55 PM	44.4	55.4	42.8
11:55 PM - 12:00 AM	45.8	59.1	42.6
12:00 AM - 12:05 AM	44.1	53.4	42.3
12:05 AM - 12:10 AM	45.7	62.4	41.5
12:10 AM - 12:15 AM	42.9	51.3	41.3
12:15 AM - 12:20 AM	43.6	51.9	41.8
12:20 AM - 12:25 AM	43.7	52.1	41.7
12:25 AM - 12:30 AM	44.2	56.0	42.6
12:30 AM - 12:35 AM	45.6	56.4	43.5
12:35 AM - 12:40 AM	46.3	63.5	43.2

The above results are valid only for the and specified sample(s) as indicated in this report. The 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

Kanokorn Anek

Kanokorn Anek
Senior 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

TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260101
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376478-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 3 of 3

Sample No. : 2260101-1
Parameter : Noise
Location : บ้านพักคนงานวัดบ้านหนองหิน (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date : Jun 27 - 28, 2022
Measurement by : Sangtawan Natasat
Sound Level Meter : 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 AM - 04:05 AM	46.9	64.3	44.3
04:05 AM - 04:10 AM	46.6	52.1	44.2
04:10 AM - 04:15 AM	47.6	54.8	44.8
04:15 AM - 04:20 AM	46.0	54.6	44.0
04:20 AM - 04:25 AM	47.1	53.7	44.0
04:25 AM - 04:30 AM	50.0	59.8	46.4
04:30 AM - 04:35 AM	51.2	62.2	45.5
04:35 AM - 04:40 AM	49.1	58.2	44.6
04:40 AM - 04:45 AM	48.0	61.1	44.5
04:45 AM - 04:50 AM	46.6	60.6	43.3
04:50 AM - 04:55 AM	46.3	59.7	43.3
04:55 AM - 05:00 AM	45.3	59.3	42.5
05:00 AM - 05:05 AM	45.1	59.2	43.0
05:05 AM - 05:10 AM	45.4	55.6	43.8
05:10 AM - 05:15 AM	44.7	61.5	43.0
05:15 AM - 05:20 AM	46.2	52.4	44.2
05:20 AM - 05:25 AM	47.0	53.9	44.2
05:25 AM - 05:30 AM	49.0	61.4	44.9
05:30 AM - 05:35 AM	47.7	61.9	44.4
05:35 AM - 05:40 AM	46.7	58.7	44.0
05:40 AM - 05:45 AM	47.3	57.4	44.5
05:45 AM - 05:50 AM	47.0	60.5	44.6
05:50 AM - 05:55 AM	47.7	59.0	45.3
05:55 AM - 06:00 AM	47.4	61.8	44.1
06:00 AM - 07:00 AM	48.6	66.9	46.1
07:00 AM - 08:00 AM	50.1	67.7	48.7
08:00 AM - 09:00 AM	50.9	55.3	49.8
09:00 AM - 10:00 AM	49.2	55.0	47.8
10:00 AM - 11:00 AM	52.5	66.1	50.3
11:00 AM - 12:00 PM	48.0	57.3	47.4
12:00 PM - 01:00 PM	51.4	57.1	50.0
01:00 PM - 02:00 PM	53.6	56.8	51.9

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

The above results are valid only for the and specified sample(s) as indicated in this report. The 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

Kanokorn Anek

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260101
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376478-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. : 2260101-1
Parameter : Noise
Location : บ้านพักคนงานวัดบ้านหนองหิน (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date : Jun 27 - 28, 2022
Measurement by : Sangtawan Natasat
Sound Level Meter : 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:40 AM - 12:45 AM	44.4	54.0	42.5
12:45 AM - 12:50 AM	44.5	59.2	42.3
12:50 AM - 12:55 AM	46.4	55.4	43.6
12:55 AM - 01:00 AM	46.5	58.0	44.4
01:00 AM - 01:05 AM	48.2	55.7	44.5
01:05 AM - 01:10 AM	46.0	51.9	43.9
01:10 AM - 01:15 AM	48.4	72.6	43.0
01:15 AM - 01:20 AM	46.1	69.5	43.6
01:20 AM - 01:25 AM	46.0	56.5	44.4
01:25 AM - 01:30 AM	48.3	62.3	45.3
01:30 AM - 01:35 AM	50.7	60.8	44.6
01:35 AM - 01:40 AM	47.2	53.9	45.6
01:40 AM - 01:45 AM	47.5	54.6	45.6
01:45 AM - 01:50 AM	46.3	53.2	45.0
01:50 AM - 01:55 AM	45.8	53.1	44.4
01:55 AM - 02:00 AM	45.3	56.2	43.7
02:00 AM - 02:05 AM	46.8	53.1	44.2
02:05 AM - 02:10 AM	44.4	54.6	42.6
02:10 AM - 02:15 AM	47.0	62.1	42.4
02:15 AM - 02:20 AM	46.9	56.6	44.4
02:20 AM - 02:25 AM	46.9	56.7	44.6
02:25 AM - 02:30 AM	46.5	57.8	44.2
02:30 AM - 02:35 AM	48.3	61.4	44.7
02:35 AM - 02:40 AM	46.5	56.5	44.2
02:40 AM - 02:45 AM	46.8	53.1	44.2
02:45 AM - 02:50 AM	48.2	59.0	45.2
02:50 AM - 02:55 AM	47.8	64.0	45.3
02:55 AM - 03:00 AM	47.0	53.5	44.6
03:00 AM - 03:05 AM	47.2	58.3	45.6
03:05 AM - 03:10 AM	48.4	56.3	45.7
03:10 AM - 03:15 AM	46.7	59.1	44.2
03:15 AM - 03:20 AM	46.5	58.9	43.8
03:20 AM - 03:25 AM	45.3	51.5	43.6
03:25 AM - 03:30 AM	46.3	56.2	44.4
03:30 AM - 03:35 AM	46.9	54.3	43.9
03:35 AM - 03:40 AM	47.4	56.8	44.9
03:40 AM - 03:45 AM	47.7	55.7	45.2
03:45 AM - 03:50 AM	48.2	58.8	45.5
03:50 AM - 03:55 AM	47.0	55.8	44.6
03:55 AM - 04:00 AM	47.0	59.8	43.9

The above results are valid only for the and specified sample(s) as indicated in this report. The 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

Kanokorn Anek

Kanokorn Anek
Senior 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

TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260101
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376479-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. : 2260101-2
Parameter : Noise
Location : บ้านพักคนงานวัดบ้านหนองหิน (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date : Jun 28 - 29, 2022
Measurement by : Sangtawan Natasat
Sound Level Meter : 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	50.1	55.9	48.0
03:00 PM - 04:00 PM	51.3	57.5	49.3
04:00 PM - 05:00 PM	54.1	62.2	52.1
05:00 PM - 06:00 PM	51.0	62.3	48.9
06:00 PM - 07:00 PM	46.9	65.9	43.6
07:00 PM - 08:00 PM	56.7	63.8	55.2
08:00 PM - 09:00 PM	56.8	68.1	55.4
09:00 PM - 10:00 PM	49.5	61.8	47.3
10:00 PM - 10:05 PM	50.3	56.0	49.8
10:05 PM - 10:10 PM	51.3	54.2	49.4
10:10 PM - 10:15 PM	51.1	54.3	48.9
10:15 PM - 10:20 PM	44.5	53.6	42.0
10:20 PM - 10:25 PM	50.3	54.8	42.7
10:25 PM - 10:30 PM	43.2	47.1	41.8
10:30 PM - 10:35 PM	43.9	52.8	42.5
10:35 PM - 10:40 PM	43.0	46.9	41.7
10:40 PM - 10:45 PM	54.3	54.3	48.0
10:45 PM - 10:50 PM	50.9	54.0	48.0
10:50 PM - 10:55 PM	51.2	54.3	49.1
10:55 PM - 11:00 PM	51.6	54.9	49.8
11:00 PM - 11:05 PM	51.7	54.7	49.8
11:05 PM - 11:10 PM	48.7	54.8	44.2
11:10 PM - 11:15 PM	45.8	48.2	44.1
11:15 PM - 11:20 PM	45.6	49.0	44.4
11:20 PM - 11:25 PM	45.3	47.8	43.4
11:25 PM - 11:30 PM	45.2	49.0	44.1
11:30 PM - 11:35 PM	44.9	49.1	43.3
11:35 PM - 11:40 PM	47.6	51.3	43.9
11:40 PM - 11:45 PM	48.4	53.0	46.6
11:45 PM - 11:50 PM	47.2	51.3	44.9
11:50 PM - 11:55 PM	45.1	48.3	44.0
11:55 PM - 12:00 AM	45.8	50.0	44.2
12:00 AM - 12:05 AM	45.5	48.9	44.1
12:05 AM - 12:10 AM	46.0	50.0	45.2
12:10 AM - 12:15 AM	45.7	49.2	44.3
12:15 AM - 12:20 AM	44.4	49.0	43.5
12:20 AM - 12:25 AM	43.7	47.8	41.6
12:25 AM - 12:30 AM	43.2	50.1	41.7
12:30 AM - 12:35 AM	43.5	47.4	42.6
12:35 AM - 12:40 AM	42.7	45.0	42.0

The above results are valid only for the and specified sample(s) as indicated in this report. The 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

Kanokorn Anek

Kanokorn Anek
Senior 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

TESTING
No.0009Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370Lot ID: 2260101
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376479-1P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260101-2
Parameter Noise
Location บริเวณกลุ่มบ้านพักคนงาน (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jun 28 - 29, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:40 AM - 12:45 AM	42.5	45.9	41.7
12:45 AM - 12:50 AM	51.6	54.3	48.7
12:50 AM - 12:55 AM	45.5	53.9	42.2
12:55 AM - 01:00 AM	49.4	53.5	43.3
01:00 AM - 01:05 AM	45.1	55.7	43.4
01:05 AM - 01:10 AM	44.9	57.2	42.8
01:10 AM - 01:15 AM	45.3	62.4	42.5
01:15 AM - 01:20 AM	44.1	56.0	41.6
01:20 AM - 01:25 AM	44.3	55.3	42.2
01:25 AM - 01:30 AM	46.9	57.0	45.2
01:30 AM - 01:35 AM	46.3	57.2	45.4
01:35 AM - 01:40 AM	49.7	68.7	45.6
01:40 AM - 01:45 AM	47.2	53.2	44.9
01:45 AM - 01:50 AM	49.9	59.9	47.0
01:50 AM - 01:55 AM	49.0	58.0	46.9
01:55 AM - 02:00 AM	50.0	57.1	45.2
02:00 AM - 02:05 AM	49.0	59.9	46.8
02:05 AM - 02:10 AM	46.0	54.5	43.9
02:10 AM - 02:15 AM	44.7	50.8	43.0
02:15 AM - 02:20 AM	44.4	54.7	42.1
02:20 AM - 02:25 AM	45.1	60.2	42.3
02:25 AM - 02:30 AM	43.8	59.4	41.9
02:30 AM - 02:35 AM	49.5	59.1	41.8
02:35 AM - 02:40 AM	47.3	67.4	42.4
02:40 AM - 02:45 AM	44.5	54.6	42.3
02:45 AM - 02:50 AM	46.0	59.4	42.8
02:50 AM - 02:55 AM	45.0	55.1	42.7
02:55 AM - 03:00 AM	43.9	55.6	41.5
03:00 AM - 03:05 AM	45.0	55.2	42.6
03:05 AM - 03:10 AM	44.3	56.5	41.9
03:10 AM - 03:15 AM	44.1	57.1	42.1
03:15 AM - 03:20 AM	44.7	55.0	42.1
03:20 AM - 03:25 AM	45.0	53.5	42.0
03:25 AM - 03:30 AM	46.4	61.5	43.1
03:30 AM - 03:35 AM	49.4	60.9	43.9
03:35 AM - 03:40 AM	48.4	59.9	43.5
03:40 AM - 03:45 AM	47.7	66.4	43.6
03:45 AM - 03:50 AM	47.3	62.2	43.3
03:50 AM - 03:55 AM	46.5	60.7	42.2
03:55 AM - 04:00 AM	44.9	58.0	42.3

The above results are valid only for the and pre(defined) 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. A 3 Laboratory Group (Thailand) Group of companies that this report is not reproduced except in full.

Approved by

Kanokorn Anek
Senior ManagerADDRESS 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 COMPANYLife Sciences
www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER

Analysis / Test Report

TESTING
No.0009Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370Lot ID: 2260301
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376480-1P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260101-3
Parameter Noise
Location บริเวณกลุ่มบ้านพักคนงาน (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jun 29 - 30, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	45.8	66.1	43.0
03:00 PM - 04:00 PM	44.9	66.0	42.3
04:00 PM - 05:00 PM	47.3	71.4	43.5
05:00 PM - 06:00 PM	45.4	65.0	42.6
06:00 PM - 07:00 PM	47.2	63.8	43.9
07:00 PM - 08:00 PM	47.8	58.6	46.6
08:00 PM - 09:00 PM	47.2	64.0	48.9
09:00 PM - 10:00 PM	48.5	56.1	45.0
10:00 PM - 10:05 PM	48.6	54.6	43.2
10:05 PM - 10:10 PM	52.8	58.3	51.3
10:10 PM - 10:15 PM	52.8	55.1	51.2
10:15 PM - 10:20 PM	52.9	55.3	51.3
10:20 PM - 10:25 PM	53.0	56.0	51.5
10:25 PM - 10:30 PM	52.7	55.0	51.2
10:30 PM - 10:35 PM	52.0	55.2	42.9
10:35 PM - 10:40 PM	44.1	54.0	43.0
10:40 PM - 10:45 PM	44.0	48.6	43.0
10:45 PM - 10:50 PM	44.2	50.6	43.1
10:50 PM - 10:55 PM	44.2	48.3	43.2
10:55 PM - 11:00 PM	45.0	48.5	43.2
11:00 PM - 11:05 PM	48.9	54.5	46.1
11:05 PM - 11:10 PM	44.3	48.8	43.1
11:10 PM - 11:15 PM	44.5	49.9	43.6
11:15 PM - 11:20 PM	44.6	48.2	44.1
11:20 PM - 11:25 PM	43.9	46.1	43.3
11:25 PM - 11:30 PM	44.5	47.6	43.9
11:30 PM - 11:35 PM	44.3	50.1	43.5
11:35 PM - 11:40 PM	45.7	52.7	44.8
11:40 PM - 11:45 PM	45.9	58.5	44.7
11:45 PM - 11:50 PM	46.4	56.6	45.0
11:50 PM - 11:55 PM	45.4	47.8	44.4
11:55 PM - 12:00 AM	46.0	49.0	44.3
12:00 AM - 12:05 AM	45.6	48.2	44.7
12:05 AM - 12:10 AM	44.8	46.6	44.0
12:10 AM - 12:15 AM	44.2	46.5	43.2
12:15 AM - 12:20 AM	44.7	48.7	43.9
12:20 AM - 12:25 AM	44.2	47.0	43.5
12:25 AM - 12:30 AM	44.9	47.6	43.7
12:30 AM - 12:35 AM	45.1	48.2	43.8
12:35 AM - 12:40 AM	46.4	53.2	45.1

The above results are valid only for the and pre(defined) 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. A 3 Laboratory Group (Thailand) Group of companies that this report is not reproduced except in full.

Approved by

Kanokorn Anek
Senior ManagerADDRESS 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 COMPANYLife Sciences
www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER

Analysis / Test Report

TESTING
No.0009Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370Lot ID: 2260101
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376479-1P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260101-2
Parameter Noise
Location บริเวณกลุ่มบ้านพักคนงาน (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jun 28 - 29, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 AM - 04:05 AM	45.5	60.8	42.5
04:05 AM - 04:10 AM	43.8	53.5	41.8
04:10 AM - 04:15 AM	45.7	60.2	42.2
04:15 AM - 04:20 AM	44.4	53.1	42.1
04:20 AM - 04:25 AM	45.3	62.1	42.1
04:25 AM - 04:30 AM	44.8	53.6	42.1
04:30 AM - 04:35 AM	46.5	54.5	43.9
04:35 AM - 04:40 AM	45.8	55.6	42.4
04:40 AM - 04:45 AM	46.7	57.7	42.2
04:45 AM - 04:50 AM	46.1	57.2	42.5
04:50 AM - 04:55 AM	44.2	53.3	41.8
04:55 AM - 05:00 AM	44.2	51.0	42.6
05:00 AM - 05:05 AM	50.4	56.6	46.2
05:05 AM - 05:10 AM	46.6	52.4	45.2
05:10 AM - 05:15 AM	45.9	55.1	44.3
05:15 AM - 05:20 AM	45.2	50.9	44.0
05:20 AM - 05:25 AM	44.8	52.7	43.1
05:25 AM - 05:30 AM	45.1	54.2	43.5
05:30 AM - 05:35 AM	44.8	55.0	42.9
05:35 AM - 05:40 AM	45.5	52.2	43.5
05:40 AM - 05:45 AM	46.0	50.8	44.3
05:45 AM - 05:50 AM	46.0	57.7	44.0
05:50 AM - 05:55 AM	47.5	64.4	44.4
05:55 AM - 06:00 AM	44.7	49.9	43.2
06:00 AM - 07:00 AM	48.4	65.6	44.8
07:00 AM - 08:00 AM	46.6	66.0	44.1
08:00 AM - 09:00 AM	45.7	63.1	43.3
09:00 AM - 10:00 AM	45.4	68.8	43.2
10:00 AM - 11:00 AM	45.2	62.6	42.9
11:00 AM - 12:00 PM	45.4	63.0	42.5
12:00 PM - 01:00 PM	45.0	67.5	42.5
01:00 PM - 02:00 PM	44.2	58.6	42.2

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

The above results are valid only for the and pre(defined) 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. A 3 Laboratory Group (Thailand) Group of companies that this report is not reproduced except in full.

Approved by

Kanokorn Anek
Senior ManagerADDRESS 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 COMPANYLife Sciences
www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER

Analysis / Test Report

TESTING
No.0009Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370Lot ID: 2260101
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376480-1P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260101-3
Parameter Noise
Location บริเวณกลุ่มบ้านพักคนงาน (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jun 29 - 30, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:40 AM - 12:45 AM	45.6	47.5	44.9
12:45 AM - 12:50 AM	45.5	48.3	44.3
12:50 AM - 12:55 AM	46.1	63.0	43.0
12:55 AM - 01:00 AM	45.1	47.4	44.4
01:00 AM - 01:05 AM	46.0	50.2	44.8
01:05 AM - 01:10 AM	46.1	52.2	47.0
01:10 AM - 01:15 AM	48.8	51.0	47.7
01:15 AM - 01:20 AM	48.9	51.3	47.7
01:20 AM - 01:25 AM	49.3	53.1	47.0
01:25 AM - 01:30 AM	50.8	53.6	49.7
01:30 AM - 01:35 AM	50.3	53.3	48.2
01:35 AM - 01:40 AM	45.7	59.4	44.7
01:40 AM - 01:45 AM	46.8	53.8	45.6
01:45 AM - 01:50 AM	47.4	50.2	46.1
01:50 AM - 01:55 AM	48.1	56.6	46.4
01:55 AM - 02:00 AM	48.5	54.6	46.4
02:00 AM - 02:05 AM	47.4	51.5	46.6
02:05 AM - 02:10 AM	46.2	49.5	45.4
02:10 AM - 02:15 AM	46.7	49.9	45.5
02:15 AM - 02:20 AM	46.1	50.0	44.8
02:20 AM - 02:25 AM	47.3	55.2	45.2
02:25 AM - 02:30 AM	47.3	49.6	45.9
02:30 AM - 02:35 AM	47.2	50.5	46.3
02:35 AM - 02:40 AM	48.1	52.1	46.3
02:40 AM - 02:45 AM	47.3	50.5	47.5
02:45 AM - 02:50 AM	48.4	51.1	47.5
02:50 AM - 02:55 AM	48.7	51.0	47.9
02:55 AM - 03:00 AM	48.5	52.7	47.4
03:00 AM - 03:05 AM	47.7	50.5	45.9
03:05 AM - 03:10 AM	50.0	53.3	48.0
03:10 AM - 03:15 AM	49.4	52.4	48.2
03:15 AM - 03:20 AM	49.7	52.6	48.3
03:20 AM - 03:25 AM	50.0	53.6	48.2
03:25 AM - 03:30 AM	51.4	50.0	50.0
03:30 AM - 03:35 AM	50.4	52.9	49.3
03:35 AM - 03:40 AM	48.8	53.4	48.5
03:40 AM - 03:45 AM	48.8	56.8	48.7
03:45 AM - 03:50 AM	48.0	56.5	45.8
03:50 AM - 03:55 AM	49.4	52.7	47.9
03:55 AM - 04:00 AM	49.9	53.3	46.3

The above results are valid only for the and pre(defined) 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. A 3 Laboratory Group (Thailand) Group of companies that this report is not reproduced except in full.

Approved by

Kanokorn Anek
Senior ManagerADDRESS 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 COMPANYLife Sciences
www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER



Analysis / Test Report



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260101
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376480-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 3 of 3

Sample No. 2260101-3
Parameter Noise
Location บริเวณกลุ่มอาคารที่พัก (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jun 29 - 30, 2022
Measurement by Sangtawan Natsat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 AM - 04:05 AM	52.4	57.5	50.0
04:05 AM - 04:10 AM	54.4	57.6	52.5
04:10 AM - 04:15 AM	53.9	58.3	52.4
04:15 AM - 04:20 AM	53.0	55.5	51.8
04:20 AM - 04:25 AM	49.8	55.1	46.7
04:25 AM - 04:30 AM	48.9	55.9	46.9
04:30 AM - 04:35 AM	53.1	56.3	51.7
04:35 AM - 04:40 AM	52.9	55.7	51.1
04:40 AM - 04:45 AM	50.8	55.0	49.0
04:45 AM - 04:50 AM	52.9	56.3	51.2
04:50 AM - 04:55 AM	53.2	63.4	51.9
04:55 AM - 05:00 AM	53.7	57.0	50.3
05:00 AM - 05:05 AM	48.9	57.8	45.3
05:05 AM - 05:10 AM	48.8	53.7	47.0
05:10 AM - 05:15 AM	47.9	53.4	45.9
05:15 AM - 05:20 AM	47.0	56.8	44.9
05:20 AM - 05:25 AM	46.5	52.7	44.5
05:25 AM - 05:30 AM	46.0	51.8	44.2
05:30 AM - 05:35 AM	46.6	53.8	44.7
05:35 AM - 05:40 AM	49.5	55.4	46.7
05:40 AM - 05:45 AM	48.4	57.7	46.4
05:45 AM - 05:50 AM	46.5	57.4	44.5
05:50 AM - 05:55 AM	47.0	59.1	44.3
05:55 AM - 06:00 AM	47.3	56.6	45.3
06:00 AM - 07:00 AM	48.6	64.4	45.5
07:00 AM - 08:00 AM	45.9	65.9	44.2
08:00 AM - 09:00 AM	45.0	68.0	42.6
09:00 AM - 10:00 AM	44.1	63.5	42.1
10:00 AM - 11:00 AM	44.9	61.9	42.3
11:00 AM - 12:00 PM	44.3	63.2	41.6
12:00 PM - 01:00 PM	44.7	67.1	41.9
01:00 PM - 02:00 PM	55.7	80.0	52.5

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

The above results are valid only for the and/or (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

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260101
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376481-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260101-4
Parameter Noise
Location บริเวณกลุ่มอาคารที่พัก (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jun 30 - Jul 01, 2022
Measurement by Sangtawan Natsat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:40 AM - 12:45 AM	54.0	57.5	51.6
12:45 AM - 12:50 AM	54.5	57.8	52.9
12:50 AM - 12:55 AM	54.6	57.8	52.9
12:55 AM - 01:00 AM	53.2	57.0	51.6
01:00 AM - 01:05 AM	52.0	55.4	50.5
01:05 AM - 01:10 AM	51.9	56.4	50.5
01:10 AM - 01:15 AM	51.7	54.4	50.4
01:15 AM - 01:20 AM	51.7	54.6	50.1
01:20 AM - 01:25 AM	48.3	54.0	45.2
01:25 AM - 01:30 AM	45.2	51.0	43.6
01:30 AM - 01:35 AM	45.6	52.6	43.5
01:35 AM - 01:40 AM	44.1	51.7	43.0
01:40 AM - 01:45 AM	43.9	52.3	42.2
01:45 AM - 01:50 AM	43.0	46.6	42.2
01:50 AM - 01:55 AM	43.3	49.6	42.0
01:55 AM - 02:00 AM	44.3	52.2	41.9
02:00 AM - 02:05 AM	45.1	59.7	43.3
02:05 AM - 02:10 AM	45.0	56.3	42.6
02:10 AM - 02:15 AM	44.3	49.0	42.9
02:15 AM - 02:20 AM	44.4	48.8	43.0
02:20 AM - 02:25 AM	48.9	57.2	43.6
02:25 AM - 02:30 AM	47.1	52.1	40.4
02:30 AM - 02:35 AM	47.1	52.3	43.5
02:35 AM - 02:40 AM	49.6	54.4	46.0
02:40 AM - 02:45 AM	51.5	54.2	49.8
02:45 AM - 02:50 AM	51.6	54.4	50.0
02:50 AM - 02:55 AM	51.9	54.1	49.5
02:55 AM - 03:00 AM	50.1	53.7	48.5
03:00 AM - 03:05 AM	52.7	61.5	50.6
03:05 AM - 03:10 AM	51.4	62.0	49.0
03:10 AM - 03:15 AM	47.2	60.8	44.8
03:15 AM - 03:20 AM	48.0	56.6	44.6
03:20 AM - 03:25 AM	50.4	63.1	45.9
03:25 AM - 03:30 AM	49.0	56.8	45.9
03:30 AM - 03:35 AM	49.9	62.7	45.8
03:35 AM - 03:40 AM	49.8	70.3	45.5
03:40 AM - 03:45 AM	48.0	55.3	46.0
03:45 AM - 03:50 AM	48.4	55.8	45.6
03:50 AM - 03:55 AM	48.4	56.9	45.0
03:55 AM - 04:00 AM	47.5	65.6	45.4

The above results are valid only for the and/or (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

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260101
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376481-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260101-4
Parameter Noise
Location บริเวณกลุ่มอาคารที่พัก (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jun 30 - Jul 01, 2022
Measurement by Sangtawan Natsat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	50.9	61.1	46.0
03:00 PM - 04:00 PM	51.7	70.9	51.2
04:00 PM - 05:00 PM	52.7	72.2	49.1
05:00 PM - 06:00 PM	48.0	64.4	45.7
06:00 PM - 07:00 PM	50.2	67.4	46.2
07:00 PM - 08:00 PM	53.2	61.7	50.8
08:00 PM - 09:00 PM	54.7	69.5	49.2
09:00 PM - 10:00 PM	56.0	61.8	54.4
10:00 PM - 10:05 PM	56.9	66.1	52.0
10:05 PM - 10:10 PM	56.7	59.5	52.6
10:10 PM - 10:15 PM	56.0	59.5	54.3
10:15 PM - 10:20 PM	54.4	58.0	52.9
10:20 PM - 10:25 PM	53.5	56.5	52.0
10:25 PM - 10:30 PM	53.1	56.5	51.3
10:30 PM - 10:35 PM	52.5	56.7	50.6
10:35 PM - 10:40 PM	48.4	54.9	46.1
10:40 PM - 10:45 PM	46.4	53.0	45.6
10:45 PM - 10:50 PM	46.0	52.5	44.9
10:50 PM - 10:55 PM	46.9	51.9	44.8
10:55 PM - 11:00 PM	46.1	51.5	44.9
11:00 PM - 11:05 PM	46.2	53.6	44.4
11:05 PM - 11:10 PM	46.5	51.2	44.7
11:10 PM - 11:15 PM	46.0	49.1	44.7
11:15 PM - 11:20 PM	45.7	52.8	44.7
11:20 PM - 11:25 PM	45.7	48.8	45.0
11:25 PM - 11:30 PM	46.0	54.0	44.8
11:30 PM - 11:35 PM	46.0	51.7	44.4
11:35 PM - 11:40 PM	48.7	55.3	46.6
11:40 PM - 11:45 PM	50.3	54.5	48.3
11:45 PM - 11:50 PM	50.7	53.4	49.4
11:50 PM - 11:55 PM	49.5	53.6	48.0
11:55 PM - 12:00 AM	49.8	53.9	48.6
12:00 AM - 12:05 AM	48.9	54.6	46.1
12:05 AM - 12:10 AM	49.2	54.0	46.0
12:10 AM - 12:15 AM	50.0	57.4	47.1
12:15 AM - 12:20 AM	50.6	57.7	49.1
12:20 AM - 12:25 AM	48.6	54.2	44.6
12:25 AM - 12:30 AM	47.3	54.0	45.1
12:30 AM - 12:35 AM	47.4	50.5	46.1
12:35 AM - 12:40 AM	51.9	58.9	49.1

The above results are valid only for the and/or (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

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260101
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376481-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260101-4
Parameter Noise
Location บริเวณกลุ่มอาคารที่พัก (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jun 30 - Jul 01, 2022
Measurement by Sangtawan Natsat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 AM - 04:05 AM	48.3	59.2	44.5
04:05 AM - 04:10 AM	46.7	56.0	44.4
04:10 AM - 04:15 AM	47.6	62.6	45.3
04:15 AM - 04:20 AM	46.7	59.2	44.2
04:20 AM - 04:25 AM	47.6	58.7	45.0
04:25 AM - 04:30 AM	48.9	57.0	45.3
04:30 AM - 04:35 AM	47.6	52.3	44.5
04:35 AM - 04:40 AM	49.2	58.6	46.6
04:40 AM - 04:45 AM	51.3	61.5	49.2
04:45 AM - 04:50 AM	50.7	58.3	46.7
04:50 AM - 04:55 AM	49.0	59.2	44.6
04:55 AM - 05:00 AM	49.2	47.3	47.3
05:00 AM - 05:05 AM	48.3	57.4	44.7
05:05 AM - 05:10 AM	47.6	56.8	45.1
05:10 AM - 05:15 AM	47.0	54.9	44.4
05:15 AM - 05:20 AM	46.9	54.3	44.8
05:20 AM - 05:25 AM	46.8	61.3	44.5
05:25 AM - 05:30 AM	47.1	53.8	45.1
05:30 AM - 05:35 AM	47.0	61.2	45.2
05:35 AM - 05:40 AM	46.6	70.2	43.7
05:40 AM - 05:45 AM	46.3	56.3	44.6
05:45 AM - 05:50 AM	46.8	66.7	44.4
05:50 AM - 05:55 AM	44.3	54.3	44.1
05:55 AM - 06:00 AM	46.3	58.6	44.2
06:00 AM - 07:00 AM	50.2	70.2	46.0
07:00 AM - 08:00 AM	50.2	71.1	47.6
08:00 AM - 09:00 AM	51.1	63.0	48.6
09:00 AM - 10:00 AM	51.1	60.0	48.6
10:00 AM - 11:00 AM	51.9	69.1	48.3
11:00 AM - 12:00 PM	46.4	58.1	44.4
12:00 PM - 01:00 PM	47.6	58.6	44.7
01:00 PM - 02:00 PM	47.6	73.3	44.4

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

The above results are valid only for the and/or (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

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260101
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report No.: 2376462-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260101-5
Parameter Noise
Location บริเวณถนนสายพัฒนา (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jul 01 - 02, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	48.4	72.4	44.4
03:00 PM - 04:00 PM	47.8	72.0	44.4
04:00 PM - 05:00 PM	49.3	72.9	45.8
05:00 PM - 06:00 PM	48.0	65.9	45.2
06:00 PM - 07:00 PM	49.6	64.6	46.2
07:00 PM - 08:00 PM	48.8	65.9	46.6
08:00 PM - 09:00 PM	55.5	66.1	52.6
09:00 PM - 10:00 PM	54.6	65.5	51.5
10:00 PM - 10:05 PM	47.7	52.7	46.2
10:05 PM - 10:10 PM	46.1	48.0	45.2
10:10 PM - 10:15 PM	45.0	53.1	43.6
10:15 PM - 10:20 PM	44.9	53.2	43.1
10:20 PM - 10:25 PM	47.5	64.9	43.9
10:25 PM - 10:30 PM	54.5	71.1	48.7
10:30 PM - 10:35 PM	56.7	74.6	51.2
10:35 PM - 10:40 PM	49.9	64.4	46.7
10:40 PM - 10:45 PM	53.5	62.6	47.3
10:45 PM - 10:50 PM	58.6	66.7	50.4
10:50 PM - 10:55 PM	55.1	65.9	50.4
10:55 PM - 11:00 PM	52.0	61.6	49.8
11:00 PM - 11:05 PM	54.7	65.4	50.7
11:05 PM - 11:10 PM	54.2	65.6	51.5
11:10 PM - 11:15 PM	47.7	60.8	45.8
11:15 PM - 11:20 PM	49.0	58.6	46.0
11:20 PM - 11:25 PM	48.0	52.8	46.2
11:25 PM - 11:30 PM	47.9	54.3	46.6
11:30 PM - 11:35 PM	48.6	54.4	45.9
11:35 PM - 11:40 PM	47.7	51.2	46.4
11:40 PM - 11:45 PM	46.9	50.4	45.7
11:45 PM - 11:50 PM	48.5	53.1	47.2
11:50 PM - 11:55 PM	47.8	50.9	46.1
11:55 PM - 12:00 AM	47.2	50.4	46.3
12:00 AM - 12:05 AM	51.6	60.8	46.7
12:05 AM - 12:10 AM	50.7	61.4	46.3
12:10 AM - 12:15 AM	46.5	50.4	45.8
12:15 AM - 12:20 AM	44.5	50.8	43.8
12:20 AM - 12:25 AM	45.6	52.3	44.4
12:25 AM - 12:30 AM	46.3	53.5	44.4
12:30 AM - 12:35 AM	44.1	52.3	43.4
12:35 AM - 12:40 AM	44.0	48.3	43.3

The above results are valid only for the analyzed/monitored 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

Kanokorn Anek

Kanokorn Anek
Senior Manager

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



Analysis / Test Report



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260101
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report No.: 2376462-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260101-5
Parameter Noise
Location บริเวณถนนสายพัฒนา (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jul 01 - 02, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:40 AM - 12:45 AM	43.9	45.9	43.2
12:45 AM - 12:50 AM	43.9	52.5	42.7
12:50 AM - 12:55 AM	43.9	48.3	43.0
12:55 AM - 01:00 AM	44.5	59.4	43.7
01:00 AM - 01:05 AM	46.1	54.8	44.5
01:05 AM - 01:10 AM	47.9	60.4	46.9
01:10 AM - 01:15 AM	46.1	55.5	45.0
01:15 AM - 01:20 AM	48.7	60.7	47.0
01:20 AM - 01:25 AM	48.4	61.8	47.0
01:25 AM - 01:30 AM	46.7	58.0	46.0
01:30 AM - 01:35 AM	44.5	55.1	43.2
01:35 AM - 01:40 AM	44.8	55.0	44.0
01:40 AM - 01:45 AM	44.2	52.8	43.1
01:45 AM - 01:50 AM	44.5	50.1	43.8
01:50 AM - 01:55 AM	44.4	51.6	43.6
01:55 AM - 02:00 AM	44.2	47.0	43.6
02:00 AM - 02:05 AM	45.0	50.4	43.9
02:05 AM - 02:10 AM	45.7	56.4	43.2
02:10 AM - 02:15 AM	44.3	48.4	43.2
02:15 AM - 02:20 AM	44.0	48.8	42.4
02:20 AM - 02:25 AM	42.6	48.8	42.1
02:25 AM - 02:30 AM	42.9	46.8	42.2
02:30 AM - 02:35 AM	44.5	54.1	42.4
02:35 AM - 02:40 AM	43.6	47.3	42.5
02:40 AM - 02:45 AM	44.0	47.1	42.8
02:45 AM - 02:50 AM	47.9	62.2	43.3
02:50 AM - 02:55 AM	48.9	62.3	42.9
02:55 AM - 03:00 AM	46.3	56.3	44.1
03:00 AM - 03:05 AM	44.4	51.2	43.2
03:05 AM - 03:10 AM	44.4	51.3	43.2
03:10 AM - 03:15 AM	55.9	63.2	46.4
03:15 AM - 03:20 AM	59.8	65.0	57.6
03:20 AM - 03:25 AM	58.0	63.8	54.4
03:25 AM - 03:30 AM	53.3	60.2	46.6
03:30 AM - 03:35 AM	55.2	59.3	52.9
03:35 AM - 03:40 AM	56.3	60.2	54.0
03:40 AM - 03:45 AM	56.0	64.2	53.4
03:45 AM - 03:50 AM	52.4	56.0	51.2
03:50 AM - 03:55 AM	52.1	59.5	50.9
03:55 AM - 04:00 AM	51.8	55.4	50.8

The above results are valid only for the analyzed/monitored 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

Kanokorn Anek

Kanokorn Anek
Senior Manager

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



Analysis / Test Report



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260101
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report No.: 2376462-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 3 of 3

Sample No. 2260101-5
Parameter Noise
Location บริเวณถนนสายพัฒนา (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jul 01 - 02, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:30 AM - 04:35 AM	51.6	56.0	50.6
04:35 AM - 04:40 AM	51.3	55.5	50.5
04:40 AM - 04:45 AM	52.3	60.0	51.0
04:45 AM - 04:50 AM	52.5	61.7	51.1
04:50 AM - 04:55 AM	56.6	65.9	52.4
04:55 AM - 05:00 AM	58.2	65.3	54.2
05:00 AM - 05:05 AM	57.2	68.2	54.7
05:05 AM - 05:10 AM	55.8	64.1	54.0
05:10 AM - 05:15 AM	54.8	58.4	53.6
05:15 AM - 05:20 AM	54.5	61.5	53.3
05:20 AM - 05:25 AM	54.2	57.8	53.2
05:25 AM - 05:30 AM	54.0	58.4	53.0
05:30 AM - 05:35 AM	61.4	65.9	55.0
05:35 AM - 05:40 AM	55.1	62.4	52.9
05:40 AM - 05:45 AM	56.3	64.9	50.6
05:45 AM - 05:50 AM	53.3	61.6	51.8
05:50 AM - 05:55 AM	53.0	62.3	50.7
05:55 AM - 06:00 AM	52.9	58.4	51.3
06:00 AM - 06:05 AM	51.7	60.8	49.4
06:05 AM - 06:10 AM	55.9	66.5	52.9
06:10 AM - 06:15 AM	55.2	62.9	50.6
06:15 AM - 06:20 AM	53.6	59.8	50.7
06:20 AM - 06:25 AM	52.3	60.5	47.7
06:25 AM - 06:30 AM	48.2	60.3	46.5
06:30 AM - 06:35 AM	51.5	68.7	47.8
06:35 AM - 06:40 AM	51.0	68.5	46.8
06:40 AM - 06:45 AM	53.5	83.1	44.9
06:45 AM - 06:50 AM	47.4	68.8	44.8
06:50 AM - 06:55 AM	45.8	67.6	43.6
06:55 AM - 07:00 AM	45.7	62.9	43.1
07:00 AM - 07:05 AM	46.4	60.8	42.9

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

The above results are valid only for the analyzed/monitored 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

Kanokorn Anek

Kanokorn Anek
Senior Manager

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



Analysis / Test Report



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260101
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report No.: 2376462-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260101-6
Parameter Noise
Location บริเวณถนนสายพัฒนา (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jul 02 - 03, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	45.7	66.5	43.0
03:00 PM - 04:00 PM	47.2	65.5	44.7
04:00 PM - 05:00 PM	49.0	59.3	47.9
05:00 PM - 06:00 PM	49.3	53.9	48.1
06:00 PM - 07:00 PM	46.7	54.4	46.7
07:00 PM - 08:00 PM	51.1	64.7	49.0
08:00 PM - 09:00 PM	47.4	54.1	45.8
09:00 PM - 10:00 PM	44.1	61.3	41.7
10:00 PM - 10:05 PM	44.9	61.1	43.2
10:05 PM - 10:10 PM	45.3	59.2	40.8
10:10 PM - 10:15 PM	44.5	57.2	42.0
10:15 PM - 10:20 PM	44.0	59.2	41.6
10:20 PM - 10:25 PM	44.5	54.0	41.5
10:25 PM - 10:30 PM	46.8	63.5	41.6
10:30 PM - 10:35 PM	42.5	52.7	40.8
10:35 PM - 10:40 PM	42.8	57.3	40.5
10:40 PM - 10:45 PM	43.1	50.7	41.6
10:45 PM - 10:50 PM	43.0	54.0	41.4
10:50 PM - 10:55 PM	44.4	57.7	41.2
10:55 PM - 11:00 PM	42.7	52.0	40.9
11:00 PM - 11:05 PM	44.3	61.0	41.0
11:05 PM - 11:10 PM	41.5	49.9	39.9
11:10 PM - 11:15 PM	42.2	50.5	40.4
11:15 PM - 11:20 PM	42.3	50.7	40.3
11:20 PM - 11:25 PM	42.8	54.6	41.2
11:25 PM - 11:30 PM	44.2	55.0	42.1
11:30 PM - 11:35 PM	44.9	62.1	41.8
11:35 PM - 11:40 PM	43.0	52.6	41.1
11:40 PM - 11:45 PM	43.1	57.8	40.9
11:45 PM - 11:50 PM	45.0	54.0	42.2
11:50 PM - 11:55 PM	45.1	56.6	43.0
11:55 PM - 12:00 AM	44.8	54.3	43.1
12:00 AM - 12:05 AM	44.6	59.5	42.5
12:05 AM - 12:10 AM	47.0	71.2	41.6
12:10 AM - 12:15 AM	44.7	68.1	42.2
12:15 AM - 12:20 AM	44.6	55.1	43.0
12:20 AM - 12:25 AM	46.0	60.9	43.9
12:25 AM - 12:30 AM	49.3	58.4	43.2
12:30 AM - 12:35 AM	45.8	52.5	44.2
12:35 AM - 12:40 AM	46.1	53.2	44.2

The above results are valid only for the analyzed/monitored 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

Kanokorn Anek

Kanokorn Anek
Senior Manager

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



Analysis / Test Report



TESTING
No.0009

Client : Kasol Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260101
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376483-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. : 2260101-6
Parameter : Noise
Location : บริเวณกลุ่มบ้านพักคนงาน (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date : Jul 02 - 03, 2022
Measurement by : Sangtawan Natasat
Sound Level Meter : 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:40 AM - 12:45 AM	44.9	51.8	43.6
12:45 AM - 12:50 AM	44.4	51.7	43.0
12:50 AM - 12:55 AM	43.9	54.8	42.3
12:55 AM - 01:00 AM	43.7	54.3	42.0
01:00 AM - 01:05 AM	43.5	55.8	41.4
01:05 AM - 01:10 AM	43.9	61.0	41.1
01:10 AM - 01:15 AM	42.7	54.6	40.2
01:15 AM - 01:20 AM	42.9	53.9	40.8
01:20 AM - 01:25 AM	43.5	55.8	41.8
01:25 AM - 01:30 AM	44.9	55.8	43.0
01:30 AM - 01:35 AM	48.3	67.3	44.2
01:35 AM - 01:40 AM	45.8	51.8	43.5
01:40 AM - 01:45 AM	48.5	58.5	46.6
01:45 AM - 01:50 AM	47.6	57.6	45.5
01:50 AM - 01:55 AM	48.6	55.7	46.2
01:55 AM - 02:00 AM	47.6	58.5	45.4
02:00 AM - 02:05 AM	44.6	53.2	42.5
02:05 AM - 02:10 AM	43.3	49.4	41.6
02:10 AM - 02:15 AM	43.0	53.3	40.7
02:15 AM - 02:20 AM	43.7	58.8	40.9
02:20 AM - 02:25 AM	42.4	54.8	40.5
02:25 AM - 02:30 AM	43.1	57.7	40.4
02:30 AM - 02:35 AM	45.9	66.0	41.0
02:35 AM - 02:40 AM	43.1	53.2	40.9
02:40 AM - 02:45 AM	44.6	58.0	41.4
02:45 AM - 02:50 AM	43.6	53.7	41.4
02:50 AM - 02:55 AM	42.5	54.2	40.2
02:55 AM - 03:00 AM	43.6	53.8	41.1
03:00 AM - 03:05 AM	42.9	55.1	40.5
03:05 AM - 03:10 AM	42.7	55.7	40.7
03:10 AM - 03:15 AM	43.3	53.6	40.7
03:15 AM - 03:20 AM	43.6	52.1	40.6
03:20 AM - 03:25 AM	45.0	60.1	41.7
03:25 AM - 03:30 AM	48.0	59.5	42.5
03:30 AM - 03:35 AM	47.0	58.5	42.1
03:35 AM - 03:40 AM	46.3	65.0	42.2
03:40 AM - 03:45 AM	45.9	60.8	41.0
03:45 AM - 03:50 AM	45.1	59.3	40.8
03:50 AM - 03:55 AM	43.5	56.6	40.9
03:55 AM - 04:00 AM	44.1	59.4	41.1

The above results are valid only for the unattended/attended 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. A.S. Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

Approved by

Kanokorn Anek
Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kasol Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260101
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376484-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. : 2260101-7
Parameter : Noise
Location : บริเวณกลุ่มบ้านพักคนงาน (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date : Jul 03 - 04, 2022
Measurement by : Sangtawan Natasat
Sound Level Meter : 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 02:05 PM	43.5	60.7	40.8
02:05 PM - 02:10 PM	47.5	65.5	44.4
02:10 PM - 02:15 PM	54.9	62.4	53.3
02:15 PM - 02:20 PM	55.7	66.7	54.4
02:20 PM - 02:25 PM	48.2	60.4	46.3
02:25 PM - 02:30 PM	48.1	54.6	45.5
02:30 PM - 02:35 PM	46.6	53.5	44.5
02:35 PM - 02:40 PM	44.4	52.9	42.6
02:40 PM - 02:45 PM	48.0	52.1	41.9
02:45 PM - 02:50 PM	46.2	51.9	40.9
02:50 PM - 02:55 PM	41.9	46.9	40.3
02:55 PM - 03:00 PM	48.8	54.1	45.5
03:00 PM - 03:05 PM	51.4	54.5	49.8
03:05 PM - 03:10 PM	49.6	53.9	47.1
03:10 PM - 03:15 PM	49.0	51.7	47.3
03:15 PM - 03:20 PM	49.5	52.1	48.0
03:20 PM - 03:25 PM	48.5	51.3	46.6
03:25 PM - 03:30 PM	48.3	51.0	46.6
03:30 PM - 03:35 PM	48.8	52.1	46.9
03:35 PM - 03:40 PM	48.7	51.0	46.3
03:40 PM - 03:45 PM	49.3	53.0	47.0
03:45 PM - 03:50 PM	46.1	51.7	42.6
03:50 PM - 03:55 PM	44.0	46.5	42.8
03:55 PM - 04:00 PM	45.1	53.3	43.5
04:00 PM - 04:05 PM	47.0	55.4	44.1
04:05 PM - 04:10 PM	50.4	55.0	47.6
04:10 PM - 04:15 PM	51.9	55.4	50.4
04:15 PM - 04:20 PM	51.3	55.3	50.0
04:20 PM - 04:25 PM	52.1	55.7	50.8
04:25 PM - 04:30 PM	51.0	56.1	48.4
04:30 PM - 04:35 PM	50.1	54.4	48.6
04:35 PM - 04:40 PM	49.5	54.5	47.5
04:40 PM - 04:45 PM	51.1	54.7	48.8
04:45 PM - 04:50 PM	49.3	54.7	44.8
04:50 PM - 04:55 PM	48.6	60.8	44.8
04:55 PM - 05:00 PM	47.2	59.5	45.1
05:00 PM - 05:05 PM	51.3	55.0	47.6
05:05 PM - 05:10 PM	52.2	55.9	49.8
05:10 PM - 05:15 PM	53.0	56.5	51.6
05:15 PM - 05:20 PM	54.6	57.8	52.9

The above results are valid only for the unattended/attended 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. A.S. Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

Approved by

Kanokorn Anek
Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kasol Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260101
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376483-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 3 of 3

Sample No. : 2260101-6
Parameter : Noise
Location : บริเวณกลุ่มบ้านพักคนงาน (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date : Jul 02 - 03, 2022
Measurement by : Sangtawan Natasat
Sound Level Meter : 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 AM - 04:05 AM	46.1	56.8	42.6
04:05 AM - 04:10 AM	45.6	53.4	42.7
04:10 AM - 04:15 AM	44.8	58.2	41.9
04:15 AM - 04:20 AM	44.2	52.0	41.4
04:20 AM - 04:25 AM	44.9	52.9	42.2
04:25 AM - 04:30 AM	47.6	56.5	43.2
04:30 AM - 04:35 AM	45.7	58.4	41.3
04:35 AM - 04:40 AM	45.1	56.9	42.1
04:40 AM - 04:45 AM	44.3	59.6	42.4
04:45 AM - 04:50 AM	44.0	64.0	41.9
04:50 AM - 04:55 AM	44.2	55.9	41.1
04:55 AM - 05:00 AM	43.4	53.4	41.1
05:00 AM - 05:05 AM	44.4	53.6	41.7
05:05 AM - 05:10 AM	44.4	54.6	41.3
05:10 AM - 05:15 AM	42.4	50.9	40.5
05:15 AM - 05:20 AM	48.8	68.7	41.0
05:20 AM - 05:25 AM	45.6	58.5	42.1
05:25 AM - 05:30 AM	43.5	54.8	41.1
05:30 AM - 05:35 AM	44.5	56.2	41.5
05:35 AM - 05:40 AM	43.3	55.5	41.3
05:40 AM - 05:45 AM	46.5	60.5	41.5
05:45 AM - 05:50 AM	44.9	52.8	42.1
05:50 AM - 05:55 AM	43.9	53.7	42.1
05:55 AM - 06:00 AM	43.1	58.0	41.2
06:00 AM - 06:05 AM	43.6	59.0	41.9
06:05 AM - 06:10 AM	50.4	55.7	49.0
06:10 AM - 06:15 AM	52.0	55.4	50.2
06:15 AM - 06:20 AM	51.6	57.8	49.7
06:20 AM - 06:25 AM	52.7	60.6	51.1
06:25 AM - 06:30 AM	51.3	61.1	51.5
06:30 AM - 06:35 AM	51.8	60.7	49.6
06:35 AM - 06:40 AM	48.3	61.5	44.4

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

The above results are valid only for the unattended/attended 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. A.S. Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

Approved by

Kanokorn Anek
Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kasol Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260101
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376484-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. : 2260101-7
Parameter : Noise
Location : บริเวณกลุ่มบ้านพักคนงาน (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date : Jul 03 - 04, 2022
Measurement by : Sangtawan Natasat
Sound Level Meter : 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:40 AM - 12:45 AM	54.9	58.3	53.1
12:45 AM - 12:50 AM	54.3	58.3	52.1
12:50 AM - 12:55 AM	53.8	57.0	51.9
12:55 AM - 01:00 AM	53.6	56.4	52.2
01:00 AM - 01:05 AM	53.0	56.7	51.1
01:05 AM - 01:10 AM	51.4	48.2	49.0
01:10 AM - 01:15 AM	51.2	55.1	48.8
01:15 AM - 01:20 AM	48.0	54.0	43.0
01:20 AM - 01:25 AM	48.9	53.7	45.9
01:25 AM - 01:30 AM	43.4	53.2	46.0
01:30 AM - 01:35 AM	50.0	53.5	47.9
01:35 AM - 01:40 AM	50.6	55.8	49.2
01:40 AM - 01:45 AM	50.0	59.1	48.6
01:45 AM - 01:50 AM	50.4	55.5	48.6
01:50 AM - 01:55 AM	49.5	55.8	47.1
01:55 AM - 02:00 AM	47.8	52.4	46.3
02:00 AM - 02:05 AM	47.3	60.9	45.2
02:05 AM - 02:10 AM	49.0	55.2	44.8
02:10 AM - 02:15 AM	45.2	51.0	43.8
02:15 AM - 02:20 AM	45.1	53.7	42.9
02:20 AM - 02:25 AM	43.8	49.5	42.6
02:25 AM - 02:30 AM	43.4	51.3	41.7
02:30 AM - 02:35 AM	43.7	52.8	42.1
02:35 AM - 02:40 AM	43.4	53.6	41.5
02:40 AM - 02:45 AM	44.1	50.8	42.1
02:45 AM - 02:50 AM	44.4	49.4	42.9
02:50 AM - 02:55 AM	44.6	56.3	42.6
02:55 AM - 03:00 AM	46.1	63.0	42.6
03:00 AM - 03:05 AM	43.3	48.5	41.8
03:05 AM - 03:10 AM	45.3	52.5	43.1
03:10 AM - 03:15 AM	47.2	64.2	42.6
03:15 AM - 03:20 AM	45.0	56.4	42.9
03:20 AM - 03:25 AM	47.7	62.2	43.0
03:25 AM - 03:30 AM	47.1	57.8	43.6
03:30 AM - 03:35 AM	46.6	57.9	43.7
03:35 AM - 03:40 AM	49.4	58.8	45.7
03:40 AM - 03:45 AM	46.8	59.3	43.1
03:45 AM - 03:50 AM	45.6	57.8	42.4
03:50 AM - 03:55 AM	46.0	53.9	43.4
03:55 AM - 04:00 AM	45.5	55.2	42.8

The above results are valid only for the unattended/attended 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. A.S. Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

Approved by

Kanokorn Anek
Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260101
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376484-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 3 of 3

Sample No. 2260101-7
Parameter Noise
Location โรงกลั่นน้ำตาลทรายขาว (GPS 48Q 279488, 1889177) (Shut down)
Measurement Date Jul 03 - 04, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371916

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 AM - 04:05 AM	46.7	58.8	43.9
04:05 AM - 04:10 AM	46.7	53.4	43.5
04:10 AM - 04:15 AM	45.6	55.0	43.1
04:15 AM - 04:20 AM	45.1	56.8	42.3
04:20 AM - 04:25 AM	45.3	53.7	42.6
04:25 AM - 04:30 AM	44.8	53.2	42.8
04:30 AM - 04:35 AM	46.0	54.3	43.7
04:35 AM - 04:40 AM	46.1	54.6	42.7
04:40 AM - 04:45 AM	44.9	54.7	42.6
04:45 AM - 04:50 AM	44.6	53.9	42.4
04:50 AM - 04:55 AM	44.0	56.2	42.4
04:55 AM - 05:00 AM	45.1	56.7	42.1
05:00 AM - 05:05 AM	43.3	58.5	41.6
05:05 AM - 05:10 AM	43.5	53.9	41.7
05:10 AM - 05:15 AM	43.4	53.9	41.5
05:15 AM - 05:20 AM	43.6	60.5	41.4
05:20 AM - 05:25 AM	45.0	61.6	42.3
05:25 AM - 05:30 AM	44.2	55.2	42.6
05:30 AM - 05:35 AM	43.8	57.0	41.7
05:35 AM - 05:40 AM	45.7	58.2	42.2
05:40 AM - 05:45 AM	44.8	54.5	42.0
05:45 AM - 05:50 AM	45.4	61.7	41.5
05:50 AM - 05:55 AM	43.7	58.6	42.0
05:55 AM - 06:00 AM	43.9	50.8	42.0
06:00 AM - 07:00 AM	44.1	67.4	41.9
07:00 AM - 08:00 AM	43.5	61.2	41.6
08:00 AM - 09:00 AM	44.2	61.6	41.2
09:00 AM - 10:00 AM	43.6	66.1	41.1
10:00 AM - 11:00 AM	42.8	58.9	40.9
11:00 AM - 12:00 PM	44.4	64.7	41.5
12:00 PM - 01:00 PM	43.5	64.6	40.9
01:00 PM - 02:00 PM	45.8	70.0	42.0

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

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

Approved by

Kanokorn Anek
Kanokorn Anek
Senior Manager

ADDRESS 104 Phatthakanan Rd., Khwaeng Phatthakanan, 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



Analysis / Test Report



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260102
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376485-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260102-1
Parameter Noise
Location โรงกลั่นน้ำตาลทรายขาว (GPS 48Q 277658, 1888884) (Shut down)
Measurement Date Jun 27 - 28, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371923

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	50.9	59.3	49.9
01:00 PM - 02:00 PM	49.5	61.4	48.2
02:00 PM - 03:00 PM	49.1	55.2	47.6
03:00 PM - 04:00 PM	48.0	54.2	46.2
04:00 PM - 05:00 PM	46.4	63.5	41.1
05:00 PM - 06:00 PM	41.3	63.0	38.4
06:00 PM - 07:00 PM	43.4	62.7	40.9
07:00 PM - 08:00 PM	44.5	69.7	37.9
08:00 PM - 09:00 PM	43.0	62.9	37.3
09:00 PM - 10:00 PM	44.4	65.5	37.3
10:00 PM - 10:05 PM	43.2	57.3	36.4
10:05 PM - 10:10 PM	38.6	48.8	36.0
10:10 PM - 10:15 PM	38.8	48.8	35.6
10:15 PM - 10:20 PM	39.2	46.8	34.6
10:20 PM - 10:25 PM	38.3	49.2	36.1
10:25 PM - 10:30 PM	43.1	61.1	35.4
10:30 PM - 10:35 PM	40.4	53.2	35.9
10:35 PM - 10:40 PM	39.6	48.4	37.1
10:40 PM - 10:45 PM	41.7	56.6	37.2
10:45 PM - 10:50 PM	43.0	57.2	36.4
10:50 PM - 10:55 PM	43.2	56.0	36.6
10:55 PM - 11:00 PM	38.8	57.1	35.7
11:00 PM - 11:05 PM	46.8	62.9	36.4
11:05 PM - 11:10 PM	49.1	75.4	42.6
11:10 PM - 11:15 PM	43.7	58.2	38.5
11:15 PM - 11:20 PM	41.8	59.3	38.1
11:20 PM - 11:25 PM	41.9	54.9	37.8
11:25 PM - 11:30 PM	42.5	56.2	38.4
11:30 PM - 11:35 PM	42.0	54.7	39.8
11:35 PM - 11:40 PM	40.6	55.5	38.6
11:40 PM - 11:45 PM	40.6	51.1	37.9
11:45 PM - 11:50 PM	43.2	59.8	39.8
11:50 PM - 11:55 PM	42.1	50.4	37.4
11:55 PM - 12:00 AM	39.6	51.6	36.5
12:00 AM - 12:05 AM	39.3	52.7	35.5
12:05 AM - 12:10 AM	40.6	58.3	35.1
12:10 AM - 12:15 AM	40.1	56.9	35.4
12:15 AM - 12:20 AM	41.4	64.8	35.3
12:20 AM - 12:25 AM	39.7	54.5	36.4
12:25 AM - 12:30 AM	43.8	63.5	36.8

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

Approved by

Kanokorn Anek
Kanokorn Anek
Senior Manager

ADDRESS 104 Phatthakanan Rd., Phatthakanan Rd., Khwaeng Phatthakanan, 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



Analysis / Test Report



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260102
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376485-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260102-1
Parameter Noise
Location โรงกลั่นน้ำตาลทรายขาว (GPS 48Q 277658, 1888884) (Shut down)
Measurement Date Jun 27 - 28, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371923

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:30 AM - 12:35 AM	43.1	59.4	36.3
12:35 AM - 12:40 AM	38.6	52.5	36.1
12:40 AM - 12:45 AM	46.8	62.9	36.4
12:45 AM - 12:50 AM	38.4	47.3	35.6
12:50 AM - 12:55 AM	38.4	57.4	35.5
12:55 AM - 01:00 AM	38.4	46.4	35.7
01:00 AM - 01:05 AM	42.4	54.9	36.0
01:05 AM - 01:10 AM	39.9	55.3	36.1
01:10 AM - 01:15 AM	39.2	53.0	35.8
01:15 AM - 01:20 AM	40.3	54.0	35.8
01:20 AM - 01:25 AM	37.5	51.2	34.9
01:25 AM - 01:30 AM	41.3	55.2	35.8
01:30 AM - 01:35 AM	41.3	55.7	35.7
01:35 AM - 01:40 AM	39.7	55.6	35.4
01:40 AM - 01:45 AM	38.9	50.2	35.2
01:45 AM - 01:50 AM	38.1	52.0	35.4
01:50 AM - 01:55 AM	38.3	50.3	36.5
01:55 AM - 02:00 AM	39.1	53.3	37.0
02:00 AM - 02:05 AM	38.5	50.1	37.5
02:05 AM - 02:10 AM	38.8	56.0	36.1
02:10 AM - 02:15 AM	38.4	52.0	35.6
02:15 AM - 02:20 AM	42.2	54.8	36.0
02:20 AM - 02:25 AM	43.3	56.6	36.6
02:25 AM - 02:30 AM	44.3	60.4	38.0
02:30 AM - 02:35 AM	44.5	57.7	37.8
02:35 AM - 02:40 AM	44.5	57.6	38.3
02:40 AM - 02:45 AM	43.7	58.9	38.5
02:45 AM - 02:50 AM	42.8	57.2	37.3
02:50 AM - 02:55 AM	43.6	57.8	38.7
02:55 AM - 03:00 AM	42.3	53.6	37.9
03:00 AM - 03:05 AM	45.8	50.2	40.0
03:05 AM - 03:10 AM	46.1	50.0	44.5
03:10 AM - 03:15 AM	45.7	48.6	44.4
03:15 AM - 03:20 AM	45.4	49.4	44.0
03:20 AM - 03:25 AM	44.6	49.5	43.2
03:25 AM - 03:30 AM	45.5	49.4	41.9
03:30 AM - 03:35 AM	42.9	50.6	41.8
03:35 AM - 03:40 AM	44.0	56.9	41.8
03:40 AM - 03:45 AM	45.1	50.0	42.4
03:45 AM - 03:50 AM	45.2	49.4	43.2

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

Approved by

Kanokorn Anek
Kanokorn Anek
Senior Manager

ADDRESS 104 Phatthakanan Rd., Phatthakanan Rd., Khwaeng Phatthakanan, 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



Analysis / Test Report



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260102
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376485-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260102-1
Parameter Noise
Location โรงกลั่นน้ำตาลทรายขาว (GPS 48Q 277658, 1888884) (Shut down)
Measurement Date Jun 27 - 28, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371923

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
03:50 AM - 03:55 AM	45.0	50.0	43.2
03:55 AM - 04:00 AM	44.5	48.0	42.8
04:00 AM - 04:05 AM	44.9	54.1	42.9
04:05 AM - 04:10 AM	45.6	51.5	43.2
04:10 AM - 04:15 AM	45.6	52.9	43.4
04:15 AM - 04:20 AM	47.6	53.3	42.9
04:20 AM - 04:25 AM	43.9	51.6	42.2
04:25 AM - 04:30 AM	43.5	51.3	42.1
04:30 AM - 04:35 AM	43.6	49.5	41.9
04:35 AM - 04:40 AM	43.3	51.5	41.6
04:40 AM - 04:45 AM	42.9	47.0	41.6
04:45 AM - 04:50 AM	41.7	52.5	40.7
04:50 AM - 04:55 AM	40.1	49.8	40.1
04:55 AM - 05:00 AM	41.1	45.9	40.0
05:00 AM - 05:05 AM	45.0	58.6	36.8
05:05 AM - 05:10 AM	40.4	53.5	36.9
05:10 AM - 05:15 AM	38.6	49.8	35.9
05:15 AM - 05:20 AM	38.7	59.9	36.5
05:20 AM - 05:25 AM	37.5	46.7	37.5
05:25 AM - 05:30 AM	41.3	59.2	37.5
05:30 AM - 05:35 AM	40.1	56.3	37.1
05:35 AM - 05:40 AM	41.0	52.4	35.7
05:40 AM - 05:45 AM	42.9	58.0	38.5
05:45 AM - 05:50 AM	40.7	51.8	38.4
05:50 AM - 05:55 AM	39.3	52.3	37.1
05:55 AM - 06:00 AM	39.0	59.1	36.7
06:00 AM - 07:00 AM	46.0	71.0	39.6
07:00 AM - 08:00 AM	43.8	75.3	40.0
08:00 AM - 09:00 AM	46.3	68.0	48.2
09:00 AM - 10:00 AM	49.7	54.2	49.8
10:00 AM - 11:00 AM	47.1	52.3	45.9
11:00 AM - 12:00 PM	50.0	57.8	49.0

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

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

Approved by

Kanokorn Anek
Kanokorn Anek
Senior Manager

ADDRESS 104 Phatthakanan Rd., Phatthakanan Rd., Khwaeng Phatthakanan, 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



Analysis / Test Report



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260102
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376486-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260102-2
Parameter Noise
Location บ้านกุ่มพรวนวิเศษ (GPS 48Q 277658, 1888884) (Shut down)
Measurement Date Jun 28 - 29, 2022
Measurement by Sangwan Natsat
Sound Level Meter 00371923

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	50.5	55.7	49.0
01:00 PM - 02:00 PM	49.6	55.7	47.4
02:00 PM - 03:00 PM	47.0	55.8	45.4
03:00 PM - 04:00 PM	38.5	58.6	36.2
04:00 PM - 05:00 PM	40.2	60.7	37.1
05:00 PM - 06:00 PM	39.9	59.0	37.0
06:00 PM - 07:00 PM	42.6	67.4	39.1
07:00 PM - 08:00 PM	41.6	63.9	37.6
08:00 PM - 09:00 PM	42.4	58.5	37.2
09:00 PM - 10:00 PM	42.3	61.4	36.5
10:00 PM - 10:05 PM	48.4	59.8	38.1
10:05 PM - 10:10 PM	43.5	63.2	36.7
10:10 PM - 10:15 PM	45.9	67.5	35.3
10:15 PM - 10:20 PM	37.0	56.5	34.9
10:20 PM - 10:25 PM	37.8	54.3	34.3
10:25 PM - 10:30 PM	38.9	55.8	35.2
10:30 PM - 10:35 PM	42.3	57.1	35.4
10:35 PM - 10:40 PM	37.8	54.1	34.8
10:40 PM - 10:45 PM	45.5	59.8	35.9
10:45 PM - 10:50 PM	44.0	58.3	35.2
10:50 PM - 10:55 PM	36.0	44.3	34.6
10:55 PM - 11:00 PM	38.1	51.0	35.3
11:00 PM - 11:05 PM	41.3	58.5	34.9
11:05 PM - 11:10 PM	37.1	49.3	34.2
11:10 PM - 11:15 PM	36.6	46.2	34.5
11:15 PM - 11:20 PM	36.5	58.8	33.9
11:20 PM - 11:25 PM	37.3	53.3	34.3
11:25 PM - 11:30 PM	35.4	47.3	34.0
11:30 PM - 11:35 PM	35.3	43.6	33.9
11:35 PM - 11:40 PM	46.9	63.2	34.6
11:40 PM - 11:45 PM	39.9	55.0	35.7
11:45 PM - 11:50 PM	38.2	56.6	34.8
11:50 PM - 11:55 PM	40.0	56.0	34.7
11:55 PM - 12:00 AM	39.7	51.3	34.9
12:00 AM - 12:05 AM	39.3	56.0	37.0
12:05 AM - 12:10 AM	40.0	52.7	35.8
12:10 AM - 12:15 AM	38.5	51.3	36.0
12:15 AM - 12:20 AM	39.1	53.5	36.0
12:20 AM - 12:25 AM	39.2	50.4	36.4
12:25 AM - 12:30 AM	40.3	54.6	37.3

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

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260102
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376486-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 3 of 3

Sample No. 2260102-2
Parameter Noise
Location บ้านกุ่มพรวนวิเศษ (GPS 48Q 277658, 1888884) (Shut down)
Measurement Date Jun 28 - 29, 2022
Measurement by Sangwan Natsat
Sound Level Meter 00371923

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
03:50 AM - 03:55 AM	43.2	48.2	42.5
03:55 AM - 04:00 AM	43.0	47.2	41.5
04:00 AM - 04:05 AM	42.6	47.0	40.9
04:05 AM - 04:10 AM	43.6	48.0	41.6
04:10 AM - 04:15 AM	42.8	46.9	40.7
04:15 AM - 04:20 AM	42.5	46.8	40.7
04:20 AM - 04:25 AM	41.2	47.4	39.8
04:25 AM - 04:30 AM	40.6	48.0	39.4
04:30 AM - 04:35 AM	39.2	49.0	39.3
04:35 AM - 04:40 AM	40.8	51.7	39.4
04:40 AM - 04:45 AM	40.7	46.1	39.4
04:45 AM - 04:50 AM	40.9	54.2	39.1
04:50 AM - 04:55 AM	39.5	47.2	38.7
04:55 AM - 05:00 AM	39.4	47.4	37.4
05:00 AM - 05:05 AM	40.1	49.9	37.9
05:05 AM - 05:10 AM	39.5	47.2	38.0
05:10 AM - 05:15 AM	39.2	48.9	37.2
05:15 AM - 05:20 AM	39.7	49.1	37.0
05:20 AM - 05:25 AM	43.9	55.0	37.0
05:25 AM - 05:30 AM	40.5	53.4	37.6
05:30 AM - 05:35 AM	46.8	66.6	37.3
05:35 AM - 05:40 AM	47.8	56.3	38.5
05:40 AM - 05:45 AM	45.4	54.2	39.2
05:45 AM - 05:50 AM	45.3	55.1	38.5
05:50 AM - 05:55 AM	43.6	58.7	38.6
05:55 AM - 06:00 AM	42.9	56.2	39.4
06:00 AM - 07:00 AM	44.5	61.8	40.0
07:00 AM - 08:00 AM	50.7	58.3	49.4
08:00 AM - 09:00 AM	51.1	56.0	49.6
09:00 AM - 10:00 AM	48.6	58.4	47.1
10:00 AM - 11:00 AM	49.6	59.3	48.3
11:00 AM - 12:00 PM	50.0	55.9	49.0

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

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

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260102
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376486-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260102-2
Parameter Noise
Location บ้านกุ่มพรวนวิเศษ (GPS 48Q 277658, 1888884) (Shut down)
Measurement Date Jun 28 - 29, 2022
Measurement by Sangwan Natsat
Sound Level Meter 00371923

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:30 AM - 12:35 AM	39.6	55.5	36.4
12:35 AM - 12:40 AM	39.6	49.8	35.6
12:40 AM - 12:45 AM	41.5	57.5	37.3
12:45 AM - 12:50 AM	40.1	55.9	35.9
12:50 AM - 12:55 AM	38.8	51.4	35.4
12:55 AM - 01:00 AM	38.8	47.7	36.4
01:00 AM - 01:05 AM	38.2	50.2	35.9
01:05 AM - 01:10 AM	38.2	62.4	36.1
01:10 AM - 01:15 AM	40.0	55.7	35.8
01:15 AM - 01:20 AM	37.1	46.8	34.9
01:20 AM - 01:25 AM	44.2	62.0	36.4
01:25 AM - 01:30 AM	40.9	55.5	37.0
01:30 AM - 01:35 AM	40.5	54.7	36.6
01:35 AM - 01:40 AM	40.6	56.4	36.1
01:40 AM - 01:45 AM	38.8	49.1	36.5
01:45 AM - 01:50 AM	38.0	52.1	35.6
01:50 AM - 01:55 AM	43.7	60.3	35.5
01:55 AM - 02:00 AM	38.1	54.0	34.9
02:00 AM - 02:05 AM	37.7	49.1	34.8
02:05 AM - 02:10 AM	39.2	49.2	36.0
02:10 AM - 02:15 AM	39.3	51.2	35.1
02:15 AM - 02:20 AM	39.3	55.1	35.1
02:20 AM - 02:25 AM	39.6	60.0	35.5
02:25 AM - 02:30 AM	38.5	54.4	34.4
02:30 AM - 02:35 AM	37.5	46.2	35.4
02:35 AM - 02:40 AM	38.0	51.4	35.6
02:40 AM - 02:45 AM	40.2	56.7	37.7
02:45 AM - 02:50 AM	44.8	63.9	36.9
02:50 AM - 02:55 AM	37.9	45.7	36.1
02:55 AM - 03:00 AM	40.2	55.1	37.2
03:00 AM - 03:05 AM	44.6	49.6	43.4
03:05 AM - 03:10 AM	44.5	47.8	43.4
03:10 AM - 03:15 AM	44.2	48.4	43.0
03:15 AM - 03:20 AM	44.4	50.7	43.1
03:20 AM - 03:25 AM	43.5	46.6	42.4
03:25 AM - 03:30 AM	43.0	47.3	41.8
03:30 AM - 03:35 AM	44.4	46.4	42.6
03:35 AM - 03:40 AM	43.8	46.0	42.9
03:40 AM - 03:45 AM	43.5	61.2	42.5
03:45 AM - 03:50 AM	43.3	45.9	42.6

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

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260102
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376487-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260102-3
Parameter Noise
Location บ้านกุ่มพรวนวิเศษ (GPS 48Q 277658, 1888884) (Shut down)
Measurement Date Jun 29 - 30, 2022
Measurement by Sangwan Natsat
Sound Level Meter 00371923

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	50.9	58.5	49.4
01:00 PM - 02:00 PM	49.9	57.2	48.6
02:00 PM - 03:00 PM	47.8	63.1	46.5
03:00 PM - 04:00 PM	47.8	57.2	46.3
04:00 PM - 05:00 PM	43.5	52.1	41.7
05:00 PM - 06:00 PM	40.0	60.2	36.5
06:00 PM - 07:00 PM	41.8	69.0	38.4
07:00 PM - 08:00 PM	42.2	61.9	37.7
08:00 PM - 09:00 PM	43.4	60.2	36.4
09:00 PM - 10:00 PM	38.6	60.4	34.4
10:00 PM - 10:05 PM	40.1	57.0	35.1
10:05 PM - 10:10 PM	39.7	60.3	35.9
10:10 PM - 10:15 PM	39.7	57.3	35.2
10:15 PM - 10:20 PM	39.6	59.2	34.2
10:20 PM - 10:25 PM	38.7	52.8	34.5
10:25 PM - 10:30 PM	39.7	53.3	35.2
10:30 PM - 10:35 PM	41.7	57.9	34.6
10:35 PM - 10:40 PM	39.6	57.9	34.7
10:40 PM - 10:45 PM	38.4	49.9	34.5
10:45 PM - 10:50 PM	35.8	48.9	33.0
10:50 PM - 10:55 PM	42.3	56.9	33.7
10:55 PM - 11:00 PM	45.3	58.4	34.2
11:00 PM - 11:05 PM	43.5	54.4	35.2
11:05 PM - 11:10 PM	37.5	53.0	34.2
11:10 PM - 11:15 PM	40.3	49.3	34.9
11:15 PM - 11:20 PM	43.9	63.6	34.6
11:20 PM - 11:25 PM	40.0	52.2	33.9
11:25 PM - 11:30 PM	42.6	55.3	34.0
11:30 PM - 11:35 PM	39.7	53.7	33.0
11:35 PM - 11:40 PM	39.7	57.8	32.9
11:40 PM - 11:45 PM	44.5	59.0	33.7
11:45 PM - 11:50 PM	41.0	56.8	34.1
11:50 PM - 11:55 PM	40.0	52.0	34.2
11:55 PM - 12:00 AM	40.7	50.5	34.2
12:00 AM - 12:05 AM	36.5	49.2	34.1
12:05 AM - 12:10 AM	46.3	44.8	34.3
12:10 AM - 12:15 AM	34.9	44.8	33.3
12:15 AM - 12:20 AM	34.5	41.8	33.1
12:20 AM - 12:25 AM	35.9	50.1	34.1
12:25 AM - 12:30 AM	37.5	52.7	35.4

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.

Approved by

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260102
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376487-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260102-3
Parameter Noise
Location โรงกลั่นน้ำตาลทรายขาว (GPS 48Q 277658, 1888884) (Shut down)
Measurement Date Jun 29 - 30, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371923

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:30 AM - 12:35 AM	37.5	48.9	34.6
12:35 AM - 12:40 AM	36.0	51.2	34.4
12:40 AM - 12:45 AM	35.0	47.2	33.7
12:45 AM - 12:50 AM	36.4	49.5	33.6
12:50 AM - 12:55 AM	38.7	62.2	32.4
12:55 AM - 01:00 AM	35.9	49.4	34.0
01:00 AM - 01:05 AM	36.0	48.4	33.8
01:05 AM - 01:10 AM	38.5	51.4	34.6
01:10 AM - 01:15 AM	36.2	49.8	34.3
01:15 AM - 01:20 AM	37.9	50.4	34.2
01:20 AM - 01:25 AM	35.2	51.6	32.8
01:25 AM - 01:30 AM	43.3	61.4	33.9
01:30 AM - 01:35 AM	38.6	55.7	33.7
01:35 AM - 01:40 AM	37.9	50.4	35.2
01:40 AM - 01:45 AM	40.8	54.0	35.4
01:45 AM - 01:50 AM	38.2	51.9	33.6
01:50 AM - 01:55 AM	36.7	46.7	33.6
01:55 AM - 02:00 AM	37.5	48.3	35.3
02:00 AM - 02:05 AM	38.3	46.9	36.1
02:05 AM - 02:10 AM	37.9	52.3	35.6
02:10 AM - 02:15 AM	38.7	59.9	35.3
02:15 AM - 02:20 AM	38.4	49.0	34.9
02:20 AM - 02:25 AM	37.4	56.8	33.9
02:25 AM - 02:30 AM	35.8	52.7	33.4
02:30 AM - 02:35 AM	37.9	51.7	33.6
02:35 AM - 02:40 AM	40.5	54.7	34.5
02:40 AM - 02:45 AM	36.7	47.1	34.7
02:45 AM - 02:50 AM	36.8	50.3	34.7
02:50 AM - 02:55 AM	37.9	51.0	34.9
02:55 AM - 03:00 AM	37.6	46.4	35.3
03:00 AM - 03:05 AM	38.7	56.1	36.1
03:05 AM - 03:10 AM	40.2	55.7	36.7
03:10 AM - 03:15 AM	38.1	55.1	35.0
03:15 AM - 03:20 AM	44.7	56.2	34.5
03:20 AM - 03:25 AM	45.9	55.9	37.7
03:25 AM - 03:30 AM	39.9	54.6	36.1
03:30 AM - 03:35 AM	40.3	54.1	34.6
03:35 AM - 03:40 AM	36.6	48.4	33.8
03:40 AM - 03:45 AM	35.8	53.8	33.5
03:45 AM - 03:50 AM	36.5	48.3	33.7

The above results are valid only for the analysis/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

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260102
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376488-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260102-4
Parameter Noise
Location โรงกลั่นน้ำตาลทรายขาว (GPS 48Q 277658, 1888884) (Shut down)
Measurement Date Jun 30 - Jul 01, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371923

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	47.8	53.6	46.9
01:00 PM - 02:00 PM	47.9	55.6	46.6
02:00 PM - 03:00 PM	49.8	55.4	48.4
03:00 PM - 04:00 PM	49.9	57.1	48.6
04:00 PM - 05:00 PM	47.2	78.8	42.3
05:00 PM - 06:00 PM	45.0	68.2	39.3
06:00 PM - 07:00 PM	43.3	69.1	39.3
07:00 PM - 08:00 PM	46.4	64.4	41.6
08:00 PM - 09:00 PM	45.5	66.1	39.5
09:00 PM - 10:00 PM	45.2	76.7	39.2
10:00 PM - 10:05 PM	45.4	69.9	38.6
10:05 PM - 10:10 PM	41.6	51.7	37.6
10:10 PM - 10:15 PM	42.6	54.8	37.6
10:15 PM - 10:20 PM	44.7	56.8	38.7
10:20 PM - 10:25 PM	48.7	61.5	40.6
10:25 PM - 10:30 PM	45.3	55.4	39.8
10:30 PM - 10:35 PM	42.1	50.2	38.9
10:35 PM - 10:40 PM	42.0	57.8	37.8
10:40 PM - 10:45 PM	45.3	55.8	38.4
10:45 PM - 10:50 PM	45.7	62.0	37.7
10:50 PM - 10:55 PM	42.8	56.7	37.7
10:55 PM - 11:00 PM	49.1	63.8	37.3
11:00 PM - 11:05 PM	40.1	50.1	37.0
11:05 PM - 11:10 PM	41.9	56.0	36.4
11:10 PM - 11:15 PM	44.1	57.0	38.0
11:15 PM - 11:20 PM	46.6	59.2	37.7
11:20 PM - 11:25 PM	45.1	59.3	38.5
11:25 PM - 11:30 PM	46.0	60.2	39.0
11:30 PM - 11:35 PM	45.7	68.3	37.8
11:35 PM - 11:40 PM	44.5	56.8	38.7
11:40 PM - 11:45 PM	44.1	54.3	38.0
11:45 PM - 11:50 PM	42.3	61.5	36.6
11:50 PM - 11:55 PM	44.6	57.1	36.9
11:55 PM - 12:00 AM	45.1	60.9	37.7
12:00 AM - 12:05 AM	42.0	61.0	33.5
12:05 AM - 12:10 AM	45.3	53.2	32.1
12:10 AM - 12:15 AM	36.4	53.1	32.1
12:15 AM - 12:20 AM	38.2	51.2	33.3
12:20 AM - 12:25 AM	37.0	48.8	34.5
12:25 AM - 12:30 AM	37.5	48.8	33.8

The above results are valid only for the analysis/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

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260102
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376487-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 3 of 3

Sample No. 2260102-3
Parameter Noise
Location โรงกลั่นน้ำตาลทรายขาว (GPS 48Q 277658, 1888884) (Shut down)
Measurement Date Jun 29 - 30, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371923

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
03:50 AM - 03:55 AM	36.5	51.5	33.8
03:55 AM - 04:00 AM	40.1	64.3	34.3
04:00 AM - 04:05 AM	40.6	65.4	36.1
04:05 AM - 04:10 AM	38.8	64.4	35.4
04:10 AM - 04:15 AM	42.1	59.2	36.9
04:15 AM - 04:20 AM	42.0	58.0	36.8
04:20 AM - 04:25 AM	39.1	50.3	34.9
04:25 AM - 04:30 AM	37.1	47.9	33.9
04:30 AM - 04:35 AM	37.2	54.0	33.8
04:35 AM - 04:40 AM	38.5	53.6	33.8
04:40 AM - 04:45 AM	35.8	48.0	33.2
04:45 AM - 04:50 AM	36.2	52.0	34.6
04:50 AM - 04:55 AM	38.4	56.1	35.4
04:55 AM - 05:00 AM	38.2	51.5	34.5
05:00 AM - 05:05 AM	45.0	51.9	42.2
05:05 AM - 05:10 AM	45.2	53.2	42.2
05:10 AM - 05:15 AM	45.8	51.9	42.1
05:15 AM - 05:20 AM	42.6	51.3	41.7
05:20 AM - 05:25 AM	45.5	62.7	41.7
05:25 AM - 05:30 AM	47.8	57.2	40.3
05:30 AM - 05:35 AM	45.0	54.3	42.3
05:35 AM - 05:40 AM	43.0	58.1	41.4
05:40 AM - 05:45 AM	49.0	62.3	42.6
05:45 AM - 05:50 AM	46.5	57.6	41.6
05:50 AM - 05:55 AM	50.9	65.6	41.7
05:55 AM - 06:00 AM	46.5	61.5	42.0
06:00 AM - 07:00 AM	43.9	66.3	39.5
07:00 AM - 08:00 AM	51.0	60.3	50.0
08:00 AM - 09:00 AM	52.1	56.9	51.0
09:00 AM - 10:00 AM	53.6	56.8	50.3
10:00 AM - 11:00 AM	51.9	58.3	50.7
11:00 AM - 12:00 PM	51.7	58.3	50.0

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

The above results are valid only for the analysis/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

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260102
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376488-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260102-4
Parameter Noise
Location โรงกลั่นน้ำตาลทรายขาว (GPS 48Q 277658, 1888884) (Shut down)
Measurement Date Jun 30 - Jul 01, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371923

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:30 AM - 12:35 AM	37.4	57.1	33.9
12:35 AM - 12:40 AM	43.0	68.9	34.4
12:40 AM - 12:45 AM	39.4	50.8	33.7
12:45 AM - 12:50 AM	36.3	45.8	33.8
12:50 AM - 12:55 AM	39.5	60.1	34.8
12:55 AM - 01:00 AM	40.8	56.7	34.9
01:00 AM - 01:05 AM	42.3	54.2	34.3
01:05 AM - 01:10 AM	41.3	54.8	34.9
01:10 AM - 01:15 AM	37.6	57.6	32.9
01:15 AM - 01:20 AM	38.2	48.9	34.1
01:20 AM - 01:25 AM	37.4	54.8	34.0
01:25 AM - 01:30 AM	36.5	55.2	34.2
01:30 AM - 01:35 AM	37.5	54.2	32.7
01:35 AM - 01:40 AM	40.0	63.5	33.2
01:40 AM - 01:45 AM	37.1	50.8	33.8
01:45 AM - 01:50 AM	39.2	54.1	35.9
01:50 AM - 01:55 AM	42.5	57.2	35.4
01:55 AM - 02:00 AM	39.2	54.5	34.5
02:00 AM - 02:05 AM	38.7	52.2	34.0
02:05 AM - 02:10 AM	39.7	57.6	36.0
02:10 AM - 02:15 AM	38.5	52.7	35.8
02:15 AM - 02:20 AM	46.7	60.7	38.7
02:20 AM - 02:25 AM	41.3	54.8	34.9
02:25 AM - 02:30 AM	36.7	57.6	34.0
02:30 AM - 02:35 AM	43.8	55.0	40.5
02:35 AM - 02:40 AM	49.4	63.5	37.7
02:40 AM - 02:45 AM	45.2	61.7	42.7
02:45 AM - 02:50 AM	45.3	59.0	41.2
02:50 AM - 02:55 AM	45.9	59.6	41.8
02:55 AM - 03:00 AM	45.4	58.1	43.2
03:00 AM - 03:05 AM	46.4	59.6	41.7
03:05 AM - 03:10 AM	45.7	61.9	41.9
03:10 AM - 03:15 AM	44.9	61.9	41.9
03:15 AM - 03:20 AM	47.1	66.6	43.1
03:20 AM - 03:25 AM	45.4	60.4	41.9
03:25 AM - 03:30 AM	45.1	59.6	41.9
03:30 AM - 03:35 AM	43.3	57.0	41.5
03:35 AM - 03:40 AM	46.8	63.7	41.4
03:40 AM - 03:45 AM	47.0	63.4	42.2
03:45 AM - 03:50 AM	49.0	62.4	42.3

The above results are valid only for the analysis/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

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kasel Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260102
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report No.: 2376488-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260102-4
Parameter Noise
Location บ้านวังกล้วยน้ำว้าหมู่ 9 ตำบลนาขาน (GPS 48Q 277658, 1888884) (Shut down)
Measurement Date Jun 30 - Jul 01, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371923

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
03:50 AM - 03:55 AM	44.5	56.2	42.3
03:55 AM - 04:00 AM	46.8	62.2	43.3
04:00 AM - 04:05 AM	46.0	59.1	47.1
04:05 AM - 04:10 AM	47.8	55.3	46.2
04:10 AM - 04:15 AM	46.0	51.7	45.0
04:15 AM - 04:20 AM	43.7	51.0	41.8
04:20 AM - 04:25 AM	44.4	53.4	41.9
04:25 AM - 04:30 AM	42.4	47.7	41.5
04:30 AM - 04:35 AM	44.0	53.2	41.6
04:35 AM - 04:40 AM	42.8	47.8	41.4
04:40 AM - 04:45 AM	44.3	49.4	43.5
04:45 AM - 04:50 AM	44.5	39.4	42.8
04:50 AM - 04:55 AM	43.9	48.8	42.7
04:55 AM - 05:00 AM	43.2	46.9	42.5
05:00 AM - 05:05 AM	43.6	48.9	42.9
05:05 AM - 05:10 AM	43.4	49.1	41.4
05:10 AM - 05:15 AM	42.4	53.9	41.1
05:15 AM - 05:20 AM	41.4	48.6	40.3
05:20 AM - 05:25 AM	44.7	56.1	40.5
05:25 AM - 05:30 AM	43.7	53.7	40.5
05:30 AM - 05:35 AM	50.1	60.8	41.1
05:35 AM - 05:40 AM	47.8	56.2	42.3
05:40 AM - 05:45 AM	46.1	61.1	42.2
05:45 AM - 05:50 AM	52.4	63.4	42.5
05:50 AM - 05:55 AM	49.7	63.9	42.7
05:55 AM - 06:00 AM	53.3	61.5	44.9
06:00 AM - 07:00 AM	49.5	68.1	42.5
07:00 AM - 08:00 AM	49.2	59.4	37.3
08:00 AM - 09:00 AM	48.8	55.1	47.8
09:00 AM - 10:00 AM	47.6	52.5	46.5
10:00 AM - 11:00 AM	47.4	55.2	46.4
11:00 AM - 12:00 PM	48.4	56.9	47.8

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

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

Kasem Anek

Kasem Anek
Senior 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



Analysis / Test Report



TESTING
No.0009

Client : Kasel Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260102
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report No.: 2376489-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260102-5
Parameter Noise
Location บ้านวังกล้วยน้ำว้าหมู่ 9 ตำบลนาขาน (GPS 48Q 277658, 1888884) (Shut down)
Measurement Date Jul 01 - 02, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371923

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:30 AM - 12:35 AM	43.0	57.3	35.9
12:35 AM - 12:40 AM	40.4	51.3	35.8
12:40 AM - 12:45 AM	41.7	53.5	36.0
12:45 AM - 12:50 AM	43.6	59.8	37.1
12:50 AM - 12:55 AM	45.1	56.9	37.3
12:55 AM - 01:00 AM	40.9	59.0	36.4
01:00 AM - 01:05 AM	42.1	57.2	36.9
01:05 AM - 01:10 AM	42.8	57.0	36.6
01:10 AM - 01:15 AM	40.9	55.2	36.9
01:15 AM - 01:20 AM	43.0	58.5	40.2
01:20 AM - 01:25 AM	42.0	52.2	39.7
01:25 AM - 01:30 AM	44.7	57.9	39.6
01:30 AM - 01:35 AM	46.8	61.5	40.3
01:35 AM - 01:40 AM	43.8	55.4	41.0
01:40 AM - 01:45 AM	42.2	54.6	39.7
01:45 AM - 01:50 AM	44.8	61.3	39.8
01:50 AM - 01:55 AM	47.4	58.3	41.8
01:55 AM - 02:00 AM	50.7	60.1	42.8
02:00 AM - 02:05 AM	43.7	54.3	40.7
02:05 AM - 02:10 AM	44.7	56.0	40.1
02:10 AM - 02:15 AM	44.4	55.2	40.0
02:15 AM - 02:20 AM	42.8	53.6	39.3
02:20 AM - 02:25 AM	44.2	55.0	40.3
02:25 AM - 02:30 AM	45.7	58.0	41.5
02:30 AM - 02:35 AM	48.3	66.1	41.2
02:35 AM - 02:40 AM	45.3	58.0	40.9
02:40 AM - 02:45 AM	45.2	54.7	39.9
02:45 AM - 02:50 AM	43.2	53.3	40.4
02:50 AM - 02:55 AM	45.1	59.7	40.4
02:55 AM - 03:00 AM	45.1	57.7	40.1
03:00 AM - 03:05 AM	44.1	58.4	40.1
03:05 AM - 03:10 AM	45.0	56.4	40.2
03:10 AM - 03:15 AM	51.3	76.6	40.8
03:15 AM - 03:20 AM	51.2	76.3	41.2
03:20 AM - 03:25 AM	43.5	54.1	40.6
03:25 AM - 03:30 AM	42.9	49.6	41.0
03:30 AM - 03:35 AM	44.4	55.7	39.0
03:35 AM - 03:40 AM	43.5	56.9	38.4
03:40 AM - 03:45 AM	39.8	51.2	37.7
03:45 AM - 03:50 AM	41.0	57.3	38.3

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

Kasem Anek

Kasem Anek
Senior 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



Analysis / Test Report



TESTING
No.0009

Client : Kasel Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260102
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report No.: 2376489-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260102-5
Parameter Noise
Location บ้านวังกล้วยน้ำว้าหมู่ 9 ตำบลนาขาน (GPS 48Q 277658, 1888884) (Shut down)
Measurement Date Jul 01 - 02, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371923

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	52.0	60.8	50.2
01:00 PM - 02:00 PM	50.1	55.9	48.8
02:00 PM - 03:00 PM	51.0	58.1	49.8
03:00 PM - 04:00 PM	52.8	60.7	52.2
04:00 PM - 05:00 PM	45.2	67.0	39.7
05:00 PM - 06:00 PM	44.6	61.5	41.1
06:00 PM - 07:00 PM	47.4	65.8	44.4
07:00 PM - 08:00 PM	45.9	65.1	41.3
08:00 PM - 09:00 PM	46.8	64.1	41.2
09:00 PM - 10:00 PM	42.7	73.4	40.5
10:00 PM - 10:05 PM	46.9	65.0	39.4
10:05 PM - 10:10 PM	46.1	70.2	38.5
10:10 PM - 10:15 PM	46.3	60.7	38.3
10:15 PM - 10:20 PM	42.6	53.0	38.8
10:20 PM - 10:25 PM	41.7	55.6	37.8
10:25 PM - 10:30 PM	43.4	55.1	38.7
10:30 PM - 10:35 PM	44.7	66.9	37.4
10:35 PM - 10:40 PM	43.8	67.1	37.8
10:40 PM - 10:45 PM	45.5	62.4	37.5
10:45 PM - 10:50 PM	38.4	47.0	36.8
10:50 PM - 10:55 PM	45.8	64.9	38.1
10:55 PM - 11:00 PM	44.3	68.5	37.4
11:00 PM - 11:05 PM	40.2	51.5	36.8
11:05 PM - 11:10 PM	41.5	57.0	37.6
11:10 PM - 11:15 PM	44.6	62.2	37.6
11:15 PM - 11:20 PM	43.4	67.4	37.5
11:20 PM - 11:25 PM	39.7	52.3	36.4
11:25 PM - 11:30 PM	44.9	70.8	36.8
11:30 PM - 11:35 PM	39.1	54.6	36.4
11:35 PM - 11:40 PM	46.3	62.8	37.1
11:40 PM - 11:45 PM	41.0	64.1	36.5
11:45 PM - 11:50 PM	42.4	60.1	36.4
11:50 PM - 11:55 PM	44.5	62.1	36.3
11:55 PM - 12:00 AM	44.3	66.5	35.8
12:00 AM - 12:05 AM	45.2	56.3	37.5
12:05 AM - 12:10 AM	40.7	60.7	36.1
12:10 AM - 12:15 AM	41.3	57.0	35.6
12:15 AM - 12:20 AM	43.9	58.8	37.1
12:20 AM - 12:25 AM	46.3	58.6	38.2
12:25 AM - 12:30 AM	46.6	57.2	36.5

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

Kasem Anek

Kasem Anek
Senior 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



Analysis / Test Report



TESTING
No.0009

Client : Kasel Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260102
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report No.: 2376489-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260102-5
Parameter Noise
Location บ้านวังกล้วยน้ำว้าหมู่ 9 ตำบลนาขาน (GPS 48Q 277658, 1888884) (Shut down)
Measurement Date Jul 01 - 02, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371923

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
03:50 AM - 03:55 AM	42.4	55.1	39.0
03:55 AM - 04:00 AM	42.5	59.1	38.3
04:00 AM - 04:05 AM	48.4	51.7	47.3
04:05 AM - 04:10 AM	48.1	52.6	47.0
04:10 AM - 04:15 AM	47.9	52.2	46.8
04:15 AM - 04:20 AM	47.4	56.1	46.4
04:20 AM - 04:25 AM	47.5	51.2	46.6
04:25 AM - 04:30 AM	47.4	59.2	46.4
04:30 AM - 04:35 AM	46.4	51.1	45.1
04:35 AM - 04:40 AM	45.8	49.9	44.5
04:40 AM - 04:45 AM	46.0	51.3	45.1
04:45 AM - 04:50 AM	45.3	51.2	43.7
04:50 AM - 04:55 AM	44.3	50.8	42.9
04:55 AM - 05:00 AM	46.6	52.3	43.0
05:00 AM - 05:05 AM	47.0	57.3	47.3
05:05 AM - 05:10 AM	45.3	51.4	44.1
05:10 AM - 05:15 AM	44.5	50.2	43.7
05:15 AM - 05:20 AM	44.1	52.8	42.7
05:20 AM - 05:25 AM	42.7	52.0	41.9
05:25 AM - 05:30 AM	40.9	47.3	39.9
05:30 AM - 05:35 AM	41.9	50.2	40.1
05:35 AM - 05:40 AM	45.2	63.3	40.3
05:40 AM - 05:45 AM	49.1	60.6	41.3
05:45 AM - 05:50 AM	44.3	59.6	40.6
05:50 AM - 05:55 AM	44.3	57.5	41.9
05:55 AM - 06:00 AM	45.7	55.7	42.7
06:00 AM - 07:00 AM	49.0	68.9	41.9
07:00 AM - 08:00 AM	52.0	58.8	50.0
08:00 AM - 09:00 AM	52.5	57.6	51.0
09:00 AM - 10:00 AM	50.7	55.1	49.2
10:00 AM - 11:00 AM	51.3	58.1	49.7
11:00 AM - 12:00 PM	51.1	59.6	49.4

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

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

Kasem Anek

Kasem Anek
Senior 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



Analysis / Test Report



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260102
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376490-1

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. 2260102-6
Parameter Noise
Location บ้านพักคนงานนิคมอุตสาหกรรม (GPS 48Q 277658, 1888884) (Shut down)
Measurement Date Jul 02 - 03, 2022
Measurement by Sangtawan Natsat
Sound Level Meter 00371923

Page 1 of 3

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	49.7	63.8	47.5
01:00 PM - 02:00 PM	49.8	53.9	48.8
02:00 PM - 03:00 PM	50.2	55.4	48.9
03:00 PM - 04:00 PM	49.1	53.0	47.8
04:00 PM - 05:00 PM	47.4	52.7	46.1
05:00 PM - 06:00 PM	45.2	54.5	43.9
06:00 PM - 07:00 PM	44.4	68.8	39.4
07:00 PM - 08:00 PM	45.2	66.2	39.2
08:00 PM - 09:00 PM	43.2	65.5	37.4
09:00 PM - 10:00 PM	42.6	70.1	37.6
10:00 PM - 10:05 PM	47.4	60.2	42.3
10:05 PM - 10:10 PM	46.4	65.3	41.2
10:10 PM - 10:15 PM	46.5	59.0	41.4
10:15 PM - 10:20 PM	50.7	61.5	42.4
10:20 PM - 10:25 PM	49.4	61.2	42.0
10:25 PM - 10:30 PM	49.0	64.5	41.8
10:30 PM - 10:35 PM	52.1	68.5	41.6
10:35 PM - 10:40 PM	46.7	61.3	41.7
10:40 PM - 10:45 PM	49.4	66.1	41.6
10:45 PM - 10:50 PM	46.3	55.9	41.8
10:50 PM - 10:55 PM	48.6	69.4	42.7
10:55 PM - 11:00 PM	50.3	62.5	42.9
11:00 PM - 11:05 PM	43.3	63.9	38.0
11:05 PM - 11:10 PM	41.8	56.5	38.5
11:10 PM - 11:15 PM	44.1	62.6	39.5
11:15 PM - 11:20 PM	45.6	66.6	38.5
11:20 PM - 11:25 PM	51.7	61.0	39.8
11:25 PM - 11:30 PM	51.7	68.9	40.3
11:30 PM - 11:35 PM	49.8	60.0	38.7
11:35 PM - 11:40 PM	48.2	61.1	38.7
11:40 PM - 11:45 PM	53.9	66.8	39.2
11:45 PM - 11:50 PM	42.6	61.1	38.1
11:50 PM - 11:55 PM	46.8	71.8	37.6
11:55 PM - 12:00 AM	47.5	62.8	37.4
12:00 AM - 12:05 AM	49.2	65.3	38.1
12:05 AM - 12:10 AM	46.8	67.1	38.4
12:10 AM - 12:15 AM	41.1	58.6	37.9
12:15 AM - 12:20 AM	42.0	58.3	37.8
12:20 AM - 12:25 AM	49.8	67.3	37.9
12:25 AM - 12:30 AM	48.7	64.0	39.1

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

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260102
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376490-1

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. 2260102-6
Parameter Noise
Location บ้านพักคนงานนิคมอุตสาหกรรม (GPS 48Q 277658, 1888884) (Shut down)
Measurement Date Jul 02 - 03, 2022
Measurement by Sangtawan Natsat
Sound Level Meter 00371923

Page 3 of 3

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
03:50 AM - 03:55 AM	42.1	62.3	40.4
03:55 AM - 04:00 AM	42.6	58.3	39.8
04:00 AM - 04:05 AM	46.9	65.2	40.3
04:05 AM - 04:10 AM	48.6	67.2	40.2
04:10 AM - 04:15 AM	43.3	59.2	39.5
04:15 AM - 04:20 AM	41.3	53.9	39.0
04:20 AM - 04:25 AM	42.3	55.4	39.4
04:25 AM - 04:30 AM	43.8	59.3	39.8
04:30 AM - 04:35 AM	42.6	57.2	40.2
04:35 AM - 04:40 AM	45.2	58.3	40.7
04:40 AM - 04:45 AM	42.6	58.9	40.9
04:45 AM - 04:50 AM	42.8	61.6	41.0
04:50 AM - 04:55 AM	45.7	60.3	42.1
04:55 AM - 05:00 AM	47.1	61.2	42.3
05:00 AM - 05:05 AM	46.1	50.7	44.3
05:05 AM - 05:10 AM	45.8	54.3	44.0
05:10 AM - 05:15 AM	43.1	50.2	43.8
05:15 AM - 05:20 AM	42.4	54.1	41.3
05:20 AM - 05:25 AM	42.3	54.9	40.9
05:25 AM - 05:30 AM	44.2	57.6	41.6
05:30 AM - 05:35 AM	45.8	61.3	42.3
05:35 AM - 05:40 AM	47.9	63.5	43.0
05:40 AM - 05:45 AM	47.9	66.7	43.1
05:45 AM - 05:50 AM	47.6	65.7	43.3
05:50 AM - 05:55 AM	46.6	58.4	41.4
05:55 AM - 06:00 AM	47.1	57.6	44.4
06:00 AM - 07:00 AM	47.6	67.0	42.2
07:00 AM - 08:00 AM	45.5	66.1	42.3
08:00 AM - 09:00 AM	51.1	61.6	49.8
09:00 AM - 10:00 AM	51.0	55.6	50.1
10:00 AM - 11:00 AM	50.0	62.9	48.8
11:00 AM - 12:00 PM	49.7	54.6	48.7

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

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

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260102
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376490-1

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. 2260102-6
Parameter Noise
Location บ้านพักคนงานนิคมอุตสาหกรรม (GPS 48Q 277658, 1888884) (Shut down)
Measurement Date Jul 02 - 03, 2022
Measurement by Sangtawan Natsat
Sound Level Meter 00371923

Page 2 of 3

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:30 AM - 12:35 AM	42.3	61.8	38.0
12:35 AM - 12:40 AM	40.9	59.8	37.7
12:40 AM - 12:45 AM	44.4	68.0	39.3
12:45 AM - 12:50 AM	44.7	62.8	38.6
12:50 AM - 12:55 AM	43.5	59.0	38.8
12:55 AM - 01:00 AM	42.1	59.2	38.3
01:00 AM - 01:05 AM	42.8	54.7	39.6
01:05 AM - 01:10 AM	42.9	64.6	39.1
01:10 AM - 01:15 AM	46.0	65.3	38.5
01:15 AM - 01:20 AM	44.3	58.6	38.4
01:20 AM - 01:25 AM	46.2	60.4	39.9
01:25 AM - 01:30 AM	47.7	64.7	39.6
01:30 AM - 01:35 AM	51.2	71.7	39.3
01:35 AM - 01:40 AM	45.0	61.5	39.6
01:40 AM - 01:45 AM	47.8	68.8	40.8
01:45 AM - 01:50 AM	50.6	61.5	42.2
01:50 AM - 01:55 AM	50.2	64.1	41.0
01:55 AM - 02:00 AM	47.4	57.5	39.7
02:00 AM - 02:05 AM	46.7	68.9	38.7
02:05 AM - 02:10 AM	43.6	59.1	38.3
02:10 AM - 02:15 AM	44.4	57.2	37.9
02:15 AM - 02:20 AM	45.6	63.5	39.1
02:20 AM - 02:25 AM	42.4	60.1	38.1
02:25 AM - 02:30 AM	45.9	61.3	39.3
02:30 AM - 02:35 AM	45.5	62.5	39.5
02:35 AM - 02:40 AM	43.0	60.9	39.1
02:40 AM - 02:45 AM	42.0	57.3	38.9
02:45 AM - 02:50 AM	41.3	50.2	39.1
02:50 AM - 02:55 AM	47.3	67.3	40.0
02:55 AM - 03:00 AM	49.5	61.4	44.3
03:00 AM - 03:05 AM	42.7	54.0	38.8
03:05 AM - 03:10 AM	44.6	60.2	39.0
03:10 AM - 03:15 AM	43.5	54.4	38.4
03:15 AM - 03:20 AM	40.8	57.6	38.9
03:20 AM - 03:25 AM	45.0	60.1	39.5
03:25 AM - 03:30 AM	44.5	57.2	39.6
03:30 AM - 03:35 AM	44.2	53.8	40.0
03:35 AM - 03:40 AM	42.7	59.3	40.2
03:40 AM - 03:45 AM	42.7	63.5	40.6
03:45 AM - 03:50 AM	46.5	62.0	40.1

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

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260102
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376490-1

P/O :
Project Name : EIA Monitoring
Project Location :

Sample No. 2260102-7
Parameter Noise
Location บ้านพักคนงานนิคมอุตสาหกรรม (GPS 48Q 277658, 1888884) (Shut down)
Measurement Date Jul 03 - 04, 2022
Measurement by Sangtawan Natsat
Sound Level Meter 00371923

Page 1 of 3

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:00 PM - 01:00 PM	50.7	55.3	49.7
01:00 PM - 02:00 PM	49.8	59.2	49.0
02:00 PM - 03:00 PM	49.5	56.7	48.4
03:00 PM - 04:00 PM	48.1	52.8	47.1
04:00 PM - 05:00 PM	44.4	61.5	37.7
05:00 PM - 06:00 PM	45.0	66.9	39.0
06:00 PM - 07:00 PM	45.6	70.1	41.7
07:00 PM - 08:00 PM	45.0	65.4	39.3
08:00 PM - 09:00 PM	47.6	69.7	39.0
09:00 PM - 10:00 PM	44.2	67.3	38.0
10:00 PM - 10:05 PM	43.5	60.2	35.6
10:05 PM - 10:10 PM	39.0	51.8	34.4
10:10 PM - 10:15 PM	43.2	58.8	35.6
10:15 PM - 10:20 PM	44.2	62.8	36.2
10:20 PM - 10:25 PM	42.4	64.6	35.4
10:25 PM - 10:30 PM	40.6	54.6	33.8
10:30 PM - 10:35 PM	42.8	61.8	34.2
10:35 PM - 10:40 PM	39.8	50.0	35.1
10:40 PM - 10:45 PM	41.8	58.4	34.9
10:45 PM - 10:50 PM	41.5	56.0	35.7
10:50 PM - 10:55 PM	39.1	53.1	35.1
10:55 PM - 11:00 PM	44.3	60.7	34.5
11:00 PM - 11:05 PM	38.3	52.9	34.9
11:05 PM - 11:10 PM	38.8	52.9	34.3
11:10 PM - 11:15 PM	39.1	48.7	35.5
11:15 PM - 11:20 PM	44.2	61.6	35.5
11:20 PM - 11:25 PM	39.9	52.1	35.1
11:25 PM - 11:30 PM	38.9	54.0	35.0
11:30 PM - 11:35 PM	43.1	54.7	34.4
11:35 PM - 11:40 PM	45.2	55.6	38.0
11:40 PM - 11:45 PM	40.0	53.9	34.8
11:45 PM - 11:50 PM	42.0	53.8	36.1
11:50 PM - 11:55 PM	41.8	60.1	35.7
11:55 PM - 12:00 AM	40.5	65.3	42.8
12:00 AM - 12:05 AM	42.2	54.7	36.5
12:05 AM - 12:10 AM	46.5	59.0	37.0
12:10 AM - 12:15 AM	43.6	55.6	37.3
12:15 AM - 12:20 AM	41.7	54.6	37.3
12:20 AM - 12:25 AM	40.5	59.0	36.3
12:25 AM - 12:30 AM	40.3	51.9	37.2

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

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260102
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376491-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260102-7
Parameter Noise
Location โรงงานผลิตน้ำตาลทรายขาว (GPS 48Q 277658, 1888884) (Shut down)
Measurement Date Jul 03 - 04, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371923

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:30 AM - 12:35 AM	39.9	54.6	37.1
12:35 AM - 12:40 AM	40.7	55.3	36.4
12:40 AM - 12:45 AM	39.1	47.1	37.1
12:45 AM - 12:50 AM	40.4	49.8	37.4
12:50 AM - 12:55 AM	45.9	67.0	39.4
12:55 AM - 01:00 AM	44.4	56.3	38.2
01:00 AM - 01:05 AM	43.2	62.2	38.3
01:05 AM - 01:10 AM	46.5	56.7	37.9
01:10 AM - 01:15 AM	50.3	56.6	47.3
01:15 AM - 01:20 AM	48.5	57.3	44.3
01:20 AM - 01:25 AM	44.5	51.8	39.4
01:25 AM - 01:30 AM	44.5	57.3	38.6
01:30 AM - 01:35 AM	44.9	58.3	38.2
01:35 AM - 01:40 AM	42.2	56.9	37.7
01:40 AM - 01:45 AM	40.6	52.5	36.4
01:45 AM - 01:50 AM	43.4	56.0	37.8
01:50 AM - 01:55 AM	42.6	54.1	38.0
01:55 AM - 02:00 AM	43.6	55.1	38.2
02:00 AM - 02:05 AM	42.2	54.4	37.0
02:05 AM - 02:10 AM	41.6	56.6	36.0
02:10 AM - 02:15 AM	41.5	54.0	36.9
02:15 AM - 02:20 AM	41.1	50.8	37.7
02:20 AM - 02:25 AM	43.4	56.4	36.8
02:25 AM - 02:30 AM	43.1	53.9	38.0
02:30 AM - 02:35 AM	43.6	53.7	38.8
02:35 AM - 02:40 AM	44.1	55.3	38.4
02:40 AM - 02:45 AM	45.5	59.5	38.7
02:45 AM - 02:50 AM	44.8	55.3	38.6
02:50 AM - 02:55 AM	47.0	56.0	38.9
02:55 AM - 03:00 AM	41.7	53.3	36.3
03:00 AM - 03:05 AM	40.3	56.4	36.2
03:05 AM - 03:10 AM	46.7	59.1	38.9
03:10 AM - 03:15 AM	42.8	58.2	36.7
03:15 AM - 03:20 AM	39.0	51.2	36.6
03:20 AM - 03:25 AM	43.6	59.6	37.8
03:25 AM - 03:30 AM	41.3	51.7	37.7
03:30 AM - 03:35 AM	41.4	55.6	37.6
03:35 AM - 03:40 AM	44.0	56.6	38.2
03:40 AM - 03:45 AM	41.3	50.4	38.0
03:45 AM - 03:50 AM	41.8	59.9	38.1

The above results are valid only for the and (method) (sample) 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

Kanokorn Anek

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260103
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376492-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260103-1
Parameter Noise
Location โรงงานผลิตน้ำตาลทรายขาว (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date Jun 27 - 28, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	48.5	69.9	42.6
03:00 PM - 04:00 PM	47.5	66.0	44.0
04:00 PM - 05:00 PM	49.1	69.9	43.9
05:00 PM - 06:00 PM	46.7	69.0	40.8
06:00 PM - 07:00 PM	47.4	65.1	44.3
07:00 PM - 08:00 PM	46.6	62.6	42.9
08:00 PM - 09:00 PM	47.5	75.4	45.1
09:00 PM - 10:00 PM	45.4	62.4	40.1
10:00 PM - 10:05 PM	48.4	55.6	42.6
10:05 PM - 10:10 PM	47.7	51.1	45.5
10:10 PM - 10:15 PM	45.5	51.1	44.6
10:15 PM - 10:20 PM	49.5	59.5	44.9
10:20 PM - 10:25 PM	41.3	58.0	45.9
10:25 PM - 10:30 PM	46.5	50.7	46.0
10:30 PM - 10:35 PM	47.1	70.2	45.6
10:35 PM - 10:40 PM	49.3	68.9	45.9
10:40 PM - 10:45 PM	46.1	47.9	45.3
10:45 PM - 10:50 PM	47.2	53.2	46.4
10:50 PM - 10:55 PM	46.8	74.2	44.7
10:55 PM - 11:00 PM	49.4	74.5	45.7
11:00 PM - 11:05 PM	41.8	55.3	41.5
11:05 PM - 11:10 PM	43.8	53.3	41.8
11:10 PM - 11:15 PM	46.0	55.1	43.4
11:15 PM - 11:20 PM	45.4	54.5	43.9
11:20 PM - 11:25 PM	46.1	55.8	46.7
11:25 PM - 11:30 PM	46.8	74.2	46.7
11:30 PM - 11:35 PM	45.0	49.0	44.4
11:35 PM - 11:40 PM	46.0	59.8	44.5
11:40 PM - 11:45 PM	45.0	47.3	44.9
11:45 PM - 11:50 PM	45.6	47.7	45.2
11:50 PM - 11:55 PM	45.6	50.4	45.1
11:55 PM - 12:00 AM	47.8	72.9	45.1
12:00 AM - 12:05 AM	46.7	62.5	45.8
12:05 AM - 12:10 AM	46.7	62.7	45.6
12:10 AM - 12:15 AM	46.5	52.6	44.6
12:15 AM - 12:20 AM	46.3	55.7	45.2
12:20 AM - 12:25 AM	44.9	51.3	44.4
12:25 AM - 12:30 AM	46.0	55.1	43.4
12:30 AM - 12:35 AM	45.4	54.5	43.9
12:35 AM - 12:40 AM	44.9	51.3	43.6

The above results are valid only for the and (method) (sample) 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

Kanokorn Anek

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260102
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376491-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 3 of 3

Sample No. 2260102-7
Parameter Noise
Location โรงงานผลิตน้ำตาลทรายขาว (GPS 48Q 277658, 1888884) (Shut down)
Measurement Date Jul 03 - 04, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00371923

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
03:50 AM - 03:55 AM	40.4	52.1	37.0
03:55 AM - 04:00 AM	43.0	62.4	37.7
04:00 AM - 04:05 AM	46.4	52.2	45.0
04:05 AM - 04:10 AM	45.8	50.3	44.6
04:10 AM - 04:15 AM	45.2	50.5	44.1
04:15 AM - 04:20 AM	44.7	48.5	44.1
04:20 AM - 04:25 AM	45.6	50.0	44.5
04:25 AM - 04:30 AM	45.4	51.7	43.4
04:30 AM - 04:35 AM	43.4	50.3	42.8
04:35 AM - 04:40 AM	43.5	47.8	42.8
04:40 AM - 04:45 AM	43.3	51.9	42.5
04:45 AM - 04:50 AM	44.0	51.3	42.5
04:50 AM - 04:55 AM	43.3	49.8	41.8
04:55 AM - 05:00 AM	43.8	50.3	42.8
05:00 AM - 05:05 AM	43.1	53.2	41.4
05:05 AM - 05:10 AM	43.5	51.7	41.5
05:10 AM - 05:15 AM	41.4	47.2	40.5
05:15 AM - 05:20 AM	42.5	53.0	41.0
05:20 AM - 05:25 AM	41.1	48.3	39.4
05:25 AM - 05:30 AM	42.8	59.7	40.2
05:30 AM - 05:35 AM	40.4	59.5	40.2
05:35 AM - 05:40 AM	42.3	54.3	40.4
05:40 AM - 05:45 AM	44.0	62.0	40.7
05:45 AM - 05:50 AM	44.9	59.4	41.0
05:50 AM - 05:55 AM	46.0	57.5	42.8
05:55 AM - 06:00 AM	42.7	56.2	40.6
06:00 AM - 07:00 AM	47.4	67.3	40.9
07:00 AM - 08:00 AM	53.6	61.9	51.8
08:00 AM - 09:00 AM	51.2	58.4	51.9
09:00 AM - 10:00 AM	52.4	60.2	51.2
10:00 AM - 11:00 AM	50.8	56.2	49.5
11:00 AM - 12:00 PM	50.6	61.1	49.3

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

The above results are valid only for the and (method) (sample) 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

Kanokorn Anek

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260103
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376492-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260103-1
Parameter Noise
Location โรงงานผลิตน้ำตาลทรายขาว (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date Jun 27 - 28, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:40 AM - 12:45 AM	44.3	52.6	43.4
12:45 AM - 12:50 AM	44.7	52.4	43.9
12:50 AM - 12:55 AM	47.9	71.3	44.0
12:55 AM - 01:00 AM	45.3	55.9	44.1
01:00 AM - 01:05 AM	50.3	61.9	44.0
01:05 AM - 01:10 AM	45.9	72.9	43.6
01:10 AM - 01:15 AM	44.4	53.5	43.8
01:15 AM - 01:20 AM	44.4	47.8	43.8
01:20 AM - 01:25 AM	47.6	65.2	44.1
01:25 AM - 01:30 AM	45.3	58.0	44.0
01:30 AM - 01:35 AM	44.9	55.4	43.5
01:35 AM - 01:40 AM	45.3	53.6	43.3
01:40 AM - 01:45 AM	45.4	47.4	42.6
01:45 AM - 01:50 AM	44.6	49.3	43.6
01:50 AM - 01:55 AM	44.7	47.8	42.9
01:55 AM - 02:00 AM	45.2	49.3	43.4
02:00 AM - 02:05 AM	47.1	65.7	45.2
02:05 AM - 02:10 AM	43.8	55.3	41.5
02:10 AM - 02:15 AM	43.8	53.3	41.8
02:15 AM - 02:20 AM	44.4	46.0	43.9
02:20 AM - 02:25 AM	45.4	49.8	44.9
02:25 AM - 02:30 AM	45.5	47.6	44.9
02:30 AM - 02:35 AM	46.0	48.4	45.4
02:35 AM - 02:40 AM	45.8	46.5	45.1
02:40 AM - 02:45 AM	47.0	56.7	45.7
02:45 AM - 02:50 AM	46.3	52.2	45.5
02:50 AM - 02:55 AM	45.0	52.1	43.8
02:55 AM - 03:00 AM	45.1	54.9	43.9
03:00 AM - 03:05 AM	44.6	50.3	43.3
03:05 AM - 03:10 AM	44.2	49.3	43.3
03:10 AM - 03:15 AM	44.8	53.5	43.1
03:15 AM - 03:20 AM	43.2	49.7	41.8
03:20 AM - 03:25 AM	42.9	49.2	42.5
03:25 AM - 03:30 AM	44.4	58.9	42.0
03:30 AM - 03:35 AM	45.5	59.0	42.0
03:35 AM - 03:40 AM	44.9	54.7	41.9
03:40 AM - 03:45 AM	44.5	52.3	41.4
03:45 AM - 03:50 AM	43.2	52.7	41.3
03:50 AM - 03:55 AM	43.8	50.9	41.9
03:55 AM - 04:00 AM	44.8	58.5	41.4

The above results are valid only for the and (method) (sample) 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

Kanokorn Anek

Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260103
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376493-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260103-1
Parameter Noise
Location โรงสีน้ำตาลทราย (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date Jun 27 - 28, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 AM - 04:05 AM	47.9	58.0	41.8
04:05 AM - 04:10 AM	47.4	58.2	42.2
04:10 AM - 04:15 AM	41.3	64.4	32.3
04:15 AM - 04:20 AM	40.4	53.1	32.4
04:20 AM - 04:25 AM	40.3	52.8	36.7
04:25 AM - 04:30 AM	46.6	59.8	40.8
04:30 AM - 04:35 AM	47.7	63.1	42.1
04:35 AM - 04:40 AM	55.4	79.9	42.9
04:40 AM - 04:45 AM	49.7	61.5	41.5
04:45 AM - 04:50 AM	44.7	52.9	40.3
04:50 AM - 04:55 AM	46.7	67.4	40.5
04:55 AM - 05:00 AM	49.4	68.7	38.8
05:00 AM - 05:05 AM	44.6	55.9	39.4
05:05 AM - 05:10 AM	44.2	58.1	38.2
05:10 AM - 05:15 AM	47.0	59.5	39.1
05:15 AM - 05:20 AM	44.9	54.7	41.0
05:20 AM - 05:25 AM	44.5	52.3	41.4
05:25 AM - 05:30 AM	44.3	57.6	38.4
05:30 AM - 05:35 AM	44.3	64.4	37.3
05:35 AM - 05:40 AM	45.8	64.8	38.8
05:40 AM - 05:45 AM	46.7	58.9	38.9
05:45 AM - 05:50 AM	44.8	58.5	41.4
05:50 AM - 05:55 AM	44.3	64.4	37.3
05:55 AM - 06:00 AM	45.8	54.8	38.8
06:00 AM - 07:00 AM	46.4	63.1	42.1
07:00 AM - 08:00 AM	49.8	74.0	42.6
08:00 AM - 09:00 AM	49.5	79.4	43.2
09:00 AM - 10:00 AM	48.9	72.1	41.5
10:00 AM - 11:00 AM	48.7	72.1	43.0
11:00 AM - 12:00 PM	48.5	70.5	43.0
12:00 PM - 01:00 PM	49.1	69.8	44.4
01:00 PM - 02:00 PM	48.5	68.4	43.4

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

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager

The above results are valid only for the end-user (client) as indicated in this report. No part of this report or certificate may be reproduced in any form without written consent from the Laboratory. A.C. Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.



Analysis / Test Report



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260103
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376493-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260103-2
Parameter Noise
Location โรงสีน้ำตาลทราย (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date Jun 28 - 29, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	46.5	64.0	38.4
03:00 PM - 04:00 PM	45.6	64.0	40.0
04:00 PM - 05:00 PM	47.5	72.6	40.8
05:00 PM - 06:00 PM	50.2	75.7	42.2
06:00 PM - 07:00 PM	51.0	70.9	42.2
07:00 PM - 08:00 PM	46.0	57.8	44.5
08:00 PM - 09:00 PM	43.4	53.0	41.9
09:00 PM - 10:00 PM	41.6	52.9	39.5
10:00 PM - 10:05 PM	41.0	46.5	39.9
10:05 PM - 10:10 PM	43.5	52.5	39.9
10:10 PM - 10:15 PM	43.3	57.7	40.0
10:15 PM - 10:20 PM	42.1	54.9	40.6
10:20 PM - 10:25 PM	42.3	46.7	40.8
10:25 PM - 10:30 PM	42.0	47.3	40.1
10:30 PM - 10:35 PM	41.6	46.0	40.3
10:35 PM - 10:40 PM	40.5	44.6	39.7
10:40 PM - 10:45 PM	43.2	56.0	39.8
10:45 PM - 10:50 PM	43.1	53.9	39.9
10:50 PM - 10:55 PM	42.8	50.7	40.4
10:55 PM - 11:00 PM	42.6	51.7	40.7
11:00 PM - 11:05 PM	44.0	54.9	41.3
11:05 PM - 11:10 PM	44.0	54.9	41.5
11:10 PM - 11:15 PM	44.5	55.1	41.4
11:15 PM - 11:20 PM	44.6	54.5	40.4
11:20 PM - 11:25 PM	43.5	56.3	39.7
11:25 PM - 11:30 PM	43.2	54.2	40.0
11:30 PM - 11:35 PM	42.9	54.9	39.9
11:35 PM - 11:40 PM	44.8	54.4	40.1
11:40 PM - 11:45 PM	42.3	54.2	39.9
11:45 PM - 11:50 PM	44.0	56.2	39.9
11:50 PM - 11:55 PM	42.9	48.8	41.4
11:55 PM - 12:00 AM	43.6	55.2	40.0
12:00 AM - 12:05 AM	44.3	54.8	40.6
12:05 AM - 12:10 AM	44.3	54.7	40.7
12:10 AM - 12:15 AM	44.3	55.2	40.2
12:15 AM - 12:20 AM	44.6	56.4	39.9
12:20 AM - 12:25 AM	43.5	54.4	40.2
12:25 AM - 12:30 AM	43.2	53.9	40.1
12:30 AM - 12:35 AM	44.9	55.4	40.8
12:35 AM - 12:40 AM	43.3	54.8	40.6

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager

The above results are valid only for the end-user (client) as indicated in this report. No part of this report or certificate may be reproduced in any form without written consent from the Laboratory. A.C. Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.



Analysis / Test Report



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260103
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376493-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260103-2
Parameter Noise
Location โรงสีน้ำตาลทราย (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date Jun 28 - 29, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:40 AM - 12:45 AM	44.9	55.7	40.7
12:45 AM - 12:50 AM	42.2	46.2	41.1
12:50 AM - 12:55 AM	42.1	44.6	41.1
12:55 AM - 01:00 AM	42.1	47.7	41.2
01:00 AM - 01:05 AM	42.8	47.1	41.6
01:05 AM - 01:10 AM	43.1	47.6	41.5
01:10 AM - 01:15 AM	42.7	46.4	41.5
01:15 AM - 01:20 AM	42.2	45.1	41.2
01:20 AM - 01:25 AM	42.5	45.1	41.3
01:25 AM - 01:30 AM	43.9	46.7	43.0
01:30 AM - 01:35 AM	44.3	47.9	43.4
01:35 AM - 01:40 AM	44.4	47.8	43.6
01:40 AM - 01:45 AM	44.9	47.4	43.9
01:45 AM - 01:50 AM	44.2	48.3	41.9
01:50 AM - 01:55 AM	42.5	48.0	41.4
01:55 AM - 02:00 AM	43.9	47.7	42.9
02:00 AM - 02:05 AM	43.5	47.4	41.4
02:05 AM - 02:10 AM	41.8	47.6	41.0
02:10 AM - 02:15 AM	43.1	50.3	40.9
02:15 AM - 02:20 AM	43.5	48.5	41.6
02:20 AM - 02:25 AM	43.3	47.4	41.8
02:25 AM - 02:30 AM	44.8	52.4	41.5
02:30 AM - 02:35 AM	44.5	54.2	40.9
02:35 AM - 02:40 AM	44.6	54.6	41.0
02:40 AM - 02:45 AM	44.0	53.1	40.7
02:45 AM - 02:50 AM	43.1	54.5	40.5
02:50 AM - 02:55 AM	41.6	48.0	40.7
02:55 AM - 03:00 AM	40.7	46.0	40.5
03:00 AM - 03:05 AM	40.5	43.9	39.9
03:05 AM - 03:10 AM	40.5	44.4	39.8
03:10 AM - 03:15 AM	41.3	47.5	40.0
03:15 AM - 03:20 AM	42.6	50.6	40.4
03:20 AM - 03:25 AM	42.3	50.2	40.8
03:25 AM - 03:30 AM	35.6	51.5	29.9
03:30 AM - 03:35 AM	43.6	62.9	29.3
03:35 AM - 03:40 AM	42.0	58.9	27.9
03:40 AM - 03:45 AM	43.3	47.4	41.8
03:45 AM - 03:50 AM	43.3	47.8	41.7
03:50 AM - 03:55 AM	43.7	48.3	42.3
03:55 AM - 04:00 AM	42.8	46.4	41.6

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager

The above results are valid only for the end-user (client) as indicated in this report. No part of this report or certificate may be reproduced in any form without written consent from the Laboratory. A.C. Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.



Analysis / Test Report



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260103
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376493-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260103-2
Parameter Noise
Location โรงสีน้ำตาลทราย (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date Jun 28 - 29, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 AM - 04:05 AM	44.9	55.7	40.7
04:05 AM - 04:10 AM	42.2	46.2	41.1
04:10 AM - 04:15 AM	42.1	44.6	41.1
04:15 AM - 04:20 AM	42.1	47.7	41.2
04:20 AM - 04:25 AM	42.8	47.1	41.6
04:25 AM - 04:30 AM	43.1	47.6	41.5
04:30 AM - 04:35 AM	42.7	46.4	41.5
04:35 AM - 04:40 AM	42.2	45.1	41.2
04:40 AM - 04:45 AM	42.5	45.1	41.3
04:45 AM - 04:50 AM	43.9	46.7	43.0
04:50 AM - 04:55 AM	44.3	47.9	43.4
04:55 AM - 05:00 AM	44.4	47.8	43.6
05:00 AM - 05:05 AM	44.9	47.4	43.9
05:05 AM - 05:10 AM	44.2	48.3	41.9
05:10 AM - 05:15 AM	42.5	48.0	41.4
05:15 AM - 05:20 AM	43.9	47.7	42.9
05:20 AM - 05:25 AM	43.5	47.4	41.4
05:25 AM - 05:30 AM	41.8	47.6	41.0
05:30 AM - 05:35 AM	43.1	50.3	40.9
05:35 AM - 05:40 AM	43.5	48.5	41.6
05:40 AM - 05:45 AM	43.3	47.4	41.8
05:45 AM - 05:50 AM	44.8	52.4	41.5
05:50 AM - 05:55 AM	44.5	54.2	40.9
05:55 AM - 06:00 AM	44.6	54.6	41.0
06:00 AM - 06:05 AM	44.0	53.1	40.7
06:05 AM - 06:10 AM	43.1	54.5	40.5
06:10 AM - 06:15 AM	41.6	48.0	40.7
06:15 AM - 06:20 AM	40.7	46.0	40.5
06:20 AM - 06:25 AM	40.5	43.9	39.9
06:25 AM - 06:30 AM	40.5	44.4	39.8
06:30 AM - 06:35 AM	41.3	47.5	40.0
06:35 AM - 06:40 AM	42.6	50.6	40.4
06:40 AM - 06:45 AM	42.3	50.2	40.8
06:45 AM - 06:50 AM	35.6	51.5	29.9
06:50 AM - 06:55 AM	43.6	62.9	29.3
06:55 AM - 07:00 AM	42.0	58.9	27.9
07:00 AM - 07:05 AM	43.3	47.4	41.8
07:05 AM - 07:10 AM	43.3	47.8	41.7
07:10 AM - 07:15 AM	43.7	48.3	42.3
07:15 AM - 07:20 AM	42.8	46.4	41.6

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

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager

The above results are valid only for the end-user (client) as indicated in this report. No part of this report or certificate may be reproduced in any form without written consent from the Laboratory. A.C. Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.



Analysis / Test Report



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260103
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376494-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260103-3
Parameter Noise
Location ตำบลวังหลวง (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date Jun 29 - 30, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	45.4	63.6	39.3
03:00 PM - 04:00 PM	47.3	82.1	40.0
04:00 PM - 05:00 PM	48.1	70.8	40.6
05:00 PM - 06:00 PM	48.5	65.2	42.8
06:00 PM - 07:00 PM	52.9	69.1	43.8
07:00 PM - 08:00 PM	47.8	69.7	41.5
08:00 PM - 09:00 PM	46.4	68.6	41.5
09:00 PM - 10:00 PM	44.5	68.7	40.1
10:00 PM - 10:05 PM	43.5	54.1	41.9
10:05 PM - 10:10 PM	44.9	54.4	42.2
10:10 PM - 10:15 PM	44.6	53.3	42.4
10:15 PM - 10:20 PM	46.9	57.4	42.8
10:20 PM - 10:25 PM	49.7	65.3	43.1
10:25 PM - 10:30 PM	44.2	52.9	42.0
10:30 PM - 10:35 PM	44.0	53.2	41.9
10:35 PM - 10:40 PM	44.2	57.2	42.1
10:40 PM - 10:45 PM	44.3	61.9	42.2
10:45 PM - 10:50 PM	43.7	55.2	41.8
10:50 PM - 10:55 PM	45.2	55.5	41.9
10:55 PM - 11:00 PM	47.6	62.9	45.1
11:00 PM - 11:05 PM	39.6	44.7	38.8
11:05 PM - 11:10 PM	40.0	42.7	39.4
11:10 PM - 11:15 PM	41.2	53.2	38.9
11:15 PM - 11:20 PM	42.4	53.8	38.5
11:20 PM - 11:25 PM	39.0	50.4	36.1
11:25 PM - 11:30 PM	40.2	51.6	37.3
11:30 PM - 11:35 PM	41.4	52.8	38.5
11:35 PM - 11:40 PM	40.0	44.3	38.9
11:40 PM - 11:45 PM	40.1	42.7	39.5
11:45 PM - 11:50 PM	46.3	60.3	38.9
11:50 PM - 11:55 PM	39.3	42.4	38.5
11:55 PM - 12:00 AM	39.4	59.3	37.4
12:00 AM - 12:05 AM	41.2	53.2	38.9
12:05 AM - 12:10 AM	42.4	53.8	39.5
12:10 AM - 12:15 AM	39.0	50.4	36.1
12:15 AM - 12:20 AM	40.2	51.6	37.3
12:20 AM - 12:25 AM	41.4	52.8	38.5
12:25 AM - 12:30 AM	40.9	44.4	39.9
12:30 AM - 12:35 AM	41.5	47.0	40.2
12:35 AM - 12:40 AM	41.4	48.8	40.4

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

Approved by

Kanokorn Anek

Kanokorn Anek
Senior 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

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER



Analysis / Test Report



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260103
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376494-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 3 of 3

Sample No. 2260103-3
Parameter Noise
Location ตำบลวังหลวง (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date Jun 29 - 30, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 AM - 04:05 AM	39.3	42.4	38.5
04:05 AM - 04:10 AM	39.4	59.3	37.4
04:10 AM - 04:15 AM	39.0	48.4	37.6
04:15 AM - 04:20 AM	38.0	42.4	36.9
04:20 AM - 04:25 AM	40.0	55.0	37.4
04:25 AM - 04:30 AM	40.1	54.2	36.7
04:30 AM - 04:35 AM	38.5	44.2	36.4
04:35 AM - 04:40 AM	40.7	50.6	37.8
04:40 AM - 04:45 AM	41.8	56.2	36.6
04:45 AM - 04:50 AM	38.7	51.1	36.5
04:50 AM - 04:55 AM	41.6	61.3	35.7
04:55 AM - 05:00 AM	42.5	56.2	36.2
05:00 AM - 05:05 AM	40.1	58.9	38.8
05:05 AM - 05:10 AM	47.3	62.4	38.3
05:10 AM - 05:15 AM	50.8	68.4	39.4
05:15 AM - 05:20 AM	55.2	67.2	42.4
05:20 AM - 05:25 AM	52.3	65.0	45.7
05:25 AM - 05:30 AM	51.4	63.1	45.7
05:30 AM - 05:35 AM	50.8	61.8	45.9
05:35 AM - 05:40 AM	51.0	64.5	45.4
05:40 AM - 05:45 AM	50.7	61.5	45.6
05:45 AM - 05:50 AM	49.0	64.6	42.5
05:50 AM - 05:55 AM	51.9	66.1	43.9
05:55 AM - 06:00 AM	50.7	62.0	45.5
06:00 AM - 07:00 AM	49.8	72.5	40.1
07:00 AM - 08:00 AM	49.6	70.3	42.5
08:00 AM - 09:00 AM	48.5	65.5	41.2
09:00 AM - 10:00 AM	47.0	64.9	40.6
10:00 AM - 11:00 AM	48.4	71.8	41.3
11:00 AM - 12:00 PM	46.1	70.4	39.7
12:00 PM - 01:00 PM	45.8	67.6	40.0
01:00 PM - 02:00 PM	46.4	65.3	40.0

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

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

Approved by

Kanokorn Anek

Kanokorn Anek
Senior 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

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER



Analysis / Test Report



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260103
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376494-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260103-3
Parameter Noise
Location ตำบลวังหลวง (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date Jun 29 - 30, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:40 AM - 12:45 AM	41.5	54.5	40.2
12:45 AM - 12:50 AM	40.7	46.7	39.3
12:50 AM - 12:55 AM	39.7	44.5	38.6
12:55 AM - 01:00 AM	40.0	44.3	38.9
01:00 AM - 01:05 AM	42.3	52.6	41.3
01:05 AM - 01:10 AM	41.8	48.0	41.2
01:10 AM - 01:15 AM	41.6	50.3	40.9
01:15 AM - 01:20 AM	41.7	56.9	41.0
01:20 AM - 01:25 AM	41.8	62.4	40.5
01:25 AM - 01:30 AM	42.0	47.1	40.2
01:30 AM - 01:35 AM	42.4	45.1	41.8
01:35 AM - 01:40 AM	42.3	46.5	41.7
01:40 AM - 01:45 AM	42.3	47.3	41.7
01:45 AM - 01:50 AM	41.8	44.7	41.2
01:50 AM - 01:55 AM	41.8	45.3	41.0
01:55 AM - 02:00 AM	41.3	61.6	39.9
02:00 AM - 02:05 AM	40.0	51.0	37.4
02:05 AM - 02:10 AM	40.1	54.2	36.7
02:10 AM - 02:15 AM	38.5	44.2	36.4
02:15 AM - 02:20 AM	40.7	50.6	37.8
02:20 AM - 02:25 AM	41.8	56.2	36.6
02:25 AM - 02:30 AM	38.7	51.1	36.5
02:30 AM - 02:35 AM	41.6	61.3	35.7
02:35 AM - 02:40 AM	40.9	44.4	39.9
02:40 AM - 02:45 AM	41.5	47.0	40.2
02:45 AM - 02:50 AM	41.4	48.9	40.4
02:50 AM - 02:55 AM	41.5	54.5	40.2
02:55 AM - 03:00 AM	40.7	45.0	39.3
03:00 AM - 03:05 AM	40.3	41.8	39.4
03:05 AM - 03:10 AM	40.1	43.3	39.4
03:10 AM - 03:15 AM	39.8	48.8	39.0
03:15 AM - 03:20 AM	40.1	53.4	39.1
03:20 AM - 03:25 AM	41.1	54.9	38.9
03:25 AM - 03:30 AM	42.0	54.2	38.8
03:30 AM - 03:35 AM	39.0	43.3	37.7
03:35 AM - 03:40 AM	40.5	51.6	37.5
03:40 AM - 03:45 AM	40.8	44.4	39.9
03:45 AM - 03:50 AM	41.5	47.0	40.2
03:50 AM - 03:55 AM	40.0	46.4	38.8
03:55 AM - 04:00 AM	41.9	54.2	38.9

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

Approved by

Kanokorn Anek

Kanokorn Anek
Senior 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

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER



Analysis / Test Report



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260103
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376495-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260103-4
Parameter Noise
Location ตำบลวังหลวง (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date Jun 30 - Jul 01, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	47.8	61.8	45.8
03:00 PM - 04:00 PM	46.0	61.4	44.2
04:00 PM - 05:00 PM	47.6	60.2	46.1
05:00 PM - 06:00 PM	46.4	63.2	43.5
06:00 PM - 07:00 PM	44.8	63.2	43.4
07:00 PM - 08:00 PM	44.7	68.1	42.8
08:00 PM - 09:00 PM	45.5	69.6	42.4
09:00 PM - 10:00 PM	46.2	69.5	46.3
10:00 PM - 10:05 PM	46.6	66.5	40.0
10:05 PM - 10:10 PM	42.3	51.2	39.4
10:10 PM - 10:15 PM	50.2	69.3	39.7
10:15 PM - 10:20 PM	43.4	65.4	38.7
10:20 PM - 10:25 PM	48.4	66.4	40.3
10:25 PM - 10:30 PM	46.4	68.9	40.5
10:30 PM - 10:35 PM	51.7	80.5	39.6
10:35 PM - 10:40 PM	41.2	50.8	39.5
10:40 PM - 10:45 PM	43.4	60.8	40.4
10:45 PM - 10:50 PM	42.0	50.2	39.9
10:50 PM - 10:55 PM	42.0	48.1	39.9
10:55 PM - 11:00 PM	42.3	61.9	39.8
11:00 PM - 11:05 PM	43.4	55.4	40.4
11:05 PM - 11:10 PM	41.6	48.6	40.0
11:10 PM - 11:15 PM	43.0	55.8	40.4
11:15 PM - 11:20 PM	42.8	67.5	40.5
11:20 PM - 11:25 PM	43.8	61.9	40.5
11:25 PM - 11:30 PM	43.8	56.7	41.1
11:30 PM - 11:35 PM	44.9	54.7	41.4
11:35 PM - 11:40 PM	44.8	53.8	40.3
11:40 PM - 11:45 PM	44.2	55.9	40.7
11:45 PM - 11:50 PM	44.4	58.6	41.0
11:50 PM - 11:55 PM	44.3	52.4	39.7
11:55 PM - 12:00 AM	43.8	53.2	39.8
12:00 AM - 12:05 AM	45.0	56.1	40.1
12:05 AM - 12:10 AM	42.8	56.8	38.9
12:10 AM - 12:15 AM	42.0	57.6	38.6
12:15 AM - 12:20 AM	44.1	56.0	39.6
12:20 AM - 12:25 AM	43.3	56.8	39.1
12:25 AM - 12:30 AM	43.7	54.2	39.1
12:30 AM - 12:35 AM	41.7	50.0	38.8
12:35 AM - 12:40 AM	41.9	55.5	38.1

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

Approved by

Kanokorn Anek

Kanokorn Anek
Senior 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

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER



Analysis / Test Report



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260103
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376495-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260103-4
Parameter Noise
Location โรงสีน้ำตาลทราย (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date Jun 30 - Jul 01, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:40 AM - 12:45 AM	43.4	63.9	37.0
12:45 AM - 12:50 AM	44.3	61.5	39.1
12:50 AM - 12:55 AM	44.4	65.3	38.9
12:55 AM - 01:00 AM	42.5	67.0	40.0
01:00 AM - 01:05 AM	43.4	63.9	37.4
01:05 AM - 01:10 AM	40.9	61.4	36.1
01:10 AM - 01:15 AM	43.9	60.5	36.2
01:15 AM - 01:20 AM	42.6	58.2	38.6
01:20 AM - 01:25 AM	43.6	48.5	42.1
01:25 AM - 01:30 AM	43.8	50.1	41.3
01:30 AM - 01:35 AM	43.4	57.2	41.7
01:35 AM - 01:40 AM	43.6	48.5	42.1
01:40 AM - 01:45 AM	42.8	50.1	41.3
01:45 AM - 01:50 AM	43.6	57.2	41.7
01:50 AM - 01:55 AM	43.7	60.3	37.7
01:55 AM - 02:00 AM	43.6	58.2	38.3
02:00 AM - 02:05 AM	43.7	58.1	37.7
02:05 AM - 02:10 AM	44.2	58.6	38.8
02:10 AM - 02:15 AM	43.5	65.5	36.2
02:15 AM - 02:20 AM	43.9	46.6	43.0
02:20 AM - 02:25 AM	44.4	47.7	45.0
02:25 AM - 02:30 AM	43.5	47.3	42.4
02:30 AM - 02:35 AM	43.1	45.9	42.1
02:35 AM - 02:40 AM	42.5	61.6	37.0
02:40 AM - 02:45 AM	44.5	62.0	36.7
02:45 AM - 02:50 AM	43.8	60.2	37.3
02:50 AM - 02:55 AM	45.0	63.0	36.7
02:55 AM - 03:00 AM	45.0	49.0	44.1
03:00 AM - 03:05 AM	44.9	48.9	43.8
03:05 AM - 03:10 AM	44.9	56.7	43.2
03:10 AM - 03:15 AM	43.9	47.2	42.8
03:15 AM - 03:20 AM	44.3	55.4	42.9
03:20 AM - 03:25 AM	43.9	46.6	43.0
03:25 AM - 03:30 AM	44.4	47.7	43.0
03:30 AM - 03:35 AM	43.5	47.3	42.4
03:35 AM - 03:40 AM	43.1	45.9	42.1
03:40 AM - 03:45 AM	43.4	45.9	42.6
03:45 AM - 03:50 AM	44.3	47.9	43.1
03:50 AM - 03:55 AM	44.4	61.4	42.8
03:55 AM - 04:00 AM	44.6	54.0	43.3

The above results are valid only for the period specified 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. A Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

Approved by
Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260103
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376495-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260103-5
Parameter Noise
Location โรงสีน้ำตาลทราย (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date Jul 01 - 02, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	48.2	75.3	39.2
03:00 PM - 04:00 PM	48.0	65.9	45.1
04:00 PM - 05:00 PM	46.6	58.2	44.3
05:00 PM - 06:00 PM	45.9	67.0	40.6
06:00 PM - 07:00 PM	46.1	61.4	45.1
07:00 PM - 08:00 PM	47.2	73.9	39.9
08:00 PM - 09:00 PM	45.0	73.9	39.2
09:00 PM - 10:00 PM	45.5	69.5	41.3
10:00 PM - 10:05 PM	44.2	48.3	41.9
10:05 PM - 10:10 PM	44.3	48.2	43.0
10:10 PM - 10:15 PM	46.4	69.6	32.2
10:15 PM - 10:20 PM	44.1	63.9	32.6
10:20 PM - 10:25 PM	44.3	60.4	31.4
10:25 PM - 10:30 PM	44.1	63.9	32.6
10:30 PM - 10:35 PM	48.2	68.8	31.7
10:35 PM - 10:40 PM	44.8	52.4	41.5
10:40 PM - 10:45 PM	44.5	54.2	40.9
10:45 PM - 10:50 PM	45.0	55.9	38.5
10:50 PM - 11:00 PM	44.6	58.8	34.4
11:00 PM - 11:05 PM	44.3	48.2	42.5
11:05 PM - 11:10 PM	45.7	48.3	44.6
11:10 PM - 11:15 PM	41.4	55.4	33.6
11:15 PM - 11:20 PM	48.2	68.2	31.7
11:20 PM - 11:25 PM	41.8	60.1	33.3
11:25 PM - 11:30 PM	44.7	63.2	32.4
11:30 PM - 11:35 PM	44.5	55.1	41.4
11:35 PM - 11:40 PM	46.0	61.4	46.6
11:40 PM - 11:45 PM	45.7	48.3	44.6
11:45 PM - 11:50 PM	45.8	56.8	44.5
11:50 PM - 11:55 PM	44.8	54.9	41.9
11:55 PM - 12:00 PM	44.5	54.5	40.8
12:00 AM - 12:05 AM	44.9	62.8	30.8
12:05 AM - 12:10 AM	44.1	63.9	32.6
12:10 AM - 12:15 AM	44.3	48.2	42.5
12:15 AM - 12:20 AM	43.8	59.3	32.6
12:20 AM - 12:25 AM	44.9	57.5	39.9
12:25 AM - 12:30 AM	45.7	48.3	44.6
12:30 AM - 12:35 AM	45.2	59.4	32.6
12:35 AM - 12:40 AM	46.4	69.6	32.2

The above results are valid only for the period specified 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. A Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

Approved by
Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260103
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376495-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 3 of 3

Sample No. 2260103-4
Parameter Noise
Location โรงสีน้ำตาลทราย (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date Jun 30 - Jul 01, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 AM - 04:05 AM	44.7	51.7	43.3
04:05 AM - 04:10 AM	44.7	59.4	43.1
04:10 AM - 04:15 AM	44.5	58.9	42.9
04:15 AM - 04:20 AM	44.2	53.0	43.3
04:20 AM - 04:25 AM	44.4	61.4	42.8
04:25 AM - 04:30 AM	43.9	57.8	41.8
04:30 AM - 04:35 AM	43.6	48.3	42.1
04:35 AM - 04:40 AM	42.8	50.1	41.3
04:40 AM - 04:45 AM	43.4	57.2	41.7
04:45 AM - 04:50 AM	43.6	44.9	42.2
04:50 AM - 04:55 AM	43.5	55.1	42.0
04:55 AM - 05:00 AM	43.3	47.7	42.1
05:00 AM - 05:05 AM	42.7	45.6	41.6
05:05 AM - 05:10 AM	42.4	44.9	41.4
05:10 AM - 05:15 AM	43.0	51.2	41.9
05:15 AM - 05:20 AM	42.9	45.7	41.7
05:20 AM - 05:25 AM	43.0	45.4	41.6
05:25 AM - 05:30 AM	43.0	56.1	41.6
05:30 AM - 05:35 AM	42.9	56.2	41.2
05:35 AM - 05:40 AM	43.3	49.1	42.1
05:40 AM - 05:45 AM	43.2	50.3	41.9
05:45 AM - 05:50 AM	42.6	46.3	41.4
05:50 AM - 05:55 AM	43.5	46.6	41.6
05:55 AM - 06:00 AM	44.3	47.7	42.8
06:00 AM - 07:00 AM	43.5	57.2	43.0
07:00 AM - 08:00 AM	48.9	57.7	47.6
08:00 AM - 09:00 AM	47.7	52.9	46.8
09:00 AM - 10:00 AM	46.3	71.7	45.0
10:00 AM - 11:00 AM	46.8	66.9	45.1
11:00 AM - 12:00 PM	45.3	61.2	44.2
12:00 PM - 01:00 PM	45.7	59.3	44.5
01:00 PM - 02:00 PM	47.8	69.2	41.3

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

The above results are valid only for the period specified 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. A Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

Approved by
Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260103
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376495-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260103-5
Parameter Noise
Location โรงสีน้ำตาลทราย (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date Jul 01 - 02, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:40 AM - 12:45 AM	44.3	48.2	42.5
12:45 AM - 12:50 AM	44.5	48.5	42.7
12:50 AM - 12:55 AM	44.2	48.8	42.2
12:55 AM - 01:00 AM	44.0	50.7	42.0
01:00 AM - 01:05 AM	51.8	69.5	33.6
01:05 AM - 01:10 AM	45.2	59.4	32.6
01:10 AM - 01:15 AM	46.4	69.6	32.2
01:15 AM - 01:20 AM	46.0	61.4	44.6
01:20 AM - 01:25 AM	45.7	48.3	44.5
01:25 AM - 01:30 AM	45.8	55.8	44.5
01:30 AM - 01:35 AM	44.5	54.2	40.9
01:35 AM - 01:40 AM	44.9	62.8	44.8
01:40 AM - 01:45 AM	49.0	64.9	32.8
01:45 AM - 01:50 AM	46.5	62.7	31.9
01:50 AM - 01:55 AM	46.1	69.1	32.3
01:55 AM - 02:00 AM	44.9	62.8	30.8
02:00 AM - 02:05 AM	45.7	52.0	42.1
02:05 AM - 02:10 AM	49.4	53.3	44.0
02:10 AM - 02:15 AM	49.9	52.3	44.8
02:15 AM - 02:20 AM	50.4	44.8	44.6
02:20 AM - 02:25 AM	48.9	51.7	44.2
02:25 AM - 02:30 AM	48.3	62.1	45.3
02:30 AM - 02:35 AM	46.8	50.0	45.2
02:35 AM - 02:40 AM	45.9	44.2	44.1
02:40 AM - 02:45 AM	45.6	55.7	43.9
02:45 AM - 02:50 AM	45.0	49.8	42.4
02:50 AM - 02:55 AM	46.5	59.5	42.7
02:55 AM - 03:00 AM	45.4	52.9	43.2
03:00 AM - 03:05 AM	44.0	54.9	41.3
03:05 AM - 03:10 AM	44.0	54.9	41.5
03:10 AM - 03:15 AM	44.5	55.1	41.4
03:15 AM - 03:20 AM	44.6	54.5	40.4
03:20 AM - 03:25 AM	43.5	56.3	39.7
03:25 AM - 03:30 AM	46.4	69.6	32.2
03:30 AM - 03:35 AM	44.6	55.5	39.9
03:35 AM - 03:40 AM	44.8	54.4	40.1
03:40 AM - 03:45 AM	44.9	62.8	30.8
03:45 AM - 03:50 AM	44.0	56.2	39.9
03:50 AM - 03:55 AM	46.4	69.6	40.2
03:55 AM - 04:00 AM	43.6	55.2	42.8

The above results are valid only for the period specified 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. A Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

Approved by
Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260103
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376497-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 3 of 3

Sample No. 2260103-5
Parameter Noise
Location โรงสีน้ำตาลทรายขาว (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date Jul 01 - 02, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 AM - 04:05 AM	44.3	54.8	40.6
04:05 AM - 04:10 AM	44.3	54.7	40.7
04:10 AM - 04:15 AM	44.3	55.2	40.2
04:15 AM - 04:20 AM	46.0	61.4	44.6
04:20 AM - 04:25 AM	45.7	48.3	44.6
04:25 AM - 04:30 AM	45.8	56.8	44.5
04:30 AM - 04:35 AM	45.2	59.4	32.6
04:35 AM - 04:40 AM	46.4	69.6	32.2
04:40 AM - 04:45 AM	46.0	61.4	44.6
04:45 AM - 04:50 AM	45.7	48.3	44.6
04:50 AM - 04:55 AM	45.8	56.8	44.5
04:55 AM - 05:00 AM	44.5	54.2	40.9
05:00 AM - 05:05 AM	45.7	48.3	44.6
05:05 AM - 05:10 AM	46.9	50.3	45.3
05:10 AM - 05:15 AM	46.4	51.8	44.9
05:15 AM - 05:20 AM	44.1	63.9	32.6
05:20 AM - 05:25 AM	44.3	48.2	42.5
05:25 AM - 05:30 AM	44.9	62.8	30.8
05:30 AM - 05:35 AM	44.3	47.9	43.4
05:35 AM - 05:40 AM	44.4	47.8	43.6
05:40 AM - 05:45 AM	44.9	47.4	43.9
05:45 AM - 05:50 AM	44.2	48.3	41.9
05:50 AM - 05:55 AM	45.7	48.3	44.6
05:55 AM - 06:00 AM	45.2	59.4	32.6
06:00 AM - 07:00 AM	45.1	69.6	41.9
07:00 AM - 08:00 AM	45.3	63.9	42.3
08:00 AM - 09:00 AM	46.0	62.8	44.3
09:00 AM - 10:00 AM	46.0	61.8	45.8
10:00 AM - 11:00 AM	46.0	61.4	44.2
11:00 AM - 12:00 PM	47.6	60.2	46.1
12:00 PM - 01:00 PM	46.4	77.0	43.5
01:00 PM - 02:00 PM	45.0	63.2	43.1

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

The above results are valid only for the analyzed 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

Kanokorn Anek
Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260103
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376497-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260103-6
Parameter Noise
Location โรงสีน้ำตาลทรายขาว (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date Jul 02 - 03, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:40 AM - 12:45 AM	49.7	56.9	48.6
12:45 AM - 12:50 AM	49.2	56.3	48.3
12:50 AM - 12:55 AM	48.3	51.0	46.0
12:55 AM - 01:00 AM	48.3	52.0	45.4
01:00 AM - 01:05 AM	44.3	57.5	42.2
01:05 AM - 01:10 AM	49.6	52.3	48.4
01:10 AM - 01:15 AM	49.1	54.8	48.3
01:15 AM - 01:20 AM	49.1	51.7	48.4
01:20 AM - 01:25 AM	48.5	50.8	47.2
01:25 AM - 01:30 AM	48.5	50.8	47.6
01:30 AM - 01:35 AM	48.4	51.7	47.1
01:35 AM - 01:40 AM	48.4	51.1	47.4
01:40 AM - 01:45 AM	48.5	51.0	47.2
01:45 AM - 01:50 AM	48.6	52.1	47.6
01:50 AM - 01:55 AM	48.6	55.2	47.0
01:55 AM - 02:00 AM	47.7	51.3	46.6
02:00 AM - 02:05 AM	47.7	50.8	46.6
02:05 AM - 02:10 AM	48.8	52.0	47.8
02:10 AM - 02:15 AM	47.2	51.4	44.2
02:15 AM - 02:20 AM	48.6	51.2	47.6
02:20 AM - 02:25 AM	48.3	51.2	47.3
02:25 AM - 02:30 AM	48.0	52.7	46.9
02:30 AM - 02:35 AM	48.6	52.0	47.6
02:35 AM - 02:40 AM	48.7	54.1	47.5
02:40 AM - 02:45 AM	48.0	52.7	47.0
02:45 AM - 02:50 AM	47.9	50.5	46.9
02:50 AM - 02:55 AM	44.0	52.9	43.4
02:55 AM - 03:00 AM	43.8	47.1	43.2
03:00 AM - 03:05 AM	44.2	48.0	43.6
03:05 AM - 03:10 AM	45.9	57.1	43.8
03:10 AM - 03:15 AM	46.1	58.5	43.8
03:15 AM - 03:20 AM	44.3	48.7	43.2
03:20 AM - 03:25 AM	47.7	74.1	43.7
03:25 AM - 03:30 AM	51.8	74.1	43.7
03:30 AM - 03:35 AM	44.0	52.9	43.4
03:35 AM - 03:40 AM	49.7	56.9	48.6
03:40 AM - 03:45 AM	50.6	73.9	43.1
03:45 AM - 03:50 AM	45.3	58.1	37.8
03:50 AM - 03:55 AM	45.6	58.0	43.7
03:55 AM - 04:00 AM	45.2	58.7	43.0

The above results are valid only for the analyzed 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

Kanokorn Anek
Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260103
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376497-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260103-6
Parameter Noise
Location โรงสีน้ำตาลทรายขาว (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date Jul 02 - 03, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	44.7	68.1	42.8
03:00 PM - 04:00 PM	48.3	68.1	43.4
04:00 PM - 05:00 PM	47.9	62.4	44.0
05:00 PM - 06:00 PM	45.8	69.6	35.0
06:00 PM - 07:00 PM	48.9	63.9	46.6
07:00 PM - 08:00 PM	48.2	61.6	46.5
08:00 PM - 09:00 PM	46.5	66.4	40.9
09:00 PM - 10:00 PM	47.4	68.9	39.5
10:00 PM - 10:05 PM	47.3	66.4	41.2
10:05 PM - 10:10 PM	48.2	65.8	40.4
10:10 PM - 10:15 PM	50.0	64.4	40.8
10:15 PM - 10:20 PM	45.8	60.6	39.1
10:20 PM - 10:25 PM	47.2	62.4	40.4
10:25 PM - 10:30 PM	45.3	58.1	37.8
10:30 PM - 10:35 PM	48.2	65.9	41.1
10:35 PM - 10:40 PM	45.8	60.6	40.3
10:40 PM - 10:45 PM	47.5	64.1	38.7
10:45 PM - 10:50 PM	45.9	57.1	43.8
10:50 PM - 10:55 PM	46.1	61.6	38.3
10:55 PM - 11:00 PM	46.8	61.1	40.9
11:00 PM - 11:05 PM	46.3	63.8	40.3
11:05 PM - 11:10 PM	46.1	56.0	40.3
11:10 PM - 11:15 PM	46.1	61.2	40.1
11:15 PM - 11:20 PM	43.8	57.4	38.7
11:20 PM - 11:25 PM	45.0	57.8	41.4
11:25 PM - 11:30 PM	48.4	62.7	41.4
11:30 PM - 11:35 PM	46.2	62.5	38.7
11:35 PM - 11:40 PM	45.3	58.1	37.8
11:40 PM - 11:45 PM	46.0	61.5	39.3
11:45 PM - 11:50 PM	44.0	60.3	38.4
11:50 PM - 11:55 PM	45.1	38.4	39.2
11:55 PM - 12:00 AM	46.6	59.9	39.5
12:00 AM - 12:05 AM	49.8	52.9	48.4
12:05 AM - 12:10 AM	49.1	52.9	47.5
12:10 AM - 12:15 AM	49.2	52.7	47.7
12:15 AM - 12:20 AM	48.0	52.8	47.5
12:20 AM - 12:25 AM	48.0	52.4	46.8
12:25 AM - 12:30 AM	49.0	57.7	47.7
12:30 AM - 12:35 AM	49.2	57.4	48.2
12:35 AM - 12:40 AM	50.1	52.5	49.1

The above results are valid only for the analyzed 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

Kanokorn Anek
Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260103
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376497-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 3 of 3

Sample No. 2260103-6
Parameter Noise
Location โรงสีน้ำตาลทรายขาว (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date Jul 02 - 03, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 AM - 04:05 AM	45.6	59.8	42.6
04:05 AM - 04:10 AM	45.8	59.8	42.4
04:10 AM - 04:15 AM	44.3	57.5	42.2
04:15 AM - 04:20 AM	49.8	52.9	48.4
04:20 AM - 04:25 AM	49.1	52.9	47.5
04:25 AM - 04:30 AM	49.2	52.7	47.7
04:30 AM - 04:35 AM	48.9	52.8	47.5
04:35 AM - 04:40 AM	48.0	52.4	46.8
04:40 AM - 04:45 AM	48.0	37.7	40.7
04:45 AM - 04:50 AM	49.2	57.4	48.2
04:50 AM - 04:55 AM	48.9	52.8	47.8
04:55 AM - 05:00 AM	48.0	52.4	46.5
05:00 AM - 05:05 AM	49.3	66.9	42.5
05:05 AM - 05:10 AM	49.9	64.8	41.9
05:10 AM - 05:15 AM	47.8	64.3	40.4
05:15 AM - 05:20 AM	48.3	63.7	41.5
05:20 AM - 05:25 AM	46.3	62.3	39.0
05:25 AM - 05:30 AM	45.3	58.1	37.8
05:30 AM - 05:35 AM	48.8	63.8	39.2
05:35 AM - 05:40 AM	51.7	73.2	39.9
05:40 AM - 05:45 AM	43.4	61.5	40.1
05:45 AM - 05:50 AM	45.2	59.4	41.2
05:50 AM - 05:55 AM	47.5	69.7	41.4
05:55 AM - 06:00 AM	48.8	67.6	38.5
06:00 AM - 07:00 AM	46.9	76.2	46.9
07:00 AM - 08:00 AM	49.8	52.9	46.8
08:00 AM - 09:00 AM	46.3	71.7	45.0
09:00 AM - 10:00 AM	46.8	66.9	45.1
10:00 AM - 11:00 AM	46.3	68.1	45.0
11:00 AM - 12:00 PM	47.8	62.4	44.0
12:00 PM - 01:00 PM	47.9	68.1	43.1
01:00 PM - 02:00 PM	47.7	54.1	46.6

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

The above results are valid only for the analyzed 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

Kanokorn Anek
Kanokorn Anek
Senior 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



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260183
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376498-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260103-7
Parameter Noise
Location โรงสีน้ำตาลทรายขาว (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date Jul 03 - 04, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	51.4	70.2	45.1
03:00 PM - 04:00 PM	51.9	75.5	45.5
04:00 PM - 05:00 PM	51.6	81.7	43.2
05:00 PM - 06:00 PM	49.1	67.9	44.4
06:00 PM - 07:00 PM	49.9	70.0	47.3
07:00 PM - 08:00 PM	47.9	71.7	45.1
08:00 PM - 09:00 PM	42.2	62.6	40.4
09:00 PM - 10:00 PM	44.4	66.7	40.4
10:00 PM - 10:05 PM	48.0	51.8	46.2
10:05 PM - 10:10 PM	49.2	52.0	47.9
10:10 PM - 10:15 PM	49.9	53.3	49.0
10:15 PM - 10:20 PM	49.9	51.8	49.3
10:20 PM - 10:25 PM	50.3	52.8	49.6
10:25 PM - 10:30 PM	50.0	53.5	49.2
10:30 PM - 10:35 PM	49.6	52.4	49.3
10:35 PM - 10:40 PM	49.2	51.1	48.2
10:40 PM - 10:45 PM	49.7	51.3	49.1
10:45 PM - 10:50 PM	49.7	52.0	48.9
10:50 PM - 10:55 PM	48.3	51.7	46.9
10:55 PM - 11:00 PM	48.2	51.7	43.0
11:00 PM - 11:05 PM	47.7	52.4	47.0
11:05 PM - 11:10 PM	47.3	49.7	46.6
11:10 PM - 11:15 PM	47.5	52.9	46.5
11:15 PM - 11:20 PM	48.5	54.1	47.7
11:20 PM - 11:25 PM	48.3	52.4	47.5
11:25 PM - 11:30 PM	51.3	61.7	46.4
11:30 PM - 11:35 PM	49.1	51.7	48.0
11:35 PM - 11:40 PM	48.4	52.3	47.3
11:40 PM - 11:45 PM	49.8	57.8	47.9
11:45 PM - 11:50 PM	48.2	52.8	47.6
11:50 PM - 11:55 PM	47.9	51.4	45.7
11:55 PM - 12:00 AM	49.9	55.0	46.7
12:00 AM - 12:05 AM	50.2	54.7	47.0
12:05 AM - 12:10 AM	47.9	55.1	45.7
12:10 AM - 12:15 AM	47.2	49.9	46.5
12:15 AM - 12:20 AM	47.1	49.6	46.1
12:20 AM - 12:25 AM	47.4	55.8	46.5
12:25 AM - 12:30 AM	47.6	49.7	46.5
12:30 AM - 12:35 AM	48.3	50.9	47.5
12:35 AM - 12:40 AM	48.0	51.5	47.2

The above results are valid only for the analyzed/monitored 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. A.S. Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

Approved by

Kanokorn Anek
Senior 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



Analysis / Test Report



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260183
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376498-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260103-7
Parameter Noise
Location โรงสีน้ำตาลทรายขาว (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date Jul 03 - 04, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:40 AM - 12:45 AM	47.7	50.5	46.9
12:45 AM - 12:50 AM	48.1	50.9	46.9
12:50 AM - 12:55 AM	48.8	52.7	47.6
12:55 AM - 01:00 AM	39.2	44.8	38.0
01:00 AM - 01:05 AM	39.2	43.4	38.0
01:05 AM - 01:10 AM	41.3	46.9	40.0
01:10 AM - 01:15 AM	39.4	44.1	38.6
01:15 AM - 01:20 AM	39.2	42.1	38.5
01:20 AM - 01:25 AM	39.0	45.1	38.0
01:25 AM - 01:30 AM	39.2	45.2	38.7
01:30 AM - 01:35 AM	39.2	42.9	38.5
01:35 AM - 01:40 AM	39.6	45.1	38.8
01:40 AM - 01:45 AM	38.6	47.8	38.8
01:45 AM - 01:50 AM	39.0	46.5	38.0
01:50 AM - 01:55 AM	46.1	63.3	38.6
01:55 AM - 02:00 AM	45.0	62.5	38.7
02:00 AM - 02:05 AM	40.3	51.0	38.7
02:05 AM - 02:10 AM	39.3	53.4	38.4
02:10 AM - 02:15 AM	44.7	56.1	38.9
02:15 AM - 02:20 AM	39.8	42.4	39.0
02:20 AM - 02:25 AM	39.5	44.0	38.6
02:25 AM - 02:30 AM	41.3	52.3	38.7
02:30 AM - 02:35 AM	39.1	47.8	38.4
02:35 AM - 02:40 AM	38.5	42.1	37.8
02:40 AM - 02:45 AM	39.1	56.9	37.6
02:45 AM - 02:50 AM	38.9	59.8	37.5
02:50 AM - 02:55 AM	39.3	47.1	38.4
02:55 AM - 03:00 AM	39.3	56.6	38.1
03:00 AM - 03:05 AM	38.6	42.9	37.9
03:05 AM - 03:10 AM	38.5	41.5	37.6
03:10 AM - 03:15 AM	38.7	45.0	37.5
03:15 AM - 03:20 AM	39.1	41.9	38.2
03:20 AM - 03:25 AM	40.6	54.2	38.1
03:25 AM - 03:30 AM	38.9	56.3	37.7
03:30 AM - 03:35 AM	38.8	41.8	38.0
03:35 AM - 03:40 AM	39.3	44.7	38.4
03:40 AM - 03:45 AM	39.4	44.6	38.4
03:45 AM - 03:50 AM	38.8	42.5	38.2
03:50 AM - 03:55 AM	38.2	40.1	37.5
03:55 AM - 04:00 AM	38.6	46.2	37.5

The above results are valid only for the analyzed/monitored 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. A.S. Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

Approved by

Kanokorn Anek
Senior 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



Analysis / Test Report



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260103
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376498-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 3 of 3

Sample No. 2260103-7
Parameter Noise
Location โรงสีน้ำตาลทรายขาว (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date Jul 03 - 04, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	51.4	70.2	45.1
03:00 PM - 04:00 PM	51.9	75.5	45.5
04:00 PM - 05:00 PM	51.6	81.7	43.2
05:00 PM - 06:00 PM	49.1	67.9	44.4
06:00 PM - 07:00 PM	49.9	70.0	47.3
07:00 PM - 08:00 PM	47.9	71.7	45.1
08:00 PM - 09:00 PM	42.2	62.6	40.4
09:00 PM - 10:00 PM	44.4	66.7	40.4
10:00 PM - 10:05 PM	48.0	51.8	46.2
10:05 PM - 10:10 PM	49.2	52.0	47.9
10:10 PM - 10:15 PM	49.9	53.3	49.0
10:15 PM - 10:20 PM	49.9	51.8	49.3
10:20 PM - 10:25 PM	50.3	52.8	49.6
10:25 PM - 10:30 PM	50.0	53.5	49.2
10:30 PM - 10:35 PM	49.6	52.4	49.3
10:35 PM - 10:40 PM	49.2	51.1	48.2
10:40 PM - 10:45 PM	49.7	51.3	49.1
10:45 PM - 10:50 PM	49.7	52.0	48.9
10:50 PM - 10:55 PM	48.3	51.7	46.9
10:55 PM - 11:00 PM	48.2	51.7	43.0
11:00 PM - 11:05 PM	47.7	52.4	47.0
11:05 PM - 11:10 PM	47.3	49.7	46.6
11:10 PM - 11:15 PM	47.5	52.9	46.5
11:15 PM - 11:20 PM	48.5	54.1	47.7
11:20 PM - 11:25 PM	48.3	52.4	47.5
11:25 PM - 11:30 PM	51.3	61.7	46.4
11:30 PM - 11:35 PM	49.1	51.7	48.0
11:35 PM - 11:40 PM	48.4	52.3	47.3
11:40 PM - 11:45 PM	49.8	57.8	47.9
11:45 PM - 11:50 PM	48.2	52.8	47.6
11:50 PM - 11:55 PM	47.9	51.4	45.7
11:55 PM - 12:00 AM	49.9	55.0	46.7
12:00 AM - 12:05 AM	50.2	54.7	47.0
12:05 AM - 12:10 AM	47.9	55.1	45.7
12:10 AM - 12:15 AM	47.2	49.9	46.5
12:15 AM - 12:20 AM	47.1	49.6	46.1
12:20 AM - 12:25 AM	47.4	55.8	46.5
12:25 AM - 12:30 AM	47.6	49.7	46.5
12:30 AM - 12:35 AM	48.3	50.9	47.5
12:35 AM - 12:40 AM	48.0	51.5	47.2

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

The above results are valid only for the analyzed/monitored 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. A.S. Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

Approved by

Kanokorn Anek
Senior 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



Analysis / Test Report



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260104
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376500-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260104-1
Parameter Noise
Location โรงสีน้ำตาลทรายขาว (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date Jun 27 - 28, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	48.5	69.9	42.6
03:00 PM - 04:00 PM	47.5	66.0	44.0
04:00 PM - 05:00 PM	49.1	69.9	43.9
05:00 PM - 06:00 PM	45.7	69.0	40.8
06:00 PM - 07:00 PM	47.4	65.1	44.3
07:00 PM - 08:00 PM	48.6	62.6	42.9
08:00 PM - 09:00 PM	47.5	75.4	45.1
09:00 PM - 10:00 PM	45.4	62.4	44.1
10:00 PM - 10:05 PM	48.4	55.6	47.6
10:05 PM - 10:10 PM	47.7	51.1	45.5
10:10 PM - 10:15 PM	45.5	51.1	44.6
10:15 PM - 10:20 PM	49.5	59.5	44.9
10:20 PM - 10:25 PM	47.5	58.0	45.9
10:25 PM - 10:30 PM	46.5	50.7	45.0
10:30 PM - 10:35 PM	47.1	70.2	45.6
10:35 PM - 10:40 PM	49.3	68.9	45.9
10:40 PM - 10:45 PM	46.1	47.9	45.3
10:45 PM - 10:50 PM	47.2	53.2	46.4
10:50 PM - 10:55 PM	46.8	74.2	44.7
10:55 PM - 11:00 PM	49.4	74.5	45.7
11:00 PM - 11:05 PM	43.8	55.3	41.5
11:05 PM - 11:10 PM	43.8	53.3	41.8
11:10 PM - 11:15 PM	46.0	55.1	43.4
11:15 PM - 11:20 PM	45.4	54.5	43.9
11:20 PM - 11:25 PM	47.8	65.8	44.7
11:25 PM - 11:30 PM	46.8	74.2	44.7
11:30 PM - 11:35 PM	45.0	48.0	44.4
11:35 PM - 11:40 PM	46.0	59.8	44.5
11:40 PM - 11:45 PM	45.4	47.3	44.9
11:45 PM - 11:50 PM	45.6	47.7	45.2
11:50 PM - 11:55 PM	45.6	50.4	45.1
11:55 PM - 12:00 AM	47.8	72.8	45.1
12:00 AM - 12:05 AM	46.7	62.5	45.8
12:05 AM - 12:10 AM	46.7	62.7	45.6
12:10 AM - 12:15 AM	46.5	52.6	44.6
12:15 AM - 12:20 AM	46.3	55.7	45.2
12:20 AM - 12:25 AM	44.9	51.3	43.6
12:25 AM - 12:30 AM	46.0	55.1	43.4
12:30 AM - 12:35 AM	45.4	54.5	43.9
12:35 AM - 12:40 AM	44.9	51.1	43.6

The above results are valid only for the analyzed/monitored 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. A.S. Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

Approved by

Kanokorn Anek
Senior 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



Analysis / Test Report



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260104
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376500-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260104-1
Parameter Noise
Location ตำบลหนองนาสวน (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date Jun 27 - 28, 2022
Measurement by Sangtawan Natsat
Sound Level Meter 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:40 AM - 12:45 AM	44.3	52.6	43.4
12:45 AM - 12:50 AM	44.7	52.4	43.9
12:50 AM - 12:55 AM	47.9	71.3	44.0
12:55 AM - 01:00 AM	45.3	55.9	44.1
01:00 AM - 01:05 AM	50.3	61.9	44.0
01:05 AM - 01:10 AM	45.9	72.9	43.6
01:10 AM - 01:15 AM	44.4	53.5	43.8
01:15 AM - 01:20 AM	44.4	47.8	43.8
01:20 AM - 01:25 AM	44.7	49.2	44.1
01:25 AM - 01:30 AM	45.3	58.0	43.8
01:30 AM - 01:35 AM	44.9	55.4	43.5
01:35 AM - 01:40 AM	44.3	51.6	43.3
01:40 AM - 01:45 AM	43.4	47.4	43.4
01:45 AM - 01:50 AM	44.6	49.3	43.6
01:50 AM - 01:55 AM	44.7	47.8	42.9
01:55 AM - 02:00 AM	45.2	49.3	43.4
02:00 AM - 02:05 AM	47.1	49.7	45.2
02:05 AM - 02:10 AM	43.8	55.3	41.5
02:10 AM - 02:15 AM	43.8	53.3	41.8
02:15 AM - 02:20 AM	44.4	46.0	43.9
02:20 AM - 02:25 AM	45.4	49.8	44.9
02:25 AM - 02:30 AM	45.5	47.6	44.9
02:30 AM - 02:35 AM	46.0	48.4	45.4
02:35 AM - 02:40 AM	45.8	49.5	45.1
02:40 AM - 02:45 AM	47.0	56.3	45.7
02:45 AM - 02:50 AM	46.3	52.2	45.5
02:50 AM - 02:55 AM	45.0	52.1	43.8
02:55 AM - 03:00 AM	45.1	54.9	43.4
03:00 AM - 03:05 AM	44.6	50.2	43.3
03:05 AM - 03:10 AM	44.2	49.3	43.3
03:10 AM - 03:15 AM	44.8	53.5	43.1
03:15 AM - 03:20 AM	43.3	49.7	41.8
03:20 AM - 03:25 AM	43.6	49.2	42.5
03:25 AM - 03:30 AM	44.4	58.9	42.6
03:30 AM - 03:35 AM	45.5	59.0	42.0
03:35 AM - 03:40 AM	44.9	54.7	41.9
03:40 AM - 03:45 AM	44.5	52.3	41.4
03:45 AM - 03:50 AM	43.2	52.7	41.3
03:50 AM - 03:55 AM	43.8	50.9	41.9
03:55 AM - 04:00 AM	44.8	55.5	41.4

The above results are valid only for the and specified 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

Kanokorn Anek
Kanokorn Anek
Senior Manager

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



Analysis / Test Report



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260104
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376501-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260104-2
Parameter Noise
Location ตำบลหนองนาสวน (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date Jun 28 - 29, 2022
Measurement by Sangtawan Natsat
Sound Level Meter 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 02:05 PM	46.5	64.0	38.4
02:05 PM - 02:10 PM	45.6	64.0	40.0
02:10 PM - 02:15 PM	47.5	72.6	40.8
02:15 PM - 02:20 PM	50.2	75.7	42.2
02:20 PM - 02:25 PM	51.0	70.9	42.2
02:25 PM - 02:30 PM	46.0	57.8	44.5
02:30 PM - 02:35 PM	43.4	53.0	41.9
02:35 PM - 02:40 PM	41.6	52.5	41.5
02:40 PM - 02:45 PM	41.0	46.5	39.5
02:45 PM - 02:50 PM	43.5	52.5	39.9
02:50 PM - 02:55 PM	43.3	57.7	40.0
02:55 PM - 03:00 PM	40.1	54.9	40.6
03:00 PM - 03:05 PM	42.3	46.7	40.8
03:05 PM - 03:10 PM	42.0	47.3	40.1
03:10 PM - 03:15 PM	41.6	46.0	40.3
03:15 PM - 03:20 PM	40.5	44.0	39.7
03:20 PM - 03:25 PM	43.2	56.0	39.8
03:25 PM - 03:30 PM	43.1	53.9	39.9
03:30 PM - 03:35 PM	42.8	50.7	40.4
03:35 PM - 03:40 PM	41.6	51.7	40.7
03:40 PM - 03:45 PM	44.0	54.9	41.3
03:45 PM - 03:50 PM	44.0	54.9	41.5
03:50 PM - 03:55 PM	44.5	55.1	41.4
03:55 PM - 04:00 PM	44.6	54.5	40.8
04:00 PM - 04:05 PM	43.5	56.3	39.7
04:05 PM - 04:10 PM	43.2	54.2	40.0
04:10 PM - 04:15 PM	44.6	55.5	39.9
04:15 PM - 04:20 PM	44.9	54.4	40.1
04:20 PM - 04:25 PM	42.3	54.2	39.9
04:25 PM - 04:30 PM	44.0	56.2	39.4
04:30 PM - 04:35 PM	42.9	46.8	41.9
04:35 PM - 04:40 AM	43.6	55.2	40.0
04:40 AM - 04:45 AM	44.3	54.8	40.6
04:45 AM - 04:50 AM	44.3	54.7	40.2
04:50 AM - 04:55 AM	44.6	55.2	40.2
04:55 AM - 05:00 AM	43.5	56.4	39.9
05:00 AM - 05:05 AM	43.2	53.9	40.1
05:05 AM - 05:10 AM	44.9	55.4	40.8
05:10 AM - 05:15 AM	43.3	54.8	40.6

The above results are valid only for the and specified 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

Kanokorn Anek
Kanokorn Anek
Senior Manager

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



Analysis / Test Report



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260104
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376500-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260104-1
Parameter Noise
Location ตำบลหนองนาสวน (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date Jun 27 - 28, 2022
Measurement by Sangtawan Natsat
Sound Level Meter 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 AM - 04:05 AM	47.9	58.0	41.8
04:05 AM - 04:10 AM	47.4	58.2	42.2
04:10 AM - 04:15 AM	41.3	64.4	32.3
04:15 AM - 04:20 AM	40.4	53.1	32.4
04:20 AM - 04:25 AM	40.3	52.8	36.7
04:25 AM - 04:30 AM	46.6	59.8	40.8
04:30 AM - 04:35 AM	47.7	63.1	42.1
04:35 AM - 04:40 AM	52.4	69.7	43.9
04:40 AM - 04:45 AM	49.7	77.0	41.5
04:45 AM - 04:50 AM	44.7	52.9	40.3
04:50 AM - 04:55 AM	46.7	67.4	40.5
04:55 AM - 05:00 AM	47.4	68.7	38.8
05:00 AM - 05:05 AM	44.8	55.9	39.5
05:05 AM - 05:10 AM	44.2	58.1	38.2
05:10 AM - 05:15 AM	47.0	59.5	39.1
05:15 AM - 05:20 AM	44.9	54.7	41.9
05:20 AM - 05:25 AM	44.3	52.3	41.4
05:25 AM - 05:30 AM	44.3	57.6	38.4
05:30 AM - 05:35 AM	44.3	64.4	37.3
05:35 AM - 05:40 AM	45.8	64.8	38.8
05:40 AM - 05:45 AM	46.7	58.4	38.9
05:45 AM - 05:50 AM	44.8	58.5	41.4
05:50 AM - 05:55 AM	44.3	64.4	37.3
05:55 AM - 06:00 AM	45.8	64.8	38.8
06:00 AM - 07:00 AM	46.4	63.1	42.1
07:00 AM - 08:00 AM	49.8	74.0	42.6
08:00 AM - 09:00 AM	49.5	79.4	43.2
09:00 AM - 10:00 AM	49.9	72.2	41.5
10:00 AM - 11:00 AM	48.7	72.1	43.0
11:00 AM - 12:00 PM	48.5	70.5	42.8
12:00 PM - 01:00 PM	49.1	69.8	44.3
01:00 PM - 02:00 PM	49.5	68.4	43.4

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

The above results are valid only for the and specified 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

Kanokorn Anek
Kanokorn Anek
Senior Manager

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



Analysis / Test Report



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260104
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376501-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260104-2
Parameter Noise
Location ตำบลหนองนาสวน (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date Jun 28 - 29, 2022
Measurement by Sangtawan Natsat
Sound Level Meter 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:40 AM - 12:45 AM	44.3	52.6	43.4
12:45 AM - 12:50 AM	44.7	52.4	43.9
12:50 AM - 12:55 AM	47.9	71.3	44.0
12:55 AM - 01:00 AM	45.3	55.9	44.1
01:00 AM - 01:05 AM	50.3	61.9	44.0
01:05 AM - 01:10 AM	45.9	72.9	43.6
01:10 AM - 01:15 AM	44.4	53.5	43.8
01:15 AM - 01:20 AM	44.4	47.8	43.8
01:20 AM - 01:25 AM	44.7	49.2	44.1
01:25 AM - 01:30 AM	45.3	58.0	43.8
01:30 AM - 01:35 AM	44.9	55.4	43.5
01:35 AM - 01:40 AM	44.3	51.6	43.3
01:40 AM - 01:45 AM	43.4	47.4	43.4
01:45 AM - 01:50 AM	44.6	49.3	43.6
01:50 AM - 01:55 AM	44.7	47.8	42.9
01:55 AM - 02:00 AM	45.2	49.3	43.4
02:00 AM - 02:05 AM	47.1	49.7	45.2
02:05 AM - 02:10 AM	43.8	55.3	41.5
02:10 AM - 02:15 AM	43.8	53.3	41.8
02:15 AM - 02:20 AM	44.4	46.0	43.9
02:20 AM - 02:25 AM	45.4	49.8	44.9
02:25 AM - 02:30 AM	45.5	47.6	44.9
02:30 AM - 02:35 AM	46.0	48.4	45.4
02:35 AM - 02:40 AM	45.8	49.5	45.1
02:40 AM - 02:45 AM	47.0	56.3	45.7
02:45 AM - 02:50 AM	46.3	52.2	45.5
02:50 AM - 02:55 AM	45.0	52.1	43.8
02:55 AM - 03:00 AM	45.1	54.9	43.4
03:00 AM - 03:05 AM	44.6	50.2	43.3
03:05 AM - 03:10 AM	44.2	49.3	43.3
03:10 AM - 03:15 AM	44.8	53.5	43.1
03:15 AM - 03:20 AM	43.3	49.7	41.8
03:20 AM - 03:25 AM	43.6	49.2	42.5
03:25 AM - 03:30 AM	44.4	58.9	42.6
03:30 AM - 03:35 AM	45.5	59.0	42.0
03:35 AM - 03:40 AM	44.9	54.7	41.9
03:40 AM - 03:45 AM	44.5	52.3	41.4
03:45 AM - 03:50 AM	43.2	52.7	41.3
03:50 AM - 03:55 AM	43.8	50.9	41.9
03:55 AM - 04:00 AM	44.8	55.5	41.4

The above results are valid only for the and specified 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

Kanokorn Anek
Kanokorn Anek
Senior Manager

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



Analysis / Test Report



TESTING
No.0009

Client : Kasol Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260104
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376501-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 3 of 3

Sample No. 2260104-2
Parameter Noise
Location ไร่สีบ่อเลี้ยงนกเขา (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date Jun 28 - 29, 2022
Measurement by Sangtawan Natsat
Sound Level Meter 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 AM - 04:05 AM	42.5	46.9	41.4
04:05 AM - 04:10 AM	43.1	47.4	41.8
04:10 AM - 04:15 AM	42.9	46.8	41.4
04:15 AM - 04:20 AM	42.1	46.4	40.9
04:20 AM - 04:25 AM	42.3	46.4	40.9
04:25 AM - 04:30 AM	44.8	52.8	36.3
04:30 AM - 04:35 AM	38.5	44.7	36.1
04:35 AM - 04:40 AM	38.9	44.3	36.8
04:40 AM - 04:45 AM	40.1	45.1	37.7
04:45 AM - 04:50 AM	41.6	45.7	38.0
04:50 AM - 04:55 AM	39.6	45.4	37.9
04:55 AM - 05:00 AM	39.6	46.6	38.4
05:00 AM - 05:05 AM	43.1	57.0	37.4
05:05 AM - 05:10 AM	49.1	68.4	38.1
05:10 AM - 05:15 AM	53.2	67.7	41.5
05:15 AM - 05:20 AM	52.7	68.2	45.8
05:20 AM - 05:25 AM	54.7	66.0	46.6
05:25 AM - 05:30 AM	51.7	64.6	46.3
05:30 AM - 05:35 AM	52.1	64.5	45.8
05:35 AM - 05:40 AM	50.6	61.6	45.1
05:40 AM - 05:45 AM	50.6	61.6	46.5
05:45 AM - 05:50 AM	48.8	61.5	42.5
05:50 AM - 05:55 AM	51.0	63.5	45.3
05:55 AM - 06:00 AM	57.0	68.3	44.4
06:00 AM - 07:00 AM	53.2	68.2	44.7
07:00 AM - 08:00 AM	48.2	69.2	41.7
08:00 AM - 09:00 AM	48.4	65.7	41.0
09:00 AM - 10:00 AM	48.6	68.0	40.7
10:00 AM - 11:00 AM	48.4	68.2	41.2
11:00 AM - 12:00 PM	47.9	71.2	41.3
12:00 PM - 01:00 PM	49.5	73.2	41.0
01:00 PM - 02:00 PM	47.4	66.9	39.5

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

The above results are valid only for the end user (client) 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

Kanokorn Anek
Senior Manager

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



Analysis / Test Report



TESTING
No.0009

Client : Kasol Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260104
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376502-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260104-3
Parameter Noise
Location ไร่สีบ่อเลี้ยงนกเขา (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date Jun 29 - 30, 2022
Measurement by Sangtawan Natsat
Sound Level Meter 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:40 AM - 12:45 AM	41.5	54.5	40.2
12:45 AM - 12:50 AM	40.7	45.0	39.3
12:50 AM - 12:55 AM	39.7	44.5	38.6
12:55 AM - 01:00 AM	40.0	44.3	38.9
01:00 AM - 01:05 AM	42.3	52.6	41.3
01:05 AM - 01:10 AM	41.8	48.0	40.1
01:10 AM - 01:15 AM	41.6	50.3	38.5
01:15 AM - 01:20 AM	41.7	56.9	40.9
01:20 AM - 01:25 AM	41.8	62.4	40.6
01:25 AM - 01:30 AM	42.0	47.1	41.2
01:30 AM - 01:35 AM	42.4	45.1	41.6
01:35 AM - 01:40 AM	42.3	46.5	41.7
01:40 AM - 01:45 AM	42.3	47.3	41.7
01:45 AM - 01:50 AM	41.8	44.7	41.2
01:50 AM - 01:55 AM	41.8	45.3	41.0
01:55 AM - 02:00 AM	41.3	51.0	39.9
02:00 AM - 02:05 AM	40.0	51.0	37.4
02:05 AM - 02:10 AM	40.1	54.2	36.7
02:10 AM - 02:15 AM	38.5	44.2	36.4
02:15 AM - 02:20 AM	40.7	50.6	37.8
02:20 AM - 02:25 AM	41.8	56.2	36.6
02:25 AM - 02:30 AM	38.7	51.1	36.5
02:30 AM - 02:35 AM	41.6	61.3	35.7
02:35 AM - 02:40 AM	40.9	44.4	39.0
02:40 AM - 02:45 AM	41.5	47.0	40.2
02:45 AM - 02:50 AM	41.4	48.9	40.4
02:50 AM - 02:55 AM	41.5	54.5	40.2
02:55 AM - 03:00 AM	40.7	45.0	39.3
03:00 AM - 03:05 AM	40.3	43.8	39.4
03:05 AM - 03:10 AM	40.1	43.3	40.3
03:10 AM - 03:15 AM	39.8	48.8	39.0
03:15 AM - 03:20 AM	40.1	50.4	39.1
03:20 AM - 03:25 AM	41.1	54.9	38.9
03:25 AM - 03:30 AM	42.0	54.2	38.8
03:30 AM - 03:35 AM	39.0	43.3	37.7
03:35 AM - 03:40 AM	40.5	51.6	37.5
03:40 AM - 03:45 AM	40.9	44.4	39.9
03:45 AM - 03:50 AM	41.5	47.0	40.2
03:50 AM - 03:55 AM	40.0	46.4	38.8
03:55 AM - 04:00 AM	41.9	54.2	38.9

The above results are valid only for the end user (client) 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

Kanokorn Anek
Senior Manager

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



Analysis / Test Report



TESTING
No.0009

Client : Kasol Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260104
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376502-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260104-3
Parameter Noise
Location ไร่สีบ่อเลี้ยงนกเขา (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date Jun 29 - 30, 2022
Measurement by Sangtawan Natsat
Sound Level Meter 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 02:05 PM	45.4	63.6	38.3
02:05 PM - 02:10 PM	47.3	82.1	40.0
02:10 PM - 02:15 PM	48.1	70.8	40.6
02:15 PM - 02:20 PM	48.5	66.2	42.8
02:20 PM - 02:25 PM	52.9	69.1	43.8
02:25 PM - 02:30 PM	47.8	69.7	41.5
02:30 PM - 02:35 PM	46.4	68.6	41.5
02:35 PM - 02:40 PM	44.5	68.7	40.1
02:40 PM - 02:45 PM	43.5	54.1	41.9
02:45 PM - 02:50 PM	44.9	54.4	42.2
02:50 PM - 02:55 PM	44.6	53.3	42.4
02:55 PM - 03:00 PM	46.9	57.4	42.8
03:00 PM - 03:05 PM	49.7	65.3	43.1
03:05 PM - 03:10 PM	44.2	52.9	42.0
03:10 PM - 03:15 PM	44.0	53.2	41.9
03:15 PM - 03:20 PM	44.2	57.2	42.1
03:20 PM - 03:25 PM	44.3	61.9	42.2
03:25 PM - 03:30 PM	43.7	55.2	41.8
03:30 PM - 03:35 PM	45.2	53.5	41.9
03:35 PM - 03:40 PM	47.6	62.9	45.1
03:40 PM - 03:45 PM	39.6	44.7	38.8
03:45 PM - 03:50 PM	40.0	42.7	39.4
03:50 PM - 03:55 PM	41.2	53.2	38.9
03:55 PM - 04:00 PM	42.4	53.8	39.5
04:00 PM - 04:05 PM	39.0	50.4	36.1
04:05 PM - 04:10 PM	40.2	51.6	37.3
04:10 PM - 04:15 PM	41.4	52.8	38.5
04:15 PM - 04:20 PM	40.0	44.3	38.3
04:20 PM - 04:25 PM	40.1	42.7	39.5
04:25 PM - 04:30 PM	46.3	60.3	38.9
04:30 PM - 04:35 PM	39.3	42.4	38.5
04:35 PM - 04:40 PM	39.4	59.3	37.4
04:40 PM - 04:45 AM	41.2	53.2	38.9
04:45 AM - 04:50 AM	42.4	53.8	39.5
04:50 AM - 04:55 AM	39.0	50.4	36.1
04:55 AM - 05:00 AM	40.2	51.6	37.3
05:00 AM - 05:05 AM	41.4	52.8	38.5
05:05 AM - 05:10 AM	40.9	44.4	39.9
05:10 AM - 05:15 AM	41.5	47.0	40.2
05:15 AM - 05:20 AM	41.4	48.9	40.4

The above results are valid only for the end user (client) 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

Kanokorn Anek
Senior Manager

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



Analysis / Test Report



TESTING
No.0009

Client : Kasol Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260104
Date Received :Jul 06, 2022
Date Reported :Jul 15, 2022
Report No. : 2376502-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 3 of 3

Sample No. 2260104-3
Parameter Noise
Location ไร่สีบ่อเลี้ยงนกเขา (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date Jun 29 - 30, 2022
Measurement by Sangtawan Natsat
Sound Level Meter 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 AM - 04:05 AM	39.3	42.4	38.5
04:05 AM - 04:10 AM	39.4	59.3	37.4
04:10 AM - 04:15 AM	39.0	48.4	37.6
04:15 AM - 04:20 AM	38.0	42.4	36.9
04:20 AM - 04:25 AM	41.3	51.0	37.4
04:25 AM - 04:30 AM	40.1	54.2	36.7
04:30 AM - 04:35 AM	38.5	44.2	36.4
04:35 AM - 04:40 AM	40.7	50.6	37.8
04:40 AM - 04:45 AM	41.8	56.2	36.6
04:45 AM - 04:50 AM	38.7	51.1	36.5
04:50 AM - 04:55 AM	41.6	61.3	35.7
04:55 AM - 05:00 AM	42.5	56.2	36.2
05:00 AM - 05:05 AM	43.1	58.9	38.8
05:05 AM - 05:10 AM	47.3	62.4	38.3
05:10 AM - 05:15 AM	50.8	68.4	39.4
05:15 AM - 05:20 AM	55.2	87.2	42.4
05:20 AM - 05:25 AM	52.3	65.0	45.7
05:25 AM - 05:30 AM	51.4	83.1	45.7
05:30 AM - 05:35 AM	50.8	61.8	45.9
05:35 AM - 05:40 AM	51.0	64.5	45.4
05:40 AM - 05:45 AM	50.7	61.5	45.6
05:45 AM - 05:50 AM	49.0	64.6	42.5
05:50 AM - 05:55 AM	51.9	66.1	43.9
05:55 AM - 06:00 AM	50.7	62.0	45.5
06:00 AM - 07:00 AM	49.5	72.5	43.1
07:00 AM - 08:00 AM	49.6	70.3	42.5
08:00 AM - 09:00 AM	48.5	65.5	41.2
09:00 AM - 10:00 AM	47.0	64.9	40.6
10:00 AM - 11:00 AM	46.4	71.8	41.3
11:00 AM - 12:00 PM	46.7	70.4	38.7
12:00 PM - 01:00 PM	45.8	67.6	39.1
01:00 PM - 02:00 PM	46.4	65.3	40.0

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

The above results are valid only for the end user (client) 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

Kanokorn Anek
Senior Manager

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



Analysis / Test Report



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260104
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report No.: 2376503-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. : 2260104-4
Parameter : Noise
Location : โรงสีน้ำตาลทราย (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date : Jun 30 - Jul 01, 2022
Measurement by : Sangtawan Natasat
Sound Level Meter : 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	47.8	61.8	43.8
03:00 PM - 04:00 PM	46.0	61.4	44.2
04:00 PM - 05:00 PM	47.6	60.2	46.1
05:00 PM - 06:00 PM	46.4	77.0	43.5
06:00 PM - 07:00 PM	44.8	63.2	43.4
07:00 PM - 08:00 PM	44.7	68.1	42.8
08:00 PM - 09:00 PM	45.5	69.6	42.4
09:00 PM - 10:00 PM	48.3	69.5	46.3
10:00 PM - 10:05 PM	46.6	66.5	40.0
10:05 PM - 10:10 PM	42.3	51.2	35.4
10:10 PM - 10:15 PM	50.2	69.3	39.7
10:15 PM - 10:20 PM	42.4	65.4	38.7
10:20 PM - 10:25 PM	46.4	66.4	39.6
10:25 PM - 10:30 PM	46.4	68.9	40.5
10:30 PM - 10:35 PM	51.7	80.5	39.5
10:35 PM - 10:40 PM	42.4	68.8	39.5
10:40 PM - 10:45 PM	43.4	60.8	40.4
10:45 PM - 10:50 PM	42.0	50.2	39.9
10:50 PM - 10:55 PM	42.0	48.1	39.9
10:55 PM - 11:00 PM	42.3	61.9	39.9
11:00 PM - 11:05 PM	43.4	55.4	40.4
11:05 PM - 11:10 PM	41.6	48.6	40.0
11:10 PM - 11:15 PM	43.0	55.8	40.4
11:15 PM - 11:20 PM	42.8	57.5	40.5
11:20 PM - 11:25 PM	43.8	61.9	40.5
11:25 PM - 11:30 PM	43.8	56.7	41.1
11:30 PM - 11:35 PM	44.9	54.7	41.4
11:35 PM - 11:40 PM	44.6	53.8	40.3
11:40 PM - 11:45 PM	44.2	55.9	40.7
11:45 PM - 11:50 PM	44.4	56.6	41.5
11:50 PM - 11:55 PM	44.3	52.4	39.7
11:55 PM - 12:00 AM	43.8	53.2	39.8
12:00 AM - 12:05 AM	45.0	56.1	40.1
12:05 AM - 12:10 AM	42.8	56.8	38.9
12:10 AM - 12:15 AM	42.0	57.6	38.6
12:15 AM - 12:20 AM	44.1	56.0	39.6
12:20 AM - 12:25 AM	43.3	56.8	39.1
12:25 AM - 12:30 AM	43.7	54.2	39.1
12:30 AM - 12:35 AM	41.7	50.0	38.8
12:35 AM - 12:40 AM	41.9	55.5	39.1

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

Kanokorn Anek
Senior Manager

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



Analysis / Test Report



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260104
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report No.: 2376503-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 3 of 3

Sample No. : 2260104-4
Parameter : Noise
Location : โรงสีน้ำตาลทราย (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date : Jun 30 - Jul 01, 2022
Measurement by : Sangtawan Natasat
Sound Level Meter : 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 AM - 04:05 AM	44.7	51.7	43.3
04:05 AM - 04:10 AM	44.7	59.4	43.1
04:10 AM - 04:15 AM	44.5	58.9	42.9
04:15 AM - 04:20 AM	44.2	53.0	40.3
04:20 AM - 04:25 AM	44.4	61.4	42.8
04:25 AM - 04:30 AM	43.9	57.8	41.8
04:30 AM - 04:35 AM	43.6	48.5	42.1
04:35 AM - 04:40 AM	42.8	50.1	41.3
04:40 AM - 04:45 AM	43.4	57.2	41.7
04:45 AM - 04:50 AM	43.6	51.0	42.2
04:50 AM - 04:55 AM	43.5	55.1	42.0
04:55 AM - 05:00 AM	43.3	47.7	42.1
05:00 AM - 05:05 AM	42.7	45.6	41.6
05:05 AM - 05:10 AM	42.4	44.9	41.4
05:10 AM - 05:15 AM	43.0	51.2	43.9
05:15 AM - 05:20 AM	42.9	45.7	41.7
05:20 AM - 05:25 AM	43.0	45.4	42.0
05:25 AM - 05:30 AM	43.0	56.1	41.6
05:30 AM - 05:35 AM	42.9	56.2	41.2
05:35 AM - 05:40 AM	43.3	49.1	42.1
05:40 AM - 05:45 AM	43.2	50.3	41.9
05:45 AM - 05:50 AM	42.4	46.3	41.4
05:50 AM - 05:55 AM	43.5	46.6	41.8
05:55 AM - 06:00 AM	44.3	47.7	42.6
06:00 AM - 07:00 AM	43.5	57.2	42.0
07:00 AM - 08:00 AM	48.9	57.7	47.6
08:00 AM - 09:00 AM	47.7	52.9	46.8
09:00 AM - 10:00 AM	46.3	71.7	45.0
10:00 AM - 11:00 AM	46.8	66.9	45.1
11:00 AM - 12:00 PM	45.3	61.4	44.2
12:00 PM - 01:00 PM	45.7	59.3	44.5
01:00 PM - 02:00 PM	47.8	69.2	41.3

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

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

Kanokorn Anek
Senior Manager

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



Analysis / Test Report



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260104
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report No.: 2376503-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. : 2260104-4
Parameter : Noise
Location : โรงสีน้ำตาลทราย (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date : Jun 30 - Jul 01, 2022
Measurement by : Sangtawan Natasat
Sound Level Meter : 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:40 AM - 12:45 AM	43.4	63.9	37.0
12:45 AM - 12:50 AM	44.5	61.5	39.1
12:50 AM - 12:55 AM	44.4	65.3	38.9
12:55 AM - 01:00 AM	42.5	67.0	37.1
01:00 AM - 01:05 AM	43.4	63.9	37.4
01:05 AM - 01:10 AM	40.9	61.4	36.1
01:10 AM - 01:15 AM	43.9	60.5	36.2
01:15 AM - 01:20 AM	42.6	58.2	38.6
01:20 AM - 01:25 AM	43.6	48.5	42.1
01:25 AM - 01:30 AM	42.8	50.1	41.3
01:30 AM - 01:35 AM	43.4	57.2	41.7
01:35 AM - 01:40 AM	43.6	48.5	42.1
01:40 AM - 01:45 AM	43.9	50.1	41.3
01:45 AM - 01:50 AM	43.4	57.2	41.7
01:50 AM - 01:55 AM	43.7	60.3	37.7
01:55 AM - 02:00 AM	43.6	58.2	38.3
02:00 AM - 02:05 AM	43.7	58.1	37.7
02:05 AM - 02:10 AM	44.2	58.6	38.5
02:10 AM - 02:15 AM	43.5	65.5	36.2
02:15 AM - 02:20 AM	43.9	46.6	43.0
02:20 AM - 02:25 AM	44.4	47.7	43.0
02:25 AM - 02:30 AM	43.5	47.3	42.4
02:30 AM - 02:35 AM	43.1	45.9	42.1
02:35 AM - 02:40 AM	42.5	61.6	37.0
02:40 AM - 02:45 AM	44.5	62.0	36.7
02:45 AM - 02:50 AM	43.8	69.2	37.3
02:50 AM - 02:55 AM	45.0	63.0	36.7
02:55 AM - 03:00 AM	45.0	49.0	44.1
03:00 AM - 03:05 AM	44.9	48.9	43.8
03:05 AM - 03:10 AM	44.9	56.7	43.2
03:10 AM - 03:15 AM	43.9	47.2	42.8
03:15 AM - 03:20 AM	44.3	55.4	42.9
03:20 AM - 03:25 AM	43.9	46.6	43.0
03:25 AM - 03:30 AM	44.4	47.7	42.9
03:30 AM - 03:35 AM	43.5	47.3	42.4
03:35 AM - 03:40 AM	43.1	45.9	42.1
03:40 AM - 03:45 AM	43.4	45.9	42.5
03:45 AM - 03:50 AM	49.3	47.9	43.1
03:50 AM - 03:55 AM	44.4	61.4	42.8
03:55 AM - 04:00 AM	44.6	54.0	43.3

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

Kanokorn Anek
Senior Manager

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



Analysis / Test Report



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260104
Date Received: Jul 06, 2022
Date Reported: Jul 15, 2022
Report No.: 2376503-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. : 2260104-5
Parameter : Noise
Location : โรงสีน้ำตาลทราย (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date : Jul 01 - 02, 2022
Measurement by : Sangtawan Natasat
Sound Level Meter : 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	48.2	75.3	39.2
03:00 PM - 04:00 PM	48.0	65.9	45.1
04:00 PM - 05:00 PM	46.6	58.2	44.3
05:00 PM - 06:00 PM	45.8	67.0	42.6
06:00 PM - 07:00 PM	46.1	61.4	45.1
07:00 PM - 08:00 PM	47.2	73.9	39.9
08:00 PM - 09:00 PM	45.0	73.9	39.2
09:00 PM - 10:00 PM	45.5	69.6	41.3
10:00 PM - 10:05 PM	46.2	49.3	41.9
10:05 PM - 10:10 PM	44.3	48.3	42.5
10:10 PM - 10:15 PM	46.4	69.6	32.2
10:15 PM - 10:20 PM	44.1	63.9	32.6
10:20 PM - 10:25 PM	44.3	48.2	42.5
10:25 PM - 10:30 PM	43.3	60.4	31.4
10:30 PM - 10:35 PM	44.1	63.9	32.6
10:35 PM - 10:40 PM	48.2	68.8	31.7
10:40 PM - 10:45 PM	44.8	52.4	41.5
10:45 PM - 10:50 PM	44.5	54.2	40.9
10:50 PM - 10:55 PM	44.0	55.9	38.5
10:55 PM - 11:00 PM	44.4	49.4	34.4
11:00 PM - 11:05 PM	44.3	48.2	42.5
11:05 PM - 11:10 PM	45.7	48.3	44.6
11:10 PM - 11:15 PM	41.4	55.4	33.6
11:15 PM - 11:20 PM	48.2	68.8	31.7
11:20 PM - 11:25 PM	61.8	63.1	33.3
11:25 PM - 11:30 PM	44.7	63.2	32.4
11:30 PM - 11:35 PM	44.5	55.1	41.4
11:35 PM - 11:40 PM	46.0	61.4	44.6
11:40 PM - 11:45 PM	45.7	48.3	44.6
11:45 PM - 11:50 PM	45.8	56.8	44.5
11:50 PM - 11:55 PM	44.8	52.4	44.5
11:55 PM - 12:00 AM	44.5	54.2	40.9
12:00 AM - 12:05 AM	44.5	62.8	30.8
12:05 AM - 12:10 AM	44.1	63.9	32.6
12:10 AM - 12:15 AM	44.3	48.2	42.5
12:15 AM - 12:20 AM	43.8	39.2	39.3
12:20 AM - 12:25 AM	44.9	57.5	39.9
12:25 AM - 12:30 AM	45.7	48.3	44.6
12:30 AM - 12:35 AM	45.2	59.4	32.6
12:35 AM - 12:40 AM	46.4	69.6	32.2

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

Kanokorn Anek
Senior Manager

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



Analysis / Test Report

TESTING
No.0009Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370Lot ID: 2260104
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376504-1P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260104-5
Parameter Noise
Location ไร่สีบ่อน้อยคลองกรวย (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date Jul 01 - 02, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:40 AM - 12:45 AM	44.3	48.2	42.5
12:45 AM - 12:50 AM	44.3	48.5	42.7
12:50 AM - 12:55 AM	44.2	48.8	42.2
12:55 AM - 01:00 AM	44.0	50.7	42.0
01:00 AM - 01:05 AM	51.8	69.5	33.6
01:05 AM - 01:10 AM	45.2	59.4	32.6
01:10 AM - 01:15 AM	46.4	69.8	32.2
01:15 AM - 01:20 AM	46.0	61.4	44.6
01:20 AM - 01:25 AM	45.7	48.3	44.6
01:25 AM - 01:30 AM	45.5	58.9	44.5
01:30 AM - 01:35 AM	44.5	54.2	40.9
01:35 AM - 01:40 AM	44.9	62.8	30.8
01:40 AM - 01:45 AM	49.0	64.9	32.8
01:45 AM - 01:50 AM	46.5	62.7	31.9
01:50 AM - 01:55 AM	46.1	69.1	32.3
01:55 AM - 02:00 AM	44.9	62.8	30.8
02:00 AM - 02:05 AM	48.5	52.0	42.1
02:05 AM - 02:10 AM	49.4	52.3	44.0
02:10 AM - 02:15 AM	49.9	52.3	44.8
02:15 AM - 02:20 AM	50.4	62.4	44.6
02:20 AM - 02:25 AM	48.9	51.7	44.2
02:25 AM - 02:30 AM	48.3	62.1	45.3
02:30 AM - 02:35 AM	46.8	50.0	45.2
02:35 AM - 02:40 AM	45.9	51.3	44.2
02:40 AM - 02:45 AM	45.6	55.7	43.9
02:45 AM - 02:50 AM	45.9	49.8	42.4
02:50 AM - 02:55 AM	46.5	59.5	42.7
02:55 AM - 03:00 AM	45.4	52.9	43.2
03:00 AM - 03:05 AM	44.0	54.9	41.3
03:05 AM - 03:10 AM	44.0	54.9	41.5
03:10 AM - 03:15 AM	44.3	55.1	41.4
03:15 AM - 03:20 AM	44.6	54.5	40.4
03:20 AM - 03:25 AM	43.5	56.3	39.7
03:25 AM - 03:30 AM	46.4	69.4	32.2
03:30 AM - 03:35 AM	44.6	55.5	39.9
03:35 AM - 03:40 AM	44.8	54.4	40.1
03:40 AM - 03:45 AM	44.9	62.8	30.8
03:45 AM - 03:50 AM	44.0	66.2	39.9
03:50 AM - 03:55 AM	46.4	69.6	32.2
03:55 AM - 04:00 AM	43.6	55.2	40.0

The above results are valid only for the analyzed (shut down) 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

Kanokorn Anek
Senior ManagerADDRESS 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.0009Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370Lot ID: 2260104
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376505-1P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. 2260104-6
Parameter Noise
Location ไร่สีบ่อน้อยคลองกรวย (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date Jul 02 - 03, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	44.7	68.1	42.8
03:00 PM - 04:00 PM	48.3	68.1	43.4
04:00 PM - 05:00 PM	47.9	62.4	44.0
05:00 PM - 06:00 PM	45.0	69.6	35.0
06:00 PM - 07:00 PM	48.9	63.9	46.6
07:00 PM - 08:00 PM	48.2	61.6	46.5
08:00 PM - 09:00 PM	46.5	66.4	39.5
09:00 PM - 10:00 PM	47.4	66.9	40.6
10:00 PM - 10:05 PM	47.3	66.4	41.2
10:05 PM - 10:10 PM	48.2	65.8	40.8
10:10 PM - 10:15 PM	50.0	64.4	40.4
10:15 PM - 10:20 PM	44.3	60.6	39.0
10:20 PM - 10:25 PM	47.2	62.4	40.4
10:25 PM - 10:30 PM	45.3	58.1	37.8
10:30 PM - 10:35 PM	48.2	65.9	41.1
10:35 PM - 10:40 PM	45.8	58.6	40.3
10:40 PM - 10:45 PM	47.5	64.1	38.7
10:45 PM - 10:50 PM	45.9	57.1	43.8
10:50 PM - 10:55 PM	46.1	61.6	38.3
10:55 PM - 11:00 PM	46.3	61.1	40.9
11:00 PM - 11:05 PM	46.3	63.8	40.3
11:05 PM - 11:10 PM	46.1	56.0	40.3
11:10 PM - 11:15 PM	46.1	61.2	40.1
11:15 PM - 11:20 PM	43.8	57.4	38.7
11:20 PM - 11:25 PM	45.0	57.8	41.4
11:25 PM - 11:30 PM	48.4	62.7	41.4
11:30 PM - 11:35 PM	46.2	62.5	38.7
11:35 PM - 11:40 PM	45.3	58.1	37.8
11:40 PM - 11:45 PM	46.0	61.5	39.3
11:45 PM - 11:50 PM	44.0	60.3	38.4
11:50 PM - 11:55 PM	45.1	58.4	39.2
11:55 PM - 12:00 AM	46.4	59.9	39.5
12:00 AM - 12:05 AM	49.8	52.9	48.4
12:05 AM - 12:10 AM	49.1	52.9	47.5
12:10 AM - 12:15 AM	49.2	52.7	47.7
12:15 AM - 12:20 AM	48.9	52.8	47.5
12:20 AM - 12:25 AM	48.0	52.4	46.8
12:25 AM - 12:30 AM	49.0	57.7	48.2
12:30 AM - 12:35 AM	49.2	57.4	48.2
12:35 AM - 12:40 AM	50.1	52.5	49.1

The above results are valid only for the analyzed (shut down) 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

Kanokorn Anek
Senior ManagerADDRESS 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.0009Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370Lot ID: 2260104
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376504-1P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260104-5
Parameter Noise
Location ไร่สีบ่อน้อยคลองกรวย (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date Jul 01 - 02, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 AM - 04:05 AM	44.3	54.8	40.6
04:05 AM - 04:10 AM	44.3	54.7	40.7
04:10 AM - 04:15 AM	44.3	55.2	40.2
04:15 AM - 04:20 AM	46.0	61.4	44.6
04:20 AM - 04:25 AM	45.7	48.3	44.6
04:25 AM - 04:30 AM	45.8	56.8	44.5
04:30 AM - 04:35 AM	45.2	59.4	32.6
04:35 AM - 04:40 AM	46.4	69.6	32.2
04:40 AM - 04:45 AM	46.0	61.4	44.6
04:45 AM - 04:50 AM	45.7	48.3	44.6
04:50 AM - 04:55 AM	45.8	56.8	44.5
04:55 AM - 05:00 AM	44.5	54.2	40.9
05:00 AM - 05:05 AM	45.7	48.3	44.6
05:05 AM - 05:10 AM	46.9	50.3	45.3
05:10 AM - 05:15 AM	46.4	51.8	44.9
05:15 AM - 05:20 AM	44.1	63.9	32.6
05:20 AM - 05:25 AM	44.3	48.2	42.5
05:25 AM - 05:30 AM	44.9	62.8	30.8
05:30 AM - 05:35 AM	44.3	47.9	43.4
05:35 AM - 05:40 AM	44.4	47.8	43.6
05:40 AM - 05:45 AM	44.9	47.4	43.9
05:45 AM - 05:50 AM	44.2	48.3	41.9
05:50 AM - 05:55 AM	45.7	48.3	44.6
05:55 AM - 06:00 AM	45.2	59.4	32.6
06:00 AM - 07:00 AM	45.1	69.6	41.9
07:00 AM - 08:00 AM	45.3	63.9	42.3
08:00 AM - 09:00 AM	46.0	62.8	44.3
09:00 AM - 10:00 AM	47.8	61.8	45.8
10:00 AM - 11:00 AM	46.0	61.4	44.2
11:00 AM - 12:00 PM	47.6	60.2	46.2
12:00 PM - 01:00 PM	46.4	77.0	43.1
01:00 PM - 02:00 PM	45.0	63.2	43.3

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

Approved by

Kanokorn Anek
Senior ManagerADDRESS 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.0009Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370Lot ID: 2260104
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376505-1P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 3

Sample No. 2260104-6
Parameter Noise
Location ไร่สีบ่อน้อยคลองกรวย (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date Jul 02 - 03, 2022
Measurement by Sangtawan Natasat
Sound Level Meter 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:40 AM - 12:45 AM	46.7	56.9	46.6
12:45 AM - 12:50 AM	49.2	56.3	48.3
12:50 AM - 12:55 AM	49.2	51.0	46.0
12:55 AM - 01:00 AM	48.3	52.0	45.4
01:00 AM - 01:05 AM	44.3	37.5	42.2
01:05 AM - 01:10 AM	46.6	52.1	48.4
01:10 AM - 01:15 AM	49.1	54.8	48.3
01:15 AM - 01:20 AM	49.1	51.7	48.4
01:20 AM - 01:25 AM	46.4	50.8	47.2
01:25 AM - 01:30 AM	46.5	50.8	47.6
01:30 AM - 01:35 AM	46.4	51.7	47.1
01:35 AM - 01:40 AM	48.4	51.1	47.4
01:40 AM - 01:45 AM	48.5	51.0	47.2
01:45 AM - 01:50 AM	46.6	52.1	47.6
01:50 AM - 01:55 AM	46.8	55.2	47.0
01:55 AM - 02:00 AM	47.7	51.3	46.6
02:00 AM - 02:05 AM	47.7	49.6	46.6
02:05 AM - 02:10 AM	46.8	52.0	47.8
02:10 AM - 02:15 AM	47.2	51.4	44.2
02:15 AM - 02:20 AM	48.6	51.2	47.6
02:20 AM - 02:25 AM	48.3	51.2	47.3
02:25 AM - 02:30 AM	46.0	50.7	46.9
02:30 AM - 02:35 AM	48.6	52.0	47.6
02:35 AM - 02:40 AM	48.7	54.1	47.5
02:40 AM - 02:45 AM	46.0	53.7	47.8
02:45 AM - 02:50 AM	47.9	50.5	46.9
02:50 AM - 02:55 AM	44.0	52.9	43.4
02:55 AM - 03:00 AM	43.8	47.1	43.2
03:00 AM - 03:05 AM	44.2	46.0	43.6
03:05 AM - 03:10 AM	45.9	37.1	43.8
03:10 AM - 03:15 AM	46.1	58.5	43.8
03:15 AM - 03:20 AM	44.3	48.7	43.2
03:20 AM - 03:25 AM	47.1	74.1	43.7
03:25 AM - 03:30 AM	51.8	43.7	43.7
03:30 AM - 03:35 AM	44.0	52.9	43.4
03:35 AM - 03:40 AM	49.7	56.9	48.6
03:40 AM - 03:45 AM	50.6	71.9	43.1
03:45 AM - 03:50 AM	45.3	58.1	37.8
03:50 AM - 03:55 AM	45.6	58.0	43.7
03:55 AM - 04:00 AM	45.2	58.7	43.0

The above results are valid only for the analyzed (shut down) 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

Kanokorn Anek
Senior ManagerADDRESS 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 : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260104
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376505-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 2

Sample No. : 2260104-6
Parameter : Noise
Location : แหล่งเสียงจากทางด่วน (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date : Jul 02 - 03, 2022
Measurement by : Sangtawan Nalasat
Sound Level Meter : 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 AM - 04:05 AM	45.5	69.2	42.5
04:05 AM - 04:10 AM	45.8	54.8	42.4
04:10 AM - 04:15 AM	44.3	42.2	41.2
04:15 AM - 04:20 AM	49.8	52.9	48.4
04:20 AM - 04:25 AM	49.1	52.9	47.5
04:25 AM - 04:30 AM	49.2	52.7	47.5
04:30 AM - 04:35 AM	48.9	52.8	47.5
04:35 AM - 04:40 AM	48.0	52.4	46.8
04:40 AM - 04:45 AM	49.0	57.7	47.7
04:45 AM - 04:50 AM	49.2	57.4	48.2
04:50 AM - 04:55 AM	48.9	52.8	47.5
04:55 AM - 05:00 AM	48.0	52.4	46.8
05:00 AM - 05:05 AM	49.3	56.9	42.5
05:05 AM - 05:10 AM	49.9	64.8	41.9
05:10 AM - 05:15 AM	47.8	64.3	40.4
05:15 AM - 05:20 AM	48.3	63.7	41.5
05:20 AM - 05:25 AM	45.3	62.3	39.0
05:25 AM - 05:30 AM	45.3	58.1	37.8
05:30 AM - 05:35 AM	48.8	63.8	39.2
05:35 AM - 05:40 AM	51.7	72.2	39.9
05:40 AM - 05:45 AM	43.4	61.5	40.1
05:45 AM - 05:50 AM	45.2	58.4	41.2
05:50 AM - 05:55 AM	47.5	69.7	41.4
05:55 AM - 06:00 AM	48.8	67.6	38.5
06:00 AM - 07:00 AM	48.9	70.2	46.9
07:00 AM - 08:00 AM	47.7	52.9	46.8
08:00 AM - 09:00 AM	46.3	71.7	45.0
09:00 AM - 10:00 AM	46.8	66.9	45.1
10:00 AM - 11:00 AM	46.5	68.1	45.0
11:00 AM - 12:00 PM	47.9	62.4	44.0
12:00 PM - 01:00 PM	47.9	68.1	43.1
01:00 PM - 02:00 PM	47.7	54.1	46.6

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

The above results are valid only for the analyzed 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

Kanokkom Anek
Senior 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



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260104
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376506-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 2 of 2

Sample No. : 2260104-7
Parameter : Noise
Location : แหล่งเสียงจากทางด่วน (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date : Jul 03 - 04, 2022
Measurement by : Sangtawan Nalasat
Sound Level Meter : 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
12:40 AM - 12:45 AM	47.7	50.5	46.9
12:45 AM - 12:50 AM	46.1	50.9	46.9
12:50 AM - 12:55 AM	48.8	52.7	47.6
12:55 AM - 01:00 AM	39.2	44.8	38.0
01:00 AM - 01:05 AM	39.2	42.4	38.0
01:05 AM - 01:10 AM	41.3	46.9	40.0
01:10 AM - 01:15 AM	39.4	44.1	38.6
01:15 AM - 01:20 AM	39.2	42.1	38.5
01:20 AM - 01:25 AM	39.0	45.1	38.0
01:25 AM - 01:30 AM	39.2	45.2	38.2
01:30 AM - 01:35 AM	39.2	42.9	38.5
01:35 AM - 01:40 AM	39.6	45.1	37.1
01:40 AM - 01:45 AM	39.6	47.8	38.8
01:45 AM - 01:50 AM	39.0	44.5	38.0
01:50 AM - 01:55 AM	46.1	63.3	38.6
01:55 AM - 02:00 AM	45.0	62.5	38.7
02:00 AM - 02:05 AM	40.3	51.0	38.7
02:05 AM - 02:10 AM	39.3	53.4	38.4
02:10 AM - 02:15 AM	44.7	56.1	38.9
02:15 AM - 02:20 AM	39.8	42.4	39.0
02:20 AM - 02:25 AM	39.5	44.0	38.6
02:25 AM - 02:30 AM	41.3	52.3	38.7
02:30 AM - 02:35 AM	39.1	47.8	38.4
02:35 AM - 02:40 AM	38.5	42.1	37.8
02:40 AM - 02:45 AM	39.1	56.9	37.6
02:45 AM - 02:50 AM	39.9	59.8	37.5
02:50 AM - 02:55 AM	39.3	47.1	38.4
02:55 AM - 03:00 AM	39.3	56.6	38.1
03:00 AM - 03:05 AM	38.6	42.9	37.9
03:05 AM - 03:10 AM	38.5	41.5	37.6
03:10 AM - 03:15 AM	38.7	45.0	37.5
03:15 AM - 03:20 AM	39.1	41.9	38.2
03:20 AM - 03:25 AM	40.6	54.2	38.1
03:25 AM - 03:30 AM	38.9	56.3	37.7
03:30 AM - 03:35 AM	38.8	41.8	38.0
03:35 AM - 03:40 AM	39.3	44.7	38.4
03:40 AM - 03:45 AM	39.4	44.6	38.4
03:45 AM - 03:50 AM	38.8	42.5	38.2
03:50 AM - 03:55 AM	38.2	40.1	37.5
03:55 AM - 04:00 AM	38.6	46.2	37.5

The above results are valid only for the analyzed 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

Kanokkom Anek
Senior 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



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260104
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376506-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 1 of 3

Sample No. : 2260104-7
Parameter : Noise
Location : แหล่งเสียงจากทางด่วน (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date : Jul 03 - 04, 2022
Measurement by : Sangtawan Nalasat
Sound Level Meter : 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	51.4	70.2	46.1
03:00 PM - 04:00 PM	51.9	75.5	45.5
04:00 PM - 05:00 PM	51.6	81.7	43.2
05:00 PM - 06:00 PM	49.1	67.9	44.4
06:00 PM - 07:00 PM	49.9	70.0	47.3
07:00 PM - 08:00 PM	47.9	71.7	45.1
08:00 PM - 09:00 PM	42.2	62.6	40.0
09:00 PM - 10:00 PM	44.4	66.7	40.4
10:00 PM - 10:05 PM	48.0	51.8	46.2
10:05 PM - 10:10 PM	49.2	52.0	47.9
10:10 PM - 10:15 PM	49.9	53.3	49.0
10:15 PM - 10:20 PM	49.9	51.8	49.3
10:20 PM - 10:25 PM	50.3	52.8	49.6
10:25 PM - 10:30 PM	50.0	53.5	49.2
10:30 PM - 10:35 PM	49.6	52.4	47.9
10:35 PM - 10:40 PM	49.2	51.1	48.2
10:40 PM - 10:45 PM	49.7	51.3	49.1
10:45 PM - 10:50 PM	49.7	52.0	48.9
10:50 PM - 10:55 PM	48.3	51.7	46.9
10:55 PM - 11:00 PM	48.2	51.7	44.0
11:00 PM - 11:05 PM	47.7	52.4	47.0
11:05 PM - 11:10 PM	47.3	49.7	46.6
11:10 PM - 11:15 PM	47.5	52.9	46.5
11:15 PM - 11:20 PM	48.5	54.1	47.7
11:20 PM - 11:25 PM	46.3	52.4	47.5
11:25 PM - 11:30 PM	51.3	61.7	46.4
11:30 PM - 11:35 PM	49.1	51.7	48.0
11:35 PM - 11:40 PM	48.4	51.3	47.3
11:40 PM - 11:45 PM	49.8	57.8	47.9
11:45 PM - 11:50 PM	48.2	52.8	47.6
11:50 PM - 11:55 PM	47.9	51.4	45.7
11:55 PM - 12:00 AM	49.9	55.0	46.7
12:00 AM - 12:05 AM	50.2	54.7	47.5
12:05 AM - 12:10 AM	47.9	55.1	45.7
12:10 AM - 12:15 AM	47.2	49.9	46.3
12:15 AM - 12:20 AM	47.1	49.6	46.1
12:20 AM - 12:25 AM	47.4	55.8	46.3
12:25 AM - 12:30 AM	47.6	49.7	46.5
12:30 AM - 12:35 AM	48.3	50.9	47.5
12:35 AM - 12:40 AM	48.0	51.5	47.2

The above results are valid only for the analyzed 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

Kanokkom Anek
Senior 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



TESTING
No.0009

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

Lot ID: 2260104
Date Received : Jul 06, 2022
Date Reported : Jul 15, 2022
Report No. : 2376506-1

P/O :
Project Name : EIA Monitoring
Project Location :

Page 3 of 3

Sample No. : 2260104-7
Parameter : Noise
Location : แหล่งเสียงจากทางด่วน (GPS 48Q 280311, 1889096) (Shut down)
Measurement Date : Jul 03 - 04, 2022
Measurement by : Sangtawan Nalasat
Sound Level Meter : 00472122

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
04:00 AM - 04:05 AM	40.1	51.9	37.8
04:05 AM - 04:10 AM	38.7	41.6	38.1
04:10 AM - 04:15 AM	38.3	44.8	37.7
04:15 AM - 04:20 AM	38.3	42.8	37.7
04:20 AM - 04:25 AM	37.8	40.6	37.2
04:25 AM - 04:30 AM	47.7	59.5	37.5
04:30 AM - 04:35 AM	40.7	47.9	37.6
04:35 AM - 04:40 AM	37.6	40.1	37.1
04:40 AM - 04:45 AM	38.1	55.2	36.6
04:45 AM - 04:50 AM	37.8	50.6	36.5
04:50 AM - 04:55 AM	37.2	40.1	36.4
04:55 AM - 05:00 AM	37.1	39.6	36.5
05:00 AM - 05:05 AM	37.7	54.0	35.2
05:05 AM - 05:10 AM	44.5	61.1	35.4
05:10 AM - 05:15 AM	37.5	53.2	35.9
05:15 AM - 05:20 AM	36.6	42.1	35.5
05:20 AM - 05:25 AM	37.6	41.2	36.6
05:25 AM - 05:30 AM	36.2	53.3	35.1
05:30 AM - 05:35 AM	35.8	39.1	34.6
05:35 AM - 05:40 AM	35.4	39.7	34.1
05:40 AM - 05:45 AM	36.0	48.5	33.3
05:45 AM - 05:50 AM	34.5	46.0	33.2
05:50 AM - 05:55 AM	34.5	39.1	33.3
05:55 AM - 06:00 AM	35.0	42.5	33.7
06:00 AM - 07:00 AM	39.9	58.3	35.9
07:00 AM - 08:00 AM	49.2	69.4	42.3
08:00 AM - 09:00 AM	48.9	68.0	41.6
09:00 AM - 10:00 AM	47.5	66.5	40.7
10:00 AM - 11:00 AM	46.5	74.4	39.0
11:00 AM - 12:00 PM	46.9	57.6	46.0
12:00 PM - 01:00 PM	46.6	55.4	45.5
01:00 PM - 02:00 PM	47.3	52.2	46.5

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

The above results are valid only for the analyzed 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

Kanokkom Anek
Senior 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-4

ผลการตรวจวิเคราะห์คุณภาพน้ำเสีย



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : Water Testing_KSP
Project Location :



TESTING
No.0009

Lot ID: 2227313
Date Received : Apr 20, 2022
Date Reported : Apr 26, 2022
Report Number : 2296252-1

Page 1 of 1

Sample Number	2227313-15
Sampled Date	Apr 19, 2022 10:55 AM
Sample Description	Wastewater
Location	EQ KSP
Date Analysis Commenced	Apr 20, 2022
Condition of Sample	Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Metals Testing						
Calcium	mg/L	0.03	0.05	165	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Lead	mg/L	0.0003	0.0005	0.007	Based on APHA (2017), 3125	Bangkok
Magnesium	mg/L	0.03	0.05	9.19	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
SAR *	-	-	0.10	5.29	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Sodium	mg/L	0.03	0.05	257	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Water Testing						
BOD (5 days at 20 degree C)	mg/L	-	2	3549	Based on APHA (2017), 5210 B	Bangkok
COD	mg/L	1.5	5	7128	Based on APHA (2017), 5220 D	Bangkok
Conductivity at 25 degree C *	micromhos/cm	-	0.5	2017	Based on APHA (2017), 2510 B	Bangkok
Oil & Grease	mg/L	-	3	11	Based on APHA (2017), 5520 B	Bangkok
pH at 25 degree C	-	-	-	4.7	Based on APHA (2017), 4500-H (B)	Bangkok
Temperature *	Degree C	-	-	30.9	Based on APHA (2017), 2550 B	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	2996	Based on APHA (2017), 2540 C	Bangkok
Total Kjeldahl Nitrogen as N *	mg/L	0.15	1.0	11.4	Based on APHA (2017), 4500-Norg (C)	Bangkok

Sampled By : Adisak Phomphai

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

Savitree N.

Savitree Nolsangiam
Assistant Manager
หมายเลข 2-204-4-4709

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager
หมายเลข 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
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

14025-21/ EMAIL

S:\Reports\AL_NoGL.rpt (5:30PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : Water Testing_KSP
Project Location :



TESTING
No.0009

Lot ID: 21143129
Date Received : Jan 06, 2022
Date Reported : Jan 13, 2022
Report Number : 2203445-1

Page 1 of 1

Sample Number	21143129-15
Sampled Date	Jan 05, 2022 10:40 AM
Sample Description	Wastewater
Location	EQ KSP
Date Analysis Commenced	Jan 07, 2022
Condition of Sample	Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Metals Testing						
Lead	mg/L	0.0003	0.0005	0.05	Based on APHA (2017), 3125	Bangkok
Water Testing						
BOD (5 days at 20 degree C) *	mg/L	-	2	6420	Based on APHA (2017), 5210 B	Bangkok
COD	mg/L	1.5	5	10966	Based on APHA (2017), 5220 D	Bangkok
Oil & Grease	mg/L	-	3	5	Based on APHA (2017), 5520 B	Bangkok
pH at 25 degree C	-	-	-	4.2	Based on APHA (2017), 4500-H (B)	Bangkok
Temperature *	Degree C	-	-	33.1	Based on APHA (2017), 2550 B	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	6548	Based on APHA (2017), 2540 C	Bangkok
Total Kjeldahl Nitrogen as N *	mg/L	0.15	1.0	35.9	Based on APHA (2017), 4500-Norg (C)	Bangkok

Sampled By : Adisak Phomphai

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
หมายเลข 2-204-4-4720

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager
หมายเลข 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
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

14025-21/ EMAIL

S:\Reports\AL_NoGL.rpt (7:56AM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : Water Testing_KSP
Project Location :



TESTING
No.0009

Lot ID: 21143129

Date Received : Jan 06, 2022
Date Reported : Jan 13, 2022
Report Number : 2203445-2

Page 1 of 1

Sample Number 21143129-15
Sampled Date Jan 05, 2022 10:40 AM
Sample Description Wastewater
Location EQ KSP
Date Analysis Commenced Jan 07, 2022
Condition of Sample Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Metals Testing						
Calcium	mg/L	0.03	0.05	263	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Magnesium	mg/L	0.03	0.05	25.0	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
SAR *		-	0.10	4.87	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Sodium	mg/L	0.03	0.05	309	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Water Testing						
Conductivity at 25 degree C *	micromhos/cm	-	0.5	2883	Based on APHA (2017), 2510 B	Bangkok

Sampled By : Adisak Phomphai

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.

Approved by

Siriluk P.

Siriluk Puengpang
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

14025-21/ EMAIL

S:\Reports\AIL_NoGL.rpt (8:00AM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : Water Testing_KSP
Project Location :



TESTING
No.0009

Lot ID: 21143152

Date Received : Feb 07, 2022
Date Reported : Feb 15, 2022
Report Number : 2234315-1

Page 1 of 1

Sample Number 21143152-15
Sampled Date Feb 06, 2022 11:10 AM
Sample Description Wastewater
Location EQ KSP
Date Analysis Commenced Feb 08, 2022
Condition of Sample Contained in four plastic bottles and one amber glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Metals Testing						
Lead	mg/L	0.0003	0.0005	0.08	Based on APHA (2017), 3125	Bangkok
Water Testing						
BOD (5 days at 20 degree C)	mg/L	-	2	1971	Based on APHA (2017), 5210 B	Bangkok
COD	mg/L	1.5	5	4268	Based on APHA (2017), 5220 D	Bangkok
Oil & Grease	mg/L	-	3	4	Based on APHA (2017), 5520 B	Bangkok
pH at 25 degree C		-	-	5.2	Based on APHA (2017), 4500-H (B)	Bangkok
Temperature *	Degree C	-	-	38.0	Based on APHA (2017), 2550 B	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	2848	Based on APHA (2017), 2540 C	Bangkok
Total Kjeldahl Nitrogen as N *	mg/L	0.15	1.0	4.6	Based on APHA (2017), 4500-Norg (C)	Bangkok

Sampled By : Adisak Phomphai

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

หมายเลขโทรศัพท์ 2-204-3-4720

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager

หมายเลขโทรศัพท์ 2-204-3-6111

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
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

14025-21/ EMAIL

S:\Reports\AIL_NoGL.rpt (2:42PM)



Analysis / Test Report



TESTING
No.0009

Lot ID: 21143152

Date Received :Feb 07, 2022

Date Reported :Feb 15, 2022

Report Number :2234315-2

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : Water Testing_KSP

Project Location :

Page 1 of 1

Sample Number	21143152-15
Sampled Date	Feb 06, 2022 11:10 AM
Sample Description	Wastewater
Location	EQ KSP
Date Analysis Commenced	Feb 08, 2022
Condition of Sample	Contained in four plastic bottles and one amber glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Metals Testing						
Calcium	mg/L	0.03	0.05	306	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Magnesium	mg/L	0.03	0.05	20.1	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
SAR *		-	0.10	5.01	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Sodium	mg/L	0.03	0.05	335	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Water Testing						
Conductivity at 25 degree C *	micromhos/cm	-	0.5	2863	Based on APHA (2017), 2510 B	Bangkok

Sampled By : Adisak Phomphai

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.

Approved by

Siriluk P.

Siriluk Puengpang
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

14025-21/ EMAIL

S:\Reports\All_NoGL.rpt (2:48PM)



Analysis / Test Report



TESTING
No.0009

Lot ID: 2238404

Date Received :Mar 29, 2022

Date Reported :Apr 04, 2022

Report Number :2277908-1

Client : Kaset Phol Sugar Co., Ltd.

9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : Water Testing_KSP

Project Location :

Page 1 of 1

Sample Number	2238404-7
Sampled Date	Mar 28, 2022 10:35 AM
Sample Description	Wastewater
Location	EQ KSP
Date Analysis Commenced	Mar 29, 2022
Condition of Sample	Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Metals Testing						
Lead	mg/L	0.0003	0.0005	0.007	Based on APHA (2017), 3125	Bangkok
Water Testing						
BOD (5 days at 20 degree C)	mg/L	-	2	1659	Based on APHA (2017), 5210 B	Bangkok
COD	mg/L	1.5	5	3068	Based on APHA (2017), 5220 D	Bangkok
Oil & Grease	mg/L	-	3	7	Based on APHA (2017), 5520 B	Bangkok
pH at 25 degree C		-	-	4.5	Based on APHA (2017), 4500-H (B)	Bangkok
Temperature *	Degree C	-	-	37.1	Based on APHA (2017), 2550 B	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	1544	Based on APHA (2017), 2540 C	Bangkok
Total Kjeldahl Nitrogen as N *	mg/L	0.15	1.0	15.2	Based on APHA (2017), 4500-Norg (C)	Bangkok

Sampled By : Adisak Phomphai

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

Chanatt L.

Chanattagarn Imchom
Supervisor

เบอร์โทร 204-4-4710

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager

เบอร์โทร 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
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

14025-21/ EMAIL

S:\Reports\All_NoGL.rpt (3:12PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : Water Testing_KSP
Project Location :



TESTING
No.0009

Lot ID: 2238404

Date Received : Mar 29, 2022
Date Reported : Apr 04, 2022
Report Number : 2277908-2

Page 1 of 1

Sample Number	2238404-7
Sampled Date	Mar 28, 2022 10:35 AM
Sample Description	Wastewater
Location	EQ KSP
Date Analysis Commenced	Mar 29, 2022
Condition of Sample	Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Metals Testing						
Calcium	mg/L	0.03	0.05	130	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Magnesium	mg/L	0.03	0.05	15.5	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
SAR *		-	0.10	5.90	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Sodium	mg/L	0.03	0.05	267	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Water Testing						
Conductivity at 25 degree C *	micromhos/cm	-	0.5	2000	Based on APHA (2017), 2510 B	Bangkok

Sampled By : Adisak Phomphai

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.

Approved by

Chanatt L.

Chanattagarn Imchom
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

14025-23/ EMAIL

S:\Reports\AIL_NoGL.rpt (3:12PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :



TESTING
No.0009

Lot ID: 2257690

Date Received : May 25, 2022
Date Reported : May 31, 2022
Report Number : 2329635-1

Page 1 of 1

Sample Number	2257690-1
Sampled Date	May 24, 2022 4:00 PM
Sample Description	Wastewater
Location	ระบบบำบัดน้ำเสียความสกปรกสูง : ปอปรับสภาพน้ำ(Equalization Pound)
Date Analysis Commenced	May 25, 2022
Condition of Sample	Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Metals Testing						
Arsenic	mg/L	0.0003	0.0005	0.002	Based on APHA (2017), 3125	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	Based on APHA (2017), 3125	Bangkok
Chromium	mg/L	0.0003	0.0005	0.003	Based on APHA (2017), 3125	Bangkok
Lead	mg/L	0.0003	0.0005	0.004	Based on APHA (2017), 3125	Bangkok
Mercury *	mg/L	0.0001	0.0005	Not Detected	Based on APHA (2017), 3112	Bangkok
Water Testing						
BOD (5 days at 20 degree C)	mg/L	-	2	171	Based on APHA (2017), 5210 B	Bangkok
COD	mg/L	1.5	5	321	Based on APHA (2017), 5220 D	Bangkok
pH at 25 degree C		-	-	7.0	Based on APHA (2017), 4500-H (B)	Bangkok
Sulfide *	mg/L	-	0.5	<0.5	Based on APHA (2017), 4500-S2(C), (F)	Bangkok
Temperature *	Degree C	-	-	34.3	Based on APHA (2017), 2550 B	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	796	Based on APHA (2017), 2540 C	Bangkok
Total Kjeldahl Nitrogen as N *	mg/L	0.15	1.0	9.5	Based on APHA (2017), 4500-Norg (C)	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	96	Based on APHA (2017), 2540 D	Bangkok

Sampled By : Adisak Phomphai

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

Technical Management

Savitree N.

Savitree Naisangiam
Manager

ทะเบียนเลขที่ 2-204-2-4709

Approved by

Kanokorn Anek

Kanokorn 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

14025-23/ EMAIL

S:\Reports\AIL_NoGL.rpt (5:01PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :



TESTING
No.0009

Lot ID: 2257690

Date Received : May 25, 2022
Date Reported : May 31, 2022
Report Number : 2329635-2

Page 1 of 1

Sample Number	2257690-1
Sampled Date	May 24, 2022 4:00 PM
Sample Description	Wastewater
Location	ระบบบำบัดน้ำเสียความสกปรกสูง : บ่อปรับสภาพน้ำ (Equalization Pound)
Date Analysis Commenced	May 25, 2022
Condition of Sample	Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Metals Testing						
Calcium	mg/L	0.03	0.05	67.5	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Magnesium	mg/L	0.03	0.05	10.3	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
SAR *	-	-	0.10	5.50	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Sodium	mg/L	0.03	0.05	183	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Water Testing						
Ammonia Nitrogen *	mg/L	-	0.06	0.20	Based on APHA (2017), 4500-NH3 (B), (F)	Bangkok
Conductivity at 25 degree C *	micromhos/cm	-	0.5	1486	Based on APHA (2017), 2510 B	Bangkok
Nitrate as N *	mg/L	0.06	0.2	<0.20	Based on APHA (2017), 4500-NO3 (E)	Bangkok

Sampled By : Adisak Phomphai

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

Approved by

Sawitree N.
Sawitree Nolsangiam
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

14025-23/ EMAIL

S:\Reports\AIL_NoGL.rpt (5:02PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :



TESTING
No.0009

Lot ID: 2262546

Date Received : Jun 17, 2022
Date Reported : Jun 23, 2022
Report Number : 2354822-1

Page 1 of 1

Sample Number	2262546-1
Sampled Date	Jun 16, 2022 10:30 AM
Sample Description	Wastewater
Location	ระบบบำบัดน้ำเสียความสกปรกสูง : บ่อปรับสภาพน้ำ (Equalization Pound)
Date Analysis Commenced	Jun 17, 2022
Condition of Sample	Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Metals Testing						
Arsenic	mg/L	0.0003	0.0005	0.002	Based on APHA (2017), 3125	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	Based on APHA (2017), 3125	Bangkok
Chromium	mg/L	0.0003	0.0005	0.006	Based on APHA (2017), 3125	Bangkok
Lead	mg/L	0.0003	0.0005	0.04	Based on APHA (2017), 3125	Bangkok
Mercury *	mg/L	0.0001	0.0005	<0.0005	Based on APHA (2017), 3112	Bangkok
Water Testing						
BOD (5 days at 20 degree C)	mg/L	-	2	335	Based on APHA (2017), 5210 B	Bangkok
COD	mg/L	1.5	5	592	Based on APHA (2017), 5220 D	Bangkok
pH at 25 degree C	-	-	-	7.1	Based on APHA (2017), 4500-H (B)	Bangkok
Sulfide *	mg/L	-	0.5	<0.5	Based on APHA (2017), 4500-S2(C), (F)	Bangkok
Temperature *	Degree C	-	-	30.8	Based on APHA (2017), 2550 B	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	2124	Based on APHA (2017), 2540 C	Bangkok
Total Kjeldahl Nitrogen as N *	mg/L	0.15	1.0	9.2	Based on APHA (2017), 4500-Norg (C)	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	67	Based on APHA (2017), 2540 D	Bangkok

Sampled By : Adisak Phomphai

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

Technical Management

Chanatt L.
Chanattagarn Imchom
Supervisor
ทะเบียนเลขที่ 7-204-4-4710

Approved by

Kanokkorn Anek
Kanokkorn 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
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

14025-23/ EMAIL

S:\Reports\AIL_NoGL.rpt (5:47PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :



TESTING
No.0009

Lot ID: 2262546
Date Received : Jun 17, 2022
Date Reported : Jun 23, 2022
Report Number : 2354822-2

Page 1 of 1

Sample Number	2262546-1					
Sampled Date	Jun 16, 2022 10:30 AM					
Sample Description	Wastewater					
Location	ระบบบำบัดน้ำเสียความสกปรกสูง : บ่อปรับสภาพน้ำ (Equalization Pond)					
Date Analysis Commenced	Jun 17, 2022					
Condition of Sample	Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)					
Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Metals Testing						
Calcium	mg/L	0.03	0.05	145	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Magnesium	mg/L	0.03	0.05	19.5	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
SAR *		-	0.10	11.4	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Sodium	mg/L	0.03	0.05	552	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Water Testing						
Ammonia Nitrogen *	mg/L	-	0.06	0.91	Based on APHA (2017), 4500-NH3 (B), (F)	Bangkok
Conductivity at 25 degree C *	micromhos/cm	-	0.5	3681	Based on APHA (2017), 2510 B	Bangkok
Nitrate as N *	mg/L	0.06	0.2	Not Detected	Based on APHA (2017), 4500-NO3 (E)	Bangkok

Sampled By : Adisak Phomphai

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

Chanatt L.

Chanattagarn Imchom
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

14025-23/ EMAIL

S:\Reports\All_NoGL.rpt (5:47PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : Water Testing_KSP
Project Location :



TESTING
No.0009

Lot ID: 21143129
Date Received : Jan 06, 2022
Date Reported : Jan 13, 2022
Report Number : 2203444-1

Page 1 of 1

Sample Number	21143129-14					
Sampled Date	Jan 05, 2022 10:35 AM					
Sample Description	Wastewater					
Location	FP2 KSP					
Date Analysis Commenced	Jan 07, 2022					
Condition of Sample	Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)					
Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Metals Testing						
Lead	mg/L	0.0003	0.0005	0.002	Based on APHA (2017), 3125	Bangkok
Water Testing						
BOD (5 days at 20 degree C)	mg/L	-	2	948	Based on APHA (2017), 5210 B	Bangkok
COD	mg/L	1.5	5	1760	Based on APHA (2017), 5220 D	Bangkok
Oil & Grease	mg/L	-	3	3	Based on APHA (2017), 5520 B	Bangkok
pH at 25 degree C		-	-	5.7	Based on APHA (2017), 4500-H (B)	Bangkok
Temperature *	Degree C	-	-	25.0	Based on APHA (2017), 2550 B	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	2072	Based on APHA (2017), 2540 C	Bangkok
Total Kjeldahl Nitrogen as N *	mg/L	0.15	1.0	9.3	Based on APHA (2017), 4500-Norg (C)	Bangkok

Sampled By : Adisak Phomphai

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
หมายเลขโทรศัพท์ 2-204-4-4720

Approved by

Kanok Korn Anek

Kanok Korn Anek
Senior Manager
หมายเลขโทรศัพท์ 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
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

14025-21/ EMAIL

S:\Reports\All_NoGL.rpt (7:54AM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : Water Testing_KSP
Project Location :



TESTING
No.0009

Lot ID: 21143129
Date Received : Jan 06, 2022
Date Reported : Jan 13, 2022
Report Number : 2203444-2

Page 1 of 1

Sample Number 21143129-14
Sampled Date Jan 05, 2022 10:35 AM
Sample Description Wastewater
Location FP2 KSP
Date Analysis Commenced Jan 07, 2022
Condition of Sample Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Metals Testing						
Calcium	mg/L	0.03	0.05	159	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Magnesium	mg/L	0.03	0.05	17.8	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
SAR *		-	0.10	7.32	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Sodium	mg/L	0.03	0.05	365	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Water Testing						
Conductivity at 25 degree C *	micromhos/cm	-	0.5	2491	Based on APHA (2017), 2510 B	Bangkok

Sampled By : Adisak Phomphai

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.

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

14025-21/ EMAIL

S:\Reports\AIL_NoGL.rpt (7:55AM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : Water Testing_KSP
Project Location :



TESTING
No.0009

Lot ID: 21143152
Date Received : Feb 07, 2022
Date Reported : Feb 15, 2022
Report Number : 2234314-1

Page 1 of 1

Sample Number 21143152-14
Sampled Date Feb 06, 2022 11:20 AM
Sample Description Wastewater
Location FP2 KSP
Date Analysis Commenced Feb 08, 2022
Condition of Sample Contained in four plastic bottles and one amber glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Metals Testing						
Lead	mg/L	0.0003	0.0005	0.003	Based on APHA (2017), 3125	Bangkok
Water Testing						
BOD (5 days at 20 degree C)	mg/L	-	2	2079	Based on APHA (2017), 5210 B	Bangkok
COD	mg/L	1.5	5	3773	Based on APHA (2017), 5220 D	Bangkok
Oil & Grease	mg/L	-	3	3	Based on APHA (2017), 5520 B	Bangkok
pH at 25 degree C		-	-	4.7	Based on APHA (2017), 4500-H (B)	Bangkok
Temperature *	Degree C	-	-	26.0	Based on APHA (2017), 2550 B	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	1960	Based on APHA (2017), 2540 C	Bangkok
Total Kjeldahl Nitrogen as N *	mg/L	0.15	1.0	13.2	Based on APHA (2017), 4500-Norg (C)	Bangkok

Sampled By : Adisak Phomphai

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
โทรเลขเลขที่ 2-204-4-4720

Approved by

Kanokkorn Anek
Senior Manager
โทรเลขเลขที่ 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
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

14025-21/ EMAIL

S:\Reports\AIL_NoGL.rpt (2:43PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : Water Testing_KSP

Project Location :



TESTING
No.0009

Lot ID: 21143152

Date Received : Feb 07, 2022

Date Reported : Feb 15, 2022

Report Number : 2234314-2

Page 1 of 1

Sample Number	21143152-14
Sampled Date	Feb 06, 2022 11:20 AM
Sample Description	Wastewater
Location	FP2 KSP
Date Analysis Commenced	Feb 08, 2022
Condition of Sample	Contained in four plastic bottles and one amber glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Metals Testing						
Calcium	mg/L	0.03	0.05	249	Based on US EPA, Method 200.7, Revision 4.4 Bangkok	
Magnesium	mg/L	0.03	0.05	18.3	Based on US EPA, Method 200.7, Revision 4.4 Bangkok	
SAR *		-	0.10	5.57	Based on US EPA, Method 200.7, Revision 4.4 Bangkok	
Sodium	mg/L	0.03	0.05	338	Based on US EPA, Method 200.7, Revision 4.4 Bangkok	
Water Testing						
Conductivity at 25 degree C *	micromhos/cm	-	0.5	2572	Based on APHA (2017), 2510 B	Bangkok

Sampled By : Adisak Phomphai

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.

Approved by

Siriluk P.

Siriluk Puengpang
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

14025-21/ EMAIL

S:\Reports\AIL_NoGL.rpt (2:42PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : Water Testing_KSP

Project Location :



TESTING
No.0009

Lot ID: 2238404

Date Received : Mar 29, 2022

Date Reported : Apr 04, 2022

Report Number : 2277907-1

Page 1 of 1

Sample Number	2238404-6
Sampled Date	Mar 28, 2022 10:40 AM
Sample Description	Wastewater
Location	FP2 KSP
Date Analysis Commenced	Mar 29, 2022
Condition of Sample	Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Metals Testing						
Lead	mg/L	0.0003	0.0005	0.003	Based on APHA (2017), 3125	Bangkok
Water Testing						
BOD (5 days at 20 degree C)	mg/L	-	2	854	Based on APHA (2017), 5210 B	Bangkok
COD	mg/L	1.5	5	1636	Based on APHA (2017), 5220 D	Bangkok
Oil & Grease	mg/L	-	3	4	Based on APHA (2017), 5520 B	Bangkok
pH at 25 degree C		-	-	6.0	Based on APHA (2017), 4500-H (B)	Bangkok
Temperature *	Degree C	-	-	29.7	Based on APHA (2017), 2550 B	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	1968	Based on APHA (2017), 2540 C	Bangkok
Total Kjeldahl Nitrogen as N *	mg/L	0.15	1.0	11.3	Based on APHA (2017), 4500-Norg (C)	Bangkok

Sampled By : Adisak Phomphai

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

Chanatt L.

Chanattagam Imchom
Supervisor
หมายเลขโทรศัพท์ 7-204-4-4710

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager
หมายเลขโทรศัพท์ 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
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

14025-21/ EMAIL

S:\Reports\AIL_NoGL.rpt (3:11PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : Water Testing_KSP
Project Location :



TESTING
No.0009

Lot ID: 2238404
Date Received : Mar 29, 2022
Date Reported : Apr 04, 2022
Report Number : 2277907-2

Page 1 of 1

Sample Number	2238404-6
Sampled Date	Mar 28, 2022 10:40 AM
Sample Description	Wastewater
Location	FP2 KSP
Date Analysis Commenced	Mar 29, 2022
Condition of Sample	Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Metals Testing						
Calcium	mg/L	0.03	0.05	131	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Magnesium	mg/L	0.03	0.05	15.7	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
SAR *	-	-	0.10	5.93	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Sodium	mg/L	0.03	0.05	270	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Water Testing						
Conductivity at 25 degree C *	micromhos/cm	-	0.5	2664	Based on APHA (2017), 2510 B	Bangkok

Sampled By : Adisak Phomphai

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.

Approved by

Chanatt L.
Chanattagam Imchom
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

14025-21/ EMAIL

S:\Reports\AIL_NoGL.rpt (3:12PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : Water Testing_KSP
Project Location :



TESTING
No.0009

Lot ID: 2227313
Date Received : Apr 20, 2022
Date Reported : Apr 26, 2022
Report Number : 2296251-1

Page 1 of 1

Sample Number	2227313-14
Sampled Date	Apr 19, 2022 11:20 AM
Sample Description	Wastewater
Location	FP2 KSP
Date Analysis Commenced	Apr 20, 2022
Condition of Sample	Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Metals Testing						
Lead	mg/L	0.0003	0.0005	0.003	Based on APHA (2017), 3125	Bangkok
Water Testing						
BOD (5 days at 20 degree C)	mg/L	-	2	1995	Based on APHA (2017), 5210 B	Bangkok
COD	mg/L	1.5	5	3418	Based on APHA (2017), 5220 D	Bangkok
Oil & Grease	mg/L	-	3	5	Based on APHA (2017), 5520 B	Bangkok
pH at 25 degree C	-	-	-	5.0	Based on APHA (2017), 4500-H (B)	Bangkok
Temperature *	Degree C	-	-	32.1	Based on APHA (2017), 2550 B	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	2084	Based on APHA (2017), 2540 C	Bangkok
Total Kjeldahl Nitrogen as N *	mg/L	0.15	1.0	13.3	Based on APHA (2017), 4500-Norg (C)	Bangkok

Sampled By : Adisak Phomphai

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
Assistant Manager
โทรเลขเบอร์ 2-204-4-4709

Approved by

Kanokorn Anek
Kanokkorn Anek
Senior Manager
โทรเลขเบอร์ 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
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

14025-21/ EMAIL

S:\Reports\AIL_NoGL.rpt (3:28PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : Water Testing_KSP
Project Location :

Lot ID: 2227313
Date Received : Apr 20, 2022
Date Reported : Apr 26, 2022
Report Number : 2296251-2

Page 1 of 1

Sample Number	2227313-14
Sampled Date	Apr 19, 2022 11:20 AM
Sample Description	Wastewater
Location	FP2 KSP
Date Analysis Commenced	Apr 20, 2022
Condition of Sample	Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Metals Testing						
Calcium	mg/L	0.03	0.05	251	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Magnesium	mg/L	0.03	0.05	18.6	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
SAR	-	-	0.10	5.27	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Sodium	mg/L	0.03	0.05	321	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Water Testing						
Conductivity at 25 degree C	micromhos/cm	-	0.5	2771	Based on APHA (2017), 2510 B	Bangkok

Sampled By : Adisak Phomphai

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

Approved by

Sawitree N.
Sawitree Noisangiam
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

14025-21/ EMAIL

S:\Reports\All_NoGL.rpt (5:30PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : Water Testing_KSP
Project Location :

Lot ID: 2242929
Date Received : May 04, 2022
Date Reported : May 10, 2022
Report Number : 2308490-1

Page 1 of 1

Sample Number	2242929-14
Sampled Date	May 03, 2022 10:30 AM
Sample Description	Wastewater
Location	FP2 KSP
Date Analysis Commenced	May 04, 2022
Condition of Sample	Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Metals Testing						
Calcium	mg/L	0.03	0.05	259	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Lead	mg/L	0.0003	0.0005	0.002	Based on APHA (2017), 3125	Bangkok
Magnesium	mg/L	0.03	0.05	18.8	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Water Testing						
BOD (5 days at 20 degree C)	mg/L	-	2	1119	Based on APHA (2017), 5210 B	Bangkok
COD	mg/L	1.5	5	1940	Based on APHA (2017), 5220 D	Bangkok
Oil & Grease	mg/L	-	3	5	Based on APHA (2017), 5520 B	Bangkok
pH at 25 degree C	-	-	-	5.8	Based on APHA (2017), 4500-H (B)	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	2200	Based on APHA (2017), 2540 C	Bangkok
Total Kjeldahl Nitrogen as N *	mg/L	0.15	1.0	11.8	Based on APHA (2017), 4500-Norg (C)	Bangkok

Sampled By : Adisak Phomphai

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
Assistant Manager
โทรศัพท์ 2-204-4709

Approved by

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

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
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

14025-21/ EMAIL

S:\Reports\All_NoGL.rpt (5:35PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : Water Testing_KSP
Project Location :

Lot ID: 2242929

Date Received : May 04, 2022
Date Reported : May 10, 2022
Report Number : 2308490-2

Page 1 of 1

Sample Number	2242929-14
Sampled Date	May 03, 2022 10:30 AM
Sample Description	Wastewater
Location	FP2 KSP
Date Analysis Commenced	May 04, 2022
Condition of Sample	Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Metals Testing						
SAR		-	0.10	5.56	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Sodium	mg/L	0.03	0.05	344	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Water Testing						
Conductivity at 25 degree C	micromhos/cm	-	0.5	2693	Based on APHA (2017), 2510 B	Bangkok
Temperature	Degree C	-	-	27.8	Based on APHA (2017), 2550 B	Bangkok

Sampled By : Adisak Phomphai

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.

Approved by

Sawitree N.
Sawitree Noisangiam
Assistant 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

14025-21/ EMAIL

S:\Reports_All_NoGL.rpt (5:35PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : Water Testing_KSP
Project Location :

Lot ID: 2258799

Date Received : Jun 10, 2022
Date Reported : Jun 30, 2022
Report Number : 2347118-1

Page 1 of 1

Sample Number	2258799-14
Sampled Date	Jun 09, 2022 1:40 PM
Sample Description	Wastewater
Location	FP2 KSP
Date Analysis Commenced	Jun 10, 2022
Condition of Sample	Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Metals Testing						
Lead	mg/L	0.0003	0.0005	<0.0005	Based on APHA (2017), 3125	Bangkok
Water Testing						
BOD (5 days at 20 degree C)	mg/L	-	2	48	Based on APHA (2017), 5210 B	Bangkok
COD	mg/L	1.5	5	145	Based on APHA (2017), 5220 D	Bangkok
Oil & Grease	mg/L	-	3	5	Based on APHA (2017), 5520 B	Bangkok
pH at 25 degree C		-	-	7.9	Based on APHA (2017), 4500-H (B)	Bangkok
Temperature *	Degree C	-	-	35.7	Based on APHA (2017), 2550 B	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	1456	Based on APHA (2017), 2540 C	Bangkok
Total Kjeldahl Nitrogen as N *	mg/L	0.15	1.0	8.1	Based on APHA (2017), 4500-Norg (C)	Bangkok

Sampled By : Adisak Phomphai

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

Technical Management

Siriluk P.
Siriluk Puenggang
Supervisor
หมายเลขโทรศัพท์ ๖-204-๔-4720

Approved by

Kanokkorn Anek
Kanokkorn Anek
Senior Manager
หมายเลขโทรศัพท์ ๖-204-๔-6111

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

14025-21/ EMAIL

S:\Reports_All_NoGL.rpt (9:35AM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : Water Testing_KSP
Project Location :



TESTING
No.0009

Lot ID: 2258799
Date Received : Jun 10, 2022
Date Reported : Jun 30, 2022
Report Number : 2347118-2

Page 1 of 1

Sample Number 2258799-14
Sampled Date Jun 09, 2022 1:40 PM
Sample Description Wastewater
Location FP2 KSP
Date Analysis Commenced Jun 10, 2022
Condition of Sample Contained in one amber glass bottle and four plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Metals Testing						
Calcium	mg/L	0.03	0.05	175	Based on US EPA, Method 200.7, Revision 4.4 Bangkok	
Magnesium	mg/L	0.03	0.05	17.8	Based on US EPA, Method 200.7, Revision 4.4 Bangkok	
SAR *		-	0.10	6.30	Based on US EPA, Method 200.7, Revision 4.4 Bangkok	
Sodium	mg/L	0.03	0.05	327	Based on US EPA, Method 200.7, Revision 4.4 Bangkok	
Water Testing						
Conductivity at 25 degree C *	micromhos/cm	-	0.5	2671	Based on APHA (2017), 2510 B	Bangkok

Sampled By : Adisak Phomphai

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 Puengpang
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

14025-21/ EMAIL

S:\Reports\AIL_NoGL.rpt (9:37AM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : Water Testing_KSP
Project Location :



TESTING
No.0009

Lot ID: 21143129
Date Received : Jan 06, 2022
Date Reported : Jan 13, 2022
Report Number : 2203446-1

Page 1 of 1

Sample Number 21143129-16
Sampled Date Jan 05, 2022 2:30 PM
Sample Description Wastewater
Location บ่อกักน้ำทิ้ง Low BOD KSP
Date Analysis Commenced Jan 07, 2022
Condition of Sample Contained in three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
BOD (5 days at 20 degree C)	mg/L	-	2	15	Based on APHA (2017), 5210 B	Bangkok
COD	mg/L	1.5	5	99	Based on APHA (2017), 5220 D	Bangkok
pH at 25 degree C		-	-	7.4	Based on APHA (2017), 4500-H (B)	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	1060	Based on APHA (2017), 2540 C	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	25	Based on APHA (2017), 2540 D	Bangkok

Sampled By : Adisak Phomphai

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
โทรศัพท์ ๖-204-๔-4720

Approved by

Kanokkorn Anek
Senior Manager
โทรศัพท์ ๖-204-๔-6111

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

14025-21/ EMAIL

S:\Reports\AIL_NoGL.rpt (8:00AM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : Water Testing_KSP
Project Location :



TESTING
No.0009

Lot ID: 21143152
Date Received : Feb 07, 2022
Date Reported : Feb 15, 2022
Report Number : 2234316-1

Page 1 of 1

Sample Number	21143152-16
Sampled Date	Feb 06, 2022 11:05 AM
Sample Description	Wastewater
Location	ปลักน้ำทิ้ง Low BOD KSP
Date Analysis Commenced	Feb 08, 2022
Condition of Sample	Contained in three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
BOD (5 days at 20 degree C)	mg/L	-	2	279	Based on APHA (2017), 5210 B	Bangkok
COD	mg/L	1.5	5	473	Based on APHA (2017), 5220 D	Bangkok
pH at 25 degree C		-	-	6.2	Based on APHA (2017), 4500-H (B)	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	952	Based on APHA (2017), 2540 C	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	27	Based on APHA (2017), 2540 D	Bangkok

Sampled By : Adisak Phomphai

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
หมายเลข 7-204-4-4720

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager
หมายเลข 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
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

14025-21/ EMAIL

S:\Reports\AIL_NoGL.rpt (2:48PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : Water Testing_KSP
Project Location :



TESTING
No.0009

Lot ID: 2217642
Date Received : Mar 22, 2022
Date Reported : Mar 28, 2022
Report Number : 2272710-1

Page 1 of 1

Sample Number	2217642-16
Sampled Date	Mar 21, 2022 10:50 AM
Sample Description	Wastewater
Location	ปลักน้ำทิ้ง Low BOD KSP
Date Analysis Commenced	Mar 23, 2022
Condition of Sample	Contained in three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
BOD (5 days at 20 degree C)	mg/L	-	2	644	Based on APHA (2017), 5210 B	Bangkok
COD	mg/L	1.5	5	1118	Based on APHA (2017), 5220 D	Bangkok
pH at 25 degree C		-	-	6.6	Based on APHA (2017), 4500-H (B)	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	2048	Based on APHA (2017), 2540 C	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	76	Based on APHA (2017), 2540 D	Bangkok

Sampled By : Adisak Phomphai

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
หมายเลข 7-204-4-4720

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager
หมายเลข 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
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

14025-21/ EMAIL

S:\Reports\AIL_NoGL.rpt (6:03PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : Water Testing_KSP
Project Location :



TESTING
No.0009

Lot ID: 2227313
Date Received : Apr 20, 2022
Date Reported : Apr 26, 2022
Report Number : 2296253-1

Page 1 of 1

Sample Number 2227313-16
Sampled Date Apr 19, 2022 1:15 PM
Sample Description Wastewater
Location บ่อกักน้ำทิ้ง Low BOD KSP
Date Analysis Commenced Apr 21, 2022
Condition of Sample Contained in three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
BOD (5 days at 20 degree C)	mg/L	-	2	464	Based on APHA (2017), 5210 B	Bangkok
COD	mg/L	1.5	5	1163	Based on APHA (2017), 5220 D	Bangkok
pH at 25 degree C		-	-	6.4	Based on APHA (2017), 4500-H (B)	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	1788	Based on APHA (2017), 2540 C	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	154	Based on APHA (2017), 2540 D	Bangkok

Sampled By : Adisak Phomphai

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

เบอร์โทรศัพท์ ๖-204-๔-4720

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager

เบอร์โทรศัพท์ ๖-204-๔-6111

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

14025-21/ EMAIL

S:\Reports_LAI_NoGL.mpt (3:20PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : Water Testing_KSP
Project Location :



TESTING
No.0009

Lot ID: 2242929
Date Received : May 04, 2022
Date Reported : May 10, 2022
Report Number : 2308492-1

Page 1 of 1

Sample Number 2242929-16
Sampled Date May 03, 2022 11:05 AM
Sample Description Wastewater
Location บ่อกักน้ำทิ้ง Low BOD KSP
Date Analysis Commenced May 05, 2022
Condition of Sample Contained in three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
BOD (5 days at 20 degree C)	mg/L	-	2	176	Based on APHA (2017), 5210 B	Bangkok
COD	mg/L	1.5	5	494	Based on APHA (2017), 5220 D	Bangkok
pH at 25 degree C		-	-	7.0	Based on APHA (2017), 4500-H (B)	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	1656	Based on APHA (2017), 2540 C	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	136	Based on APHA (2017), 2540 D	Bangkok

Sampled By : Adisak Phomphai

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

เบอร์โทรศัพท์ ๖-204-๔-4720

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager

เบอร์โทรศัพท์ ๖-204-๔-6111

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

14025-21/ EMAIL

S:\Reports_LAI_NoGL.mpt (3:56PM)



Analysis / Test Report



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : Water Testing_KSP
Project Location :

Lot ID: 2258799
Date Received : Jun 10, 2022
Date Reported : Jun 30, 2022
Report Number : 2347120-1

Page 1 of 1

Sample Number	2258799-16
Sampled Date	Jun 09, 2022 2:40 PM
Sample Description	Wastewater
Location	น้ำพักน้ำทิ้ง Low BOD KSP
Date Analysis Commenced	Jun 11, 2022
Condition of Sample	Contained in three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
BOD (5 days at 20 degree C)	mg/L	-	2	20	Based on APHA (2017), 5210 B	Bangkok
COD	mg/L	1.5	5	93	Based on APHA (2017), 5220 D	Bangkok
pH at 25 degree C		-	-	7.6	Based on APHA (2017), 4500-H (B)	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	1216	Based on APHA (2017), 2540 C	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	20	Based on APHA (2017), 2540 D	Bangkok

Sampled By : Adisak Phomphai

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

Technical Management

Siriluk P.
Siriluk Puengpang
Supervisor
หมายเลขโทรศัพท์ ๖-204-๔-4720

Approved by

Kanokkorn Anek
Kanokkorn Anek
Senior Manager
หมายเลขโทรศัพท์ ๖-204-๔-6111

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



Analysis / Test Report



TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : Water Testing_KSP
Project Location :

Lot ID: 21143129
Date Received : Jan 06, 2022
Date Reported : Jan 13, 2022
Report Number : 2203442-1

Page 1 of 1

Sample Number	21143129-12
Sampled Date	Jan 05, 2022 1:30 PM
Sample Description	Wastewater
Location	Retention pond2
Date Analysis Commenced	Jan 07, 2022
Condition of Sample	Contained in three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
BOD (5 days at 20 degree C)	mg/L	-	2	140	Based on APHA (2017), 5210 B	Bangkok
COD	mg/L	1.5	5	280	Based on APHA (2017), 5220 D	Bangkok
pH at 25 degree C		-	-	7.6	Based on APHA (2017), 4500-H (B)	Bangkok

Sampled By : Adisak Phomphai

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
หมายเลขโทรศัพท์ ๖-204-๔-4720

Approved by

Kanokkorn Anek
Kanokkorn Anek
Senior Manager
หมายเลขโทรศัพท์ ๖-204-๔-6111

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



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Water Testing_KSP
Project Location :



TESTING
No.0009

Lot ID: 21143152
Date Received : Feb 07, 2022
Date Reported : Feb 15, 2022
Report Number : 2234312-1

Page 1 of 1

Sample Number 21143152-12
Sampled Date Feb 06, 2022 12:00 PM
Sample Description Wastewater
Location Retention pond2
Date Analysis Commenced Feb 08, 2022
Condition of Sample Contained in three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
BOD (5 days at 20 degree C)	mg/L	-	2	227	Based on APHA (2017), 5210 B	Bangkok
COD	mg/L	1.5	5	552	Based on APHA (2017), 5220 D	Bangkok
pH at 25 degree C		-	-	7.0	Based on APHA (2017), 4500-H (B)	Bangkok

Sampled By : Adisak Phomphai

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
หมายเลขโทรศัพท์ 204-4-4720

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager
หมายเลขโทรศัพท์ 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
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

14025-21/ EMAIL

S:\Reports_AIL_NoGL.rpt (2:38PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Water Testing_KSP
Project Location :



TESTING
No.0009

Lot ID: 2217642
Date Received : Mar 22, 2022
Date Reported : Mar 28, 2022
Report Number : 2272706-1

Page 1 of 1

Sample Number 2217642-12
Sampled Date Mar 21, 2022 1:25 PM
Sample Description Wastewater
Location Retention pond2
Date Analysis Commenced Mar 23, 2022
Condition of Sample Contained in three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
BOD (5 days at 20 degree C)	mg/L	-	2	193	Based on APHA (2017), 5210 B	Bangkok
COD	mg/L	1.5	5	495	Based on APHA (2017), 5220 D	Bangkok
pH at 25 degree C		-	-	7.8	Based on APHA (2017), 4500-H (B)	Bangkok

Sampled By : Adisak Phomphai

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
หมายเลขโทรศัพท์ 204-4-4720

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager
หมายเลขโทรศัพท์ 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
ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

Life Sciences

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

14025-21/ EMAIL

S:\Reports_AIL_NoGL.rpt (6:01PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : Water Testing_KSP
Project Location :



TESTING
No.0009

Lot ID: 2227313
Date Received : Apr 20, 2022
Date Reported : Apr 26, 2022
Report Number : 2296249-1

Page 1 of 1

Sample Number	2227313-12
Sampled Date	Apr 19, 2022 12:15 PM
Sample Description	Wastewater
Location	Retention pond2
Date Analysis Commenced	Apr 21, 2022
Condition of Sample	Contained in three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
BOD (5 days at 20 degree C)	mg/L	-	2	58	Based on APHA (2017), 5210 B	Bangkok
COD	mg/L	1.5	5	180	Based on APHA (2017), 5220 D	Bangkok
pH at 25 degree C		-	-	7.6	Based on APHA (2017), 4500-H (B)	Bangkok

Sampled By : Adisak Phomphai

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
โทรศัพท์ ๖-204-๔-4720

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager
โทรศัพท์ ๖-204-๔-6111

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

14025-23/ EMAIL

S:\Reports\All_NoGL.rpt (5:17PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :



TESTING
No.0009

Lot ID: 2257690
Date Received : May 25, 2022
Date Reported : Jul 27, 2022
Report Number : 2329638-1 Rev. No.1

Page 1 of 1

Sample Number	2257690-4
Sampled Date	May 24, 2022 4:30 PM
Sample Description	Wastewater
Location	Retention Pond
Date Analysis Commenced	May 25, 2022
Condition of Sample	Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.002	≤0.25	Based on APHA (2017), 3125	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Based on APHA (2017), 3125	Bangkok
Chromium	mg/L	0.0003	0.0005	0.004	No Standard	Based on APHA (2017), 3125	Bangkok
Lead	mg/L	0.0003	0.0005	0.008	≤0.2	Based on APHA (2017), 3125	Bangkok
Mercury *	mg/L	0.0001	0.0005	<0.0005	≤0.005	Based on APHA (2017), 3112	Bangkok
Water Testing							
BOD (5 days at 20 degree C)	mg/L	-	2	49	≤20	Based on APHA (2017), 5210 B	Bangkok
COD	mg/L	1.5	5	185	≤120	Based on APHA (2017), 5220 D	Bangkok
pH at 25 degree C		-	-	7.6	5.5-9.0	Based on APHA (2017), 4500-H (B)	Bangkok
Sulfide *	mg/L	-	0.5	0.8	≤1.0	Based on APHA (2017), 4500-S2(C), (F)	Bangkok
Temperature *	Degree C	-	-	37.0	≤40	Based on APHA (2017), 2550 B	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	1680	≤3000	Based on APHA (2017), 2540 C	Bangkok
Total Kjeldahl Nitrogen as N *	mg/L	0.15	1.0	6.5	≤100	Based on APHA (2017), 4500-Norg (C)	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	77	≤50	Based on APHA (2017), 2540 D	Bangkok

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

Note : This Analysis test report is issued to supersede report No.2329638-1, Date Reported : May 31, 2022 due to revise guideline/specification

Sampled By : Adisak Phomphai

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

Technical Management

Savitree N.

Savitree Noisangiam
Manager
โทรศัพท์ ๖-204-๔-4709

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager
โทรศัพท์ ๖-204-๔-6111

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

14025-23/ EMAIL

S:\Reports\All_GL.rpt (1:28PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : EIA Monitoring
Project Location :



TESTING
No.0009
Lot ID: 2257690
Date Received : May 25, 2022
Date Reported : Jul 27, 2022
Report Number : 2329638-2 Rev. No.1

Page 1 of 1

Sample Number 2257690-4
Sampled Date May 24, 2022 4:30 PM
Sample Description Wastewater
Location Retention Pond
Date Analysis Commenced May 25, 2022
Condition of Sample Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Calcium	mg/L	0.03	0.05	248	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Magnesium	mg/L	0.03	0.05	20.3	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
SAR *	-	-	0.10	6.09	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Sodium	mg/L	0.03	0.05	371	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	-	0.06	<0.06	No Standard	Based on APHA (2017), 4500-NH3 (B), (F)	Bangkok
Conductivity at 25 degree C *	micromhos/cm	-	0.5	2953	No Standard	Based on APHA (2017), 2510 B	Bangkok
Nitrate as N *	mg/L	0.06	0.2	Not Detected	No Standard	Based on APHA (2017), 4500-NO3 (E)	Bangkok

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

Note : This Analysis test report is reissued to supersede report No.2329638-2, Date Reported : May 31, 2022 due to revise guideline/specification

Sampled By : Adisak Phomphai

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

Approved by

Sawitree N.

Sawitree Naisangiam
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

14025-23/ EMAIL

S:\Reports_ALL_GL.rpt (1:28PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : EIA Monitoring
Project Location :



TESTING
No.0009
Lot ID: 2262546
Date Received : Jun 17, 2022
Date Reported : Jul 27, 2022
Report Number : 2354825-1 Rev. No.1

Page 1 of 1

Sample Number 2262546-4
Sampled Date Jun 16, 2022 10:50 AM
Sample Description Wastewater
Location Retention Pond
Date Analysis Commenced Jun 17, 2022
Condition of Sample Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.002	≤0.25	Based on APHA (2017), 3125	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Based on APHA (2017), 3125	Bangkok
Chromium	mg/L	0.0003	0.0005	0.001	No Standard	Based on APHA (2017), 3125	Bangkok
Lead	mg/L	0.0003	0.0005	Not Detected	≤0.2	Based on APHA (2017), 3125	Bangkok
Mercury *	mg/L	0.0001	0.0005	Not Detected	≤0.005	Based on APHA (2017), 3112	Bangkok
Water Testing							
BOD (5 days at 20 degree C)	mg/L	-	2	10	≤20	Based on APHA (2017), 5210 B	Bangkok
COD	mg/L	1.5	5	101	≤120	Based on APHA (2017), 5220 D	Bangkok
pH at 25 degree C	-	-	-	8.2	5.5-9.0	Based on APHA (2017), 4500-H (B)	Bangkok
Sulfide *	mg/L	-	0.5	<0.5	≤1.0	Based on APHA (2017), 4500-S2(C), (F)	Bangkok
Temperature *	Degree C	-	-	33.2	≤40	Based on APHA (2017), 2550 B	Bangkok
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	1280	≤3000	Based on APHA (2017), 2540 C	Bangkok
Total Kjeldahl Nitrogen as N *	mg/L	0.15	1.0	5.5	≤100	Based on APHA (2017), 4500-Norg (C)	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	29	≤50	Based on APHA (2017), 2540 D	Bangkok

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

Note : This Analysis test report is reissued to supersede report No.2354824-1, Date Reported : Jun 23, 2022 due to revise guideline/specification

Sampled By : Adisak Phomphai

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

Technical Management

Chanatt L.

Chanattagam Inchom
Supervisor
โทรศัพท์ ๖-204-๔-4710

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager

โทรศัพท์ ๖-204-๔-6111

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

14025-23/ EMAIL

S:\Reports_ALL_GL.rpt (1:28PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :
Project Name : EIA Monitoring
Project Location :

TESTING
No.0009
Lot ID: 2262546
Date Received : Jun 17, 2022
Date Reported : Jul 27, 2022
Report Number : 2354825-2 Rev. No.1

Page 1 of 1

Sample Number 2262546-4
Sampled Date Jun 16, 2022 10:50 AM
Sample Description Wastewater
Location Retention Pond
Date Analysis Commenced Jun 17, 2022
Condition of Sample Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Calcium	mg/L	0.03	0.05	115	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Magnesium	mg/L	0.03	0.05	18.7	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
SAR *		-	0.10	7.71	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Sodium	mg/L	0.03	0.05	338	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	-	0.06	0.65	No Standard	Based on APHA (2017), 4500-NH3 (B), (F)	Bangkok
Conductivity at 25 degree C *	micromhos/cm	-	0.5	2364	No Standard	Based on APHA (2017), 2510 B	Bangkok
Nitrate as N *	mg/L	0.06	0.2	Not Detected	No Standard	Based on APHA (2017), 4500-NO3 (E)	Bangkok

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

Note : This Analysis test report is reissued to supersede report No.2354825-2, Date Reported : Jun 23, 2022 due to revise guideline/specification

Sampled By : Adisak Phomphai

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

Chanatt L.

Chanattagam Imchom
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

ภาคผนวก ค-5

ผลการตรวจวัดระดับเสียงในพื้นที่ทำงาน



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2271232

Date Received : Jun 30, 2022

Date Reported : Jul 06, 2022

Report Number: 2359788-1

Page 1 of 1

Sample Number 2271232-1
Parameter Noise (Leq 8 hrs.)
Location บริเวณอาคารหม้อเคียวและหม้อบั่น
Measurement Date Jun 29, 2022
Measurement by Adisak Phomphai

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
09:09 AM - 10:09 AM	72.5	77.2	71.7
10:09 AM - 11:09 AM	72.6	73.3	72.3
11:09 AM - 12:09 PM	72.6	73.7	72.3
12:09 PM - 01:09 PM	72.6	73.2	72.3
01:09 PM - 02:09 PM	72.3	73.1	72.0
02:09 PM - 03:09 PM	72.2	76.4	71.9
03:09 PM - 04:09 PM	72.2	72.9	71.9
04:09 PM - 05:09 PM	72.4	83.2	71.2

Leq Average 8 hrs. (dB(A))

72.4

Lmax (dB(A))

83.2

Standard (dB(A))

90

140

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

Standard : ประกาศกระทรวงอุตสาหกรรม เรื่อง มาตรการคุ้มครองความปลอดภัย
ในการประกอบกิจการโรงงานเกี่ยวกับสภาวะแวดล้อมในการทำงาน พ.ศ.๒๕๕๖

Technical Management

Sararat Mongkonjirawut
Supervisor

Approved by

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

ภาคผนวก ค-6

ผลการตรวจวัดระดับเสียงเฉลี่ยตลอดระยะเวลาการทำงาน



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2260110

Date Received : Jun 30, 2022

Date Reported : Jul 04, 2022

Report Number : 2316413-1

Page 1 of 1

Sample Number	2260110-3
Sampled Date	Jun 29, 2022
Sample Description	Noise Dose
Location	บริเวณอาคารหม้อเคียวและหม้อมัน
Personal Sampling	คุณอดิสร เนตรรักดี
Date Analysis Commenced	Jul 04, 2022

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Noise Dose (8 hrs.)	09:00 AM - 05:00 PM	%	-	1	<1	No Standard	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Bangkok
TWA (8 hrs.)	09:00 AM - 05:00 PM	dB(A)	-	-	63.9	85	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Bangkok

Guideline :

- MOL : 1. Notification of Department Labour Protection and Welfare on the Criteria and Procedures for Measurement and Analysis of Working Conditions in relation to Heat, Light or Noise Levels, including Duration and Types of Business that must perform (B.E. 2561)
2. Notification of Department of Labour Protection and Welfare on the Standard of Time Weighted Average (TWA) Noise Level (B.E. 2561)

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.

Approved by

Wichan Choonharat

Wichan Choonharat
Assistant 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-7

ผลการตรวจวัดฝุ่นละอองรวมในพื้นที่ทำงาน



Analysis / Test Report

TESTING
No.0009

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2260111

Date Received : Jun 28, 2022

Date Reported : Jul 05, 2022

Report Number : 2316419-1

Page 4 of 4

Sample Number 2260111-4
Sampled Date Jun 27, 2022
Sample Description Air Quality
Location ลานกองภาคตะกอนหม้อกรองและเส้า
Date Analysis Commenced Jun 28, 2022
Condition of Sample Drawn into two filter papers placed in each cassette
Barometric Pressure 753 mmHg
Atmospheric Temperature 33.0 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Respirable Dust	01:30 PM - 03:30 PM	mg/m3	-	0.15	<0.15	5	Based on NIOSH (1998), 0600	OSHA	Bangkok
Total dust	01:30 PM - 03:30 PM	mg/m3	-	0.15	<0.15	15	Based on NIOSH (1994), 0501	OSHA	Bangkok

Guideline :

OSHA : Occupational Safety and Health Administration

Sampled By : Anukun Wilasang

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

Saranya C.

Saranya Chalermthamrong
Scientist (4)

ภาคผนวก ค-8

ผลการตรวจวัดความร้อนในที่ทำงาน



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.

9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2260112

Date Received : Jun 30, 2022

Date Reported : Jul 04, 2022

Report Number: 2316423-1

Page 1 of 1

Sample Number 2260112-1
Parameter Heat Stress (Sampling Time : 02.00 PM - 04.00 PM)
Measurement Date Jun 27, 2022
Measurement by Jessadin Kongsukdithai
Location ปฏิบัติงาน 1 พื้นที่ (ชื่อ-นามสกุล ผู้ปฏิบัติงาน : - แผนก : -)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณอาคารหม้อเคียวและหม้อปั่น	120	29.4	27.4	34.0	33.9
Average (WBGT)		29.4			
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.

ภาคผนวก ค-9

ผลการตรวจวัดความเข้มของแสงสว่างในบริเวณการทำงาน



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2260177

Date Received : Jul 04, 2022

Date Reported : Jul 20, 2022

Report Number : 2378425-1

Page 1 of 1

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Spot	Average	Guideline Limit Spot/Min	Average	Comment
Spot - อาคารวิศวกรรม : 1st Floor : ห้องพยานา : จุดปฐมพยานา									
1	2260177-1	28 Jun 2022	Day time	1	571	-	400-500	-	Pass
1	2260177-2	28 Jun 2022	Night time	1	573	-	400-500	-	Pass
Spot - อาคารวิศวกรรม : 1st Floor : แผนก QC : จุดใดตรวจ									
2	2260177-3	28 Jun 2022	Day time	1	1,075	-	400-500	-	Pass
2	2260177-4	28 Jun 2022	Day time	2	1,168	-	300	-	
2	2260177-5	28 Jun 2022	Day time	3	1,122	-	200	-	
2	2260177-6	28 Jun 2022	Night time	1	1,223	-	400-500	-	Pass
2	2260177-7	28 Jun 2022	Night time	2	1,250	-	300	-	
2	2260177-8	28 Jun 2022	Night time	3	1,212	-	200	-	
Spot - อาคารวิศวกรรม : 1st Floor : ห้องเตรียมสารเคมี : หน้า Hood									
3	2260177-9	28 Jun 2022	Day time	1	772	-	400-500	-	Pass
3	2260177-10	28 Jun 2022	Night time	1	722	-	400-500	-	Pass
Spot - อาคารวิศวกรรม : 1st Floor : ห้องวิเคราะห์สิ่งปนเปื้อน (แผนก QA) : งานเอกสาร									
4	2260177-11	28 Jun 2022	Day time	1	643	-	400-500	-	Pass
4	2260177-12	28 Jun 2022	Night time	1	719	-	400-500	-	Pass
Spot - อาคารวิศวกรรม : 1st Floor : แผนก QC : ห้อง POL Analysis : จุดวิเคราะห์ด้วยยาง									
5	2260177-13	28 Jun 2022	Day time	1	466	-	400-500	-	Pass
5	2260177-14	28 Jun 2022	Night time	1	486	-	400-500	-	Pass
Spot - อาคารวิศวกรรม : 1st Floor : สำนักงาน : ห้องเอกสาร (QA)									
6	2260177-15	28 Jun 2022	Day time	1	634	-	400-500	-	Pass
6	2260177-16	28 Jun 2022	Night time	1	629	-	400-500	-	Pass
Spot - อาคารวิศวกรรม : 1st Floor : สำนักงาน : ห้องคอมพิวเตอร์									
7	2260177-17	28 Jun 2022	Day time	1	608	-	400-500	-	Pass
7	2260177-18	28 Jun 2022	Night time	1	640	-	400-500	-	Pass
Spot - อาคารวิศวกรรม : 1st Floor : ห้อง Safety : ห้องฉุกเฉิน/บริการ									
8	2260177-19	28 Jun 2022	Day time	1	654	-	400-500	-	Pass
8	2260177-20	28 Jun 2022	Night time	1	585	-	400-500	-	Pass

Measurement by : Jessadin Kongsukdithai 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 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 : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2288014

Date Received : Jul 04, 2022

Date Reported : Jul 20, 2022

Report Number : 2378427-1

Page 1 of 1

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Spot	Average	Guideline Limit Spot/Min	Average	Comment
Area - อาคารวิศวกรรม : 2nd Floor : Meeting Room 1									
1.1	2288014-1	28 Jun 2022	Day time	1	490	584.7	150	300	Pass
1.2	2288014-2	28 Jun 2022	Day time	2	531				
1.3	2288014-3	28 Jun 2022	Day time	3	524				
1.4	2288014-4	28 Jun 2022	Day time	4	473				
1.5	2288014-5	28 Jun 2022	Day time	5	691				
1.6	2288014-6	28 Jun 2022	Day time	6	642				
1.7	2288014-7	28 Jun 2022	Day time	7	648				
1.8	2288014-8	28 Jun 2022	Day time	8	637				
1.9	2288014-9	28 Jun 2022	Day time	9	600				
1.10	2288014-10	28 Jun 2022	Day time	10	609				
1.11	2288014-11	28 Jun 2022	Day time	11	651				
1.12	2288014-12	28 Jun 2022	Day time	12	625				
Spot - อาคารวิศวกรรม : 2nd Floor : Factory Room : ห้องควบคุมอาคาร									
2	2288014-13	28 Jun 2022	Day time	1	449	-	400-500	-	Pass
Spot - อาคารวิศวกรรม : 2nd Floor : Factory Room : ห้องควบคุมไฟฟ้า									
3	2288014-14	28 Jun 2022	Day time	1	525	-	400-500	-	Pass
Spot - อาคารวิศวกรรม : 2nd Floor : Factory Room : ห้องควบคุมการจราจร									
4	2288014-15	28 Jun 2022	Day time	1	480	-	400-500	-	Pass
Spot - อาคารวิศวกรรม : 2nd Floor : Factory Room : ห้องควบคุมสัญญาณ									
5	2288014-16	28 Jun 2022	Day time	1	543	-	400-500	-	Pass

Measurement by : Jessadin Kongsukdithai 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 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 : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2288015
Date Received : Jul 04, 2022
Date Reported : Jul 20, 2022
Report Number : 2378428-1

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	2288015-1	28 Jun 2022	Day time	1	759	-	400-500	-	Pass
2	2288015-2	28 Jun 2022	Day time	1	626	-	400-500	-	Pass
3	2288015-3	28 Jun 2022	Day time	1	693	-	400-500	-	Pass
4	2288015-4	28 Jun 2022	Day time	1	738	-	400-500	-	Pass
5	2288015-5	28 Jun 2022	Day time	1	470	-	400-500	-	Pass
6	2288015-6	28 Jun 2022	Day time	1	496	-	400-500	-	Pass
7	2288015-7	28 Jun 2022	Day time	1	631	-	400-500	-	Pass

Measurement by : Jessadin Kongsukdithai 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



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2288016
Date Received : Jul 04, 2022
Date Reported : Jul 20, 2022
Report Number : 2378429-1

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	2288016-1	28 Jun 2022	Day time	1	536	-	400-500	-	Pass
1	2288016-2	28 Jun 2022	Night time	1	533	-	400-500	-	Pass
2	2288016-3	28 Jun 2022	Day time	1	645	-	400-500	-	Pass
2	2288016-4	28 Jun 2022	Night time	1	662	-	400-500	-	Pass
3	2288016-5	28 Jun 2022	Day time	1	533	-	400-500	-	Pass
4	2288016-6	28 Jun 2022	Day time	1	570	-	400-500	-	Pass

Measurement by : Jessadin Kongsukdithai 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



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2288017

Date Received : Jul 04, 2022

Date Reported : Jul 20, 2022

Report Number : 2378430-1

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	2288017-1	28 Jun 2022	Day time	1	460	-	400-500	-	Pass
Spot - อาคาร Warehouse : 1st Floor : แผนกฝ่ายขาย : โต๊ะคุณอุษณ									
2	2288017-2	28 Jun 2022	Day time	1	556	-	400-500	-	Pass
Spot - อาคาร Warehouse : 1st Floor : Office : โต๊ะคุณสุพรรณ									
3	2288017-3	28 Jun 2022	Day time	1	634	-	400-500	-	Pass
Spot - อาคาร Warehouse : 1st Floor : Office : โต๊ะคุณประภากร									

Measurement by : Jessadin Kongsukdithai 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

S:\Reports\Light.rpt

14025-23/ EMAIL



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2288018

Date Received : Jul 04, 2022

Date Reported : Jul 20, 2022

Report Number : 2378431-1

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	2288018-1	28 Jun 2022	Day time	1	476	-	400-500	-	Pass
Spot - แผนกซึ่งผลิตภัณฑ์ : 1st Floor : แผนกซึ่งผลิตภัณฑ์ : ห้องซึ่งสินค้า : โต๊ะซึ่งน้ำหนัก									
2	2288018-2	28 Jun 2022	Day time	1	455	-	400-500	-	Pass
Spot - แผนกซึ่งผลิตภัณฑ์ : 1st Floor : แผนกซึ่งผลิตภัณฑ์ : ห้องซึ่งสินค้า : โต๊ะคุณจินตรา (สอน.)									

Measurement by : Jessadin Kongsukdithai 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

S:\Reports\Light.rpt

14025-23/ EMAIL



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2288019
Date Received : Jul 04, 2022
Date Reported : Jul 20, 2022
Report Number : 2378432-1

Page 1 of 2

Page 1 of 7

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - Mill 3 : 3rd Floor : Control Room #1									
1.1	2288019-1	28 Jun 2022	Day time	1	514	463.3	100	200	Pass
1.2	2288019-2	28 Jun 2022	Day time	2	462				
1.3	2288019-3	28 Jun 2022	Day time	3	539				
1.4	2288019-4	28 Jun 2022	Day time	4	498				
1.5	2288019-5	28 Jun 2022	Day time	5	354				
1.6	2288019-6	28 Jun 2022	Day time	6	413				
1.1	2288019-7	28 Jun 2022	Night time	1	570	505.3	100	200	Pass
1.2	2288019-8	28 Jun 2022	Night time	2	543				
1.3	2288019-9	28 Jun 2022	Night time	3	545				
1.4	2288019-10	28 Jun 2022	Night time	4	466				
1.5	2288019-11	28 Jun 2022	Night time	5	407				
1.6	2288019-12	28 Jun 2022	Night time	6	501				



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 2288019
Date Received : Jul 04, 2022
Date Reported : Jul 20, 2022
Report Number : 2378432-1

Page 2 of 2

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 - Mill 3 : 3rd Floor : Control Room #2									
2.1	2288019-13	28 Jun 2022	Day time	1	632	475.6	100	200	Pass
2.2	2288019-14	28 Jun 2022	Day time	2	659				
2.3	2288019-15	28 Jun 2022	Day time	3	643				
2.4	2288019-16	28 Jun 2022	Day time	4	455				
2.5	2288019-17	28 Jun 2022	Day time	5	569				
2.6	2288019-18	28 Jun 2022	Day time	6	615				
2.7	2288019-19	28 Jun 2022	Day time	7	694				
2.8	2288019-20	28 Jun 2022	Day time	8	763				
2.9	2288019-21	28 Jun 2022	Day time	9	753				
2.10	2288019-22	28 Jun 2022	Day time	10	492				
2.11	2288019-23	28 Jun 2022	Day time	11	540				
2.12	2288019-24	28 Jun 2022	Day time	12	584				
2.1	2288019-25	28 Jun 2022	Night time	1	404	475.6	100	200	Pass
2.2	2288019-26	28 Jun 2022	Night time	2	378				
2.3	2288019-27	28 Jun 2022	Night time	3	294				
2.4	2288019-28	28 Jun 2022	Night time	4	320				
2.5	2288019-29	28 Jun 2022	Night time	5	357				
2.6	2288019-30	28 Jun 2022	Night time	6	303				
2.7	2288019-31	28 Jun 2022	Night time	7	407				
2.8	2288019-32	28 Jun 2022	Night time	8	325				
2.9	2288019-33	28 Jun 2022	Night time	9	472				
2.10	2288019-34	28 Jun 2022	Night time	10	369				
2.11	2288019-35	28 Jun 2022	Night time	11	373				
2.12	2288019-36	28 Jun 2022	Night time	12	332				

Measurement by : Jessadin Kongsukdithai 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

14025-23/ EMAIL

S:\Reports\Light.rpt

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

14025-23/ EMAIL

S:\Reports\Light.rpt



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2288020

Date Received : Jul 04, 2022

Date Reported : Jul 20, 2022

Report Number : 2378433-1

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 - Evaporator House : 3rd Floor : Evap DCS Control Room									
1.1	2288020-1	28 Jun 2022	Day time	1	299	327.9	100	200	Pass
1.2	2288020-2	28 Jun 2022	Day time	2	279				
1.3	2288020-3	28 Jun 2022	Day time	3	242				
1.4	2288020-4	28 Jun 2022	Day time	4	212				
1.5	2288020-5	28 Jun 2022	Day time	5	518				
1.6	2288020-6	28 Jun 2022	Day time	6	237				
1.7	2288020-7	28 Jun 2022	Day time	7	575				
1.8	2288020-8	28 Jun 2022	Day time	8	273				
1.9	2288020-9	28 Jun 2022	Day time	9	427				
1.10	2288020-10	28 Jun 2022	Day time	10	297				
1.11	2288020-11	28 Jun 2022	Day time	11	241				
1.12	2288020-12	28 Jun 2022	Day time	12	383				
1.1	2288020-13	28 Jun 2022	Night time	1	512	327.9	100	200	Pass
1.2	2288020-14	28 Jun 2022	Night time	2	295				
1.3	2288020-15	28 Jun 2022	Night time	3	438				
1.4	2288020-16	28 Jun 2022	Night time	4	338				
1.5	2288020-17	28 Jun 2022	Night time	5	343				
1.6	2288020-18	28 Jun 2022	Night time	6	409				
1.7	2288020-19	28 Jun 2022	Night time	7	333				
1.8	2288020-20	28 Jun 2022	Night time	8	342				
1.9	2288020-21	28 Jun 2022	Night time	9	413				
1.10	2288020-22	28 Jun 2022	Night time	10	244				
1.11	2288020-23	28 Jun 2022	Night time	11	235				
1.12	2288020-24	28 Jun 2022	Night time	12	407				

Technical Management

Supt 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



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2288020

Date Received : Jul 04, 2022

Date Reported : Jul 20, 2022

Report Number : 2378433-1

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 - Evaporator House : 3rd Floor : Evap MCC Room									
2.1	2288020-25	28 Jun 2022	Day time	1	475	336.1	100	200	Pass
2.2	2288020-26	28 Jun 2022	Day time	2	411				
2.3	2288020-27	28 Jun 2022	Day time	3	415				
2.4	2288020-28	28 Jun 2022	Day time	4	335				
2.5	2288020-29	28 Jun 2022	Day time	5	361				
2.6	2288020-30	28 Jun 2022	Day time	6	412				
2.7	2288020-31	28 Jun 2022	Day time	7	240				
2.8	2288020-32	28 Jun 2022	Day time	8	172				
2.9	2288020-33	28 Jun 2022	Day time	9	212				
2.10	2288020-34	28 Jun 2022	Day time	10	348				
2.11	2288020-35	28 Jun 2022	Day time	11	169				
2.12	2288020-36	28 Jun 2022	Day time	12	483				
2.1	2288020-37	28 Jun 2022	Night time	1	408	359.0	100	200	Pass
2.2	2288020-38	28 Jun 2022	Night time	2	475				
2.3	2288020-39	28 Jun 2022	Night time	3	513				
2.4	2288020-40	28 Jun 2022	Night time	4	467				
2.5	2288020-41	28 Jun 2022	Night time	5	422				
2.6	2288020-42	28 Jun 2022	Night time	6	435				
2.7	2288020-43	28 Jun 2022	Night time	7	209				
2.8	2288020-44	28 Jun 2022	Night time	8	168				
2.9	2288020-45	28 Jun 2022	Night time	9	233				
2.10	2288020-46	28 Jun 2022	Night time	10	249				
2.11	2288020-47	28 Jun 2022	Night time	11	217				
2.12	2288020-48	28 Jun 2022	Night time	12	512				

Measurement by : Jessadin Kongsukdithai 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

Supt 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



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2288021

Date Received : Jul 04, 2022

Date Reported : Jul 20, 2022

Report Number : 2378434-1

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	
	Spot - Boiling House : 3rd Floor : Control Room : วัดแสงภายใน								
1	2288021-1	28 Jun 2022	Day time	1	582	-	400-500	-	Pass
1	2288021-2	28 Jun 2022	Night time	1	635	-	400-500	-	Pass
	Spot - Boiling House : 3rd Floor : no monitor #1								
2	2288021-3	28 Jun 2022	Day time	1	578	-	400-500	-	Pass
2	2288021-4	28 Jun 2022	Night time	1	630	-	400-500	-	Pass
	Spot - Boiling House : 3rd Floor : no monitor #2								
3	2288021-5	28 Jun 2022	Day time	1	557	-	400-500	-	Pass
3	2288021-6	28 Jun 2022	Night time	1	657	-	400-500	-	Pass

Measurement by : Jessadin Kongsukdithai 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

14025-23/ EMAIL

S:\Reports\Light.rpt



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2288022

Date Received : Jul 04, 2022

Date Reported : Jul 20, 2022

Report Number : 2378435-1

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 - Boiling House : 4th Floor : Control Room (DCS)									
1.1	2288022-1	28 Jun 2022	Day time	1	366	403.8	100	200	Pass
1.2	2288022-2	28 Jun 2022	Day time	2	438				
1.3	2288022-3	28 Jun 2022	Day time	3	435				
1.4	2288022-4	28 Jun 2022	Day time	4	400				
1.5	2288022-5	28 Jun 2022	Day time	5	392				
1.6	2288022-6	28 Jun 2022	Day time	6	416				
1.7	2288022-7	28 Jun 2022	Day time	7	455				
1.8	2288022-8	28 Jun 2022	Day time	8	378				
1.9	2288022-9	28 Jun 2022	Day time	9	349				
1.10	2288022-10	28 Jun 2022	Day time	10	409				
1.1	2288022-11	28 Jun 2022	Night time	1	488	473.7	100	200	Pass
1.2	2288022-12	28 Jun 2022	Night time	2	457				
1.3	2288022-13	28 Jun 2022	Night time	3	485				
1.4	2288022-14	28 Jun 2022	Night time	4	530				
1.5	2288022-15	28 Jun 2022	Night time	5	467				
1.6	2288022-16	28 Jun 2022	Night time	6	497				
1.7	2288022-17	28 Jun 2022	Night time	7	541				
1.8	2288022-18	28 Jun 2022	Night time	8	420				
1.9	2288022-19	28 Jun 2022	Night time	9	414				
1.10	2288022-20	28 Jun 2022	Night time	10	438				

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

14025-23/ EMAIL

S:\Reports\Light.rpt



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2288022

Date Received : Jul 04, 2022

Date Reported : Jul 20, 2022

Report Number : 2378435-1

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 - Boiling House : 4th Floor : Control Room (MDB)									
2.1	2288022-21	28 Jun 2022	Day time	1	450	516.6	100	200	Pass
2.2	2288022-22	28 Jun 2022	Day time	2	586				
2.3	2288022-23	28 Jun 2022	Day time	3	572				
2.4	2288022-24	28 Jun 2022	Day time	4	549				
2.5	2288022-25	28 Jun 2022	Day time	5	493				
2.6	2288022-26	28 Jun 2022	Day time	6	450				
2.7	2288022-27	28 Jun 2022	Day time	7	512				
2.8	2288022-28	28 Jun 2022	Day time	8	521				
2.1	2288022-29	28 Jun 2022	Night time	1	544	503.0	100	200	Pass
2.2	2288022-30	28 Jun 2022	Night time	2	546				
2.3	2288022-31	28 Jun 2022	Night time	3	557				
2.4	2288022-32	28 Jun 2022	Night time	4	524				
2.5	2288022-33	28 Jun 2022	Night time	5	429				
2.6	2288022-34	28 Jun 2022	Night time	6	475				
2.7	2288022-35	28 Jun 2022	Night time	7	480				
2.8	2288022-36	28 Jun 2022	Night time	8	469				

Measurement by : Jessadin Kongsukdithai 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



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2288023

Date Received : Jul 04, 2022

Date Reported : Jul 20, 2022

Report Number : 2378436-1

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 - Refinery : 5th Floor : Control Room									
1.1	2288023-1	28 Jun 2022	Day time	1	406	360.1	150	300	Pass
1.2	2288023-2	28 Jun 2022	Day time	2	214				
1.3	2288023-3	28 Jun 2022	Day time	3	341				
1.4	2288023-4	28 Jun 2022	Day time	4	183				
1.5	2288023-5	28 Jun 2022	Day time	5	309				
1.6	2288023-6	28 Jun 2022	Day time	6	419				
1.7	2288023-7	28 Jun 2022	Day time	7	446				
1.8	2288023-8	28 Jun 2022	Day time	8	521				
1.9	2288023-9	28 Jun 2022	Day time	9	424				
1.10	2288023-10	28 Jun 2022	Day time	10	336				
1.1	2288023-11	28 Jun 2022	Night time	1	258	360.1	150	300	Pass
1.2	2288023-12	28 Jun 2022	Night time	2	209				
1.3	2288023-13	28 Jun 2022	Night time	3	389				
1.4	2288023-14	28 Jun 2022	Night time	4	207				
1.5	2288023-15	28 Jun 2022	Night time	5	411				
1.6	2288023-16	28 Jun 2022	Night time	6	432				
1.7	2288023-17	28 Jun 2022	Night time	7	487				
1.8	2288023-18	28 Jun 2022	Night time	8	308				
1.9	2288023-19	28 Jun 2022	Night time	9	409				
1.10	2288023-20	28 Jun 2022	Night time	10	316				

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 : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2288023

Date Received : Jul 04, 2022

Date Reported : Jul 20, 2022

Report Number : 2378436-1

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 - อาคาร Refinery : 5th Floor : MDB Room									
2.1	2288023-21	28 Jun 2022	Day time	1	451	317.2	100	200	Pass
2.2	2288023-22	28 Jun 2022	Day time	2	179				
2.3	2288023-23	28 Jun 2022	Day time	3	359				
2.4	2288023-24	28 Jun 2022	Day time	4	220				
2.5	2288023-25	28 Jun 2022	Day time	5	213				
2.6	2288023-26	28 Jun 2022	Day time	6	319				
2.7	2288023-27	28 Jun 2022	Day time	7	223				
2.8	2288023-28	28 Jun 2022	Day time	8	610				
2.9	2288023-29	28 Jun 2022	Day time	9	173				
2.10	2288023-30	28 Jun 2022	Day time	10	406				
2.11	2288023-31	28 Jun 2022	Day time	11	323				
2.12	2288023-32	28 Jun 2022	Day time	12	364				
2.1	2288023-33	28 Jun 2022	Night time	1	606	317.2	100	200	Pass
2.2	2288023-34	28 Jun 2022	Night time	2	224				
2.3	2288023-35	28 Jun 2022	Night time	3	323				
2.4	2288023-36	28 Jun 2022	Night time	4	272				
2.5	2288023-37	28 Jun 2022	Night time	5	321				
2.6	2288023-38	28 Jun 2022	Night time	6	222				
2.7	2288023-39	28 Jun 2022	Night time	7	210				
2.8	2288023-40	28 Jun 2022	Night time	8	512				
2.9	2288023-41	28 Jun 2022	Night time	9	183				
2.10	2288023-42	28 Jun 2022	Night time	10	392				
2.11	2288023-43	28 Jun 2022	Night time	11	327				
2.12	2288023-44	28 Jun 2022	Night time	12	322				

Measurement by : Jessadin Kongsukdithai 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 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

14025-23/ EMAIL

S:\Reports\Light.rpt



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370

P/O :

Project Name : EIA Monitoring

Project Location :

Lot ID: 2288024

Date Received : Jul 04, 2022

Date Reported : Jul 20, 2022

Report Number : 2378437-1

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	
Spot - อาคารฟอส : 1st Floor : โต๊ะทำงาน (โต๊ะฝ่ายของ)									
1	2288024-1	28 Jun 2022	Day time	1	684	-	400-500	-	Pass
Spot - อาคารฟอส : 1st Floor : โต๊ะคุณเริ่มรัตน์									
2	2288024-2	28 Jun 2022	Day time	1	412	-	400-500	-	Pass
Spot - อาคารฟอส : 1st Floor : โต๊ะคุณเจตนาภ									
3	2288024-3	28 Jun 2022	Day time	1	413	-	400-500	-	Pass
Spot - อาคารฟอส : 1st Floor : โต๊ะคุณเสกการ									
4	2288024-4	28 Jun 2022	Day time	1	422	-	400-500	-	Pass
Spot - อาคารฟอส : 1st Floor : สำนักงาน : โต๊ะคุณจินตนา									
5	2288024-5	28 Jun 2022	Day time	1	406	-	400-500	-	Pass
Spot - อาคารฟอส : 1st Floor : สำนักงาน : โต๊ะคุณพิมพ์ลา									
6	2288024-6	28 Jun 2022	Day time	1	408	-	400-500	-	Pass

Measurement by : Jessadin Kongsukdithai 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 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

14025-23/ EMAIL

S:\Reports\Light.rpt

ภาคผนวก ง

ใบรับรองการสอบเทียบเครื่องมือ



รายการเครื่องมือที่ใช้ในการวิเคราะห์ / ทดสอบ

Sample Name	Parameter	Equipment Name	ID No.	Calibrated Date	Next Cal	Freq. Calibrate (Months)
Ambient	Total Suspended Particulate	High Volume	NKH_FS0052	-	-	On site Calibration
Ambient	Total Suspended Particulate	High Volume	NKH_FS0049	-	-	On site Calibration
Ambient	Total Suspended Particulate	High Volume	NKH_FS0050	-	-	On site Calibration
Ambient	Total Suspended Particulate	High Volume	NKH_FS0051	-	-	On site Calibration
Ambient	Total Suspended Particulate	Digital Balance	BKK_EN0004	25-Feb-22	25-Feb-23	12
Ambient	Particulate Matter (PM-10)	High Volume	NKH_FS0045	-	-	On site Calibration
Ambient	Particulate Matter (PM-10)	High Volume	NKH_FS0047	-	-	On site Calibration
Ambient	Particulate Matter (PM-10)	High Volume	NKH_FS0046	-	-	On site Calibration
Ambient	Particulate Matter (PM-10)	High Volume	NKH_FS0048	-	-	On site Calibration
Ambient	Particulate Matter (PM-10)	Digital Balance	BKK_EN0004	25-Feb-22	25-Feb-23	12
Ambient	Nitrogen Dioxide	NO ₂ Analyzer	NKH_FS0078	4-Jan-22	4-Jul-22	6
Ambient	Nitrogen Dioxide	NO ₂ Analyzer	NKH_FS0082	4-Jan-22	4-Jul-22	6
Ambient	Nitrogen Dioxide	NO ₂ Analyzer	NKH_FS0084	4-Jan-22	4-Jul-22	6
Ambient	Nitrogen Dioxide	NO ₂ Analyzer	NKH_FS0080	4-Jan-22	4-Jul-22	6
Ambient	Sulfur Dioxide	SO ₂ Analyzer	NKH_FS0079	4-Jan-22	4-Jul-22	6
Ambient	Sulfur Dioxide	SO ₂ Analyzer	NKH_FS0083	4-Jan-22	4-Jul-22	6
Ambient	Sulfur Dioxide	SO ₂ Analyzer	NKH_FS0085	4-Jan-22	4-Jul-22	6
Ambient	Sulfur Dioxide	SO ₂ Analyzer	NKH_FS0081	4-Jan-22	4-Jul-22	6
Ambient	Wind Speed / Wind Direction	Wind Speed / Wind Direction	NKH_FS0056	24-Feb-21	25-Aug-22	18



รายการเครื่องมือที่ใช้ในการวิเคราะห์ / ทดสอบ (ต่อ)

Sample Name	Parameter	Equipment Name	ID No.	Calibrated Date	Next Cal	Freq. Calibrate (Months)
Noise	Leq 24 hrs	Sound Calibrator	NKH_FS0019	20-Aug-21	20-Aug-22	12
Noise	Leq 24 hrs	Sound Level Meter	NKH_FS0026	20-Aug-21	20-Aug-22	12
Noise	Leq 24 hrs	Sound Level Meter	NKH_FS0007	14-Jul-21	14-Jul-22	12
Noise	Leq 24 hrs	Sound Level Meter	NNG_FS0013	22-Feb-22	22-Feb-23	12
Noise	Leq 24 hrs	Sound Level Meter	NKH_FS0001	3-May-22	3-May-23	12
Noise	Leq 24 hrs	Sound Level Meter	NKH_FS0008	14-Jul-21	14-Jul-22	12
Noise	Leq 24 hrs	Sound Level Meter	NKH_FS0027	20-Aug-21	20-Aug-22	12
Noise	Noise Annoyance	Sound Calibrator	NKH_FS0019	20-Aug-21	20-Aug-22	12
Noise	Noise Annoyance	Sound Level Meter	NKH_FS0026	20-Aug-21	20-Aug-22	12
Noise	Noise Annoyance	Sound Level Meter	NKH_FS0001	3-May-22	3-May-23	12
Noise	Noise Annoyance	Sound Level Meter	NNG_FS0013	22-Feb-22	22-Feb-23	12
Noise	Noise Annoyance	Sound Level Meter	NKH_FS0008	14-Jul-21	14-Jul-22	12
Noise	Noise Annoyance	Sound Level Meter	NKH_FS0003	3-May-22	3-May-23	12
Noise	Noise Annoyance	Sound Level Meter	NKH_FS0005	3-May-22	3-May-23	12
Noise	Noise Annoyance	Sound Level Meter	NKH_FS0006	14-Jul-21	14-Jul-22	12
Noise	Noise Annoyance	Sound Level Meter	NKH_FS0027	20-Aug-21	20-Aug-22	12
Noise	Leq 8 hrs	Sound Calibrator	NKH_FS0019	20-Aug-21	20-Aug-22	12
Noise	Leq 8 hrs	Sound Level Meter	NKH_FS0002	3-May-22	3-May-23	12
Noise	Noise Dose, TWA	Dose Badge Reader	NNG_FS0007	22-Apr-22	22-Apr-23	12



ALS Laboratory Group (Thailand) Co., Ltd.
104 Phatthanakan 40, Phatthanakan Rd., Khwaeng
Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand
T +66 2 760 3000 E +66 2 760 3197

รายการเครื่องมือที่ใช้ในการวิเคราะห์ / ทดสอบ (ต่อ)

Sample Name	Parameter	Equipment Name	ID No.	Calibrated Date	Next Cal	Freq. Calibrate (Months)
Workplace	Total Dust	Field Rotameter	BKK_FS1163	1-Apr-22	1-Jul-22	3
Workplace	Total Dust	Digital Balance	BKK_EN0004	25-Feb-22	25-Feb-23	12
Workplace	Respirable Dust	Field Rotameter	BKK_FS1163	1-Apr-22	1-Jul-22	3
Workplace	Respirable Dust	Digital Balance	BKK_EN0004	25-Feb-22	25-Feb-23	12
Heat	Heat Stress	Heat Stress Monitor	NKH_FS0059	2-Feb-22	2-Feb-23	12
Illuminance	Illuminance	Lux Meter	NNG_FS0015	24-Feb-22	24-Feb-23	12
Water Lab	pH at 25 °C	pH meter	BKK_EN0072	26-Mar-21	24-Sep-22	18
Water Lab	Ammonia Nitrogen	Discrete analyzer	BKK_EN0037	28-Jun-21	28-Jun-22	12
Water Lab	Sulfide	Burette	BKK_EN0171	30-Mar-21	28-Sep-22	18
Water Lab	Sulfide	Chamber (Cold Room)	BKK_EN0167	18-May-21	16-Nov-22	18
Water Lab	Nitrate	Discrete analyzer	BKK_EN0037	28-Jun-21	28-Jun-22	12
Water Lab	Total Kjeldahl Nitrogen	Digestion Unit	BKK_EN0141	4-Aug-21	2-Feb-23	18
Water Lab	Total Kjeldahl Nitrogen	Discrete analyzer	BKK_EN0037	28-Jun-21	28-Jun-22	12
Water Lab	Total Suspended Solids	Electronic Top-Loading Balance	BKK_EN0002	25-Feb-22	25-Feb-23	12
Water Lab	Total Suspended Solids	Oven	BKK_EN0009	2-Sep-21	3-Mar-23	18
Water Lab	Total Dissolved Solids 180°C	Electronic Top-Loading Balance	BKK_EN0002	25-Feb-22	25-Feb-23	12
Water Lab	Total Dissolved Solids 180°C	Oven	BKK_EN0007	1-Dec-21	1-Jun-23	18
Water Lab	Conductivity	Conductivity meter	BKK_EN0065	19-Nov-21	20-May-23	18



ALS Laboratory Group (Thailand) Co., Ltd.
104 Phatthanakan 40, Phatthanakan Rd., Khwaeng
Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand
T +66 2 760 3000 E +66 2 760 3197

รายการเครื่องมือที่ใช้ในการวิเคราะห์ / ทดสอบ (ต่อ)

Sample Name	Parameter	Equipment Name	ID No.	Calibrated Date	Next Cal	Freq. Calibrate (Months)
Water Lab	BOD (5 days at 20°C)	DO Meter	BKK_EN0017	24-May-22	24-Nov-23	18
Water Lab	BOD (5 days at 20°C)	Incubator	BKK_EN0005	4-Oct-21	4-Apr-23	18
Water Lab	COD	Hot Block	BKK_EN0222	21-Mar-22	21-Mar-23	12
Water Lab	COD	Spectrophotometer	BKK_EN0018	15-Oct-21	15-Oct-22	12
Water Lab	Temperature	pH Meter	BKK_LG0004	10-Feb-22	10-Feb-23	12
Water Lab	Calcium	ICP-OES	BKK_EL0037	13-Sep-21	12-Mar-23	18
Water Lab	Calcium	Hot Block	BKK_EL0054	7-Apr-22	7-Oct-23	18
Water Lab	Calcium	Chamber (Cold Room)	BKK_EN0167	18-May-21	16-Nov-22	18
Water Lab	Magnesium	ICP-OES	BKK_EL0037	13-Sep-21	12-Mar-23	18
Water Lab	Magnesium	Hot Block	BKK_EL0054	7-Apr-22	7-Oct-23	18
Water Lab	Magnesium	Chamber (Cold Room)	BKK_EN0167	18-May-21	16-Nov-22	18
Water Lab	Sodium	ICP-OES	BKK_EL0037	13-Sep-21	12-Mar-23	18
Water Lab	Sodium	Hot Block	BKK_EL0054	7-Apr-22	7-Oct-23	18
Water Lab	Sodium	Chamber (Cold Room)	BKK_EN0167	18-May-21	16-Nov-22	18
Water Lab	Lead	ICP-MS	BKK_EL0043	30-Sep-21	29-Mar-23	18
Water Lab	Lead	Hot Block	BKK_EL0054	7-Apr-22	7-Oct-23	18
Water Lab	Lead	Chamber (Cold Room)	BKK_EN0167	18-May-21	16-Nov-22	18



รายการเครื่องมือที่ใช้ในการวิเคราะห์ / ทดสอบ (ต่อ)

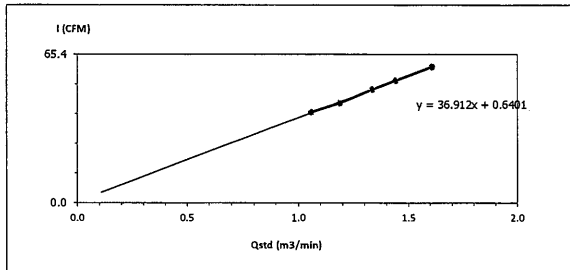
Sample Name	Parameter	Equipment Name	ID No.	Calibrated Date	Next Cal	Freq. Calibrate (Months)
Water Lab	Chromium	ICP-MS	BKK_EL0043	30-Sep-21	29-Mar-23	18
Water Lab	Chromium	Hot Block	BKK_EL0054	7-Apr-22	7-Oct-23	18
Water Lab	Chromium	Chamber (Cold Room)	BKK_EN0167	18-May-21	16-Nov-22	18
Water Lab	Arsenic	ICP-MS	BKK_EL0043	30-Sep-21	29-Mar-23	18
Water Lab	Arsenic	Hot Block	BKK_EL0054	7-Apr-22	7-Oct-23	18
Water Lab	Arsenic	Chamber (Cold Room)	BKK_EN0167	18-May-21	16-Nov-22	18
Water Lab	Cadmium	ICP-MS	BKK_EL0043	30-Sep-21	29-Mar-23	18
Water Lab	Cadmium	Hot Block	BKK_EL0054	7-Apr-22	7-Oct-23	18
Water Lab	Cadmium	Chamber (Cold Room)	BKK_EN0167	18-May-21	16-Nov-22	18
Water Lab	SAR	ICP-MS	BKK_EL0043	30-Sep-21	29-Mar-23	18
Water Lab	SAR	Hot Block	BKK_EL0054	7-Apr-22	7-Oct-23	18
Water Lab	SAR	Chamber (Cold Room)	BKK_EN0167	18-May-21	16-Nov-22	18
Water Lab	Mercury	DUO-CVAFS / CVAAS	BKK_EL0023	6-Jun-22	5-Jun-23	12



High Volume Air Sampler Calibration Worksheet

Project Site : Kaset Phon Sugar Co.,Ltd. Barometric Pressure (mm Hg) : 739
 Calibrate Location : โรงงานฟาร์มโรงงาน Temperature (°C) : 33
 Calibrate Date : 27-Jun-22 High Volume ID : NKH_FS0052
 CalibrationSheet No. : C-270622-NKH_FS0052 High Volume Model : TE-5170D
 Calibrator ID : NKH_FS0044 High Volume S/N : 5855
 Calibrator Model : TE-5028A Calibrator Slope : 1.64919
 Calibrator S/N : 3681 Calibrator Intercept : -0.06996

Test No.	Delta H ₂ O (inch)	Q _{std} (m ³ /min)	I : Chart (CFM)	Linear Regression
1	2.8	1.0573	40	Slope : 36.9118 Intercept : 0.6401 Correlation Coefficient : 0.9991
2	3.6	1.1895	44	
3	4.6	1.3355	50	
4	5.4	1.4411	54	
5	6.8	1.6086	60	



Calibrated by Sangtawan N.
 (Mr.Sangtawan Natasat)
 Field Scientist(1)

Approved by [Signature]
 (Mr. Noppong Juntarupan)
 Enviro Field Coordinator Scientist (3)

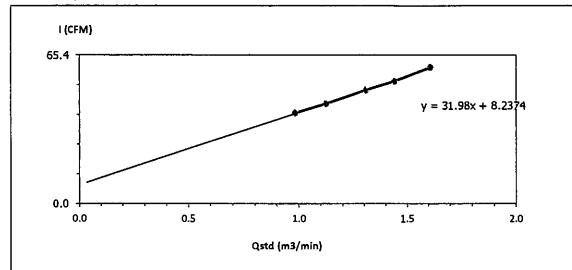
FORM NO.: F 06-073 REVISION NO.: ISSUE DATE: 14/03/16



High Volume Air Sampler Calibration Worksheet

Project Site : Kaset Phon Sugar Co.,Ltd. Barometric Pressure (mm Hg) : 739
 Calibrate Location : โรงงานฟาร์มโรงงาน Temperature (°C) : 33
 Calibrate Date : 27-Jun-22 High Volume ID : NKH_FS0049
 CalibrationSheet No. : C-270622-NKH_FS0049 High Volume Model : TE-5170D
 Calibrator ID : NKH_FS0044 High Volume S/N : 5852
 Calibrator Model : TE-5028A Calibrator Slope : 1.64919
 Calibrator S/N : 3681 Calibrator Intercept : -0.06996

Test No.	Delta H ₂ O (inch)	Q _{std} (m ³ /min)	I : Chart (CFM)	Linear Regression
1	2.4	0.9841	40	Slope : 31.9801 Intercept : 8.2374 Correlation Coefficient : 0.9993
2	3.2	1.1255	44	
3	4.4	1.3077	50	
4	5.4	1.4411	54	
5	6.8	1.6086	60	



Calibrated by Sangtawan N.
 (Mr.Sangtawan Natasat)
 Field Scientist(1)

Approved by [Signature]
 (Mr. Noppong Juntarupan)
 Enviro Field Coordinator Scientist (3)

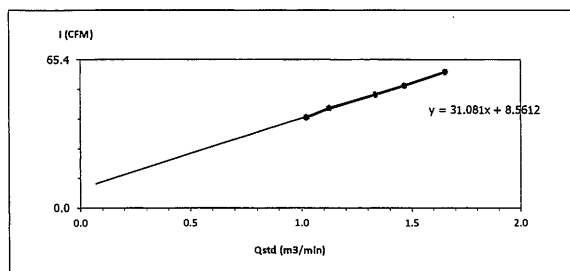
FORM NO.: F 06-073 REVISION NO.: ISSUE DATE: 14/03/16



High Volume Air Sampler Calibration Worksheet

Project Site : Kaset Phon Sugar Co.,Ltd. Barometric Pressure (mm Hg) : 739
 Calibrate Location : โรงงานฟาร์มโรงงาน Temperature (°C) : 33
 Calibrate Date : 27-Jun-22 High Volume ID : NKH_FS0050
 CalibrationSheet No. : C-270622-NKH_FS0050 High Volume Model : TE-5170D
 Calibrator ID : NKH_FS0044 High Volume S/N : 5853
 Calibrator Model : TE-5028A Calibrator Slope : 1.64919
 Calibrator S/N : 3681 Calibrator Intercept : -0.06996

Test No.	Delta H ₂ O (inch)	Q _{std} (m ³ /min)	I : Chart (CFM)	Linear Regression
1	2.6	1.0214	40	Slope : 31.0813 Intercept : 8.5612 Correlation Coefficient : 0.9993
2	3.2	1.1255	44	
3	4.6	1.3355	50	
4	5.6	1.4663	54	
5	7.2	1.6532	60	



Calibrated by Sangtawan N.
 (Mr.Sangtawan Natasat)
 Field Scientist(1)

Approved by [Signature]
 (Mr. Noppong Juntarupan)
 Enviro Field Coordinator Scientist (3)

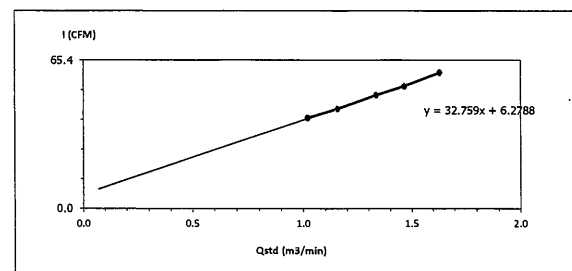
FORM NO.: F 06-073 REVISION NO.: ISSUE DATE: 14/03/16



High Volume Air Sampler Calibration Worksheet

Project Site : Kaset Phon Sugar Co.,Ltd. Barometric Pressure (mm Hg) : 739
 Calibrate Location : โรงงานฟาร์มโรงงาน Temperature (°C) : 33
 Calibrate Date : 27-Jun-22 High Volume ID : NKH_FS0051
 CalibrationSheet No. : C-270622-NKH_FS0051 High Volume Model : TE-5170D
 Calibrator ID : NKH_FS0044 High Volume S/N : 5854
 Calibrator Model : TE-5028A Calibrator Slope : 1.64919
 Calibrator S/N : 3681 Calibrator Intercept : -0.06996

Test No.	Delta H ₂ O (inch)	Q _{std} (m ³ /min)	I : Chart (CFM)	Linear Regression
1	2.6	1.0214	40	Slope : 32.7586 Intercept : 6.2788 Correlation Coefficient : 0.9994
2	3.4	1.1580	44	
3	4.6	1.3355	50	
4	5.6	1.4663	54	
5	7.0	1.6311	60	



Calibrated by Sangtawan N.
 (Mr.Sangtawan Natasat)
 Field Scientist(1)

Approved by [Signature]
 (Mr. Noppong Juntarupan)
 Enviro Field Coordinator Scientist (3)

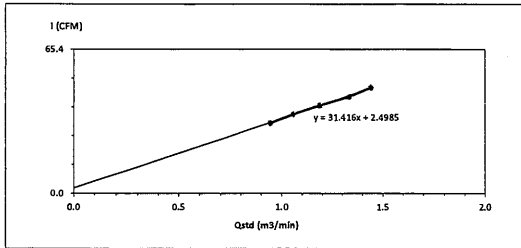
FORM NO.: F 06-073 REVISION NO.: ISSUE DATE: 14/03/16



High Volume Air Sampler Calibration Worksheet

Project Site: Kasat Phol Sugar Co., Ltd. Barometric Pressure (mm Hg): 739
Calibrate Location: บ้านสวนพหลฯ Temperature (°C): 33
Calibrate Date: 27-Jun-22 High Volume ID: NKH_FS0047
Calibration Sheet No.: C-270622-NKH_FS0047 High Volume Model: TE-5009X
Calibrator ID: NKH_FS0044 High Volume S/N: 5848
Calibrator Model: TE-5028A Calibrator Slope: 1.64919
Calibrator S/N: 3681 Calibrator Intercept: -0.06996

Test No.	Delta H ₂ O (Inch)	Q _{std} (m ³ /min)	I: Chart (CFM)	Linear Regression
1	2.2	0.9451	32	Slope: 31.4160 Intercept: 2.4985 Correlation Coefficient: 0.9988
2	2.8	1.0573	36	
3	3.6	1.1895	40	
4	4.6	1.3355	44	
5	5.4	1.4411	48	



Calibrated by: Sangtawan N.
(Mr. Sangtawan Natasat)
Field Scientist(1)

Approved by: [Signature]
(Mr. Noppong Juntarupan)
Enviro Field Coordinator Scientist (3)

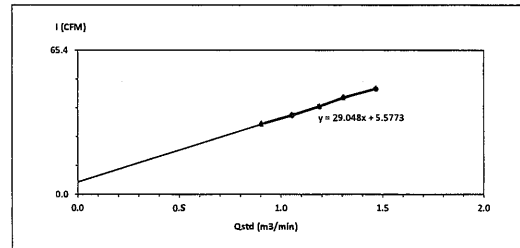
FORM NO.: F06-074 REVISION NO.: ISSUE DATE: 14/03/16



High Volume Air Sampler Calibration Worksheet

Project Site: Kasat Phol Sugar Co., Ltd. Barometric Pressure (mm Hg): 739
Calibrate Location: บ้านสวนพหลฯ Temperature (°C): 33
Calibrate Date: 27-Jun-22 High Volume ID: NKH_FS0046
Calibration Sheet No.: C-270622-NKH_FS0046 High Volume Model: TE-5009X
Calibrator ID: NKH_FS0044 High Volume S/N: 5847
Calibrator Model: TE-5028A Calibrator Slope: 1.64919
Calibrator S/N: 3681 Calibrator Intercept: -0.06996

Test No.	Delta H ₂ O (Inch)	Q _{std} (m ³ /min)	I: Chart (CFM)	Linear Regression
1	2.0	0.9044	32	Slope: 29.0480 Intercept: 5.5773 Correlation Coefficient: 0.9989
2	2.8	1.0573	36	
3	3.6	1.1895	40	
4	4.4	1.3077	44	
5	5.6	1.4663	48	



Calibrated by: Sangtawan N.
(Mr. Sangtawan Natasat)
Field Scientist(1)

Approved by: [Signature]
(Mr. Noppong Juntarupan)
Enviro Field Coordinator Scientist (3)

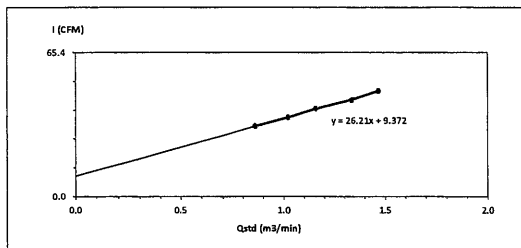
FORM NO.: F06-074 REVISION NO.: ISSUE DATE: 14/03/16



High Volume Air Sampler Calibration Worksheet

Project Site: Kasat Phol Sugar Co., Ltd. Barometric Pressure (mm Hg): 739
Calibrate Location: บ้านสวนพหลฯ Temperature (°C): 33
Calibrate Date: 27-Jun-22 High Volume ID: NKH_FS0048
Calibration Sheet No.: C-270622-NKH_FS0048 High Volume Model: TE-5009X
Calibrator ID: NKH_FS0044 High Volume S/N: 5849
Calibrator Model: TE-5028A Calibrator Slope: 1.64919
Calibrator S/N: 3681 Calibrator Intercept: -0.06996

Test No.	Delta H ₂ O (Inch)	Q _{std} (m ³ /min)	I: Chart (CFM)	Linear Regression
1	1.8	0.8616	32	Slope: 26.2105 Intercept: 9.3720 Correlation Coefficient: 0.9991
2	2.6	1.0214	36	
3	3.4	1.1580	40	
4	4.6	1.3355	44	
5	5.6	1.4663	48	



Calibrated by: Sangtawan N.
(Mr. Sangtawan Natasat)
Field Scientist(1)

Approved by: [Signature]
(Mr. Noppong Juntarupan)
Enviro Field Coordinator Scientist (3)

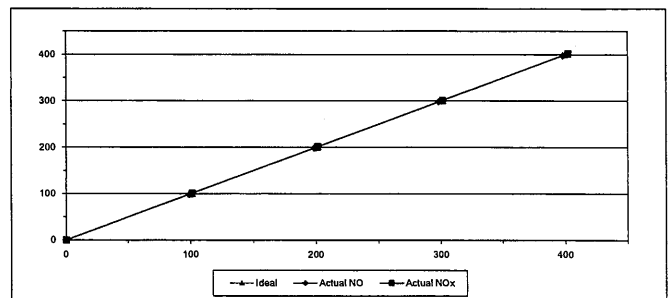
FORM NO.: F06-074 REVISION NO.: ISSUE DATE: 14/03/16



MULTIPOINT CALIBRATION REPORT

Calibration Date: 4-Jan-22 Equipment Name: NOx Analyzer
Manufacturer: HORIBA Model: APNA-370
Serial No.: R2T8HBXTY Equipment ID: NKH_FS0078
Calibrator Manufacturer: Teledyne API Model: 700
Serial No.: 947
Std. Gas Concentration (PPM): 51.33 Cylinder No.: LL38633
Cylinder Pressure (psi): 1200 Certified By: Airgas Inc.
Certified Date: 18-Mar-14 Expired Date: 18-Mar-22

Point	CALIBRATION RESULTS						
	Ideal	Actual NO	Error NO	%Error NO	Actual NOx	Error NOx	%Error NOx
ZERO	0.00	0.10	0.10	0.10	0.10	0.10	0.10
1	100.00	99.00	-1.00	-1.00	101.20	1.20	1.20
2	200.00	198.50	-1.50	-0.75	201.50	1.50	0.75
3	300.00	298.40	-1.60	-0.53	301.50	1.50	0.50
4	400.00	398.30	-1.70	-0.42	402.30	2.30	0.58
AVERAGE (%)				-0.52			0.63



Calibrated By:

Approved By:

[Signature]
(Mr. Jitnont Sakorn)
Field Environmental Scientist (3)

[Signature]
(Mr. Sarayuth Jitnont)
Assistant General Manager

FORM NO.: F 06-056 REVISION NO.: ISSUE DATE: 02/04/12

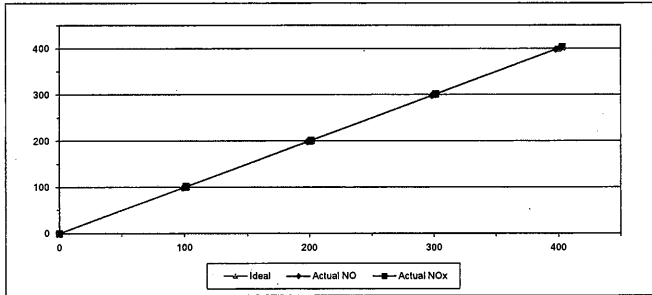
ALS Laboratory Group



MULTIPOINT CALIBRATION REPORT

Calibration Date	4-Jan-22	Equipment Name	NOx Analyzer
Manufacturer	HORIBA	Model	APNA-370
Serial No.	M863MPX3	Equipment ID	NKH_FS0082
Calibrator Manufacturer	Teledyne API	Model	700
Serial No.	947		
Std. Gas Concentration (PPM)	51.33	Cylinder No.	LL38833
Cylinder Pressure (psi)	1200	Certified By	Airgas Inc.
Certified Date	18-Mar-14	Expired Date	18-Mar-22

Point	CALIBRATION RESULTS						
	Ideal	Actual NO	Error NO	%Error NO	Actual NOx	Error NOx	%Error NOx
ZERO	0.00	0.10	0.10	0.10	0.10	0.10	0.10
1	100.00	99.00	-1.00	-1.00	101.30	1.30	1.30
2	200.00	198.50	-1.50	-0.75	201.30	1.30	0.65
3	300.00	298.40	-1.60	-0.53	301.40	1.40	0.47
4	400.00	398.20	-1.80	-0.45	403.20	3.20	0.80
AVERAGE (%)				-0.53			0.68



Calibrated By

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

Approved By

(Mr. Sarayuth Jittrantont)
Assistant General Manager

ALS Laboratory Group

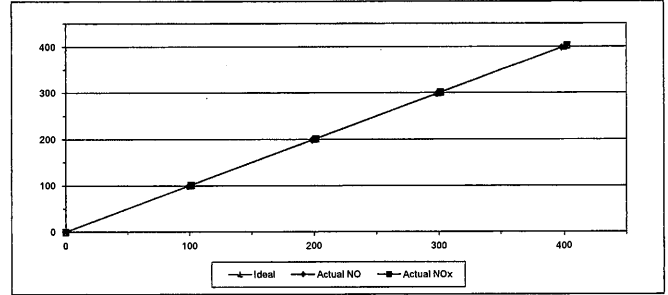
FORM NO.: F 06-056 REVISION NO.: ISSUE DATE: 02/04/12



MULTIPOINT CALIBRATION REPORT

Calibration Date	4-Jan-22	Equipment Name	NOx Analyzer
Manufacturer	HORIBA	Model	APNA-370
Serial No.	GE3G2AB	Equipment ID	NKH_FS0084
Calibrator Manufacturer	Teledyne API	Model	700
Serial No.	947		
Std. Gas Concentration (PPM)	51.33	Cylinder No.	LL38833
Cylinder Pressure (psi)	1200	Certified By	Airgas Inc.
Certified Date	18-Mar-14	Expired Date	18-Mar-22

Point	CALIBRATION RESULTS						
	Ideal	Actual NO	Error NO	%Error NO	Actual NOx	Error NOx	%Error NOx
ZERO	0.00	0.10	0.10	0.10	0.10	0.10	0.10
1	100.00	99.00	-1.00	-1.00	101.30	1.30	1.30
2	200.00	198.50	-1.50	-0.75	201.30	1.30	0.65
3	300.00	298.40	-1.60	-0.53	301.40	1.40	0.47
4	400.00	398.20	-1.80	-0.45	402.50	2.50	0.63
AVERAGE (%)				-0.53			0.63



Calibrated By

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

Approved By

(Mr. Sarayuth Jittrantont)
Assistant General Manager

ALS Laboratory Group

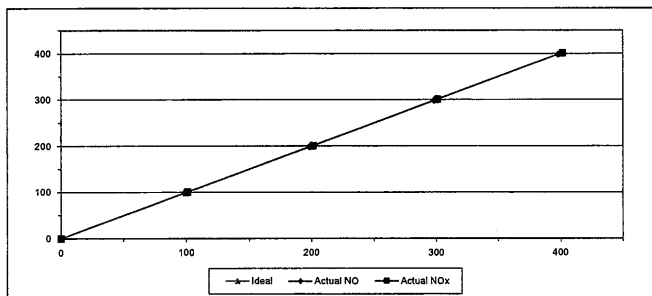
FORM NO.: F 06-056 REVISION NO.: ISSUE DATE: 02/04/12



MULTIPOINT CALIBRATION REPORT

Calibration Date	4-Jan-22	Equipment Name	NOx Analyzer
Manufacturer	HORIBA	Model	APNA-370
Serial No.	RCWXYMBS	Equipment ID	NKH_FS0080
Calibrator Manufacturer	Teledyne API	Model	700
Serial No.	947		
Std. Gas Concentration (PPM)	51.33	Cylinder No.	LL38833
Cylinder Pressure (psi)	1200	Certified By	Airgas Inc.
Certified Date	18-Mar-14	Expired Date	18-Mar-22

Point	CALIBRATION RESULTS						
	Ideal	Actual NO	Error NO	%Error NO	Actual NOx	Error NOx	%Error NOx
ZERO	0.00	0.10	0.10	0.10	0.10	0.10	0.10
1	100.00	99.20	-0.80	-0.80	101.00	1.00	1.00
2	200.00	198.50	-1.50	-0.75	201.30	1.30	0.65
3	300.00	298.50	-1.50	-0.50	301.50	1.50	0.50
4	400.00	398.20	-1.80	-0.45	401.60	1.60	0.40
AVERAGE (%)				-0.48			0.53



Calibrated By

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

Approved By

(Mr. Sarayuth Jittrantont)
Assistant General Manager

ALS Laboratory Group

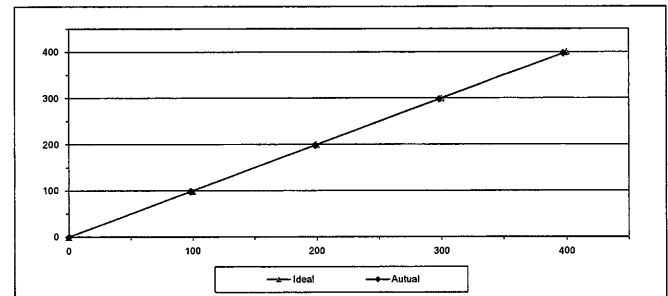
FORM NO.: F 06-056 REVISION NO.: ISSUE DATE: 02/04/12



MULTIPOINT CALIBRATION REPORT

Calibration Date	4-Jan-22	Equipment Name	SO2 Analyzer
Manufacturer	HORIBA	Model	APSA-370
Serial No.	C6GMUR8P	Equipment ID	NKH_FS0079
Calibrator Manufacturer	Teledyne API	Model	700
Serial No.	947		
Std. Gas Concentration (PPM)	50.87	Cylinder No.	LL38833
Cylinder Pressure (psi)	1200	Certified By	Airgas Inc.
Certified Date	18-Mar-14	Expired Date	18-Mar-22

Point	CALIBRATION RESULTS			
	Ideal	Actual	Error	%Error
ZERO	0.00	0.10	0.10	0.10
1	100.00	98.50	-1.50	-1.50
2	200.00	198.70	-1.30	-0.65
3	300.00	298.00	-2.00	-0.67
4	400.00	397.30	-2.70	-0.67
AVERAGE (%)				-0.68



Calibrated By

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

Approved By

(Mr. Sarayuth Jittrantont)
Assistant General Manager

ALS Laboratory Group

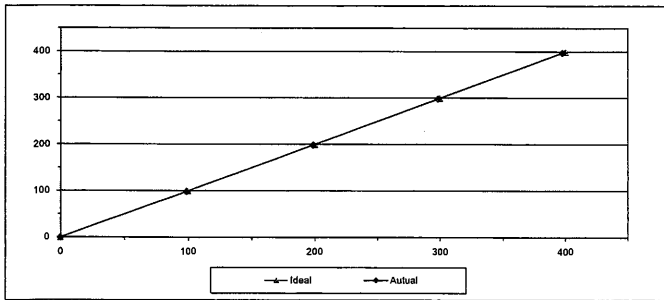
FORM NO.: F 06-056 REVISION NO.: ISSUE DATE: 02/04/12



MULTIPOINT CALIBRATION REPORT

Calibration Date	4-Jan-22	Equipment Name	SO2 Analyzer
Manufacturer	HORIBA	Model	APSA-370
Serial No.	SMWOLFJB	Equipment ID	NKH_FS0083
Calibrator Manufacturer	Teledyne API	Model	700
Serial No.	947		
Std. Gas Concentration (PPM)	50.87	Cylinder No.	LL38633
Cylinder Pressure (psi)	1200	Certified By	Airgas Inc.
Certified Date	18-Mar-14	Expired Date	18-Mar-22

Point	CALIBRATION RESULTS			
	Ideal	Actual	Error	%Error
ZERO	0.00	0.10	0.10	0.10
1	100.00	98.80	-1.20	-1.20
2	200.00	198.60	-1.40	-0.70
3	300.00	298.30	-1.70	-0.57
4	400.00	397.50	-2.50	-0.63
AVERAGE (%)				-0.60



Calibrated By

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

Approved By

(Mr. Sarayuth Jittrantont)
Assistant General Manager

ALS Laboratory Group

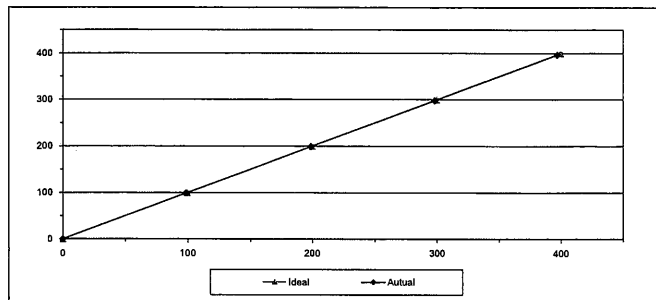
FORM NO.: F 06-056 REVISION NO.: - ISSUE DATE: 02/04/12



MULTIPOINT CALIBRATION REPORT

Calibration Date	4-Jan-22	Equipment Name	SO2 Analyzer
Manufacturer	HORIBA	Model	APSA-370
Serial No.	YKKOE3MP	Equipment ID	NKH_FS0085
Calibrator Manufacturer	Teledyne API	Model	700
Serial No.	947		
Std. Gas Concentration (PPM)	50.87	Cylinder No.	LL38633
Cylinder Pressure (psi)	1200	Certified By	Airgas Inc.
Certified Date	18-Mar-14	Expired Date	18-Mar-22

Point	CALIBRATION RESULTS			
	Ideal	Actual	Error	%Error
ZERO	0.00	0.10	0.10	0.10
1	100.00	98.80	-1.20	-1.20
2	200.00	198.90	-1.10	-0.55
3	300.00	298.30	-1.70	-0.57
4	400.00	397.00	-3.00	-0.75
AVERAGE (%)				-0.59



Calibrated By

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

Approved By

(Mr. Sarayuth Jittrantont)
Assistant General Manager

ALS Laboratory Group

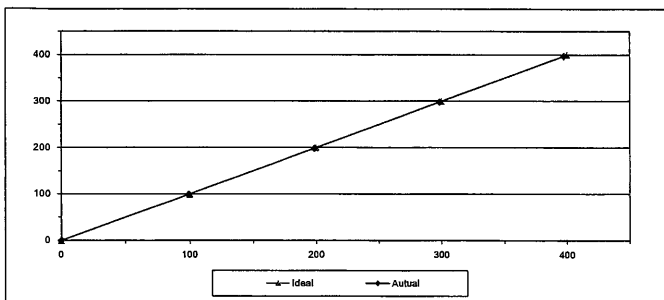
FORM NO.: F 06-056 REVISION NO.: - ISSUE DATE: 02/04/12



MULTIPOINT CALIBRATION REPORT

Calibration Date	4-Jan-22	Equipment Name	SO2 Analyzer
Manufacturer	HORIBA	Model	APSA-370
Serial No.	JVU4R449	Equipment ID	NKH_FS0081
Calibrator Manufacturer	Teledyne API	Model	700
Serial No.	947		
Std. Gas Concentration (PPM)	50.87	Cylinder No.	LL38633
Cylinder Pressure (psi)	1200	Certified By	Airgas Inc.
Certified Date	18-Mar-14	Expired Date	18-Mar-22

Point	CALIBRATION RESULTS			
	Ideal	Actual	Error	%Error
ZERO	0.00	0.10	0.10	0.10
1	100.00	99.20	-0.80	-0.80
2	200.00	198.60	-1.40	-0.70
3	300.00	298.40	-1.60	-0.53
4	400.00	397.40	-2.60	-0.65
AVERAGE (%)				-0.52



Calibrated By

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

Approved By

(Mr. Sarayuth Jittrantont)
Assistant General Manager

ALS Laboratory Group

FORM NO.: F 06-056 REVISION NO.: - ISSUE DATE: 02/04/12



63/14-15, 67/35-36, Soi Petchburi 7/71, Petchburi Rd.
Wathapra, Bangkok, Bangkok 10600 Thailand.
Tel: (66) 02-8680812#13 Fax: (66) 02-8680860 www.jiranalce.com



CERTIFICATE OF CALIBRATION

Form No. : 11-002-04
Page : 1 of 1

Equipment Name : Data Logger with Temperature Sensor
Manufacturer : Rohde & Schwarz
Model : L19-WS 250L-A
Serial No. : A5846
ID No. : -

Customer Name : ALS Laboratory Group (Thailand) Co., Ltd.
Address : 104 Phatthanakan 40, Phatthanakan Rd.,
Huayeng San Luang, Khet San Luang,
Bangkok 10250 Thailand.

Received date : 22 Feb 2021
Calibration date : 24 Feb 2021
Issue date : 03 Mar 2021

Reference Used During Calibration
1. Standard Temperature Probe Model : STS 100 A500,
Serial No. : 867652-09, Due date : 22 Apr 2021
2. Digital Temperature Indicator Model : DTI 1000 4 MK II,
Serial No. : 671107-00591 Due date : 20 May 2021

Calibration Condition
Temperature : (23±2) °C
Relative Humidity : (55±15) %

Calibration Procedure
The temperature calibration was done by In-House
comparison method as WI CL-001 according to
comparison method with standard digital temperature
indicator and standard temperature probe. The
temperature scale was based on ITS-90

Traceability
The measurement results are traceable to the
international system of units (SI) through National
Institute of Metrology, Thailand (NIMT) Certificate
number : IT 0025-20, Certificate number : ER-0071
20

REVIEW BY	W. Pothak
APPROVED BY	
NEXT CAL. DATE	25/12/22

Calibrated by
1. Mr. Surawut Bhancha
2. Mr. Bongkarn Manthong



Approved Signatory:

Mr. Pannya Boercharoen
Technical Support
Ann Calibration Manager

Form No. : 11-002-04
Page : 1 of 1

FORM NO.: F 06-056 REVISION NO.: - ISSUE DATE: 02/04/12

Result of Calibration: ☒ Without Adjustment ☐ With Adjustment
Calibration Range: 26 °C - 40 °C

Function: This equipment was connected with temperature sensor Model: HMP60 S/N: R3440766
Dimension: Diameter 12mm, Length 80 mm.

Immersion Depth (mm)	Standard Reading (°C)	UUC Reading (°C)	Error (°C)	Uncertainty (°C)
80	20.053	19.9	0.2	0.080
60	24.867	24.5	-0.4	0.060
60	29.872	29.5	-0.4	0.060
60	34.860	34.3	-0.6	0.060
60	39.846	39.3	-0.5	0.080

UUC: Unit Under Calibration
The reported expanded uncertainty is based on standard uncertainty multiplied by a coverage factor k=2 providing a level of confidence of approximately 95%.

★ End of Certificate ★



CALIBRATION REPORT

Measurement Item: Relative humidity with data logger
Manufacturer: Data logger: Hiroyama
Relative humidity sensor: Hiroyama
Model/Type: Data logger: HI-4050-2500-N
Relative humidity sensor: HI-4050
Serial Number: Data logger: A5544
Relative humidity sensor: R3440766
Customer: A/S Jiranatee (Thailand) Co., Ltd.
101 Phromrakon Rd., Phromrakon Rd., Khlong San Suburb, Khlong San District, Bangkok 10250 Thailand

Environmental Condition: The measurement was performed in an ambient temperature of 25±0.5°C and relative humidity of 45±5%.

Measurement Method: The Relative Humidity was measured using a standard method with the use of a standard solution and a calibrated temperature sensor. The standard solution was prepared by weighing a known mass of water and a known mass of a dry substance in a known volume.

Measurement Date: 15-06-2021
Issued Date: 16-06-2021

Measurement Results

The results of the measurement are reported in table below.

Standard salt solution	Standard (RH%)	UUC Reading	Error
CaCl ₂ 100% Relative Humidity	99.91	99.8	-0.1
MgCl ₂ 75% Relative Humidity	75.85	75.4	-0.4
K ₂ Cr ₂ O ₇ 50% Relative Humidity	50.54	50.7	0.1

Performed by: ☒ Mr. Pongchai Thongchai
☒ Mr. Pongchai Thongchai



Approved Signatory:
Mr. Pongchai Thongchai
Technical Supervisor
and Calibration Manager

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

CERTIFICATE OF CALIBRATION

Certificate No: WS-0003700
Page: 1 of 1 Page

Measurement Item: Flow coefficient with data logger
Manufacturer: Data logger: Hiroyama
Flow meter: Hiroyama
Model/Type: Data logger: HI-4050-2500-N
Flow meter: HI-4050
Serial Number: Data logger: A5544
Flow meter: R3440766
Customer: A/S Jiranatee (Thailand) Co., Ltd.
101 Phromrakon Rd., Phromrakon Rd., Khlong San Suburb, Khlong San District, Bangkok 10250 Thailand
Test Conditions: Flow rate: 100 L/min, 200 L/min, 300 L/min, 400 L/min, 500 L/min, 600 L/min, 700 L/min, 800 L/min, 900 L/min, 1000 L/min
Accuracy: ±0.5%
Repeatability: ±0.1%
Flow coefficient: 0.99, 0.98, 0.97, 0.96, 0.95, 0.94, 0.93, 0.92, 0.91, 0.90
Test Condition: Flow rate: 100 L/min, 200 L/min, 300 L/min, 400 L/min, 500 L/min, 600 L/min, 700 L/min, 800 L/min, 900 L/min, 1000 L/min
Accuracy: ±0.5%
Repeatability: ±0.1%
Flow coefficient: 0.99, 0.98, 0.97, 0.96, 0.95, 0.94, 0.93, 0.92, 0.91, 0.90
Calibration Procedure: Calibration was performed in accordance with ISO 9001:2015, ISO 14001:2015, ISO 45001:2018, and ISO 17025:2017.
Traceability: The calibration was performed in accordance with the National Standard of Thailand (TIS) and the International System of Units (SI).
Measurement Date: 15-06-2021
Issued Date: 16-06-2021



Approved Signatory:
Mr. Pongchai Thongchai
Technical Supervisor
and Calibration Manager

Calibrated by: ☒ Mr. Pongchai Thongchai
☒ Mr. Pongchai Thongchai

Continuation of Certificate of Calibration Number: 0003700
Page: 1 of 1 Page

Result of Calibration: ☒ Without Adjustment ☐ With Adjustment
The measurement was performed in an ambient temperature of 25±0.5°C and relative humidity of 45±5%.

V ₁ Reading (m/s)	V ₂ Reading (m/s)	Error (m/s)	Uncertainty (%)
0.078	1.8	-0.1	2.7
4.054	4.0	-0.1	1.3
8.04	8.0	-0.1	0.96
12.01	12.0	-0.1	1.1
16.05	16.0	-0.1	0.53
20.01	20.0	-0.1	0.63
24.05	24.0	-0.1	0.67
28.01	28.0	-0.1	0.48
32.05	32.0	-0.1	0.55
36.01	36.0	-0.1	0.62
40.05	40.0	-0.1	0.64
44.01	44.0	-0.1	0.83
48.05	48.0	-0.1	1.0
52.01	52.0	-0.1	1.7
56.05	56.0	-0.1	7.0

UUC: Unit Under Calibration
The reported expanded uncertainty is based on standard uncertainty multiplied by a coverage factor k=2 providing a level of confidence of approximately 95%.

NO	Serial	Manufacturer	Model/Type	Calibration Date	Certificate Report Number	Name
1	Flow meter	HI-4050	HI-4050-2500-N	15-06-2021	WS-0003700	Mr. Pongchai Thongchai
2	Flow meter	HI-4050	HI-4050-2500-N	15-06-2021	WS-0003700	Mr. Pongchai Thongchai
3	Flow meter	HI-4050	HI-4050-2500-N	15-06-2021	WS-0003700	Mr. Pongchai Thongchai
4	Flow meter	HI-4050	HI-4050-2500-N	15-06-2021	WS-0003700	Mr. Pongchai Thongchai
5	Flow meter	HI-4050	HI-4050-2500-N	15-06-2021	WS-0003700	Mr. Pongchai Thongchai
6	Flow meter	HI-4050	HI-4050-2500-N	15-06-2021	WS-0003700	Mr. Pongchai Thongchai

End of certificate of calibration



CERTIFICATE OF CALIBRATION

Certificate No: WD-02030001
Page: 1 of 2 pages

Measurement Item: Wind direction sensor with data logger
Manufacturer: Data Logger Technology
Wind direction sensor, Nominal
Model/Type: Data Logger T10-WSD-02030001
Wind direction sensor, WSD-02030001
Serial Number: Data Logger T10-WSD-02030001
Wind direction sensor, WSD-02030001
Customer: ALS Laboratory Group (Thailand) Co., Ltd.
104 Phatthanakan 40, Phatthanakan Rd, Khwaeng, Khet Suan Luang, Bangkok 10250 Thailand

Environmental Condition:
The calibration was performed in an ambient temperature of 23±0.5°C and relative humidity of 40±1.0%.

Measurement Method:
The wind direction sensor was calibrated according to comparison method with reference wind measurement instrument, and the result of calibration was recorded. The measurement was performed at 40° intervals in clockwise and counter-clockwise directions.

Notes: 1. SDC was verified within 1 month prior to the calibration being performed.

Traceability:
The measurement results were traceable to the international system of units (SI) through the following flow: OIML to GUM, GUM to NIST, NIST to NIST, NIST to NIST.

Measurement Date: 20 AUGUST 2021
Issue Date: 25 AUGUST 2021



Performed by:
Mr. Nattapong Petchuraisri
Mr. Nattapong Petchuraisri

Approved Signatory:

Mr. Nattapong Petchuraisri
Technician Supervisor
JIRANTEE ASSOCIATES CO., LTD.

This certificate is issued in accordance with the requirements of ISO/IEC 17025 standard, may not be reproduced other than in full, except with the prior written approval of the head of Calibration Laboratory.

SITHIPORN ASSOCIATES CO.,LTD. CALIBRATION LABORATORY

451-451/1 Sirinthorn Rd., Bangbunru, Bangplud Bangkok 10700 THAILAND.
Tel: 0-2435-8800 Fax: 0-2433-1679 e-mail: cal-center@sithiphorn.com http://www.sithiphorn.com



Cert. No. : ACC21015
Pages : 1 of 3

Calibration Certificate

Equipment: SOUND CALIBRATOR
Manufacturer: RION
Model: NC-74
Serial No.: 34478385
ID No.: NKH_FS0019

Condition As Found: GOOD

Customer: ALS LABORATORY GROUP (THAILAND) CO., LTD.
104 PHATTHANAKAN 40, PHATTHANAKAN ROAD,
KHWANG PHATTHANAKAN, KHET SUAN LUANG,
BANGKOK, 10250 THAILAND.

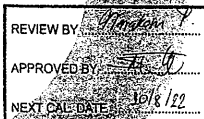
Location: -
Ambient Temperature: (23.0 ± 3) °C
Pressure: (101.3 ± 3) kPa
Relative Humidity: (50.0 ± 20) %

Received Date: 18 AUGUST 2021
Calibration Date: 20 AUGUST 2021
Date of Issue: 25 AUGUST 2021

Calibrated by: Nattakorn Pisutpaisan

Approved by:

(Thanakul Petchuraisri)



This certificate is issued in accordance with the requirements of ISO/IEC 17025 standard, may not be reproduced other than in full, except with the prior written approval of the head of Calibration Laboratory.

Continuation of Certificate of Calibration Number:

Certificate No: WD-02030001
Page: 2 of 2 pages

Result of calibration: ☐ without adjustment ☒ with adjustment
Calibration in the range of 0° to 360° at a resolution interval of 40°.
The result of calibration and associated measurement uncertainty are recorded in table below.

NO	Turning Direction	Nominal Angle (°)	Standard Reading (°)	UUC Reading (°)	Error (°)	Uncertainty ±(°)
1	Clockwise	0/360	36.0	359	-1	3.0
2		45	45	41	-4	3.0
3		90	90	87	-3	3.0
4		135	135	134	-1	3.0
5		180	180	182	2	3.0
6	Counter Clockwise	225	225	228	3	3.0
7		270	270	275	5	3.0
8		315	315	319	4	3.0
9		0/360	36.0	359	-1	3.0
10		45	45	41	-4	3.0
11	Clockwise	90	90	87	-3	3.0
12		135	135	134	-1	3.0
13		180	180	182	2	3.0
14		225	225	228	3	3.0
15		270	270	275	5	3.0
16	Counter Clockwise	315	315	319	4	3.0
17		0/360	36.0	359	-1	3.0
18		45	45	41	-4	3.0
19		90	90	87	-3	3.0
20		135	135	134	-1	3.0

UUC: The UUC of calibration is the required expanded uncertainty based on standard uncertainty multiplied by a coverage factor and rounding to one or two decimal places, as appropriate.

End of Certificate of Calibration



SITHIPORN ASSOCIATES CO.,LTD. CALIBRATION LABORATORY

Continuation of Calibration Certificate

Cert. No. : ACC21015
Job No. : VC64AC0061
Pages : 2 of 3

Calibration Procedure: CP-AC-03

Calibration Method:

This equipment was calibrated by based on IEC-60942-2003 Standard.
The sound pressure level, frequency and total distortion of the sound calibrator was measured using the reference microphone.

Condition of this result of calibration:

1. Reference Standard Instruments:

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33511B	MY52302742	EF-0011-21	10-Feb-22
Digital Multimeter	33461A	MY53220104	EEL.BP. 05/0264	10-Feb-22
Digital Multimeter	8846A	1997025	EEL.BP. 06/0264	05-Feb-22
Digital Multimeter	33461A	MY53220116	EEL.BP. 04/0264	10-Feb-22
Programmable Attenuator	MAT-1070	62100114	1500-07774E	08-Mar-22
Condenser Microphone	4180	2977900	AA-1008-21	05-Feb-22
Measuring Amplifier	NA-42KA1	34560495	AA-3003-21	10-Feb-22
Audio Analyzer	AVR-3360A	V744B6069	EF-0010-21	10-Feb-22

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained at:

- 3.1 National Institute of Metrology (Thailand).
- 3.2 Thailand Institute of Scientific and Technological Research (TISTR).

T. Petchuraisri

Continuation of Calibration Certificate

Cert. No. : ACC21015
Job No. : VC64AC0061
Pages : 3 of 3

Result of calibration :

1. Sound pressure level

Specified sound pressure level (dB)	Measured value (dB)	Deviated value (dB)	Uncertainty (dB)	Tolerance limit (dB)
94	94.08	0.08	0.14	0.40

2. Frequency

Specified Frequency (Hz)	Measured value (Hz)	Deviated value (%)	Uncertainty (%)	Tolerance limit (%)
1000	1002.3	0.2	0.1	1.0

3. Total distortion

Measured value (%)	Uncertainty (%)	Tolerance limit (%)
1.32	0.10	3.0

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor $k = 2$ or any value following calculation, providing a level of confidence of approximately 95 %

End of Calibration Certificate

QF-TS12-04-04-020664

Continuation of Calibration Certificate

Cert. No. : ACL21087
Job No. : VC64AC0061
Pages : 2 of 8

Calibration Procedure : CP-AC-01

Calibration Method :

This equipment was calibrated by based on IEC-61672-3 (2013) Standard for sound level meter (SLM). The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Anechoic chamber and Reference Standard Instruments.

For tests results of each items were made by observation of each Instruments display and also with SLM's display.

Condition of this result of calibration :

1. Reference Standard Instruments :

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	EF-0012-21	10-Feb-22
Waveform Generator	33511B	MY52302742	EF-0011-21	10-Feb-22
Digital Multimeter	33461A	MY53220104	EEL-BP_05/0264	10-Feb-22
Digital Multimeter	8846A	1997025	EEL-BP_06/0264	05-Feb-22
Digital Multimeter	33461A	MY53220116	EEL-BP_04/0264	10-Feb-22
Programmable Attenuator	MAT-1070	62100114	1500-07774E	08-Mar-22
Condenser Microphone	4180	2977900	AA-1008-21	05-Feb-22
Measuring Amplifier	NA-42KA1	34560495	AA-3003-21	16-Feb-22

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained at :

3.1 National Institute of Metrology (Thailand).

3.2 Thailand Institute of Scientific and Technological Research (TISTR).

QF-TS12-04-04-020664

451-451/1 Sirinthorn Rd.,Bangbunru, Bangplud Bangkok 10700 THAILAND.
Tel.0-2435-8800 Fax.0-2433-1679 e-mail:cal-center@sithiphorn.com http://www.sithiphorn.com



Cert. No. : ACL21087
Pages : 1 of 8

Calibration Certificate

Equipment : SOUND LEVEL METER
Manufacturer : RION
Model : NL-42/ Microphone UC-52 / Preamplifier NH-24
Serial No. : 01173613 / 172175 / 74025
ID No. : NKH_FS0026

Condition As Found : GOOD

Customer : ALS LABORATORY GROUP (THAILAND) CO., LTD.
104 PHATTHANAKAN 40, PHATTHANAKAN ROAD,
KHWAENG PHATTHANAKAN, KHET SUAN LUANG,
BANGKOK, 10250 THAILAND.

Location :
Ambient Temperature : (23.0 ± 3) °C
Pressure : (101.3 ± 3) kPa
Relative Humidity : (50.0 ± 20) %
Received Date : 18 AUGUST 2021
Calibration Date : 20-24 AUGUST 2021
Date of Issue : 25 AUGUST 2021

REVIEW BY	<i>Nathakorn P.</i>
APPROVED BY	<i>T. Petchurai</i>
NEXT CAL DATE	10/18/22

Calibrated by : Nathakorn Pisutpaisan

Approved by :

T. Petchurai
(Thanakul Petchurai)

This certificate is issued in accordance with the requirements of ISO/IEC 17025 standard, may not be reproduced other than in full, except with the prior written approval of the head of Calibration Laboratory.

QF-TS12-04-04-020664

Continuation of Calibration Certificate

Cert. No. : ACL21087
Job No. : VC64AC0061
Pages : 3 of 8

Summary of Measurement Result :

Parameter	Pass	Fail	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	✓	-	0.2	N/A
2. Self-generated noise	✓	-	0.2	N/A
3. Acoustical signal tests of frequency weightings				
125 Hz	✓	-	0.3	0.6
1000 Hz	✓	-	0.3	0.6
8000 Hz	✓	-	0.3	0.7
4. Electrical signal tests of frequency weightings				
For 10 Hz to 4 kHz	✓	-	0.3	0.6
For > 4 kHz to 10 kHz	✓	-	0.3	0.7
For > 10 kHz to 20 kHz	-	-	-	1.0
5. Frequency and time weightings at 1 kHz	✓	-	0.2	0.2
6. Long - term stability	✓	-	0.1	0.1
7. Level linearity on the reference level range	✓	-	0.2	0.3
8. Level linearity including the level range control	✓	-	0.2	0.3
9. Tone burst response	✓	-	0.2	0.3
10. Peak C sound level	✓	-	0.2	0.35
11. Overload indication	✓	-	0.2	0.25
12. High level stability	✓	-	0.1	0.1

QF-TS12-04-04-020664

Continuation of Calibration Certificate

Cert. No. : ACL21087
Job No. : VC64AC0061
Pages : 4 of 8

Result of calibration :

1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.96)	93.9	0.0	±0.3

2. Self-generated noise

2.1 Normal test

Measured Value (dB)
17.5

2.2 The microphone of the sound level meter was replaced by electrical signal input device.

Frequency Weighting	Measured value (dB)
A - weight	12.0
C - weight	18.0
Flat	23.9

3. Acoustical signal tests of frequency weightings

Meter free-field acoustic response at a level of 84 dB

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
125	0.4	0.4	0.4	± 1.5
1000	0.0	0.1	0.1	± 1.0
8000	0.6	0.7	0.7	± 5.0

QF-TS12-04-04-020664

T. Ratan.

Continuation of Calibration Certificate

Cert. No. : ACL21087
Job No. : VC64AC0061
Pages : 6 of 8

7. Level linearity on the reference level range

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	± 1.1
136.0	136.0	0.0	± 1.1
135.0	135.0	0.0	± 1.1
134.0	134.0	0.0	± 1.1
133.0	133.0	0.0	± 1.1
132.0	132.0	0.0	± 1.1
131.0	131.0	0.0	± 1.1
129.0	129.0	0.0	± 1.1
124.0	124.0	0.0	± 1.1
119.0	119.0	0.0	± 1.1
114.0	114.0	0.0	± 1.1
109.0	109.0	0.0	± 1.1
104.0	104.0	0.0	± 1.1
99.0	99.0	0.0	± 1.1
94.0	94.0	0.0	± 1.1
89.0	89.0	0.0	± 1.1
84.0	84.0	0.0	± 1.1
79.0	79.0	0.0	± 1.1
74.0	74.0	0.0	± 1.1
69.0	69.0	0.0	± 1.1
64.0	64.0	0.0	± 1.1
59.0	59.0	0.0	± 1.1
54.0	53.9	-0.1	± 1.1
49.0	49.0	0.0	± 1.1
44.0	44.0	0.0	± 1.1
39.0	38.9	-0.1	± 1.1
34.0	34.0	0.0	± 1.1
30.0	30.0	0.0	± 1.1
29.0	29.0	0.0	± 1.1
28.0	28.0	0.0	± 1.1
27.0	27.0	0.0	± 1.1
26.0	26.0	0.0	± 1.1
25.0	25.0	0.0	± 1.1

QF-TS12-04-04-020664

T. Ratan.

Continuation of Calibration Certificate

Cert. No. : ACL21087
Job No. : VC64AC0061
Pages : 5 of 8

4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz.

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
63	-0.1	0.0	0.0	± 2.0
125	0.0	0.1	0.0	± 1.5
250	0.0	0.0	0.0	± 1.5
500	0.0	0.0	0.0	± 1.5
1000	0.0	0.0	0.0	± 1.0
2000	0.0	0.0	0.0	± 2.0
4000	0.0	0.0	0.0	± 3.0
8000	0.0	0.1	0.1	± 5.0

5. Frequency and time weightings at 1 kHz

5.1 Frequency weightings at 1 kHz

Frequency Weighting	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	94.0	0.0	-
C - weight	94.0	0.0	± 0.2
Flat	94.0	0.0	± 0.2

5.2 Time weighting at 1 kHz

Frequency Weighting	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	0.0	-
Slow	94.0	0.0	± 0.1
Leq	94.0	0.0	± 0.1

6. Long - term stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	94.0	94.0	0.0	± 0.3

QF-TS12-04-04-020664

T. Ratan.

Continuation of Calibration Certificate

Cert. No. : ACL21087
Job No. : VC64AC0061
Pages : 7 of 8

8. Level linearity including the level range control

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Auto	94.0	94.0	0.0	± 1.1

9. Tone burst response

Time Weighting	Tone burst duration, Tb (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	107.9	-0.1	1.3, -5.0
	2	8	117.0	117.0	0.0	1.0, -2.5
	200	800	134.0	134.0	0.0	± 1.0
Slow	2	8	108.0	108.0	0.0	1.3, -5.0
	200	800	127.6	127.6	0.0	± 1.0
	0.25	1	99.0	98.9	-0.1	1.3, -5.0
SEL	2	8	108.0	108.0	0.0	1.0, -2.5
	200	800	128.0	128.0	0.0	± 1.0

10. Peak C sound level

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, L _{peak} (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	-
One	136.4	136.1	-0.3	± 3.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	-
Positive half cycle	135.4	135.2	-0.2	± 2.0
Negative half cycle	135.4	135.2	-0.2	± 2.0

QF-TS12-04-04-020664

T. Ratan.

Continuation of Calibration Certificate

Cert. No. : ACL21087
Job No. : VC64AC0061
Pages : 8 of 8

11. Overload indication

Measured value (dB)		Deviated Value (dB)	Acceptance Limits (dB)
Positive one-half cycle	Negative one-half cycle		
89.7	89.8	0.1	±1.5

12. High level stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	137.0	137.0	0.0	±0.3

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor $k = 2$ or any value following calculation, providing a level of confidence of approximately 95 %

End of Calibration Certificate

QF-TS12-04-04-020664

T. Petchurai

Continuation of Calibration Certificate

Cert. No. : ACL21072
Job No. : VC64AC0053
Pages : 2 of 8

Calibration Procedure : CP-AC-01

Calibration Method :

This equipment was calibrated by based on IEC-61672-3 (2013) Standard for sound level meter (SLM).
The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Anechoic chamber and Reference Standard Instruments.
For tests results of each items were made by observation of each Instruments display and also with SLM's display.

Condition of this result of calibration :

1. Reference Standard Instruments :

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	EF-0012-21	10-Feb-22
Waveform Generator	33511B	MY52302742	EF-0011-21	10-Feb-22
Digital Multimeter	33461A	MY53220104	EEL-BP_05/0264	10-Feb-22
Digital Multimeter	33461A	MY53220076	EEL-BP_03/0264	08-Feb-22
Digital Multimeter	33461A	MY53220116	EEL-BP_04/0264	10-Feb-22
Programmable Attenuator	MAT-1070	62100114	1500-07774E	08-Mar-22
Condenser Microphone	4180	2977900	AA-1008-21	05-Feb-22
Measuring Amplifier	NA-42KA1	34560495	AA-3003-21	16-Feb-22

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained at :

3.1 National Institute of Metrology (Thailand).

3.2 Thailand Institute of Scientific and Technological Research (TISTR).

QF-TS12-04-04-020664

T. Petchurai

451-451/1 Sirinthorn Rd., Bangbunru, Bangplud Bangkok 10700 THAILAND.
Tel.0-2435-8800 Fax.0-2433-1679 e-mail:cal-center@sithiporn.com http://www.sithiporn.comCert. No. : ACL21072
Pages : 1 of 8

Calibration Certificate

Equipment : SOUND LEVEL METER
Manufacturer : RION
Model : NL-42/ Microphone UC-52 / Preamplifier NH-24
Serial No.: 00472123 / 142962 / 22541
ID No.: NKH_FS0007

Condition As Found : GOOD

Customer : ALS LABORATORY GROUP (THAILAND) CO., LTD.
104 PHATTHANAKAN 40, PHATTHANAKAN ROAD,
KHWANG PHATTHANAKAN, KHET SUAN LUANG,
BANGKOK, 10250 THAILAND.

Location : -
Ambient Temperature : (23.0 ± 3) °C
Pressure : (101.3 ± 3) kPa
Relative Humidity : (50.0 ± 20) %
Received Date : 13 JULY 2021
Calibration Date : 14-16 JULY 2021
Date of Issue : 20 JULY 2021

REVIEW BY	<i>Nathakorn Pisutpaian</i>
APPROVED BY	<i>T. Petchurai</i>
NEXT CAL DATE	14/7/22

Calibrated by : Nathakorn Pisutpaian

Approved by :

T. Petchurai
(Thanakul Petchurai)

This certificate is issued in accordance with the requirements of ISO/IEC 17025 standard, may not be reproduced other than in full, except with the prior written approval of the head of Calibration Laboratory.

QF-TS12-04-04-020664

Continuation of Calibration Certificate

Cert. No. : ACL21072
Job No. : VC64AC0053
Pages : 3 of 8

Summary of Measurement Result :

Parameter	Pass	Fail	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	✓	-	0.2	N/A
2. Self-generated noise	✓	-	0.2	N/A
3. Acoustical signal tests of frequency weightings				
125 Hz	✓	-	0.3	0.6
1000 Hz	✓	-	0.3	0.6
8000 Hz	✓	-	0.3	0.7
4. Electrical signal tests of frequency weightings				
For 10 Hz to 4 kHz	✓	-	0.3	0.6
For > 4 kHz to 10 kHz	✓	-	0.3	0.7
For > 10 kHz to 20 kHz	-	-	-	1.0
5. Frequency and time weightings at 1 kHz	✓	-	0.2	0.2
6. Long - term stability	✓	-	0.1	0.1
7. Level linearity on the reference level range	✓	-	0.2	0.3
8. Level linearity including the level range control	✓	-	0.2	0.3
9. Tone burst response	✓	-	0.2	0.3
10. Peak C sound level	✓	-	0.2	0.35
11. Overload indication	✓	-	0.2	0.25
12. High level stability	✓	-	0.1	0.1

QF-TS12-04-04-020664

T. Petchurai

Continuation of Calibration Certificate

Cert. No. : ACL21072
Job No. : VC64AC0053
Pages : 4 of 8

Result of calibration :

1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.96)	93.9	0.0	±0.3

2. Self-generated noise

2.1 Normal test

Measured Value (dB)
15.4

2.2 The microphone of the sound level meter was replaced by electrical signal input device.

Frequency Weighting	Measured value (dB)
A - weight	12.0
C - weight	18.2
Flat	24.0

3. Acoustical signal tests of frequency weightings

Meter free-field acoustic response at a level of 84 dB

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
125	0.1	0.2	0.3	± 1.5
1000	-0.1	-0.1	-0.1	± 1.0
8000	-0.1	0.0	0.0	±5.0

Continuation of Calibration Certificate

Cert. No. : ACL21072
Job No. : VC64AC0053
Pages : 5 of 8

4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz.

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
63	0.0	-0.1	0.0	±2.0
125	0.0	0.0	0.0	±1.5
250	0.0	0.0	0.0	±1.5
500	0.0	0.0	0.0	±1.5
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.0	0.0	±2.0
4000	0.0	0.0	0.0	±3.0
8000	0.0	0.1	0.1	±5.0

5. Frequency and time weightings at 1 kHz

5.1 Frequency weightings at 1 kHz

Frequency Weighting	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	94.0	0.0	-
C - weight	94.0	0.0	± 0.2
Flat	94.0	0.0	± 0.2

5.2 Time weighting at 1 kHz

Frequency Weighting	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	0.0	-
Slow	94.0	0.0	± 0.1
Leq	94.0	0.0	± 0.1

6. Long - term stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	94.0	94.0	0.0	± 0.3

QF-TS12-04-04-020664

QF-TS12-04-04-020664

Continuation of Calibration Certificate

Cert. No. : ACL21072
Job No. : VC64AC0053
Pages : 6 of 8

7. Level linearity on the reference level range

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	± 1.1
136.0	136.0	0.0	± 1.1
135.0	135.0	0.0	± 1.1
134.0	134.0	0.0	± 1.1
133.0	133.0	0.0	± 1.1
132.0	132.0	0.0	± 1.1
131.0	131.0	0.0	± 1.1
129.0	129.0	0.0	± 1.1
124.0	124.0	0.0	± 1.1
119.0	119.0	0.0	± 1.1
114.0	114.0	0.0	± 1.1
109.0	109.0	0.0	± 1.1
104.0	104.0	0.0	± 1.1
99.0	99.0	0.0	± 1.1
94.0	94.0	0.0	± 1.1
89.0	89.0	0.0	± 1.1
84.0	84.0	0.0	± 1.1
79.0	79.0	0.0	± 1.1
74.0	74.0	0.0	± 1.1
69.0	69.0	0.0	± 1.1
64.0	64.0	0.0	± 1.1
59.0	59.0	0.0	± 1.1
54.0	53.9	-0.1	± 1.1
49.0	49.0	0.0	± 1.1
44.0	44.0	0.0	± 1.1
39.0	38.9	-0.1	± 1.1
34.0	33.9	-0.1	± 1.1
30.0	29.9	-0.1	± 1.1
29.0	28.9	-0.1	± 1.1
28.0	28.0	0.0	± 1.1
27.0	26.9	-0.1	± 1.1
26.0	25.9	-0.1	± 1.1
25.0	24.9	-0.1	± 1.1

QF-TS12-04-04-020664

Continuation of Calibration Certificate

Cert. No. : ACL21072
Job No. : VC64AC0053
Pages : 7 of 8

8. Level linearity including the level range control

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Auto	94.0	94.0	0.0	±1.1

9. Tone burst response

Time Weighting	Tone burst duration, Tb (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	107.9	-0.1	1.5 ; -5.0
	2	8	117.0	117.0	0.0	1.0 ; -2.5
	200	800	134.0	134.0	0.0	±1.0
Slow	2	8	108.0	108.0	0.0	1.5 ; -5.0
	200	800	127.6	127.6	0.0	±1.0
SEL	0.25	1	99.0	98.9	-0.1	1.5 ; -5.0
	2	8	108.0	108.0	0.0	1.0 ; -2.5
	200	800	128.0	128.1	0.1	±1.0

10. Peak C sound level

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, L _{peak} (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	-
One	136.4	136.0	-0.4	±3.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	-
Positive half cycle	135.4	135.2	-0.2	±2.0
Negative half cycle	135.4	135.2	-0.2	±2.0

QF-TS12-04-04-020664

Continuation of Calibration Certificate

Cert. No. : ACL21072
Job No. : VC64AC0053
Pages : 8 of 8

11. Overload indication

Measured value (dB)		Deviated Value (dB)	Acceptance Limits (dB)
Positive one-half cycle	Negative one-half cycle		
89.6	89.5	-0.1	±1.5

12. High level stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	137.0	137.0	0.0	±0.3

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor $k = 2$ or any value following calculation, providing a level of confidence of approximately 95 %

End of Calibration Certificate

Certificate of Calibration

Customer

Name : ALS Laboratory Group Thailand Co., Ltd.
Address : 104 Soi Phantanan 40, Phatthanakan Road, Suan Luang, Bangkok 10250

Certificate No : 22-ACT-127

Request No : Req-2022-0260

Unit Under Calibration Details

Measurement item : Sound Level Meter
Manufacturer : RION
Model : NL-42
Serial Number : 00900075
ID : NNG_FS0013
Resolution : 0.1 dBMicrophone Class : 2
Microphone Model : UC-52
Microphone S/N : 188468
Preamplifier Model : NH-24
Preamplifier S/N : 01737
Instrument Status : Used

Calibration Environment and Details

Temperature : 23 °C ± 2 °C
Humidity : 50 %RH ± 20 %RH
Barometric Pressure : 1013 hPa ± 10 hPa
Received Date : 3 February 2022
Calibrated Date : 22 February 2022
Calibration Procedure : In-house method CP-SLM-01 based on IEC 61672-3 : 2013 Electroacoustics - Sound level meters - Part 3: Periodic tests
Location of Calibration : Lab Acoustic

Reference Standard

Instrument	Brand	Model	SN	Due calibration	Traceability
Standard Microphone	GRAS	40AN	189273	15 September 2022	GRAS
Multifrequency Calibrator	Quest	Quest-cal	EFA000234	14 June 2022	TSI
Audio Generator	Svanteck	Sva401	131	18 October 2022	WK Electric

Note

The reported uncertainty is based on standard uncertainty multiplied by the Coverage Factor $k = 2$, providing a level of confidence approximately 95 %.Calibrated By : *ppc*
Mr. Noppodon Luangorn
Calibration OfficerApproved By : *Mr. Pasi Mathavorn*
Mr. Pasi Mathavorn
Calibration Engineer Supervisor
Issue Date : 22 February 2022The results related only to the item calibrated. The certificate shall not be reproduced except in full, without written approval of the Innovative Instrument Co., Ltd.
FM-708-SLM-01 Rev.0 Issue date: 01/07/19

QF-TS12-04-04-020664

Certificate No : 22-ACT-127
Request No : Req-2022-0260

1. Indication at the calibration check frequency

UUC Setting	Nominal Level (dB)	Before Adjust		Adjust		UNCERTAINTY (± dB)	Acceptance Limit (± dB)
		UUC (dB)	ERR (dB)	UUC (dB)	ERR (dB)		
FAST / A / 30-130							
Calibrator Setting							
1000 Hz 114.00 dB	113.85	113.7	-0.15	113.9	+0.05	0.20	0.3

Note : Absolute sensitivity was established by the use of Sound Calibrator Brand SVANTEK, Model SV 35A, SN. 58079

2. Self-generated noise, Microphone installed

UUC Setting	Measured (dB)	UNCERTAINTY (± dB)
FAST / 30-130		
UUC Weighting		
A	15.5	0.10

3. Self-generated noise, Microphone replaced by the electrical input signal device

UUC Setting	Measured (dB)	UNCERTAINTY (± dB)
FAST / 30-130		
UUC Weighting		
A	12.0	0.10
C	16.4	0.10
Z	20.7	0.10

4. Acoustic signal test of frequency weightings (Without Windscreen)

UUC Setting	Deviation from various Frequency Weighting Response curve			UNCERTAINTY (± dB)	Acceptance Limit (± dB)
	A (dB)	C (dB)	Z (dB)		
FAST / 30-130					
STD Setting					
125 Hz	0.2	0.4	0.4	0.50	1.5
1000 Hz	0.0	0.0	0.0	0.60	1.0
4000 Hz	1.1	1.1	1.0	0.60	3.0
8000 Hz	-1.9	-1.8	-1.9	0.70	5.0

Certificate No : 22-ACT-127
Request No : Req-2022-0260

5. Electrical signal test of frequency weightings, Weighting network response with relative to 1 kHz

UUC Setting	Deviation from various Frequency Weighting Response curve			UNCERTAINTY (± dB)	Acceptance Limit (± dB)
	A (dB)	C (dB)	Z (dB)		
FAST / 30-130					
STD Setting					
63 Hz	-0.2	-0.1	0.0	0.2	2.0
125 Hz	-0.2	0.0	0.0		1.5
250 Hz	0.0	0.0	0.0		1.5
500 Hz	0.0	0.0	0.0		1.5
1000 Hz	0.0	0.0	0.0		1.0
2000 Hz	0.0	0.0	0.0		2.0
4000 Hz	0.0	0.0	0.0		3.0
8000 Hz	0.0	0.0	0.0		5
16000 Hz	-1.1	-1.0	0.0		+5, -INF.

6. Frequency and time weightings at 1kHz

UUC Setting	STD REF (dB)	Measured		UNCERTAINTY (± dB)	Acceptance Limit (± dB)
		UUC (dB)	ERR (dB)		
FAST / 30-130					
UUC Weighting					
A	114.00	114.0	0.0	0.2	0.2
C	114.00	114.0	0.0		0.2
Z	114.00	114.0	0.0		0.2

UUC Setting	STD REF (dB)	Measured		UNCERTAINTY (± dB)	Acceptance Limit (± dB)
		UUC (dB)	ERR (dB)		
30-130 / A					
UUC Time Response					
Fast	114.00	114.0	0.0	0.2	0.1
Slow	114.00	114.0	0.0		0.1
Leq	114.00	114.0	0.0		0.1

Certificate No : 22-ACT-127
Request No : Req-2022-0260

7. Long Term Stability

UUC Setting	Measured	UNCERTAINTY	Acceptance
FAST / A / 30-130	UUC		Limit
STD Setting	(dB)	(± dB)	(± dB)
Initial	114.0		
Final	114.0		
Deviated	0.0	0.1	0.3

8. Level linearity on the reference level range

UUC Setting	Anticipated	Deviation	UNCERTAINTY	Acceptance
FAST / A / 30-130	REF	UUC	ERR	Limit
STD dB	(dB)	(dB)	(dB)	(± dB)
130.00	130	130.0	0.0	1.1
129.00	129	129.0	0.0	1.1
128.00	128	128.0	0.0	1.1
127.00	127	127.0	0.0	1.1
126.00	126	126.0	0.0	1.1
125.00	125	125.0	0.0	1.1
124.00	124	124.0	0.0	1.1
123.00	123	123.0	0.0	1.1
122.00	122	122.0	0.0	1.1
121.00	121	121.0	0.0	1.1
120.00	120	120.0	0.0	1.1
119.00	119	119.0	0.0	1.1
118.00	118	118.0	0.0	1.1
117.00	117	117.0	0.0	1.1
116.00	116	116.0	0.0	1.1
115.00	115	115.0	0.0	1.1
114.00	114	114.0	0.0	1.1
113.00	113	113.0	0.0	1.1
112.00	112	112.0	0.0	1.1
111.00	111	111.0	0.0	1.1
110.00	110	110.0	0.0	1.1
109.00	109	109.0	0.0	1.1
108.00	108	108.0	0.0	1.1
107.00	107	107.0	0.0	1.1
106.00	106	106.0	0.0	1.1
105.00	105	105.0	0.0	1.1
104.00	104	104.0	0.0	1.1
103.00	103	103.0	0.0	1.1
102.00	102	102.0	0.0	1.1
101.00	101	101.0	0.0	1.1
100.00	100	100.0	0.0	1.1
99.00	99	99.0	0.0	1.1
98.00	98	98.0	0.0	1.1
97.00	97	97.0	0.0	1.1
96.00	96	96.0	0.0	1.1
95.00	95	95.0	0.0	1.1
94.00	94	94.0	0.0	1.1
93.00	93	93.0	0.0	1.1
92.00	92	92.0	0.0	1.1
91.00	91	91.0	0.0	1.1
90.00	90	90.0	0.0	1.1
89.00	89	89.0	0.0	1.1
88.00	88	88.0	0.0	1.1
87.00	87	87.0	0.0	1.1
86.00	86	86.0	0.0	1.1
85.00	85	85.0	0.0	1.1
84.00	84	84.0	0.0	1.1
83.00	83	83.0	0.0	1.1
82.00	82	82.0	0.0	1.1
81.00	81	81.0	0.0	1.1
80.00	80	80.0	0.0	1.1
79.00	79	79.0	0.0	1.1
78.00	78	78.0	0.0	1.1
77.00	77	77.0	0.0	1.1
76.00	76	76.0	0.0	1.1
75.00	75	75.0	0.0	1.1
74.00	74	74.0	0.0	1.1
73.00	73	73.0	0.0	1.1
72.00	72	72.0	0.0	1.1
71.00	71	71.0	0.0	1.1
70.00	70	70.0	0.0	1.1
69.00	69	69.0	0.0	1.1
68.00	68	68.0	0.0	1.1
67.00	67	67.0	0.0	1.1
66.00	66	66.0	0.0	1.1
65.00	65	65.0	0.0	1.1
64.00	64	64.0	0.0	1.1
63.00	63	63.0	0.0	1.1
62.00	62	62.0	0.0	1.1
61.00	61	61.0	0.0	1.1
60.00	60	60.0	0.0	1.1
59.00	59	59.0	0.0	1.1
58.00	58	58.0	0.0	1.1
57.00	57	57.0	0.0	1.1
56.00	56	56.0	0.0	1.1
55.00	55	55.0	0.0	1.1
54.00	54	54.0	0.0	1.1
53.00	53	53.0	0.0	1.1
52.00	52	52.0	0.0	1.1
51.00	51	51.0	0.0	1.1
50.00	50	50.0	0.0	1.1
49.00	49	49.0	0.0	1.1
48.00	48	48.0	0.0	1.1
47.00	47	47.0	0.0	1.1
46.00	46	46.0	0.0	1.1
45.00	45	45.0	0.0	1.1
44.00	44	44.0	0.0	1.1
43.00	43	43.0	0.0	1.1
42.00	42	42.0	0.0	1.1
41.00	41	41.0	0.0	1.1
40.00	40	40.0	0.0	1.1
39.00	39	39.0	0.0	1.1
38.00	38	38.0	0.0	1.1
37.00	37	37.0	0.0	1.1
36.00	36	36.0	0.0	1.1
35.00	35	35.0	0.0	1.1
34.00	34	34.0	0.0	1.1
33.00	33	33.0	0.0	1.1
32.00	32	32.0	0.0	1.1
31.00	31	31.0	0.0	1.1
30.00	30	30.0	0.0	1.1
29.00	29	29.0	0.1	1.1
28.00	28	28.0	0.1	1.1
27.00	27	27.0	0.1	1.1
26.00	26	26.0	0.1	1.1
25.00	25	25.0	0.1	1.1
24.00	24	24.0	0.1	1.1

The results related only to the item calibrated. The certificate shall not be reproduced except in full, without written approval of the Innovative Instrument Co., Ltd.
FM-708-SLM-01 Rev.0 Issue date 01/07/19

Certificate No : 22-ACT-127
Request No : Req-2022-0260

12. Overload indication

UUC Setting	Measured	UNCERTAINTY	Acceptance
FAST / A / 30-130	UUC		Limit
STD Setting	(dB)	(± dB)	(± dB)
Positive one-half cycle	139.1		
Negative one-half cycle	139.0		
Deviated	0.1	0.2	1.5

13. High Level Stability

UUC Setting	Measured	UNCERTAINTY	Acceptance
FAST / A / 30-130	UUC		Limit
STD Setting	(dB)	(± dB)	(± dB)
Initial	129.0		
Final	129.0		
Deviated	0.0	0.1	0.3

End of Certificate

Certificate No : 22-ACT-127
Request No : Req-2022-0260

9. Level linearity including the level range control

UUC Setting	STD	Measured	UNCERTAINTY	Acceptance
FAST / A	REF	UUC	ERR	Limit
UUC Range	(dB)	(dB)	(dB)	(± dB)
30-130	29.9	30.0	0.1	1.1
	114	114.0	0.0	1.1

10. Tone burst response

UUC Setting	STD	Anticipated	Measured	UNCERTAINTY	Acceptance
A / 30-130	Toneburst	Ref	UUC	ERR	Limit
UUC Time Response	(ms)	(dB)	(dB)	(dB)	(± dB)
Fast	200	126.0	126.0	0.0	1
	2	109.0	109.0	0.0	+1.0, -2.5
	0.25	100.0	99.9	-0.1	+1.5, -5.0
Slow	200	119.6	119.5	-0.1	1
	2	100.0	99.9	-0.1	+1.0, -5.0
	0.25	91.0	90.9	-0.1	+1.5, -5.0
SEL	200	120.0	120.0	0.0	1
	2	100.0	99.9	-0.1	+1.0, -2.5
	0.25	91.0	90.9	-0.1	+1.5, -5.0

11. Peak C Sound level

UUC Setting	Anticipated	Measured	UNCERTAINTY	Acceptance
FAST / C / 55-141	REF	UUC	ERR	Limit
STD Setting	(dB)	(dB)	(dB)	(± dB)
Complete cycle	136.4	136.1	-0.30	3.0
Positive half cycle	135.4	135.2	-0.20	2.0
Negative half cycle	135.4	135.2	-0.20	2.0

The results related only to the item calibrated. The certificate shall not be reproduced except in full, without written approval of the Innovative Instrument Co., Ltd.
FM-708-SLM-01 Rev.0 Issue date 01/07/19

SITHIPHORN ASSOCIATES CO.,LTD.
CALIBRATION LABORATORY

451-451/1 Sirinthorn Rd.,Bangbunru, Bangplud Bangkok 10700 THAILAND.
Tel.0-2435-8800 Fax.0-2433-1679 e-mail:cal-center@sithiphorn.com http://www.sithiphorn.com

Cert. No. : ACL22101
Pages : 1 of 8

Calibration Certificate

Equipment : SOUND LEVEL METER
Manufacturer : RION
Model : NL-42/ Microphone UC-52 / Preamp/ NH-24
Serial No. : 00371914 / 169110 / 72255
ID No. : NKH_FS0001

Condition As Found : GOOD

Customer : ALS LABORATORY GROUP (THAILAND) CO., LTD.
104 PHATTHANAKAN 40, PHATTHANAKAN ROAD,
KHWAENG PHATTHANAKAN, KHET SUAN LUANG,
BANGKOK, 10250 THAILAND.

Location :
Ambient Temperature : (23.0 ± 3) °C
Pressure : (101.3 ± 3) kPa
Relative Humidity : (50.0 ± 20) %
Received Date : 22 APRIL 2022
Calibration Date : 03-06 MAY 2022
Date of Issue : 09 MAY 2022

Calibrated by : Nalhakorn Pisutpaisan

Approved by :

T. Petchuraj
(Thanakul Petchuraj)

This certificate is issued in accordance with the requirements of ISO/IEC 17025 standard, may not be reproduced other than in full, except with the prior written approval of the head of Calibration Laboratory.

Continuation of Calibration Certificate

Cert. No. : ACL22101
Job No. : VC65AC0051
Pages : 2 of 8

Calibration Procedure : CP-AC-01

Calibration Method :

This equipment was calibrated by based on IEC-61672-3 (2013) Standard for sound level meter (SLM).

The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Anechoic chamber and Reference Standard Instruments.

For tests results of each items were made by observation of each Instruments display and also with SLM's display.

Condition of this result of calibration :

1. Reference Standard Instruments :

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	EF-000722	04-Feb-23
Waveform Generator	33511B	MY52302742	EF-000822	04-Feb-23
Digital Multimeter	33461A	MY53220104	EEL.BP.04/0265	09-Feb-23
Digital Multimeter	33461A	MY53220076	EEL.BP.03/0265	09-Feb-23
Digital Multimeter	33461A	MY60024273	EEL.BP.05/0265	09-Feb-23
Programmable Attenuator	MAT-1070	62100114	EF-000922	07-Feb-23
Condenser Microphone	4180	2977900	AA-101822	24-Feb-23
Measuring Amplifier	NA-42KA1	34560495	AA-300522	22-Feb-23

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained at :

3.1 National Institute of Metrology (Thailand).

3.2 Thailand Institute of Scientific and Technological Research (TISTR).

QF-TS12-04-04-020664

T. Petch.

Continuation of Calibration Certificate

Cert. No. : ACL22101
Job No. : VC65AC0051
Pages : 4 of 8

Result of calibration :

1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.95)	93.9	0.0	±0.3

2. Self-generated noise

2.1 Normal test

Measured Value (dB)
14.2

2.2 The microphone of the sound level meter was replaced by electrical signal input device

Frequency Weighting	Measured value (dB)
A - weight	9.9
C - weight	16.3
Flat	22.1

3. Acoustical signal tests of frequency weightings

Meter free-field acoustic response at a level of 84 dB

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
125	0.4	0.4	0.5	±1.5
1000	0.0	0.0	0.0	±1.0
8000	-1.1	-1.0	-1.0	±5.0

QF-TS12-04-04-020664

T. Petch.

Continuation of Calibration Certificate

Cert. No. : ACL22101
Job No. : VC65AC0051
Pages : 3 of 8

Summary of Measurement Result :

Parameter	Pass	Fail	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	✓	-	0.2	N/A
2. Self-generated noise	✓	-	0.2	N/A
3. Acoustical signal tests of frequency weightings				
125 Hz	✓	-	0.3	0.6
1000 Hz	✓	-	0.3	0.6
8000 Hz	✓	-	0.3	0.7
4. Electrical signal tests of frequency weightings				
For 10 Hz to 4 kHz	✓	-	0.3	0.6
For > 4 kHz to 10 kHz	✓	-	0.3	0.7
For > 10 kHz to 20 kHz	-	-	-	1.0
5. Frequency and time weightings at 1 kHz	✓	-	0.2	0.2
6. Long - term stability	✓	-	0.1	0.1
7. Level linearity on the reference level range	✓	-	0.2	0.3
8. Level linearity including the level range control	✓	-	0.2	0.3
9. Tone burst response	✓	-	0.2	0.3
10. Peak C sound level	✓	-	0.2	0.35
11. Overload indication	✓	-	0.2	0.25
12. High level stability	✓	-	0.1	0.1

QF-TS12-04-04-020664

T. Petch.

Continuation of Calibration Certificate

Cert. No. : ACL22101
Job No. : VC65AC0051
Pages : 5 of 8

4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz.

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
63	0.0	-0.1	-0.1	±2.0
125	0.0	0.0	0.0	±1.5
250	0.0	0.0	0.0	±1.5
500	0.0	0.0	0.0	±1.5
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.0	0.0	±2.0
4000	0.0	0.0	0.0	±3.0
8000	0.0	0.1	0.1	±5.0

5. Frequency and time weightings at 1 kHz

5.1 Frequency weightings at 1 kHz

Frequency Weighting	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	94.0	0.0	-
C - weight	94.0	0.0	±0.2
Flat	94.0	0.0	±0.2

5.2 Time weighting at 1 kHz

Frequency Weighting	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	0.0	-
Slow	94.0	0.0	±0.1
Leq	94.0	0.0	±0.1

6. Long - term stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	94.0	94.0	0.0	±0.3

QF-TS12-04-04-020664

T. Petch.

Continuation of Calibration Certificate

Cert. No. : ACL22101
Job No. : VC65AC0051
Pages : 6 of 8

7. Level linearity on the reference level range

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	±1.1
136.0	136.0	0.0	±1.1
135.0	135.0	0.0	±1.1
134.0	134.0	0.0	±1.1
133.0	133.0	0.0	±1.1
132.0	132.0	0.0	±1.1
131.0	131.0	0.0	±1.1
129.0	129.0	0.0	±1.1
124.0	124.0	0.0	±1.1
119.0	119.0	0.0	±1.1
114.0	114.0	0.0	±1.1
109.0	109.0	0.0	±1.1
104.0	104.0	0.0	±1.1
99.0	99.0	0.0	±1.1
94.0	94.0	0.0	±1.1
89.0	89.0	0.0	±1.1
84.0	84.0	0.0	±1.1
79.0	79.0	0.0	±1.1
74.0	74.1	0.1	±1.1
69.0	69.1	0.1	±1.1
64.0	64.0	0.0	±1.1
59.0	59.1	0.1	±1.1
54.0	54.0	0.0	±1.1
49.0	49.0	0.0	±1.1
44.0	44.0	0.0	±1.1
39.0	39.0	0.0	±1.1
34.0	34.0	0.0	±1.1
30.0	30.1	0.1	±1.1
29.0	29.1	0.1	±1.1
28.0	28.1	0.1	±1.1
27.0	27.1	0.1	±1.1
26.0	26.2	0.2	±1.1
25.0	25.2	0.2	±1.1

QF-TS12-04-04-020664

T. Petch.

Continuation of Calibration Certificate

Cert. No. : ACL22101
Job No. : VC65AC0051
Pages : 8 of 8

11. Overload indication

Measured value (dB)		Deviated Value (dB)	Acceptance Limits (dB)
Positive one-half cycle	Negative one-half cycle		
89.5	89.6	0.1	±1.5

12. High level stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	137.0	137.0	0.0	±0.3

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor $k = 2$ or any value following calculation, providing a level of confidence of approximately 95 %

End of Calibration Certificate

QF-TS12-04-04-020664

T. Petch.

Continuation of Calibration Certificate

Cert. No. : ACL22101
Job No. : VC65AC0051
Pages : 7 of 8

8. Level linearity including the level range control

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Auto	94.0	94.0	0.0	±1.1

9. Tone burst response

Time Weighting	Tone burst duration, Tb (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	107.9	-0.1	1.5; -5.0
	2	8	117.0	117.0	0.0	1.0; -2.5
	200	800	134.0	134.0	0.0	±1.0
Slow	2	8	108.0	108.0	0.0	1.5; -5.0
	200	800	127.6	127.6	0.0	±1.0
	0.25	1	99.0	98.9	-0.1	1.5; -5.0
SEL	2	8	108.0	108.0	0.0	1.0; -2.5
	200	800	128.0	128.0	0.0	±1.0

10. Peak C sound level

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, L _{peak} (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	-
One	136.4	136.4	0.0	±3.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.1	0.1	-
Positive half cycle	135.4	135.3	-0.1	±2.0
Negative half cycle	135.4	135.3	-0.1	±2.0

QF-TS12-04-04-020664

T. Petch.

451-451/1 Sirinthorn Rd., Bangbunru, Bangplud Bangkok 10700 THAILAND.
Tel: 0-2435-8800 Fax: 0-2433-1679 e-mail: cal-center@sithiporn.com http://www.sithiporn.com



Cert. No. : ACL21073
Pages : 1 of 8

Calibration Certificate

Equipment : SOUND LEVEL METER
Manufacturer : RION
Model : NL-42/ Microphone UC-52 / Preamplifier NH-24
Serial No. : 00472124 / 169437 / 72458
ID No. : NKH_FS0008

Condition As Found : GOOD

Customer : ALS LABORATORY GROUP (THAILAND) CO., LTD.
104 PHATTHANAKAN 40, PHATTHANAKAN ROAD,
KHWAENG PHATTHANAKAN, KHET SUAN LUANG,
BANGKOK, 10250 THAILAND.

Location : -
Ambient Temperature : (23.0 ± 3) °C
Pressure : (101.3 ± 3) kPa
Relative Humidity : (50.0 ± 20) %

Received Date : 13 JULY 2021
Calibration Date : 14-16 JULY 2021
Date of Issue : 20 JULY 2021

Calibrated by : Nathakorn Pisutpaisan

Approved by : T. Petch.
(Thanakul Petchurai)

REVIEW BY	T. Petch.
APPROVED BY	T. Petch.
NEXT CAL. DATE	14/1/22

This certificate is issued in accordance with the requirements of ISO/IEC 17025 standard, may not be reproduced other than in full, except with the prior written approval of the head of Calibration Laboratory.

QF-TS12-04-04-020664

Continuation of Calibration Certificate

Cert. No. : ACL21073
Job No. : VC64AC0053
Pages : 2 of 8

Calibration Procedure : CP-AC-01

Calibration Method :

This equipment was calibrated by based on IEC-61672-3 (2013) Standard for sound level meter (SLM).

The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Anechoic chamber and Reference Standard Instruments.

For tests results of each items were made by observation of each Instruments display and also with SLM's display.

Condition of this result of calibration :

1. Reference Standard Instruments :

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	EF-0012-21	10-Feb-22
Waveform Generator	33511B	MY52302742	EF-0011-21	10-Feb-22
Digital Multimeter	33461A	MY53220104	EEL.BP_05/0264	10-Feb-22
Digital Multimeter	33461A	MY53220076	EEL.BP_03/0264	08-Feb-22
Digital Multimeter	33461A	MY53220116	EEL.BP_04/0264	10-Feb-22
Programmable Attenuator	MAT-1070	62100114	1500-07774E	08-Mar-22
Condenser Microphone	4180	2977900	AA-1008-21	05-Feb-22
Measuring Amplifier	NA-42KA1	34560495	AA-3003-21	16-Feb-22

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained at :

3.1 National Institute of Metrology (Thailand).

3.2 Thailand Institute of Scientific and Technological Research (TISTR).

QF-TS12-04-04-020664

P.T.A.

Continuation of Calibration Certificate

Cert. No. : ACL21073
Job No. : VC64AC0053
Pages : 3 of 8

Summary of Measurement Result :

Parameter	Pass	Fail	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	✓	-	0.2	N/A
2. Self-generated noise	✓	-	0.2	N/A
3. Acoustical signal tests of frequency weightings				
125 Hz	✓	-	0.3	0.6
1000 Hz	✓	-	0.3	0.6
8000 Hz	✓	-	0.3	0.7
4. Electrical signal tests of frequency weightings				
For 10 Hz to 4 kHz	✓	-	0.3	0.6
For > 4 kHz to 10 kHz	✓	-	0.3	0.7
For > 10 kHz to 20 kHz	-	-	-	1.0
5. Frequency and time weightings at 1 kHz	✓	-	0.2	0.2
6. Long - term stability	✓	-	0.1	0.1
7. Level linearity on the reference level range	✓	-	0.2	0.3
8. Level linearity including the level range control	✓	-	0.2	0.3
9. Tone burst response	✓	-	0.2	0.3
10. Peak C sound level	✓	-	0.2	0.35
11. Overload indication	✓	-	0.2	0.25
12. High level stability	✓	-	0.1	0.1

QF-TS12-04-04-020664

P.T.A.

Continuation of Calibration Certificate

Cert. No. : ACL21073
Job No. : VC64AC0053
Pages : 4 of 8

Result of calibration :

1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.96)	93.9	0.0	±0.3

2. Self-generated noise

2.1 Normal test

Measured Value (dB)
15.9

2.2 The microphone of the sound level meter was replaced by electrical signal input device.

Frequency Weighting	Measured value (dB)
A - weight	13.1
C - weight	19.1
Flat	25.0

3. Acoustical signal tests of frequency weightings

Metric free-field acoustic response at a level of 84 dB

Frequency (Hz)	Flat	C-weight	A-weight	Acceptance Limits
125	0.2	0.2	0.3	± 1.5
1000	0.0	0.0	0.0	± 1.0
8000	-1.1	-0.9	-1.0	±5.0

QF-TS12-04-04-020664

P.T.A.

Continuation of Calibration Certificate

Cert. No. : ACL21073
Job No. : VC64AC0053
Pages : 5 of 8

4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz.

Frequency (Hz)	Flat	C-weight	A-weight	Acceptance Limits
63	0.0	-0.1	0.0	±2.0
125	0.0	0.1	0.0	±1.5
250	0.0	0.1	0.0	±1.5
500	0.0	0.1	0.0	±1.5
1000	0.0	0.1	0.0	±1.0
2000	0.0	0.1	0.1	±2.0
4000	0.1	0.1	0.1	±3.0
8000	0.1	0.1	0.1	±5.0

5. Frequency and time weightings at 1 kHz

5.1 Frequency weightings at 1 kHz

Frequency Weighting	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	94.0	0.0	-
C - weight	94.0	0.0	± 0.2
Flat	94.0	0.0	± 0.2

5.2 Time weighting at 1 kHz

Frequency Weighting	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	0.0	-
Slow	94.0	0.0	± 0.1
Leq	94.0	0.0	± 0.1

6. Long - term stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	94.0	94.1	0.1	± 0.3

QF-TS12-04-04-020664

P.T.A.

Continuation of Calibration Certificate

Cert. No. : ACL21073
Job No. : VC64AC0053
Pages : 6 of 8

7. Level linearity on the reference level range

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	±1.1
136.0	136.0	0.0	±1.1
135.0	135.1	0.1	±1.1
134.0	134.1	0.1	±1.1
133.0	133.0	0.0	±1.1
132.0	132.0	0.0	±1.1
131.0	131.0	0.0	±1.1
129.0	129.0	0.0	±1.1
124.0	124.0	0.0	±1.1
119.0	119.1	0.1	±1.1
114.0	114.1	0.1	±1.1
109.0	109.0	0.0	±1.1
104.0	104.1	0.1	±1.1
99.0	99.0	0.0	±1.1
94.0	94.0	0.0	±1.1
89.0	89.0	0.0	±1.1
84.0	84.0	0.0	±1.1
79.0	79.0	0.0	±1.1
74.0	74.0	0.0	±1.1
69.0	69.0	0.0	±1.1
64.0	64.0	0.0	±1.1
59.0	59.0	0.0	±1.1
54.0	54.0	0.0	±1.1
49.0	49.0	0.0	±1.1
44.0	44.0	0.0	±1.1
39.0	39.0	0.0	±1.1
34.0	34.0	0.0	±1.1
30.0	29.9	-0.1	±1.1
29.0	28.9	-0.1	±1.1
28.0	27.9	-0.1	±1.1
27.0	27.0	0.0	±1.1
26.0	25.9	-0.1	±1.1
25.0	25.0	0.0	±1.1

Continuation of Calibration Certificate

Cert. No. : ACL21073
Job No. : VC64AC0053
Pages : 7 of 8

8. Level linearity including the level range control

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Auto	94.0	94.0	0.0	±1.1

9. Tone burst response

Time Weighting	Tone burst duration, Tb (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	107.9	-0.1	1.5; -5.0
	2	8	117.0	116.9	-0.1	1.0; -2.5
	200	800	134.0	134.0	0.0	±1.0
Slow	2	8	108.0	107.9	-0.1	1.5; -5.0
	200	800	127.6	127.5	-0.1	±1.0
SEL	0.25	1	99.0	98.8	-0.2	1.5; -5.0
	2	8	108.0	107.9	-0.1	1.0; -2.5
	200	800	128.0	128.0	0.0	±1.0

10. Peak C sound level

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, L _{peak} (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	-
One	136.4	136.3	-0.1	±3.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	-
Positive half cycle	135.4	135.1	-0.3	±2.0
Negative half cycle	135.4	135.1	-0.3	±2.0

QF-TS12-04-04-020664

QF-TS12-04-04-020664

Continuation of Calibration Certificate

Cert. No. : ACL21073
Job No. : VC64AC0053
Pages : 8 of 8

11. Overload indication

Measured value (dB)		Deviated Value (dB)	Acceptance Limits (dB)
Positive one-half cycle	Negative one-half cycle		
89.7	89.5	-0.2	±1.5

12. High level stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	137.0	137.0	0.0	±0.3

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor $k = 2$ or any value following calculation, providing a level of confidence of approximately 95 %

End of Calibration Certificate

451-451/1 Sirinthorn Rd, Bangbunru, Bangplud Bangkok 10700 THAILAND.
Tel: 0-2435-8800 Fax: 0-2433-1679 e-mail: cal-center@sithiporn.com http://www.sithiporn.comCert. No. : ACL21088
Pages : 1 of 8

Calibration Certificate

Equipment : SOUND LEVEL METER
Manufacturer : RION
Model : NL-42/ Microphone UC-52 / Preamplifier NH-24
Serial No.: 01173614 / 172176 / 74026
ID No.: NKH_FS0027

Condition As Found : GOOD

Customer : ALS LABORATORY GROUP (THAILAND) CO., LTD.
104 PHATTHANAKAN 40, PHATTHANAKAN ROAD,
KHWANG PHATTHANAKAN, KHET SUAN LUANG,
BANGKOK, 10250 THAILAND.

Location :
Ambient Temperature : (23.0 ± 3) °C
Pressure : (101.3 ± 3) kPa
Relative Humidity : (50.0 ± 20) %

Received Date : 18 AUGUST 2021
Calibration Date : 20-24 AUGUST 2021
Date of Issue : 25 AUGUST 2021

Calibrated by : Nathakorn Pisutpaisan

Approved by :

T. Petchurai
(Thanakul Petchurai)

This certificate is issued in accordance with the requirements of ISO/IEC 17025 standard, may not be reproduced other than in full, except with the prior written approval of the head of Calibration Laboratory.

QF-TS12-04-04-020664

QF-TS12-04-04-020664

Continuation of Calibration Certificate

Cert. No. : ACL21088
Job No. : VC64AC0061
Pages : 2 of 8

Calibration Procedure : CP-AC-01

Calibration Method :

This equipment was calibrated by based on IEC-61672-3 (2013) Standard for sound level meter (SLM).

The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Anechoic chamber and Reference Standard Instruments.

For tests results of each items were made by observation of each Instruments display and also with SLM's display.

Condition of this result of calibration :

1. Reference Standard Instruments :

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	EF-0012-21	10-Feb-22
Waveform Generator	33511B	MY52302742	EF-0011-21	10-Feb-22
Digital Multimeter	33461A	MY53220104	EEL-BP_06/0264	10-Feb-22
Digital Multimeter	8846A	1997025	EEL-BP_06/0264	05-Feb-22
Digital Multimeter	33461A	MY53220116	EEL-BP_04/0264	10-Feb-22
Programmable Attenuator	MAT-1070	62100114	1500-07774E	08-Mar-22
Condenser Microphone	4180	2977900	AA-1008-21	05-Feb-22
Measuring Amplifier	NA-42KAI	34560495	AA-3003-21	16-Feb-22

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained at :

3.1 National Institute of Metrology (Thailand).

3.2 Thailand Institute of Scientific and Technological Research (TISTR).

QF-TS12-04-04-020664

T. Petch.

Continuation of Calibration Certificate

Cert. No. : ACL21088
Job No. : VC64AC0061
Pages : 4 of 8

Result of calibration :

1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.96)	93.9	0.0	±0.3

2. Self-generated noise

2.1 Normal test

Measured Value (dB)
15.2

2.2 The microphone of the sound level meter was replaced by electrical signal input device.

Frequency Weighting	Measured value (dB)
A - weight	12.0
C - weight	18.0
Flat	23.7

3. Acoustical signal tests of frequency weightings

Meter free-field acoustic response at a level of 84 dB

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
125	0.2	0.3	0.3	± 1.5
1000	0.0	0.0	0.0	± 1.0
8000	-0.4	-0.3	-0.3	±5.0

QF-TS12-04-04-020664

T. Petch.

Continuation of Calibration Certificate

Cert. No. : ACL21088
Job No. : VC64AC0061
Pages : 3 of 8

Summary of Measurement Result :

Parameter	Pass	Fail	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	✓	-	0.2	N/A
2. Self-generated noise	✓	-	0.2	N/A
3. Acoustical signal tests of frequency weightings				
125 Hz	✓	-	0.3	0.6
1000 Hz	✓	-	0.3	0.6
8000 Hz	✓	-	0.3	0.7
4. Electrical signal tests of frequency weightings				
For 10 Hz to 4 kHz	✓	-	0.3	0.6
For > 4 kHz to 10 kHz	✓	-	0.3	0.7
For > 10 kHz to 20 kHz	-	-	-	1.0
5. Frequency and time weightings at 1 kHz	✓	-	0.2	0.2
6. Long - term stability	✓	-	0.1	0.1
7. Level linearity on the reference level range	✓	-	0.2	0.3
8. Level linearity including the level range control	✓	-	0.2	0.3
9. Tone burst response	✓	-	0.2	0.3
10. Peak C sound level	✓	-	0.2	0.35
11. Overload indication	✓	-	0.2	0.25
12. High level stability	✓	-	0.1	0.1

QF-TS12-04-04-020664

T. Petch.

Continuation of Calibration Certificate

Cert. No. : ACL21088
Job No. : VC64AC0061
Pages : 5 of 8

4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz.

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
63	0.0	-0.1	-0.1	±2.0
125	0.0	0.0	0.0	±1.5
250	0.0	0.0	0.0	±1.5
500	0.0	0.0	0.0	±1.5
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.0	0.0	±2.0
4000	0.0	0.0	0.0	±3.0
8000	0.0	0.1	0.1	±5.0

5. Frequency and time weightings at 1 kHz

5.1 Frequency weightings at 1 kHz

Frequency Weighting	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	94.0	0.0	-
C - weight	94.0	0.0	±0.2
Flat	94.0	0.0	±0.2

5.2 Time weighting at 1 kHz

Frequency Weighting	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	0.0	-
Slow	94.0	0.0	±0.1
Leq	94.0	0.0	±0.1

6. Long - term stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	94.0	94.0	0.0	±0.3

QF-TS12-04-04-020664

T. Petch.

Continuation of Calibration Certificate

Cert. No. : ACL21088
Job No. : VC64AC0061
Pages : 6 of 8

7. Level linearity on the reference level range

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	±1.1
136.0	136.0	0.0	±1.1
135.0	135.0	0.0	±1.1
134.0	134.0	0.0	±1.1
133.0	133.0	0.0	±1.1
132.0	132.0	0.0	±1.1
131.0	131.0	0.0	±1.1
129.0	129.0	0.0	±1.1
124.0	124.0	0.0	±1.1
119.0	119.0	0.0	±1.1
114.0	114.0	0.0	±1.1
109.0	109.0	0.0	±1.1
104.0	104.0	0.0	±1.1
99.0	99.0	0.0	±1.1
94.0	94.0	0.0	±1.1
89.0	89.0	0.0	±1.1
84.0	84.0	0.1	±1.1
79.0	79.0	0.0	±1.1
74.0	74.0	0.1	±1.1
69.0	69.0	0.1	±1.1
64.0	64.0	0.0	±1.1
59.0	59.0	0.1	±1.1
54.0	54.0	0.0	±1.1
49.0	49.0	0.0	±1.1
44.0	44.0	0.0	±1.1
39.0	39.0	0.0	±1.1
34.0	34.0	0.0	±1.1
30.0	30.0	0.0	±1.1
29.0	29.0	0.1	±1.1
28.0	28.0	0.1	±1.1
27.0	27.0	0.1	±1.1
26.0	26.0	0.1	±1.1
25.0	25.0	0.1	±1.1

QF-TS12-04-04-020664

Continuation of Calibration Certificate

Cert. No. : ACL21088
Job No. : VC64AC0061
Pages : 7 of 8

8. Level linearity including the level range control

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Auto	94.0	94.0	0.0	±1.1

9. Tone burst response

Time Weighting	Tone burst duration, Tb (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	107.9	-0.1	1.5, -5.0
	2	8	117.0	117.0	0.0	1.0, -2.5
	200	800	134.0	134.0	0.0	±1.0
Slow	2	8	108.0	108.0	0.0	1.5, -5.0
	200	800	127.6	127.6	0.0	±1.0
SEL	0.25	1	99.0	98.9	-0.1	1.5, -5.0
	2	8	108.0	108.0	0.0	1.0, -2.5
	200	800	128.0	128.1	0.1	±1.0

10. Peak C sound level

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, Lepeak (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	-
One	136.4	136.1	-0.3	±3.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.1	0.1	-
Positive half cycle	135.4	135.3	-0.1	±2.0
Negative half cycle	135.4	135.3	-0.1	±2.0

QF-TS12-04-04-020664

Continuation of Calibration Certificate

Cert. No. : ACL21088
Job No. : VC64AC0061
Pages : 8 of 8451-451/1 Sirinthorn Rd, Bangbunru, Bangplud Bangkok 10700 THAILAND.
Tel:0-2435-8800 Fax:0-2433-1679 e-mail:cal-center@sithiporn.com http://www.sithiporn.comCert. No. : ACL22103
Pages : 1 of 8

11. Overload indication

Measured value (dB)		Deviated Value (dB)	Acceptance Limits (dB)
Positive one-half cycle	Negative one-half cycle		
89.5	89.7	0.2	±1.5

12. High level stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	137.0	137.0	0.0	±0.3

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor $k = 2$
or any value following calculation, providing a level of confidence of approximately 95 %

End of Calibration Certificate

Calibration Certificate

Equipment : SOUND LEVEL METER
Manufacturer : RION
Model : NL-42/ Microphone UC-52 / Preamplifier NH-24
Serial No.: 00371916 / 169103 / 72248
ID No.: NKH_FS0003

Condition As Found : GOOD

Customer : ALS LABORATORY GROUP (THAILAND) CO., LTD.
104 PHATTHANAKAN 40, PHATTHANAKAN ROAD,
KHWAENG PHATTHANAKAN, KHET SUAN LUANG,
BANGKOK, 10250 THAILAND.

Location : -
Ambient Temperature : (23.0 ± 3) °C
Pressure : (101.3 ± 3) kPa
Relative Humidity : (50.0 ± 20) %

Received Date : 22 APRIL 2022
Calibration Date : 03-06 MAY 2022
Date of Issue : 09 MAY 2022

Calibrated by : Nathakorn Pisutpaisan

Approved by :

T. Petchurai
(Thanakul Petchurai)

This certificate is issued in accordance with the requirements of ISO/IEC 17025 standard, may not be reproduced
other than in full, except with the prior written approval of the head of Calibration Laboratory.

QF-TS12-04-04-020664

QF-TS12-04-04-020664

Continuation of Calibration Certificate

Cert. No. : ACL22103
Job No. : VC65AC0051
Pages : 2 of 8

Calibration Procedure : CP-AC-01

Calibration Method :

This equipment was calibrated by based on IEC-61672-3 (2013) Standard for sound level meter (SLM).

The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Anechoic chamber and Reference Standard Instruments.

For tests results of each items were made by observation of each Instruments display and also with SLM's display.

Condition of this result of calibration :

1. Reference Standard Instruments :

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	EF-0007-22	04-Feb-23
Waveform Generator	33511B	MY52302742	EF-0008-22	04-Feb-23
Digital Multimeter	33461A	MY53220104	EEL.BP.04/0265	09-Feb-23
Digital Multimeter	33461A	MY53220076	EEL.BP.03/0265	09-Feb-23
Digital Multimeter	33461A	MY60024273	EEL.BP.05/0265	09-Feb-23
Programmable Attenuator	MAT-1070	62100114	EF-0009-22	07-Feb-23
Condenser Microphone	4180	2977900	AA-1013-22	24-Feb-23
Measuring Amplifier	NA-42KAJ	34560495	AA-2005-22	22-Feb-23

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained at :

3.1 National Institute of Metrology (Thailand).

3.2 Thailand Institute of Scientific and Technological Research (TISTR).

QF-TS12-04-04-020664

T. Petch.

Continuation of Calibration Certificate

Cert. No. : ACL22103
Job No. : VC65AC0051
Pages : 4 of 8

Result of calibration :

1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.95)	93.9	0.0	±0.3

2. Self-generated noise

2.1 Normal test

Measured Value (dB)
14.8

2.2 The microphone of the sound level meter was replaced by electrical signal input device

Frequency Weighting	Measured value (dB)
A - weight	11.2
C - weight	17.2
Flat	23.2

3. Acoustical signal tests of frequency weightings

Meter free-field acoustic response at a level of 84 dB

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
125	0.0	0.2	0.2	±1.5
1000	0.0	0.0	0.0	±1.0
8000	0.7	0.8	0.9	±5.0

QF-TS12-04-04-020664

T. Petch.

Continuation of Calibration Certificate

Cert. No. : ACL22103
Job No. : VC65AC0051
Pages : 3 of 8

Summary of Measurement Result :

Parameter	Pass	Fail	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	✓	-	0.2	N/A
2. Self-generated noise	✓	-	0.2	N/A
3. Acoustical signal tests of frequency weightings				
125 Hz	✓	-	0.3	±0.6
1000 Hz	✓	-	0.3	±0.5
8000 Hz	✓	-	0.3	±0.7
4. Electrical signal tests of frequency weightings				
For 10 Hz to 4 kHz	✓	-	0.3	±0.5
For > 4 kHz to 10 kHz	✓	-	0.3	±0.7
For > 10 kHz to 20 kHz	-	-	-	±1.0
5. Frequency and time weightings at 1 kHz	✓	-	0.2	±0.2
6. Long - term stability	✓	-	0.1	±0.1
7. Level linearity on the reference level range	✓	-	0.2	±0.5
8. Level linearity including the level range control	✓	-	0.2	±0.5
9. Tone burst response	✓	-	0.2	±0.3
10. Peak C sound level	✓	-	0.2	±0.35
11. Overload indication	✓	-	0.2	±0.25
12. High level stability	✓	-	0.1	±0.1

QF-TS12-04-04-020664

T. Petch.

Continuation of Calibration Certificate

Cert. No. : ACL22103
Job No. : VC65AC0051
Pages : 5 of 8

4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz.

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
63	0.0	-0.1	0.0	±2.0
125	-0.1	0.0	-0.1	±1.5
250	0.0	0.0	-0.1	±1.5
500	0.0	0.0	-0.1	±1.5
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.0	0.0	±2.0
4000	0.0	0.0	0.0	±3.0
8000	0.0	0.0	0.0	±5.0

5. Frequency and time weightings at 1 kHz

5.1 Frequency weightings at 1 kHz

Frequency Weighting	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	94.0	0.0	-
C - weight	94.0	0.0	±0.2
Flat	94.0	0.0	±0.2

5.2 Time weighting at 1 kHz

Frequency Weighting	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	0.0	-
Slow	94.0	0.0	±0.1
Leq	94.0	0.0	±0.1

6. Long - term stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	94.0	94.0	0.0	±0.3

QF-TS12-04-04-020664

T. Petch.

Continuation of Calibration Certificate

Cert. No. : ACL22103
Job No. : VC65AC0051
Pages : 6 of 8

7. Level linearity on the reference level range

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	±1.1
136.0	136.1	0.1	±1.1
135.0	135.1	0.1	±1.1
134.0	134.1	0.1	±1.1
133.0	133.0	0.0	±1.1
132.0	132.0	0.0	±1.1
131.0	131.0	0.0	±1.1
129.0	129.0	0.0	±1.1
124.0	124.0	0.0	±1.1
119.0	119.1	0.1	±1.1
114.0	114.1	0.1	±1.1
109.0	109.0	0.0	±1.1
104.0	104.1	0.1	±1.1
99.0	99.0	0.0	±1.1
94.0	94.0	0.0	±1.1
89.0	89.0	0.0	±1.1
84.0	84.0	0.0	±1.1
79.0	79.0	0.0	±1.1
74.0	74.0	0.0	±1.1
69.0	69.0	0.0	±1.1
64.0	64.0	0.0	±1.1
59.0	59.0	0.0	±1.1
54.0	54.0	0.0	±1.1
49.0	49.0	0.0	±1.1
44.0	44.0	0.0	±1.1
39.0	39.0	0.0	±1.1
34.0	34.0	0.0	±1.1
30.0	30.0	0.0	±1.1
29.0	29.0	0.0	±1.1
28.0	28.0	0.0	±1.1
27.0	27.1	0.1	±1.1
26.0	26.0	0.0	±1.1
25.0	25.1	0.1	±1.1

QF-TS12-04-04-020664

T. Petch.

Continuation of Calibration Certificate

Cert. No. : ACL22103
Job No. : VC65AC0051
Pages : 8 of 8

11. Overload indication

Measured value (dB)		Deviated Value (dB)	Acceptance Limits (dB)
Positive one-half cycle	Negative one-half cycle		
89.7	89.6	0.1	±1.5

12. High level stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	137.0	137.0	0.0	±0.3

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor $k = 2$, or any value following calculation, providing a level of confidence of approximately 95 %

End of Calibration Certificate

Continuation of Calibration Certificate

Cert. No. : ACL22103
Job No. : VC65AC0051
Pages : 7 of 8

8. Level linearity including the level range control

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Auto	94.0	94.0	0.0	±1.1

9. Tone burst response

Time Weighting	Tone burst duration, Tb (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	107.9	-0.1	1.5; -5.0
	2	8	117.0	116.9	-0.1	1.0; -2.5
	200	800	134.0	134.0	0.0	±1.0
Slow	2	8	108.0	108.0	0.0	1.5; -5.0
	200	800	127.6	127.6	0.0	±1.0
	0.25	1	99.0	98.9	-0.1	1.5; -5.0
SEL	2	8	108.0	108.0	0.0	1.0; -2.5
	200	800	128.0	128.0	0.0	±1.0

10. Peak C sound level

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, L _{peak} (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	-
One	136.4	135.3	-1.1	±3.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	-
Positive half cycle	135.4	135.1	-0.3	±2.0
Negative half cycle	135.4	135.1	-0.3	±2.0

QF-TS12-04-04-020664

T. Petch.

SITHIPORN ASSOCIATES CO.,LTD.
CALIBRATION LABORATORY

451-451/1 Sirinthorn Rd, Bangbunru, Bangplud Bangkok 10700 THAILAND.
Tel:0-2435-8800 Fax:0-2433-1679 e-mail:cal-center@sithiporn.com http://www.sithiporn.com



Cert. No. : ACL22105
Pages : 1 of 8

Calibration Certificate

Equipment : SOUND LEVEL METER
Manufacturer : RION
Model : NL-42/ Microphone UC-52 / Preamplifier NH-24
Serial No.: 00371923 / 169100 / 72245
ID No.: NKH_FS0005

Condition As Found : GOOD

Customer : ALS LABORATORY GROUP (THAILAND) CO., LTD.
104 PHATTHANAKAN 40, PHATTHANAKAN ROAD,
KHWAENG PHATTHANAKAN, KHET SUAN LUANG,
BANGKOK, 10250 THAILAND.

Location : -
Ambient Temperature : (23.0 ± 3) °C
Pressure : (101.3 ± 3) kPa
Relative Humidity : (50.0 ± 20) %
Received Date : 22 APRIL 2022
Calibration Date : 03-06 MAY 2022
Date of Issue : 09 MAY 2022

REVIEW BY	Natthakorn P.
APPROVED BY	T. Petch.
NEXT CAL DATE	3/6/23

Calibrated by : Natthakorn Pisutpaisan

Approved by : T. Petch.
(Thanakul Petchurai)

This certificate is issued in accordance with the requirements of ISO/IEC 17025 standard, may not be reproduced other than in full, except with the prior written approval of the head of Calibration Laboratory.

QF-TS12-04-04-020664

T. Petch.

QF-TS12-04-04-020664

Continuation of Calibration Certificate

Cert. No. : ACL22105
Job No. : VC65AC0051
Pages : 2 of 8

Calibration Procedure : CP-AC-01

Calibration Method :

This equipment was calibrated by based on IEC-61672-3 (2013) Standard for sound level meter (SLM).

The SLM had tests to Acoustical and Electrical signal tests of frequency weightings with Anechoic chamber and Reference Standard Instruments.

For tests results of each items were made by observation of each Instruments display and also with SLM's display.

Condition of this result of calibration :

1. Reference Standard Instruments :

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	EF-0007-22	04-Feb-23
Waveform Generator	33511B	MY52302742	EF-0008-22	04-Feb-23
Digital Multimeter	33461A	MY53220104	EEL.BP.04/0265	09-Feb-23
Digital Multimeter	33461A	MY53220076	EEL.BP.05/0265	09-Feb-23
Digital Multimeter	34461A	MY60024273	EEL.BP.05/0265	09-Feb-23
Programmable Attenuator	MAT-1070	62100114	EF-0009-22	07-Feb-23
Condenser Microphone	4180	2977900	AA-1013-22	24-Feb-23
Measuring Amplifier	NA-42KAI	34560495	AA-3005-22	22-Feb-23

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained at :

3.1 National Institute of Metrology (Thailand).

3.2 Thailand Institute of Scientific and Technological Research (TISTR).

QF-TS12-04-04-020664

T. Petch.

Continuation of Calibration Certificate

Cert. No. : ACL22105
Job No. : VC65AC0051
Pages : 4 of 8

Result of calibration :

1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.95)	93.9	0.0	±0.3

2. Self-generated noise

2.1 Normal test

Measured Value (dB)
14.6

2.2 The microphone of the sound level meter was replaced by electrical signal input device.

Frequency Weighting	Measured value (dB)
A - weight	10.8
C - weight	17.0
Flat	23.0

3. Acoustical signal tests of frequency weightings

Meter free-field acoustic response at a level of 84 dB

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
125	0.3	0.4	0.4	±1.5
1000	-0.1	-0.1	-0.1	±1.0
8000	-1.3	-1.3	-1.2	±5.0

QF-TS12-04-04-020664

T. Petch.

Continuation of Calibration Certificate

Cert. No. : ACL22105
Job No. : VC65AC0051
Pages : 3 of 8

Summary of Measurement Result :

Parameter	Pass	Fail	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	✓	-	0.2	N/A
2. Self-generated noise	✓	-	0.2	N/A
3. Acoustical signal tests of frequency weightings				
125 Hz	✓	-	0.3	0.6
1000 Hz	✓	-	0.3	0.6
8000 Hz	✓	-	0.3	0.7
4. Electrical signal tests of frequency weightings				
For 10 Hz to 4 kHz	✓	-	0.3	0.6
For > 4 kHz to 10 kHz	✓	-	0.3	0.7
For > 10 kHz to 20 kHz	-	-	-	1.0
5. Frequency and time weightings at 1 kHz	✓	-	0.2	0.2
6. Long - term stability	✓	-	0.1	0.1
7. Level linearity on the reference level range	✓	-	0.2	0.3
8. Level linearity including the level range control	✓	-	0.2	0.3
9. Tone burst response	✓	-	0.2	0.3
10. Peak C sound level	✓	-	0.2	0.35
11. Overload indication	✓	-	0.2	0.25
12. High level stability	✓	-	0.1	0.1

QF-TS12-04-04-020664

T. Petch.

Continuation of Calibration Certificate

Cert. No. : ACL22105
Job No. : VC65AC0051
Pages : 5 of 8

4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz.

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
63	0.0	0.0	0.0	±2.0
125	0.0	0.1	0.0	±1.5
250	0.0	0.0	0.0	±1.5
500	0.0	0.0	0.0	±1.5
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.0	0.0	±2.0
4000	0.0	0.0	0.0	±3.0
8000	0.0	0.1	0.1	±5.0

5. Frequency and time weightings at 1 kHz

5.1 Frequency weightings at 1 kHz

Frequency Weighting	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	94.0	0.0	-
C - weight	94.0	0.0	±0.2
Flat	94.0	0.0	±0.2

5.2 Time weighting at 1 kHz

Frequency Weighting	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	0.0	-
Slow	94.0	0.0	±0.1
Leq	94.0	0.0	±0.1

6. Long - term stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	94.0	94.0	0.0	±0.3

QF-TS12-04-04-020664

T. Petch.

Continuation of Calibration Certificate

Cert. No. : ACL22105
Job No. : VC65AC0051
Pages : 6 of 8

7. Level linearity on the reference level range

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	±1.1
136.0	136.0	0.0	±1.1
135.0	135.0	0.0	±1.1
134.0	134.0	0.0	±1.1
133.0	133.0	0.0	±1.1
132.0	132.0	0.0	±1.1
131.0	131.0	0.0	±1.1
129.0	129.0	0.0	±1.1
124.0	124.0	0.0	±1.1
119.0	119.0	0.0	±1.1
114.0	114.0	0.0	±1.1
109.0	109.0	0.0	±1.1
104.0	104.0	0.0	±1.1
99.0	99.0	0.0	±1.1
94.0	94.0	0.0	±1.1
89.0	89.0	0.0	±1.1
84.0	84.0	0.0	±1.1
79.0	79.0	0.0	±1.1
74.0	74.0	0.0	±1.1
69.0	69.0	0.0	±1.1
64.0	64.0	0.0	±1.1
59.0	59.0	0.0	±1.1
54.0	53.9	-0.1	±1.1
49.0	49.0	0.0	±1.1
44.0	44.0	0.0	±1.1
39.0	38.9	-0.1	±1.1
34.0	34.0	0.0	±1.1
30.0	29.9	-0.1	±1.1
29.0	29.0	0.0	±1.1
28.0	28.0	0.0	±1.1
27.0	27.0	0.0	±1.1
26.0	26.0	0.0	±1.1
25.0	25.0	0.0	±1.1

Continuation of Calibration Certificate

Cert. No. : ACL22105
Job No. : VC65AC0051
Pages : 7 of 8

8. Level linearity including the level range control

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Auto	94.0	94.0	0.0	±1.1

9. Tone burst response

Time Weighting	Tone burst duration, Tb (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	107.9	-0.1	1.5, -5.0
	2	8	117.0	117.0	0.0	1.0, -2.5
	200	800	134.0	134.0	0.0	±1.0
Slow	2	8	108.0	108.0	0.0	1.5, -5.0
	200	800	127.6	127.6	0.0	±1.0
SEL	0.25	1	99.0	98.9	-0.1	1.5, -5.0
	2	8	108.0	108.0	0.0	1.0, -2.5
	200	800	128.0	128.0	0.0	±1.0

10. Peak C sound level

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, L _{peak} (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	-
One	136.4	136.2	-0.2	±3.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	-
Positive half cycle	135.4	135.2	-0.2	±2.0
Negative half cycle	135.4	135.2	-0.2	±2.0

QF-TS12-04-04-020664

QF-TS12-04-04-020664

Continuation of Calibration Certificate

Cert. No. : ACL22105
Job No. : VC65AC0051
Pages : 8 of 8451-451/1 Sirinthorn Rd, Bangbunru, Bangplud Bangkok 10700 THAILAND.
Tel:0-2435-8800 Fax:0-2433-1679 e-mail:cal-center@sithiporn.com http://www.sithiporn.comCert. No. : ACL21071
Pages : 1 of 8

11. Overload indication

Measured value (dB)		Deviated Value (dB)	Acceptance Limits (dB)
Positive one-half cycle	Negative one-half cycle		
89.8	89.7	-0.1	±1.3

12. High level stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	137.0	137.0	0.0	±0.3

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor $k = 2$ or any value following calculation, providing a level of confidence of approximately 95 %

End of Calibration Certificate

Calibration Certificate

Equipment : SOUND LEVEL METER
Manufacturer : RION
Model : NL-42/ Microphone UC-52 / Preamplifier NH-24
Serial No. : 00472122 / 169435 / 72456
ID No. : NKH_FS0006

Condition As Found : GOOD

Customer : ALS LABORATORY GROUP (THAILAND) CO., LTD.
104 PHATTHANAKAN 40, PHATTHANAKAN ROAD,
KHWAENG PHATTHANAKAN, KHET SUAN LUANG,
BANGKOK, 10250 THAILAND.

Location : -
Ambient Temperature : (23.0 ± 3) °C
Pressure : (101.3 ± 3) kPa
Relative Humidity : (50.0 ± 20) %

Received Date : 13 JULY 2021
Calibration Date : 14-16 JULY 2021
Date of Issue : 20 JULY 2021

REVIEW BY	<i>Nathakorn P.</i>
APPROVED BY	<i>[Signature]</i>
NEXT CAL. DATE	14/4/22

Calibrated by :

Nathakorn Pisutpaisan

Approved by :

T. Petchur
(Thanakul Petchurai)

This certificate is issued in accordance with the requirements of ISO/IEC 17025 standard, may not be reproduced other than in full, except with the prior written approval of the head of Calibration Laboratory.

QF-TS12-04-04-020664

QF-TS12-04-04-020664

Continuation of Calibration Certificate

Cert. No. : ACL21071
Job No. : VC64AC0053
Pages : 2 of 8

Calibration Procedure : CP-AC-01

Calibration Method :

This equipment was calibrated by based on IEC-61672-3 (2013) Standard for sound level meter (SLM).
The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Anechoic chamber and Reference Standard Instruments.

For tests results of each items were made by observation of each Instruments display and also with SLM's display.

Condition of this result of calibration :

1. Reference Standard Instruments :

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	EF-0012-21	10-Feb-22
Waveform Generator	33511B	MY52302742	EF-0011-21	10-Feb-22
Digital Multimeter	33461A	MY53220104	EELBP-05/0264	10-Feb-22
Digital Multimeter	33461A	MY53220076	EELBP-03/0264	08-Feb-22
Digital Multimeter	33461A	MY53220116	EELBP-04/0264	10-Feb-22
Programmable Attenuator	MAT-1070	62100114	1500-07774E	08-Mar-22
Condenser Microphone	4180	2977900	AA-1008-21	05-Feb-22
Measuring Amplifier	NA-42KAI	34560495	AA-3003-21	16-Feb-22

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained at :

3.1 National Institute of Metrology (Thailand).

3.2 Thailand Institute of Scientific and Technological Research (TISTR).

QF-TS12-04-04-020664

T. B. N. .

Continuation of Calibration Certificate

Cert. No. : ACL21071
Job No. : VC64AC0053
Pages : 4 of 8

Result of calibration :

1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.96)	93.9	0.0	±0.3

2. Self-generated noise

2.1 Normal test

Measured Value (dB)
14.8

2.2 The microphone of the sound level meter was replaced by electrical signal input device.

Frequency Weighting	Measured value (dB)
A - weight	11.6
C - weight	17.5
Flat	23.2

3. Acoustical signal tests of frequency weightings

Meter free-field acoustic response at a level of 84 dB

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
125	0.1	0.1	0.2	± 1.5
1000	-0.1	-0.1	-0.1	± 1.0
8000	0.5	0.6	0.5	± 5.0

QF-TS12-04-04-020664

T. B. N. .

Continuation of Calibration Certificate

Cert. No. : ACL21071
Job No. : VC64AC0053
Pages : 3 of 8

Summary of Measurement Result :

Parameter	Pass	Fail	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	✓	-	0.2	N/A
2. Self-generated noise	✓	-	0.1	N/A
3. Acoustical signal tests of frequency weightings				
125 Hz	✓	-	0.3	0.6
1000 Hz	✓	-	0.3	0.6
8000 Hz	✓	-	0.3	0.7
4. Electrical signal tests of frequency weightings				
For 10 Hz to 4 kHz	✓	-	0.3	0.6
For > 4 kHz to 10 kHz	✓	-	0.3	0.7
For > 10 kHz to 20 kHz	-	-	-	1.0
5. Frequency and time weightings at 1 kHz	✓	-	0.2	0.2
6. Long - term stability	✓	-	0.1	0.1
7. Level linearity on the reference level range	✓	-	0.2	0.3
8. Level linearity including the level range control	✓	-	0.2	0.3
9. Tone burst response	✓	-	0.2	0.3
10. Peak C sound level	✓	-	0.2	0.35
11. Overload indication	✓	-	0.2	0.25
12. High level stability	✓	-	0.1	0.1

QF-TS12-04-04-020664

T. B. N. .

Continuation of Calibration Certificate

Cert. No. : ACL21071
Job No. : VC64AC0053
Pages : 5 of 8

4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz.

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
63	-0.1	-0.1	0.0	±2.0
125	0.0	0.0	0.0	±1.5
250	0.0	0.0	0.0	±1.5
500	0.0	0.0	0.0	±1.5
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.0	0.0	±2.0
4000	0.0	0.0	0.0	±3.0
8000	0.0	0.1	0.1	±5.0

5. Frequency and time weightings at 1 kHz

5.1 Frequency weightings at 1 kHz

Frequency Weighting	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	94.0	0.0	
C - weight	94.0	0.0	± 0.2
Flat	94.0	0.0	± 0.2

5.2 Time weighting at 1 kHz

Frequency Weighting	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	0.0	-
Slow	94.0	0.0	± 0.1
Leq	94.0	0.0	± 0.1

6. Long - term stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	94.0	94.0	0.0	± 0.3

QF-TS12-04-04-020664

T. B. N. .

Continuation of Calibration Certificate

Cert. No. : ACL21071
Job No. : VC64AC0053
Pages : 6 of 8

7. Level linearity on the reference level range

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	±1.1
136.0	136.0	0.0	±1.1
135.0	135.0	0.0	±1.1
134.0	134.0	0.0	±1.1
133.0	133.0	0.0	±1.1
132.0	132.0	0.0	±1.1
131.0	131.0	0.0	±1.1
129.0	129.0	0.0	±1.1
124.0	124.0	0.0	±1.1
119.0	119.0	0.0	±1.1
114.0	114.0	0.0	±1.1
109.0	109.0	0.0	±1.1
104.0	104.0	0.0	±1.1
99.0	99.0	0.0	±1.1
94.0	94.0	0.0	±1.1
89.0	89.0	0.0	±1.1
84.0	84.0	0.0	±1.1
79.0	79.0	0.0	±1.1
74.0	74.0	0.0	±1.1
69.0	69.0	0.0	±1.1
64.0	64.0	0.0	±1.1
59.0	59.0	0.0	±1.1
54.0	53.9	-0.1	±1.1
49.0	49.0	0.0	±1.1
44.0	43.9	-0.1	±1.1
39.0	38.9	-0.1	±1.1
34.0	33.9	-0.1	±1.1
30.0	29.9	-0.1	±1.1
29.0	28.9	-0.1	±1.1
28.0	27.9	-0.1	±1.1
27.0	27.0	0.0	±1.1
26.0	25.9	-0.1	±1.1
25.0	24.9	-0.1	±1.1

QF-TS12-04-04-020664

Continuation of Calibration Certificate

Cert. No. : ACL21071
Job No. : VC64AC0053
Pages : 8 of 8

11. Overload indication

Measured value (dB)		Deviated Value (dB)	Acceptance Limits (dB)
Positive one-half cycle	Negative one-half cycle		
89.6	89.5	-0.1	±1.5

12. High level stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	137.0	137.0	0.0	±0.3

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor $k = 2$ or any value following calculation, providing a level of confidence of approximately 95 %

End of Calibration Certificate

Continuation of Calibration Certificate

Cert. No. : ACL21071
Job No. : VC64AC0053
Pages : 7 of 8

8. Level linearity including the level range control

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Auto	94.0	94.0	0.0	±1.1

9. Tone burst response

Time	Tone burst duration, Tb (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	107.9	-0.1	1.5; -5.0
	2	8	117.0	117.0	0.0	1.0; -2.5
	200	800	134.0	134.0	0.0	±1.0
Slow	2	8	108.0	108.0	0.0	1.5; -5.0
	200	800	127.6	127.6	0.0	±1.0
SEL	0.25	1	99.0	98.9	-0.1	1.5; -5.0
	2	8	108.0	108.0	0.0	1.0; -2.5
	200	800	128.0	128.0	0.0	±1.0

10. Peak C sound level

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, L _{peak} (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	-
One	136.4	135.7	-0.7	±3.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	-
Positive half cycle	135.4	135.2	-0.2	±2.0
Negative half cycle	135.4	135.2	-0.2	±2.0

QF-TS12-04-04-020664

451-451/1 Sirinthorn Rd.,Bangbunru, Bangplud Bangkok 10700 THAILAND.
Tel.0-2435-8800 Fax.0-2433-1679 e-mail:cal-center@sithiphorn.com http://www.sithiphorn.comCert. No. : ACL22102
Pages : 1 of 8

Calibration Certificate

Equipment : SOUND LEVEL METER
Manufacturer : RION
Model : NL-42/ Microphone UC-52 / Pre-amplifier NR-24
Serial No.: 00371915 / 169104 / 72249
ID No.: NKH_FS0002

Condition As Found : GOOD

Customer : ALS LABORATORY GROUP (THAILAND) CO., LTD.
104 PHATTHANAKAN 40, PHATTHANAKAN ROAD,
KHWAENG PHATTHANAKAN, KHET SUAN LUANG,
BANGKOK, 10250 THAILAND.

Location : -
Ambient Temperature : (23.0 ± 3) °C
Pressure : (101.3 ± 3) kPa
Relative Humidity : (50.0 ± 20) %

Received Date : 22 APRIL 2022
Calibration Date : 03-06 MAY 2022
Date of Issue : 09 MAY 2022

Calibrated by : Nathakorn Pisutpaisan

Approved by :

T. Petchurai
(Thanakul Petchurai)

This certificate is issued in accordance with the requirements of ISO/IEC 17025 standard, may not be reproduced other than in full, except with the prior written approval of the head of Calibration Laboratory.

QF-TS12-04-04-020664

QF-TS12-04-04-020664

Continuation of Calibration Certificate

Cert. No. : ACL22102
Job No. : VC65AC0051
Pages : 2 of 8

Calibration Procedure : CP-AC-01

Calibration Method :

This equipment was calibrated by based on IEC-61672-3 (2013) Standard for sound level meter (SLM).

The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Anechoic chamber and Reference Standard Instruments.

For tests results of each items were made by observation of each Instruments display and also with SLM's display.

Condition of this result of calibration :

1. Reference Standard Instruments :

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	EF-0007-22	04-Feb-23
Waveform Generator	33511B	MY52302742	EF-0008-22	04-Feb-23
Digital Multimeter	33461A	MY53220104	EEL.BP. 04/0265	09-Feb-23
Digital Multimeter	33461A	MY53220076	EEL.BP. 03/0265	09-Feb-23
Digital Multimeter	34461A	MY60024273	EEL.BP. 05/0265	09-Feb-23
Programmable Attenuator	MAT-1070	62100114	EF-0009-22	07-Feb-23
Condenser Microphone	4180	2977900	AA-1013-22	24-Feb-23
Measuring Amplifier	NA-42KAJ	34560495	AA-3005-22	22-Feb-23

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained at :

3.1 National Institute of Metrology (Thailand).

3.2 Thailand Institute of Scientific and Technological Research (TISTR).

QF-TS12-04-04-020664

T. Petch.

Continuation of Calibration Certificate

Cert. No. : ACL22102
Job No. : VC65AC0051
Pages : 4 of 8

Result of calibration :

1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.95)	93.9	0.0	±0.3

2. Self-generated noise

2.1 Normal test

Measured Value (dB)
14.2

2.2 The microphone of the sound level meter was replaced by electrical signal input device.

Frequency Weighting	Measured value (dB)
A - weight	10.8
C - weight	17.0
Flat	22.8

3. Acoustical signal tests of frequency weightings

Meter free-field acoustic response at a level of 84 dB

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
125	0.3	0.3	0.3	± 1.5
1000	0.0	0.0	0.0	± 1.0
8000	0.0	0.1	0.0	±5.0

QF-TS12-04-04-020664

T. Petch.

Continuation of Calibration Certificate

Cert. No. : ACL22102
Job No. : VC65AC0051
Pages : 3 of 8

Summary of Measurement Result :

Parameter	Pass	Fail	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	✓	-	0.2	N/A
2. Self-generated noise	✓	-	0.2	N/A
3. Acoustical signal tests of frequency weightings				
125 Hz	✓	-	0.3	0.6
1000 Hz	✓	-	0.3	0.6
8000 Hz	✓	-	0.3	0.7
4. Electrical signal tests of frequency weightings				
For 10 Hz to 4 kHz	✓	-	0.3	0.6
For > 4 kHz to 10 kHz	✓	-	0.3	0.7
For > 10 kHz to 20 kHz	-	-	-	1.0
5. Frequency and time weightings at 1 kHz	✓	-	0.2	0.2
6. Long - term stability	✓	-	0.1	0.1
7. Level linearity on the reference level range	✓	-	0.2	0.3
8. Level linearity including the level range control	✓	-	0.2	0.3
9. Tone burst response	✓	-	0.2	0.3
10. Peak C sound level	✓	-	0.2	0.35
11. Overload indication	✓	-	0.2	0.25
12. High level stability	✓	-	0.1	0.1

QF-TS12-04-04-020664

T. Petch.

Continuation of Calibration Certificate

Cert. No. : ACL22102
Job No. : VC65AC0051
Pages : 5 of 8

4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz.

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
63	0.0	-0.1	0.0	±2.0
125	0.0	0.0	0.0	±1.5
250	0.0	0.0	-0.1	±1.5
500	0.0	0.0	-0.1	±1.5
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.0	0.0	±2.0
4000	0.0	0.0	0.0	±3.0
8000	0.0	0.0	0.0	±5.0

5. Frequency and time weightings at 1 kHz

5.1 Frequency weightings at 1 kHz

Frequency Weighting	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	94.0	0.0	-
C - weight	94.0	0.0	± 0.2
Flat	94.0	0.0	± 0.2

5.2 Time weighting at 1 kHz

Frequency Weighting	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	0.0	-
Slow	94.0	0.0	± 0.1
Leq	94.0	0.0	± 0.1

6. Long - term stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	94.0	94.0	0.0	± 0.3

QF-TS12-04-04-020664

T. Petch.

Continuation of Calibration Certificate

Cert. No. : ACL22102
Job No. : VC65AC0051
Pages : 6 of 8

7. Level linearity on the reference level range

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	±1.1
136.0	136.0	0.0	±1.1
135.0	135.1	0.1	±1.1
134.0	134.1	0.1	±1.1
133.0	133.0	0.0	±1.1
132.0	132.0	0.0	±1.1
131.0	131.0	0.0	±1.1
129.0	129.0	0.0	±1.1
124.0	124.0	0.0	±1.1
119.0	119.1	0.1	±1.1
114.0	114.1	0.1	±1.1
109.0	109.0	0.0	±1.1
104.0	104.1	0.1	±1.1
99.0	99.0	0.0	±1.1
94.0	94.0	0.0	±1.1
89.0	89.0	0.0	±1.1
84.0	84.0	0.0	±1.1
79.0	79.0	0.0	±1.1
74.0	74.0	0.0	±1.1
69.0	69.0	0.0	±1.1
64.0	64.0	0.0	±1.1
59.0	59.0	0.0	±1.1
54.0	54.0	0.0	±1.1
49.0	49.0	0.0	±1.1
44.0	44.0	0.0	±1.1
39.0	39.0	0.0	±1.1
34.0	34.0	0.0	±1.1
30.0	30.0	0.0	±1.1
29.0	29.0	0.0	±1.1
28.0	28.1	0.1	±1.1
27.0	27.0	0.0	±1.1
26.0	26.0	0.0	±1.1
25.0	25.1	0.1	±1.1

QF-TS12-04-04-020664

T. Rth.

Continuation of Calibration Certificate

Cert. No. : ACL22102
Job No. : VC65AC0051
Pages : 8 of 8

11. Overload indication

Measured value (dB)		Deviated Value (dB)	Acceptance Limits (dB)
Positive one-half cycle	Negative one-half cycle		
89.6	89.5	-0.1	±1.5

12. High level stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	137.0	137.0	0.0	±0.3

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor $k=2$ or any value following calculation, providing a level of confidence of approximately 95 %

End of Calibration Certificate

Continuation of Calibration Certificate

Cert. No. : ACL22102
Job No. : VC65AC0051
Pages : 7 of 8

8. Level linearity including the level range control

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Auto	94.0	94.0	0.0	±1.1

9. Tone burst response

Time Weighting	Tone burst duration, Tb (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	107.9	-0.1	1.5, -5.0
	2	8	117.0	116.9	-0.1	1.0, -2.5
	200	800	134.0	134.0	0.0	±1.0
Slow	2	8	108.0	108.0	0.0	1.5, -5.0
	200	800	127.6	127.6	0.0	±1.0
SEL	0.25	1	99.0	98.8	-0.2	1.5, -5.0
	2	8	108.0	107.9	-0.1	1.0, -2.5
	200	800	128.0	128.0	0.0	±1.0

10. Peak C sound level

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, L _{peak} (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	-
One	136.4	135.7	-0.7	±3.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	-
Positive half cycle	135.4	135.1	-0.3	±2.0
Negative half cycle	135.4	135.1	-0.3	±2.0

QF-TS12-04-04-020664

T. Rth.

CERTIFICATE OF CALIBRATION

ISSUED BY Cirrus Research plc
DATE OF ISSUE 22/04/22
CERTIFICATE NUMBER 173428REVIEW BY *Monken P.*
APPROVED BY *[Signature]*
NEXT CAL. DATE 22/11/23Cirrus Research plc
Acoustic House
Bridlington Road
Hummanby
North Yorkshire
YO14 0PH
United Kingdom

Page 1 of 1

Test engineer:
Rebecca Thomas
Electronically signed:
R. Thomas

doseBadge Reader

Instrument

Manufacturer: Cirrus Research plc
Model Number: RC:110A
Serial Number: 94205
Notes:

Calibration Procedure

The tests were carried out in accordance with the requirements of IEC 60942:2003 where applicable.

Date of Calibration: 22 April 2022

Functionality Results

Function	Result
Keypad	
Battery Power	
Display	
Communication	
2 way IR link	
Clock	

Calibration Results

	Level (dB)	Frequency (Hz)	Distortion (% THD + Noise)
Initial	114.26	998.1	0.64
Adjusted	113.99	998.1	0.82
Uncertainty	± 0.11	± 0.14	± 0.10
Tolerances	± 0.60	± 2.00	± 4.00

Environmental Conditions

Pressure: 100.66 kPa
Temperature: 22.1 °C
Humidity: 44.4 %

Notes

This certificate provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory. The results within this certificate relate only to the items calibrated. The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor $k=2$, providing a coverage probability of approximately 95%.

QF-TS12-04-04-020664

T. Rth.



ROTA METER CALIBRATION RESULT APRIL 2022

Rotameter ID.	Calibration Date	Regression Result	Coefficient (R ²)
BKK_FS0577	01 Apr 22	Y = 1.0202x + 0.1976	1.0000
BKK_FS0579	01 Apr 22	Y = 1.0078x + 0.4789	0.9998
BKK_FS0583	01 Apr 22	Y = 1.016x + 0.3922	1.0000
BKK_FS0584	01 Apr 22	Y = 1.0036x + 2.2262	0.9997
BKK_FS0585	01 Apr 22	Y = 1.0189x - 5.6476	0.9997
BKK_FS0586	01 Apr 22	Y = 1.0095x - 1.1524	0.9995
BKK_FS0587	01 Apr 22	Y = 1.013x - 3.6619	0.9996
BKK_FS0588	01 Apr 22	Y = 1.0154x + 4.8357	0.9999
BKK_FS0589	01 Apr 22	Y = 0.9918x + 4.8069	0.9999
BKK_FS0590	01 Apr 22	Y = 1.0038x - 0.4857	0.9996
BKK_FS0591	01 Apr 22	Y = 0.9705x - 52.174	0.9986
BKK_FS0592	01 Apr 22	Y = 0.9646x - 37.642	0.9985
BKK_FS0593	01 Apr 22	Y = 0.9767x - 58.445	0.9988
BKK_FS0594	01 Apr 22	Y = 0.9902x - 62.87	0.9999
BKK_FS0595	01 Apr 22	Y = 1.0249x - 98.162	0.9999
BKK_FS0596	01 Apr 22	Y = 0.9843x - 26.806	0.9991
BKK_FS0597	01 Apr 22	Y = 0.9802x - 61.653	0.9978
BKK_FS1004	01 Apr 22	Y = 0.9696x + 17.69	0.9990
BKK_FS1005	01 Apr 22	Y = 1.0065x + 5.6786	0.9997
BKK_FS1006	01 Apr 22	Y = 1.2142x - 7.1037	0.9993
BKK_FS1007	01 Apr 22	Y = 0.9917x + 1.6592	1.0000
BKK_FS1008	01 Apr 22	Y = 1.0132x + 0.7207	1.0000
BKK_FS1009	01 Apr 22	Y = 1.0132x + 1.1633	0.9960
BKK_FS1010	01 Apr 22	Y = 1.0033x + 0.5758	0.9999
BKK_FS1011	01 Apr 22	Y = 1.0234x + 0.1759	0.9996
BKK_FS1012	01 Apr 22	Y = 1.0106x - 2.0048	0.9997
BKK_FS1013	01 Apr 22	Y = 0.9677x - 35.851	0.9997
BKK_FS1014	01 Apr 22	Y = 1.0021x + 0.3148	0.9998
BKK_FS1015	01 Apr 22	Y = 0.9994x + 1.786	1.0000
BKK_FS1016	01 Apr 22	Y = 1.0105x - 80.256	0.9998
BKK_FS1017	01 Apr 22	Y = 0.9995x + 0.649	1.0000
BKK_FS1018	01 Apr 22	Y = 1.0011x + 1.1786	1.0000
BKK_FS1019	01 Apr 22	Y = 1.0023x - 68.424	0.9996
BKK_FS1020	01 Apr 22	Y = 1.0547x - 0.666	0.9998
BKK_FS1021	01 Apr 22	Y = 1.018x - 3.3286	0.9998
BKK_FS1022	01 Apr 22	Y = 0.9932x - 57.035	0.9986
BKK_FS1023	01 Apr 22	Y = 1.0094x + 0.0717	0.9999
BKK_FS1024	01 Apr 22	Y = 1.0042x + 0.4086	0.9997

Page 1 of 2

ALS Laboratory Group



ROTA METER CALIBRATION RESULT APRIL 2022

Rotameter ID.	Calibration Date	Regression Result	Coefficient (R ²)
BKK_FS1025	01 Apr 22	Y = 1.0132x - 88.507	0.9996
BKK_FS1026	01 Apr 22	Y = 1.0018x + 1.0776	0.9997
BKK_FS1027	01 Apr 22	Y = 1.0053x + 0.231	0.9995
BKK_FS1028	01 Apr 22	Y = 0.9792x - 60.312	0.9982
BKK_FS1029	01 Apr 22	Y = 0.9935x + 0.8234	1.0000
BKK_FS1030	01 Apr 22	Y = 1.0039x + 0.515	0.9999
BKK_FS1031	01 Apr 22	Y = 1.009x - 79.295	0.9998
BKK_FS1039	01 Apr 22	Y = 0.9868x + 7.8119	0.9993
BKK_FS1040	01 Apr 22	Y = 1.0096x - 7.2905	0.9990
BKK_FS1041	01 Apr 22	Y = 1.076x - 2.0503	0.9999
BKK_FS1042	01 Apr 22	Y = 1.0054x + 1.6095	0.9995
BKK_FS1043	01 Apr 22	Y = 1.0108x - 11.048	0.9999
BKK_FS1044	01 Apr 22	Y = 1.0468x - 0.9391	0.9997
BKK_FS1161	01 Apr 22	Y = 1.0126x + 0.7738	0.9999
BKK_FS1162	01 Apr 22	Y = 0.9994x + 2.6357	0.9995
BKK_FS1163	01 Apr 22	Y = 0.977x - 55.03	0.9987
BKK_FS1164	01 Apr 22	Y = 0.9914x + 0.8427	0.9997
BKK_FS1165	01 Apr 22	Y = 0.9893x + 6.5919	0.9998
BKK_FS1166	01 Apr 22	Y = 1.0031x - 77.881	0.9996
RYG_FS0197	01 Apr 22	Y = 1.0055x + 1.1914	0.9998
RYG_FS0198	01 Apr 22	Y = 0.996x + 23.788	0.9996
RYG_FS0199	01 Apr 22	Y = 1.1166x - 3.3942	0.9998

Review By :

Wichan Choonharat

(Mr. Wichan Choonharat)

Enviro Field Services Manager

Approved By :

Mr. Sarayuth Jittrantont

(Mr. Sarayuth Jittrantont)

Assistant General Manager

Page 2 of 2

ALS Laboratory Group



63/14-15,67/35-36, Soi Petchkasem 7/71, Petchkasem Rd,

Watthapra, Bangkokhyai, Bangkok 10600 Thailand.

Tel: (66) 02-8680812#13 Fax: (66) 02-8680860 www.jiranatee.com



63/14-15,67/35-36, Soi Petchkasem 7/71, Petchkasem Rd,

Watthapra, Bangkokhyai, Bangkok 10600 Thailand.

Tel: (66) 02-8680812#13 Fax: (66) 02-8680860 www.jiranatee.com



CERTIFICATE OF CALIBRATION

Certificate No. : CL-007-65
Page 1 of 2

Equipment Name: Heat Stress Monitor with Sensor
Manufacturer: DeltaOHM
Model: HD32.2
Serial No: 20032236
ID No: NKH_FS0059

Customer
Name: ALS laboratory group (thailand) Co.,Ltd.
Address: 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Suan Luang, Khet Suan Luang, Bangkok 10250 Thailand.

Received date: 11 JAN 2022
Calibration date: 2 FEB 2022
Issue date: 4 FEB 2022

Reference Used During Calibration
1. Standard Temperature Probe Model: STS-100 A500, Serial No.: 667682-09, Due date: 25 Mar 2022
2. Digital Temperature Indicator Model: DTI-1000-A MK II, Serial No.: 671407-00591 Due date: 04 June 2022

Calibration Condition
Temperature: (23±3) °C
Relative Humidity: (55±15)%

Calibration Procedure
The temperature calibration was done by In-House calibration method as WI-CL-001 according to comparison method with standard digital temperature indicator and standard temperature probe. The temperature scale use was based on ITS-90.

Traceability
The measurement results are traceable to the international system of units (SI) through National Institute of Metrology Thailand (NIMT) Certificate number: TT-0036-21, Certificate number: ER-0032-21

REVIEW BY	Manjorn P.
APPROVED BY	2/12/23
NEXT CAL DATE	2/12/23

Calibrated by
☐ Mr. Sorawit Thachalad
☒ Miss Drathai Wiwatwittaya



Approved Signatory:

Mr. Parinya Booncharoen
Calibration Department Manager

Certificate No. : CL-007-65
Page 2 of 2

Result of Calibration: ☒ Without Adjustment ☐ With Adjustment

Calibration Range: 20 - 40 °C

Function:

Table 1: This equipment was connected with wet bulb probe Model: HP3201.2 S/N: 21001220.
Dimension: Diameter 14 mm. Length 170 mm.

Immersion Depth (mm)	Standard Reading (°C)	UUC Reading (°C)	Error (°C)	Uncertainty (°C)
30	20.055	20.0	0.1	0.099
30	25.046	25.0	0.0	0.099
30	30.036	30.0	0.0	0.099
30	35.030	35.0	0.0	0.099
30	40.024	40.0	0.0	0.099

Table 2: This equipment was connected with temperature probe Model: TP3207.2 S/N: 21001787.
Dimension: Diameter 14 mm. Length 150 mm.

Immersion Depth (mm)	Standard Reading (°C)	UUC Reading (°C)	Error (°C)	Uncertainty (°C)
70	20.054	20.2	0.1	0.099
70	25.011	25.0	0.0	0.099
70	29.979	29.9	-0.1	0.099
70	34.960	34.9	-0.1	0.099
70	39.939	39.8	-0.1	0.099

Table 3: This equipment was connected with Globe thermometer probe Model: TP3276.2 S/N: 21001240.
Dimension: Diameter 8 mm. Length 170 mm.

Immersion Depth (mm)	Standard Reading (°C)	UUC Reading (°C)	Error (°C)	Uncertainty (°C)
110	20.054	20.0	-0.1	0.099
110	25.046	25.0	0.0	0.099
110	30.036	30.0	0.0	0.099
110	35.030	35.0	0.0	0.099
110	40.024	40.0	0.0	0.099

UUC* : Unit Under Calibration

The reported expanded uncertainty is based on standard uncertainty multiplied by a coverage factor k=2 providing a level of confidence of approximately 95%.





TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES
534/4 PATTANAKARN ROAD SOI 18, SUANLUANG, SUANLUANG, BANGKOK 10250
TEL. 0-2717-3000-24 FAX. 0-2719-9484



Certificate of Calibration

Certificate No.: 22PH107
Page: 1 of 2

Equipment: Lux Meter
Manufacturer: Della OHM
Model: HD 2102.2
Serial No.: 20032151
ID No.: NNG_FS0015
Condition As-Received: Used Item
Received Date: 22 February 2022
Calibration Date: 24 February 2022

This certificate may not be reproduced other than in full,
except with the prior written approval of the head of
Corporate Services 3: Equipment Calibration and Testing Services.

Reference: 2202-0770WSC
Ambient Temperature: (23 ± 2) °C
Relative Humidity: (50 ± 15) %

Submitted by: ALS Laboratory Group (Thailand) Co., Ltd.
104 Phatthanakan 40, Phatthanakan Rd.,
Khwaeng Phatthanakan, Khet Suan Luang,
Bangkok 10250 Thailand

Procedure used: Calibration were conducted using in-house calibration procedure CP-PH01 by measuring against
luminous-intensity standard lamp (source-based method) According to the inverse square law measurement
method.

Condition of this result of calibration

1. Reference standards instruments:

Instrument	Model	Serial No.	Certificate No.	Due Date
1) Photometry & Encoder	LMguide 9,6 m	120RC003	61-140006-1	30 Apr 2022
2) Luminous intensity standard lamp	OL FEL-U	F-1543	TP-1020-21	02 May 2022

2. This result of calibration was made on requested at the point specified by customer.

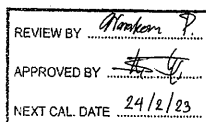
3. Test Equipment: Programmable Voltage/Current Source (Model: OL83A, SN: 16221984).

4. Test Equipment: Illuminance Meter (Model: 51002, SN: 080129).

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

6. This Certification is traceable to the International System of Unit maintained at:-

- National Institute of Metrology Thailand (NIMT)



Calibrated by: Nival Nilas
Issue Date: 01 March 2022

Approved Signatory:
[] Phalinee Prabpalpal
[] Nuntawat Khamchal

B 0282531



Cert. No.: 22PH107
Page: 2 of 2

Result of calibration:-

Function: Illuminance Measurement Range: () Without adjustment () After adjustment

Standard Value	UUC* Reading	Error	Uncertainty
(lx)	(lx)	(lx)	(± lx)
0	0.00	0.00	0.060
15	14.99	-0.01	0.20
100	99.63	-0.37	1.3
500	497.1	-2.9	6.5
1000	1001.5	1.5	13
2000	2004	4	26
3000	2995	-5	39
4000	3997	-3	52
5000	5000	0	65

The reported uncertainty of measurement was based on a standard uncertainty multiplied by
a coverage factor $k = 2$, providing a level of confidence of approximately 95 %

Calibration with probe sensor s/n. 20027124

UUC* = Unit Under Calibration.

-o0o-

a 1097245



TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES
534/4 PATTANAKARN ROAD SOI 18, SUANLUANG, SUANLUANG BANGKOK 10250
TEL. 0-2717-3000-27 FAX. 0-2719-9484



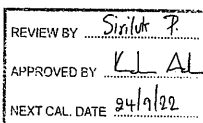
Certificate of Calibration

Cert. No.: 21CH452
Page: 1 of 3

Equipment: pH Meter
Manufacturer: Mettler Toledo
Model: SevenCompact S220
Serial No.: B520948426
ID No.: BKK_EN0072
Condition As-Received: Used Item
Received Date: 24 March 2021
Calibration Date: 26 March 2021
Reference: 2103-1008DSC-1
Submitted by: ALS Laboratory Group (Thailand) Co., Ltd.
104 Phatthanakan 40, Phatthanakan Rd.,
Khwaeng Phatthanakan, Khet Suan Luang,
Bangkok 10250 Thailand

Ambient Temperature: (25 ± 2.5) °C
Relative Humidity: (50 ± 15) %
Calibration Procedure:

In - house method :
- CP-CH5 by direct measurement with standard
voltage calibrator and direct measurement with
certified reference material (CRM)
- CP-CH8 by comparison with standard thermometer



Calibrated by: Warakorn Lernagatrakul

Approved by:
Approved Signatory

() Malee Butkruea
() Saithip Meangmai
() Warakorn Lernagatrakul

Issue Date: 31 March 2021

The Uncertainties are for a confidence probability of approximately 95 %

This certificate may not be reproduced other than in full, except with the prior written
Approval of the head of Corporate Services 3: Equipment Calibration and Testing Services.

A 0026590



Cert. No.: 21CH452
Page: 2 of 3

Condition of this calibration result

1. Reference Standard Instrument :-

Instrument	Serial No.	ID No.	Cert. No.	Due Date
1) Document Process Calibrator	1385032	130RC022	20E4213	24 Nov 2021
2) Ref. Standard Thermometer	4982054	110RC044	20I1233	15 Oct 2021

This certification is traceable to the International System of Unit maintained at:-
- Traceable to National Institute of Metrology (Thailand), NIMT

2. Certified Reference Materials : The measurement results are traceable to SI through CPA chem Ltd.,
ANSI-ASQ National Accreditation Board, Accredited No. AR-1835

Buffer Solution	Manufacturer	Lot No.	Exp. date
pH 4.008	CPA chem	706694	06 Sep 2022
pH 6.985	CPA chem	722285	19 Dec 2021
pH 10.012	CPA chem	722287	19 Dec 2021

3. This certificate is valid only to the item calibrated on date and place of calibration.

Calibration Results

Function: mV Measurement

Performing standard curve by Fluke at pH (4,7,10)

Unit Under Calibration	Nominal Value	Standard Voltage Input	Actual Reading		Uncertainty of Measurement (± mV)	Coverage factor k
			mV	pH		
pH Meter S/N.: B520948426	4.000	177.48	177.4	4.000	0.058	2.00
	7.000	0.00	-0.1	7.000	0.058	2.00
	10.000	-177.48	-177.5	10.000	0.058	2.00

Malee

a 1048959



Cert.No.: 21CH452
Page.: 3 of 3

Calibration Results

Function : pH Measurement

Performing three buffers standard curve by using buffer nominal pH (4,7,10)

Unit Under Calibration	Standard pH Buffer Solution	Actual pH Reading	Actual mV Reading (mV)	Uncertainty of pH measurement (\pm)	Coverage factor k
pH Electrode S/N.: 9265091	4.008 6.985 10.012	4.010 6.989 10.011	150.3 -22.5 -193.7	0.0048 0.0077 0.013	2.05 2.00 2.00

Function : Temperature Measurement

(*) Without adjustment

This equipment was connected with Temperature Probe;

- Model : InLab Expert Pro-ISM

- Serial No. : 9265091

Dimension of probe;

- Length : 120 mm.

- Diameter : 12 mm.

- Immersion Depth : 100 mm.

Calibration Point ($^{\circ}\text{C}$)	Standard Temperature ($^{\circ}\text{C}$)	UUC* Reading ($^{\circ}\text{C}$)	Error ($^{\circ}\text{C}$)	Uncertainty of measurement (\pm $^{\circ}\text{C}$)	Coverage factor k
25.0	25.003	25.2	0.197	0.20	2.00

Remark : - UUC* = Unit Under Calibration

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k, providing a level of confidence of approximately 95 %.

-o-o-

Malu.

a 1048958



บริษัท ดับเบิล เอส ไดแอกโนสติกส์ จำกัด
DOUBLE S DIAGNOSTICS CO., LTD.

4 ซอยสุขุมวิท 14 แขวงคลองเตย เขตคลองเตย กรุงเทพมหานคร 10110 โทร (02) 747-7009 โทรสาร (02) 747-7008
4 Soi Sukhumvit 14, Bangna, Bangkok 10260 Tel. (02) 747-7009 Fax (02) 747-7008

Maintenance Plan YEAR : 2021

เดือน	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Periodical maintenance check list for Konelab

	6M	12M	Note
1. Diluent-wash tubing change	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2. ISE tubing change	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
3. Syringe check/change		<input checked="" type="checkbox"/>	
4. Dispensing check/ change		<input checked="" type="checkbox"/>	
5. Waste tubing change when necessary		<input checked="" type="checkbox"/>	
6. Lamp check/change	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
7. Mixer paddle/paddle change(not Konelab20)		<input checked="" type="checkbox"/>	
8. ISE needles check/change		<input checked="" type="checkbox"/>	
9. Pump tubing check/ change	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
10. Broken/worn out part check /change		<input checked="" type="checkbox"/>	
11. Peristaltic pump check /cleaning/ lubrication	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
12. Heating check		<input checked="" type="checkbox"/>	
13. Cooling check		<input checked="" type="checkbox"/>	
14. Dispenser mechanic check/adjustment	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
15. Cuvette transfer mechanic check/adjustment	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
16. Dispenser movement check/adjustment	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
17. Sample/reagent register check/adjustment	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
18. Dispensing tubing tightness check	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
19. Photometer and optics cleaning/check/adjustment	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
20. Workstation PC cleaning if necessary	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
21. Mechanic cleaning/lubrication	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
22. Instrument cleaning if necessary	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
23. Complete analyzer testing with waterblank/QC or sample	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
24. Test parameters/Adjustment/config. Save to USB key	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
25. UPS Test	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Place : Dis. Lab Instrument : Agarkey 550
Date/Time : 28-06-21 Serial no : 02981
Service done by : Chai Install date :
Signature of customer : Haris Date/Time : 28/6/21



TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES
5344 PATTANAKARN ROAD SOI 18, SUANLIANG, SUANLIANG BANGKOK 10250
TEL. 0-2717-3000-37 FAX. 0-2719-9484



Cert.No.: 21CG1446
Page.: 1 of 2

Certificate of Calibration

Equipment : Burette
Capacity : 50 mL
Serial No. :
ID. No. : BKK_EN0171

Manufacturer : Witeg
Made in : Germany

Submitted by : ALS Laboratory Group (Thailand) Co., Ltd.
104 Phatthanakan 40, Phatthanakan Rd.
Khwaeng Phatthanakan, Khet Suan Luang
Bangkok 10250 Thailand

Ambient Temperature : (20 \pm 2.5) $^{\circ}\text{C}$
Relative Humidity : (50 \pm 10) %
Barometric Pressure : 755 mmHg
Calibration Procedure : ASTM E 542 - 01

Calibrated by : Sa-ngeunkam Wongsa

Approved by : Malu
Approved Signatory

- () Pornthippa Tameyakul
(✓) Malee Butkruea
() Ponpan Paipim
() Srisuda Khamtha

Issue Date : 31 March 2021

The Uncertainties are for a confidence probability of approximately 95 %

This certificate may not be reproduced other than in full, except with the prior written
Approval of the head of Corporate Services 3: Equipment Calibration and Testing Services.



Equipment : Burette
Received Date : 24 March 2021
Condition As-Received : Used Item
Calibration Date : 30 March 2021
Reference : 2103-1008DSC-5

Cert.No.: 21CG1446
Page.: 2 of 2

Condition of this result of calibration

1. Reference Standard Instruments :	Instruments	Model	Serial No.	ID. No.	Certificate No.	Traceability	Due date
1) Balance	XP205	B134206712	140RC007	21MM181	NIST	NIST	02 Mar 2022
2) Thermo-Hygrograph	TH 803	09153022	140EC004	20H1434	NIST,NIST	NIST,NIST	19 June 2021
3) Thermometer		1594592	140EC010	2011191	NIST	NIST	08 Oct 2021

This certification is traceable to SI Unit

2. The certificate is valid only to the item calibrated on date and place of calibration.
3. True value is converted to true volume at the standard temperature of 20 $^{\circ}\text{C}$

Calibration result :

Nominal capacity (mL)	Reading (mL)	Uncertainty (\pm mL)	k Factor
50	50.0041	0.011	2.00

Remark mL = cm³

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k, providing a level of confidence of approximately 95 %.

-o-o-

Malu.

a 1048960

A 0026589



Metrological Center

SCI ECO Services Company Limited

33/2 Moo 3, T.Banpa, A.Kaengkhoh, Saraburi 18110, Thailand.
Saraburi Tel : +66 3627 3096 Fax : +66 3627 3100
Bangkok Tel : +668 9205 6851 , +669 8247 2360
Website : www.scieco.co.th E-Mail : calibrate@scg.co.th



Certificate No. T211009

Page 1 of 4

Certificate of Calibration

Equipment : Chamber (Cold Room)
 Manufacturer : KOLDTECH
 Model : KM 320
 Serial No. : TBN-1012061/05
 Customer Code : BKK_EN0167
 ID No. : T2463A3
 Customer : ALS Laboratory Group (Thailand) Co.,Ltd.
 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan,
 Khet Suan Luang, Bangkok 10250
 Customer Location : Laboratory
 Date of Receipt : 6 May 2021
 Calibrated By : Watcharapon Songthong (Technician)
 Approved By : Boonchai Suriyawong (Site Calibration Manager)
 Date of Issue : 20 MAY 2021

REVIEW BY Sinik P.
 APPROVED BY L.L. Al
 NEXT CAL. DATE 16/11/22

The uncertainties are for a confidence probability of approximately 95%.

This Certificate is issued in accordance with the conditions of accreditation granted by the Thai Laboratory Accreditation Scheme which has assessed the measurement capability of the laboratory and its traceability to recognized national standards and to the units of measurement realized at the corresponding national standard laboratory. This certificate may not be reproduced other than in full except with the prior written approval of the Metrological Center.

FM-L14 117/01-02-64



Metrological Center

SCI ECO Services Company Limited

33/2 Moo 3, T.Banpa, A.Kaengkhoh, Saraburi 18110, Thailand.



Certificate No. T211009

Page 2 of 4

Calibration Report

Equipment : Chamber (Cold Room)
 Date of Calibration : 18 May 2021
 Environment : Temperature : 23.4-24.9 °C
 Line Voltage : 221.4-230.2 V
 Relative Humidity : 55 - 65 %RH

Condition of this results of calibration :

- This equipment was calibrated by insert 16 standard thermocouples type T into its chamber, the other one standard thermocouples type T use for ambient temperature measurement. The calibration was done in according to WI-T20 (based on ASTM E145-94 (Reapproved 2001) and AS2853-1986). All data show below were final values and the initial data from customer request. The temperature scale used was based on ITS - 90.
- Reference Standard Instrument :

Instrument	Model	Instrument No.	Certificate No.	Due Date
TC	TYPE T	TN161-TN170	T210009	8 January 2022
TC	TYPE T	TN171-TN180	T210009	8 January 2022
DATA LOGGER	34970A	T149	T210009	8 January 2022
- This certificate is traceable to : National Institute of Metrology (Thailand) through Metrological Center (NSC-TISI-TIS 17025 CALIBRATION 0244.)
- Condition of calibrated item : good
 Equipment Description :
 Time Constant 1 Hour
 Fresh Air Damper ☐ Open ☐ Min ☐ Medium ☐ Max
☐ Close
☒ Not Available
- Adjustment :
 (X) without adjustment () after adjustment

Approved By: Boonchai

FM-L15 117/15-05-63



Metrological Center

SCI ECO Services Company Limited

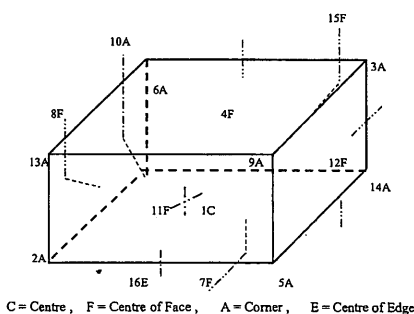
33/2 Moo 3, T.Banpa, A.Kaengkhoh, Saraburi 18110, Thailand.



Certificate No. T211009

Page 3 of 4

Calibration Report



1C = TN161	12F = TN172
2A = TN162	13A = TN173
3A = TN163	14A = TN174
4F = TN164	15F = TN175
5A = TN165	16E = TN176
6A = TN166	
7F = TN167	
8F = TN168	
9A = TN169	
10A = TN170	
11F = TN171	

Approved By: Boonchai

FM-L15 117/15-05-63



Metrological Center

SCI ECO Services Company Limited

33/2 Moo 3, T.Banpa, A.Kaengkhoh, Saraburi 18110, Thailand.



Certificate No. T211009

Page 4 of 4

Calibration Report

Measurement Results

Calibration Point	Average Standard Reading at each position (°C)									
	TN161	TN162	TN163	TN164	TN165	TN166	TN167	TN168	TN169	TN170
3	3.23	3.38	3.23	3.41	3.36	3.52	3.51	3.11	3.29	3.50
	TN171	TN172	TN173	TN174	TN175	TN176				
	3.36	3.18	3.52	3.22	3.28	3.31				

Chamber (Cold Room)			Temperature Distribution				
Setting (°C)	Reading (°C)		Average (°C)	Stability (± °C)	Uniformity (°C)	Uncertainty (± °C)	Coverage Factor <i>k</i>
	Min, Max	Average					
3.0	2.7, 3.4	3.0	3.34	1.00	1.10	1.46	2.00

* The Accrued uncertainty exclude "uniformity"

The calibration result apply only the above calibrated item.

The result of test was found accurate as shown on date and place of test only.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k which for a t-distribution, providing a level of confidence of approximately 95 %.

Approved By: Boonchai

FM-L15 117/15-05-63



Metrological Center

SCI ECO Services Company Limited

33/2 Moo 3, T.Banpa, A.Kaengkhoh, Saraburi 18110

Telephone : +66 2 586 5792-4 Fax : +66 2 586 5109

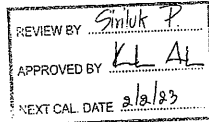
Website : www.scieco.co.th E-Mail : calibrate@scg.co.th

Certificate No. T211711

Page 1 of 5

Certificate of Calibration

Equipment : Digestion Unit
 Manufacturer : Environmental Express
 Model : AIM 600 Block
 Serial No. : 5146000105
 Customer Code : BKK_EN0141
 ID No. : T5666A3
 Customer : ALS Laboratory Group (Thailand) Co.,Ltd.
 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan,
 Khet Suan Luang, Bangkok 10250
 Customer Location : Environmental Laboratory
 Date of Receipt : 30 July 2021
 Calibrated By : Sujjar Naknakred (Site Calibration Manager)
 Approved By : / Boonchai Suriyawong (Site Calibration Manager)
 Date of Issue : 09 AUG 2021



The uncertainties are for a confidence probability of approximately 95%.

This Certificate is issued in accordance with the conditions of accreditation granted by the Thai Laboratory Accreditation Scheme which has assessed the measurement capability of the laboratory and its traceability to recognized national standards and to the units of measurement realized at the corresponding national standard laboratory. This certificate may not be reproduced other than in full except with the prior written approval of the Metrological Center.

FM-L12 108/30-05-57



Metrological Center

SCI ECO Services Company Limited

33/2 Moo 3, T.Banpa, A.Kaengkhoh, Saraburi 18110

Telephone : +66 2 586 5792-4 Fax : +66 2 586 5109

Website : www.scieco.co.th E-Mail : calibrate@scg.co.th

Certificate No. T211711

Page 2 of 5

Calibration Report

Equipment : Digestion Unit
 Date of Calibration : 4-5 August 2021
 Environment : Temperature : 21.1 - 21.8 °C
 Line Voltage : 221.4 - 225.1 V
 Relative Humidity : 55 - 65 %RH

Condition of this results of calibration :

- This equipment was calibrated by insert four standard thermocouples type S into its chamber, the other one thermocouple type T use for ambient temperature measurement. The calibration was done in according to WI-T10.
- Reference Standard Instrument :

Instrument	Model	Instrument No.	Certificate No.	Due Date
TC	Type S	M20A1-(CH17-CH20)	T210011	14 January 2022
DATA LOGGER	34970A	T149	T210011	14 January 2022
- This certificate is traceable to : National Institute of Metrology (Thailand) through Metrological Center (NSC-TISI-TIS 17025 CALIBRATION 0244)
- Condition of calibrated item : good
 Equipment Description :
 Time Constant : - Hour 51 Minute At 380 °C
 Fresh Air Damper : ☐ Open ☐ Min ☐ Medium ☐ Max
☐ Close
☒ Not Available
- Adjustment :
 (X) without adjustment () after adjustment

Approved By :

FM-L13 108/30-05-57



Metrological Center

SCI ECO Services Company Limited

33/2 Moo 3, T.Banpa, A.Kaengkhoh, Saraburi 18110

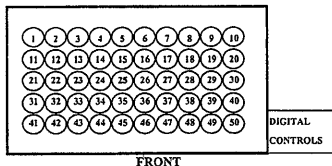
Telephone : +66 2 586 5792-4 Fax : +66 2 586 5109

Website : www.scieco.co.th E-Mail : calibrate@scg.co.th

Certificate No. T211711

Page 3 of 5

Calibration Report



FRONT

DIGITAL CONTROLS

Measurement Results

Cal. Point	Setting	Reading	STD.	Position of Standards at Block									
°C	°C	°C	Reading	Hole1	Hole2	Hole3	Hole4	Hole5	Hole6	Hole7	Hole8	Hole9	Hole10
				MEBA1-CH17	MEBA1-CH18	MEBA1-CH19	MEBA1-CH20	MEBA1-CH21	MEBA1-CH22	MEBA1-CH23	MEBA1-CH24	MEBA1-CH25	MEBA1-CH26
380	374	374	Max °C	378.8	379.5	382.0	383.3	381.8	382.3	383.3	382.8	379.5	381.1
			Min °C	378.2	378.8	381.4	382.7	381.5	382.0	382.9	382.5	379.2	380.6
			Average °C	378.5	379.2	381.7	383.0	381.7	382.1	383.1	382.6	379.3	380.8
			Stability ± °C	0.3	0.3	0.3	0.3	0.1	0.2	0.2	0.1	0.1	0.2

Cal. Point	Setting	Reading	STD.	Position of Standards at Block									
°C	°C	°C	Reading	Hole11	Hole12	Hole13	Hole14	Hole15	Hole16	Hole17	Hole18	Hole19	Hole20
				MEBA1-CH27	MEBA1-CH28	MEBA1-CH29	MEBA1-CH30	MEBA1-CH31	MEBA1-CH32	MEBA1-CH33	MEBA1-CH34	MEBA1-CH35	MEBA1-CH36
380	374	374	Max °C	382.9	380.0	382.9	378.7	379.8	380.3	383.0	383.4	383.0	381.6
			Min °C	382.5	379.5	382.7	378.4	379.6	380.1	382.8	383.1	382.7	381.3
			Average °C	382.7	379.7	382.8	378.5	379.7	380.2	382.9	383.3	382.9	381.4
			Stability ± °C	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

Approved By :

FM-L13 108/30-05-57



Metrological Center

SCI ECO Services Company Limited

33/2 Moo 3, T.Banpa, A.Kaengkhoh, Saraburi 18110

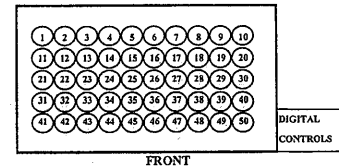
Telephone : +66 2 586 5792-4 Fax : +66 2 586 5109

Website : www.scieco.co.th E-Mail : calibrate@scg.co.th

Certificate No. T211711

Page 4 of 5

Calibration Report



FRONT

DIGITAL CONTROLS

Measurement Results

Cal. Point	Setting	Reading	STD.	Position of Standards at Block									
°C	°C	°C	Reading	Hole21	Hole22	Hole23	Hole24	Hole25	Hole26	Hole27	Hole28	Hole29	Hole30
				MEBA1-CH37	MEBA1-CH38	MEBA1-CH39	MEBA1-CH40	MEBA1-CH41	MEBA1-CH42	MEBA1-CH43	MEBA1-CH44	MEBA1-CH45	MEBA1-CH46
380	374	374	Max °C	379.0	379.4	383.4	383.4	380.4	380.7	381.9	382.0	380.8	379.7
			Min °C	378.7	379.7	382.6	383.1	380.1	380.5	381.7	381.7	380.5	379.2
			Average °C	378.8	379.9	383.0	383.3	380.3	380.6	381.8	381.9	380.6	379.5
			Stability ± °C	0.1	0.2	0.4	0.2	0.1	0.1	0.1	0.1	0.2	0.3

Cal. Point	Setting	Reading	STD.	Position of Standards at Block									
°C	°C	°C	Reading	Hole31	Hole32	Hole33	Hole34	Hole35	Hole36	Hole37	Hole38	Hole39	Hole40
				MEBA1-CH47	MEBA1-CH48	MEBA1-CH49	MEBA1-CH50	MEBA1-CH51	MEBA1-CH52	MEBA1-CH53	MEBA1-CH54	MEBA1-CH55	MEBA1-CH56
380	374	374	Max °C	379.3	379.4	380.3	381.7	382.6	383.2	382.6	382.7	383.0	381.6
			Min °C	378.7	378.5	380.1	381.5	382.3	382.9	382.3	382.5	382.8	381.3
			Average °C	379.0	379.0	380.2	381.6	382.4	383.1	382.5	382.6	382.9	381.4
			Stability ± °C	0.3	0.5	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1

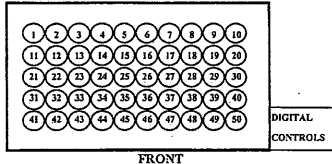
Approved By :

FM-L13 108/30-05-57

Certificate No. T211711

Page 5 of 5

Calibration Report



Measurement Results

Cal. Point	Setting	Reading	STD.	Position of Standards at Block											
(°C)	(°C)	(°C)	Reading	Hole#1	Hole#2	Hole#3	Hole#4	Hole#5	Hole#6	Hole#7	Hole#8	Hole#9	Hole#10	Hole#11	Hole#12
			Max °C	378.9	378.6	381.0	382.3	381.8	383.2	382.4	382.2	383.0	382.4		
			Mto °C	378.6	378.4	380.7	382.1	381.5	383.0	382.2	382.0	382.7	382.0		
			Average °C	378.8	378.5	380.8	382.2	381.6	383.1	382.3	382.1	382.8	382.2		
			Stability ±°C	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2		

The expanded uncertainty of temperature measurement was $\pm 1.73^{\circ}\text{C}$

The calibration result apply only the above calibrated item.

The result of test was found accurate as shown on date and place of test only.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor $k=2$, providing a level of confidence of approximately 95 %.

Approved By: 

FM-L13 108-30-05-57

Represent to Certificate of Calibration ,PTC/07/22071

Certificate No.: PTC/07/22071

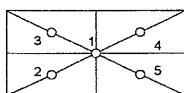
Page: 2 of 2

Measurement Results:

Without Adjustment :

Function Calibration: Non Adjustment

Eccentric Error: Weight to be 1/3 ,1/2 or of Maximum capacity



Eccentricity test 100 (g)				
Position (g)				
1	2	3	4	5
0.0000	-0.0002	-0.0001	0.0001	-0.0001
Maximum deviation:				0.0002

Repeatability Test : Weight to be $1/2 \leq L_1 \leq$ Maximum capacity

Determination of the standard deviation of weighing balance., Readability 0.0001 (g)

Nominal test value (g)	Standard Deviation
200	0.00005

Error of indication : from nominal value., Readability 0.0001 (g)

Nominal Value (g)	Conventional Mass (g)	Indication (g)	Correction of Balance (g)	Uncertainty (g)	k
0	0.00000	0.0000	0.0000	0.00016	2.52
0.1	0.10000	0.1000	0.0000	0.00017	2.20
0.5	0.50000	0.5000	0.0000	0.00016	2.28
1	1.00001	1.0000	0.0000	0.00016	2.28
2	2.00001	2.0000	0.0000	0.00016	2.28
5	5.00001	5.0000	0.0000	0.00016	2.28
10	10.00002	10.0000	0.0000	0.00016	2.28
20	20.00002	20.0000	0.0000	0.00016	2.23
50	50.00001	50.0000	0.0000	0.00017	2.15
100	100.00002	99.9999	0.0001	0.00020	2.06
120	120.00004	120.0000	0.0000	0.00023	2.03
150	150.00003	150.0000	0.0000	0.00026	2.00
200	200.00003	199.9999	0.0001	0.00030	2.00

Note: Weight of adjust (g)

The End of Certificate

PTC-FWC-07-02 2 Feb 2020

Certificate of Calibration

Represent to Certificate of Calibration ,PTC/07/22071

Certificate No.: PTC/07/22071 Page: 1 of 2
Equipment: Digital Balance Condition: Normal
Manufacturer: Sartorius Serial No: 26207042
Model: MSE224-100-DU ID No: BKK_EN0002
Type of Balance: Single interval

Customer: ALS Laboratory Group (Thailand) Co.,Ltd.
104 Phatthanakarn 40 Phatthanakarn Rd.,
Khaeng Phatthanakarn, Khet Suan Luang, Bangkok 10250.

Environment Condition: Temperature 21.5 °C \pm 0.7 °C
Humidity 61.8 %RH \pm 4.7 %RH
Air density 1.19 kg/m³

Calibration Place: ALS Laboratory Group (Thailand) Co.,Ltd.
104 Phatthanakarn 40 Phatthanakarn Rd.,
Khaeng Phatthanakarn, Khet Suan Luang, Bangkok 10250.

The Method used: In house method, PTC-WI-07, base on Euramet cg. 18

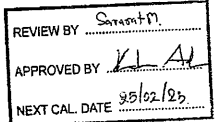
Traceability: This certificate is traceable to the SI units through Thai Calibration Service Co.,Ltd.
NSC-ONSC Accreditation No.: Calibration 0189

Date Received: February 25, 2022

Calibration Date: February 25, 2022

Issued Date: March 01, 2022

Calibration By: Mr. Rungroj Melakul



(Mr.Kriangsak Kalasin)
Reviewed by

Approved By :
(Mr. Keattisak Kerdto)
Laboratory Manager

This certificate is issued the units of measurement according to the International System of Units (SI). It provides traceability of measurement to international or national standard or other recognised national standard laboratories.

The measurement uncertainty stated is the expanded uncertainty which is obtained from the standard uncertainty multiplied by the coverage factor ($k=2$) to provide a level of confidence of approximately 95%. It is determined in accordance with the Guide to Expression of Uncertainty in Measurement (GUM). The effect that the results relate only to the items calibrated.

This calibration certificate shall not be reproduced except in full only, without written approval from penta calibration co., ltd

PTC-FWC-07-02 2 Feb 2020



TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)
CORPORATE SERVICES & EQUIPMENT CALIBRATION AND TESTING SERVICES
534/4 PATTANAKARN ROAD SOI 18, SUANLUANG, SUANLUANG BANGKOK 10250
TEL. 0-2717-3000-27 FAX. 0-2719-9484



Cert. No.: 21TM1629
Page: 1 of 3

Certificate of Calibration

Equipment : Hot Air Oven

Manufacturer : Memmert

Model : UFE 500

Serial No. : G511.0314

ID No. : BKK_EN0009

Submitted by : ALS Laboratory Group (Thailand) Co.,Ltd.
104 Phatthanakarn 40, Phatthanakarn Rd.,
Khaeng Suan Luang, Khet Suan Luang,
Bangkok 10250

Location : Oven Room

Received Order : 2 September 2021

Calibration Date : 2 September 2021

Ambient Temperature : (25 \pm 10) °C

Relative Humidity : (50 \pm 30) %

Calibrated by : Man Pattanapongpaiboon

Approved by :
Approved Signatory

() Ponthippa Tameyakul
() Malee Butkrua
() Suwit Imjai

Issue Date : 14 September 2021

The Uncertainties are for a confidence probability of approximately 95%

This certificate may not be reproduced other than in full, except with the prior written approval of the head of Corporate Services & Equipment Calibration and Testing Services.

A 0031775



Equipment : Hot Air Oven
Condition As-Received : Used Item
Reference : 2109-0004OC-1
Procedure Used :-

Cert. No.: 21TM1629
Page.: 2 of 3

Calibration were conducted using calibration procedure CP-OT02 according to direct measurement method with Data Acquisition which connected with Resistance Temperature Detector (RTD).

The temperature scale used was based on ITS-90.

Condition of this result of calibration

1. Reference standard instrument:-

Instrument	Model	Serial No.	Cert. No.	Due Date
1) Data Acquisition	34972A	MY57013711	21LM7	16 Jun 2022

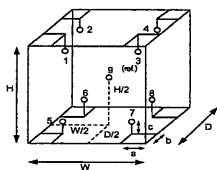
2. This certificate is valid only to the item calibrated on date and place of calibration.

3. This certification is traceable to the International System of Unit.

Result of Calibration :- (*) Without Adjustment

Function of UUC* : Temperature Source

Fresh air setting : Close



Probe Installation Details :

a = 5.0 cm	D = 0.40 m
b = 5.0 cm	W = 0.56 m
c = 5.0 cm	H = 0.48 m
	Capacity = 0.11 m ³

Environment during calibration		
	Beginning	Finished
Temp. (°C)	25	25
REL.Humid. (%)	56	58
AC Supply (Volt)	221	222

Position :	Ref. Std. ID No.:
1	18-18RTD-01
2	18-18RTD-02
3	18-18RTD-03
4	18-18RTD-04
5	18-18RTD-05
6	18-18RTD-06
7	18-18RTD-07
8	18-18RTD-08
9 (ref.)	18-18RTD-09

a 1071653



Equipment : Hot Air Oven
Condition As-Received : Used Item
Reference : 2109-0004OC-1
Result of Calibration :- (*) Without Adjustment
Function of UUC* : Temperature Source
Fresh air setting : Close

Cert. No.: 21TM1629
Page.: 3 of 3

Calibration Point (°C)	UUC* Setting (°C)	UUC* Reading (°C)	Temperature stability (± °C)	Temperature uniformity (°C)	Overall Variation (°C)	Uncertainty (± °C)	Coverage Factor k
60.0	60.0	60.0	0.047	0.32	0.52	0.42	2
95.0	95.0	95.0	0.034	0.51	0.83	0.42	2
103.0	103.0	103.0	0.053	0.57	1.0	0.42	2
104.0	104.0	104.0	0.095	0.62	1.1	0.43	2

Calibration Point (°C)	Measured Temperature (°C)								
	Position								
	1	2	3	4	5	6	7	8	9 (ref.)
60.0	59.912	59.968	59.859	59.772	60.200	60.076	60.203	60.120	60.067
95.0	94.767	94.809	94.720	94.582	95.347	95.025	95.098	95.016	94.879
103.0	102.814	102.866	102.712	102.555	103.482	103.204	103.288	103.190	102.976
104.0	103.742	103.794	103.643	103.484	104.486	104.180	104.265	104.154	103.924

Average* : The average of 30 values in each position.

Temperature stability : One-half of the greatest maximum difference of measured temperature at any one sensor.

Temperature uniformity : The maximum difference of measured temperatures at any sensors and the measured temperature at the reference location which are observed at the same time or at as close an observation time as possible to determine the temperature pattern or homogeneity within the chamber under steady-state conditions.

Overall Variation : The Difference of the maximum and minimum measured temperatures throughout observation.

UUC* : Unit Under Calibration

Note : The reported uncertainty of measurement was included stability and excluded uniformity .

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k, providing a level of confidence of approximately 95 %.

-000-

a 1071652



TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES
3344 PATTANAKARN ROAD SOI 18, SUANLUANG, SUANLUANG BANGKOK 10250
TEL. 0-2717-3000-37 FAX. 0-2719-9484



Cert. No.: 21TM2189
Page.: 1 of 3

Certificate of Calibration

Equipment : Hot Air Oven

Manufacturer : Memmert

Model : UFE 500

Serial No. : G511.1574

ID No. : BKK_EN0007

Submitted by : ALS Laboratory Group (Thailand) Co.,Ltd.
104 Phatthanakan 40, Phatthanakan Rd.,
Khwaeng Phatthanakan, Khet Suan Luang,
Bangkok 10250 Thailand

Location : Oven Room

Received Order : 1 December 2021

Calibration Date : 1 December 2021

Ambient Temperature : (26 ± 10) °C

Relative Humidity : (50 ± 30) %

Calibrated by : Khit Ruttanapapachai

Approved by :

() Pornthippa Tameyakul

() Malee Butkruea

() Suwit Imjai

Issue Date : 7 December 2021

REVIEW BY

APPROVED BY

NEXT CAL DATE 01/06/22

The Uncertainties are for a confidence probability of approximately 95%

This certificate may not be reproduced other than in full, except with the prior written
Approval of the head of Corporate Services 3 : Equipment Calibration and Testing Services.

A 0032815



Equipment : Hot Air Oven
Condition As-Received : Used Item
Reference : 2112-0002OC-1
Procedure Used :-

Cert. No.: 21TM2189
Page.: 2 of 3

Calibration were conducted using calibration procedure CP-OT02 according to direct measurement method with Data Acquisition which connected with Resistance Temperature Detector (RTD) and Thermocouple Type T.

The temperature scale used was based on ITS-90.

Condition of this result of calibration

1. Reference standard instrument:-

Instrument	Model	Serial No.	Cert. No.	Due Date
1) Data Acquisition	34970A	MY44060450	21LM4/1	06 Mar 2022

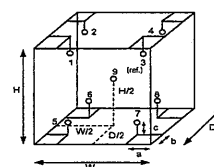
2. This certificate is valid only to the item calibrated on date and place of calibration.

3. This certification is traceable to the International System of Unit.

Result of Calibration :- (*) Without Adjustment

Function of UUC* : Temperature Source

Fresh air setting : Close



Probe Installation Details :

a = 5.0 cm	D = 0.40 m
b = 5.0 cm	W = 0.56 m
c = 5.0 cm	H = 0.48 m
	Capacity = 0.11 m ³

Environment during calibration		
	Beginning	Finished
Temp. (°C)	25	25
REL.Humid. (%)	51	53
AC Supply (Volt)	221	222

Ref. Std. ID No. : @ Calibration Point		
Position :	(104) °C	(121,175,180) °C
1	19-14RTD-01	19-14TC-01
2	19-14RTD-02	19-14TC-02
3	19-14RTD-03	19-14TC-03
4	19-14RTD-04	19-14TC-04
5	19-14RTD-05	19-14TC-05
6	19-14RTD-06	19-14TC-06
7	21-14RTD-07	19-14TC-07
8	19-14RTD-08	19-14TC-08
9 (ref.)	19-14RTD-09	19-14TC-09

a 1085618



Equipment : Hot Air Oven
 Condition As-Received : Used Item
 Reference : 2112-0002OC-1
 Result of Calibration : () Without Adjustment
 Function of UUC* : Temperature Source
 Fresh air setting : Close

Cert. No.: 21TM2189
 Page: 3 of 3

Calibration Point (°C)	UUC* Setting (°C)	UUC* Reading (°C)	Temperature stability (± °C)	Temperature uniformity (°C)	Overall Variation (°C)	Uncertainty (± °C)	Coverage Factor k
104.0	104.0	104.0	0.059	0.52	0.59	0.45	2
121.0	121.0	121.0	0.11	0.75	1.2	1.1	2
175.0	175.0	175.0	0.13	0.90	1.6	1.1	2
180.0	180.0	180.0	0.13	0.93	1.6	1.1	2

Calibration Point (°C)	Measured Temperature (°C)								
	Position								
	1	2	3	4	5	6	7	8	9 (ref.)
104.0	104.265	104.229	104.080	103.922	104.390	104.304	104.284	103.994	103.909
121.0	120.838	120.519	120.661	120.524	121.162	120.855	120.703	120.126	120.726
175.0	175.021	174.603	174.848	174.652	175.830	175.321	175.411	174.440	175.222
180.0	179.792	179.374	179.575	179.376	180.643	180.081	180.174	179.217	180.014

Average* : The average of 30 values in each position.
 Temperature stability : One-half of the greatest maximum difference of measured temperature at any one sensor.
 Temperature uniformity : The maximum difference of measured temperatures at any sensors and the measured temperature at the reference location which are observed at the same time or at as close an observation time as possible to determine the temperature pattern or homogeneity within the chamber under steady-state conditions.
 Overall Variation : The Difference of the maximum and minimum measured temperatures throughout observation.
 UUC* : Unit Under Calibration
 Note : The reported uncertainty of measurement was included stability and excluded uniformity .
 The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k, providing a level of confidence of approximately 95 %.

-000-

a 1085617



TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)
 CALIBRATION AND TESTING EQUIPMENT SERVICES
 534/4 PATTANAKARN ROAD SOI 18, SUANLUANG, SUANLUANG BANGKOK 10250
 TEL. 0-2717-3000-24 FAX. 0-2719-9484

Cert.No.: 21CH1589
 Page.: 1 of 2

Certificate of Calibration

Equipment : Conductivity Meter
 Manufacturer : Mettler Toledo
 Model : SevenCompact
 Serial No. : B429832167
 ID No. : BKK_EN0065
 Condition As-Received : Used Item
 Received Date : 17 November 2021
 Calibration Date : 19 November 2021
 Reference : 2111-0586DSC-6
 Submitted by : ALS Laboratory Group (Thailand) Co., Ltd.
 104 Phatthanakan 40, Phatthanakan Rd.,
 Khwaeng Phatthanakan, Khet Suan Luang,
 Bangkok 10250 Thailand
 Ambient Temperature : (25 ± 2.5) °C
 Relative Humidity : (50 ± 15) %
 Calibration Procedure : In-house method :
 - CP-CH6 : based on direct measurement by
 using reference material (RM)

REVIEW BY Siriluk P.
 APPROVED BY K. An
 NEXT CAL. DATE 20/05/23

Calibrated by : Walalak Sirinthean

Approved by : Wala.
 Approved Signatory
 (/) Malee Butkruea
 () Salthip Meangmai
 () Warakorn Lemgagrakul

Issue Date : 23 November 2021
 The Uncertainties are for a confidence probability of approximately 95%.

This certificate may not be reproduced other than in full, except with the prior written approval of the head of Calibration and Testing Equipment Services.



Cert.No.: 21CH1589
 Page: 2 of 2

Condition of this result of calibration

1. Reference Standard Instrument :-

Instrument	Serial No.	ID No.	Certificate No.	Due date
1) Thermometer	9549224	130RC003	21451	15 Apr 2022

This certification is traceable to the International System of Unit maintained at:-
 - Traceable to National Institute of Metrology (Thailand), NIMT

2. Certified Reference Materials :-
 - Conductivity calibration solution, Thermo Scientific (traceable to NIST)

Conductivity Solution	Manufacturer	Lot No.	Exp. date
84 µS/cm	Thermo Scientific	081/02	23 Feb 2022
1413.0 µS/cm	Thermo Scientific	171/02	30 Apr 2024
12.880 mS/cm	Thermo Scientific	230/01	07 June 2023

- Control Conductivity calibration solution temperature by Water bath (25±0.1) °C
 3. This certificate is valid only to the item calibrated on date and place of calibration.

Calibration results

Function : Conductivity Measurement

(*) After Adjustment at 1413 µS/cm
 Conductivity Electrode Serial No.: 5821270404

Standard Conductivity Solution	Before Adjustment UUC* Reading	After Adjustment UUC* Reading	Uncertainty of Measurement (±)	Coverage factor k
84 µS/cm	85.92 µS/cm	85.52 µS/cm	4.3 µS/cm	2.00
1413 µS/cm	1419 µS/cm	1413 µS/cm	15 µS/cm	2.00
12.88 mS/cm	12.92 mS/cm	12.79 mS/cm	0.14 mS/cm	2.00

Remark - UUC* = Unit Under Calibration
 - Adjustment Cell constant = 0.559929 cm⁻¹

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k, providing a level of confidence of approximately 95 %.

-000-



TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)
 CORPORATE SERVICES 3 : EQUIPMENT CALIBRATION AND TESTING SERVICES
 534/4 PATTANAKARN ROAD SOI 18, SUANLUANG, SUANLUANG BANGKOK 10250
 TEL. 0-2717-3000 FAX. 0-2719-9484

Cert.No.: 22TW122
 Page: 1 of 2

Certificate of Testing

Equipment : DO Meter
 Manufacturer : YSI
 Model : 5000-230V
 Serial No. : 09J101147
 ID No. : BKK_EN0017
 Received Date : 20 May 2022
 Test Date : 24 May 2022
 Reference : 2205-0638DSC-8
 Submitted by : ALS Laboratory Group (Thailand) Co., Ltd.
 104 Phatthanakan 40, Phatthanakan Rd.,
 Khwaeng Phatthanakan, Khet Suan Luang,
 Bangkok 10250 Thailand
 Laboratory Condition : Temperature (25 ± 5) °C
 Humidity (50 ± 20) %
 Test Procedure : In-house method : CP-CH9
 by Comparison Technique with Azide Modification Method
 Tested by : Warakorn Lemgagrakul

REVIEW BY Siriluk P.
 APPROVED BY K. An
 NEXT CAL. DATE 24/11/23

Approved by : Wala.
 Approved Signatory

(/) Malee Butkruea
 () Salthip Meangmai
 () Warakorn Lemgagrakul

Issue Date : 31 May 2022

B 0285244



Cert.No.: 22TW122
Page: 2 of 2

Condition of this result of calibration

1. Reference Standard Instruments :

This certification is traceable to the International System of Unit through the reference standards laboratory of Industrial Calibration Center, Technology Promotion Association (Thailand-Japan).

Instruments	Serial No.	ID No.	Certificate No.	Due Date
1) Burette	-	130BU10	21CG1389	25 Mar 2023
2) Balance	1126143764	140RC004	21MM430	21 Sep 2022

2. Standard Material :-

Material	Manufacturer	Lot.No.	Assay
Sodium Thiosulfate pentahydrate	Merck	AM1763316	100.2%

Result : Dissolved Oxygen Meter Adjustment With Air 100 %

Dissolved Oxygen Probe No.: 16K100498

Titration Method (Azide Modification Method) (mg/L)	DO Meter Reading (mg/L)	Standard Deviation (mg/L)
8.12	8.13	0.015

This report was certified only for the instrument we tested. It is allowable to use for study the system efficiency. The environmental impact control and present to organization it may concerned intend to use for advertising and referral purpose is prohibited. This report may not be reproduced other in full, without written approval of the laboratory

-o-o-

a 1110482



TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES
3344 PATTANAKARN ROAD SOI 18, SUANLUANG, SUANLUANG BANGKOK 10250
TEL. 0-2717-3000-27 FAX. 0-2719-9484



Cert. No.: 22LM83
Page: 1 of 2

Certificate of Calibration

Equipment : DO Meter with Sensor
Manufacturer : YSI
Model : 5000-230V
Serial No. : 09J 101147
ID No. : BKK_EN0017
Submitted by : ALS Laboratory Group (Thailand) Co., Ltd.
104 Phatthanakan 40, Phatthanakan Rd.,
Khwaeng Phatthanakan, Khet Suan Luang,
Bangkok 10250 Thailand
Location : TPA On Site Calibration Laboratory
Received Order : 20 May 2022
Calibrated Date : 30 May 2022
Ambient Temperature : (26 ± 10) °C
Relative Humidity : (50 ± 30) %
AC Line Voltage : (220 ± 22) V
Calibrated by : Tawatchai Pama
Approved by :
() Pornthippa Tameyakul
(✓) Malee Butkruea
() Suwit Imjai
Issue Date : 31 May 2022

The Uncertainties are for a confidence probability of approximately 95 %

This certificate may not be reproduced other than in full, except with the prior written approval of the head of Corporate Services 3: Equipment Calibration and Testing Services.

A 0039957

Metrological Center

SCI ECO Services Company Limited

33/2 Moo 3, T. Banpa, A. Kaengkhoh, Saraburi 18110, Thailand.

Saraburi Tel: +66 3627 3096 Fax: +66 3627 3100

Bangkok Tel: +668 9205 6851, +669 8247 2360

Website: www.scieco.co.th E-Mail: calibrate@scg.co.th

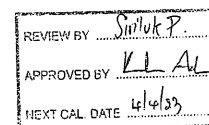


Certificate No. T212123

Page 1 of 3

Certificate of Calibration

Equipment : Chamber (Incubator)
Manufacturer : SHEL LAB
Model : 2020-2E
Serial No. : 802899
Customer Code : BKK_EN0005
ID No. : T7499A0
Customer : ALS Laboratory Group (Thailand) Co., Ltd.



104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan,
Khet Suan Luang, Bangkok 10250

Customer Location : Wet Chemistry Lab2

Date of Receipt : 1 October 2021

Calibrated By : Sujjar Naknakred (Site Calibration Manager)

Approved By : / Boonchai Suriyawong (Site Calibration Manager)

Date of Issue : 07 OCT 2021

The uncertainties are for a confidence probability of approximately 95%.

This Certificate is issued in accordance with the conditions of accreditation granted by the Thai Laboratory Accreditation Scheme which has assessed the measurement capability of the laboratory and its traceability to recognized national standards and to the units of measurement realized at the corresponding national standard laboratory. This certificate may not be reproduced other than in full except with the prior written approval of the Metrological Center.

a 1090806

FM-L14 117701-02-64



Equipment : DO Meter with Sensor
Condition As-Received : Used Item
Reference : 2205-0638DSC-10
Procedure Used :-

Cert. No.: 22LM83
Page: 2 of 2

Calibration were conducted using in-house calibration procedure CP-OT01 according to comparison with Industrial Platinum Resistance Thermometer (IPRT) into Temperature Bath.
The temperature scale used was based on ITS-90.

Condition of this result of calibration

1. Reference standard instrument-

Instrument	Model	Serial No.	Cert. No.	Due Date
1) Digital Thermometer	1502A	A09204	2218	04 Jan 2023

2. This certificate is valid only to the item calibrated on date and place of calibration.

3. This certification is traceable to the International System of Unit.

Result of Calibration :- (°) Without Adjustment

Function : Temperature measurement.

This instrument was connected with thermistor sensor, ID No.: 16K100498

Calibration Point (°C)	Immersion Depth (mm)	Standard Temperature (°C)	UUC* Reading (°C)	Error (°C)	Uncertainty (± °C)	Coverage Factor k
20.00	60	20.003	20.01	0.007	0.15	2.00

UUC* : Unit Under Calibration

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor *k*, providing a level of confidence of approximately 95 %.

-o-o-

Certificate No. T212123

Page 2 of 3

Calibration Report

Equipment : Chamber (Incubator)
Date of Calibration : 4-5 October 2021
Environment : Temperature : 23.8-24.9 °C
Line Voltage : 227.5-231.1 V
Relative Humidity : 55 - 65 %RH

Condition of this results of calibration :

1. This equipment was calibrated by insert nine resistance thermometer detectors into its chamber , the other one resistance thermometer detector use for ambient temperature measurement . The calibration was done in according to WI-T20 (based on ASTM E145-94 (Reapproved 2001) and AS2853-1986).
All data show below were final values and the initial data from customer request . The temperature scale used was based on ITS - 90 .

2. Reference Standard Instrument :

Instrument	Model	Instrument No.	Certificate No.	Due Date
RTD	100 ohm	29-(CH1-10)	T210118	2 February 2022
DATA LOGGER	34970A	T47	T210118	2 February 2022

3. This certificate is traceable to :

National Institute of Metrology (Thailand) through Metrological Center (NSC-TISI-TIS 17025 CALIBRATION 0244.)

4. Condition of calibrated item : good

Equipment Description :

Time Constant 2 Hour 20 Minute At 20 °C
Fresh Air Damper ☐ Open ☐ Min ☐ Medium ☐ Max
☐ Close
☒ Not Available

5. Adjustment :

() without adjustment (X) after adjustment

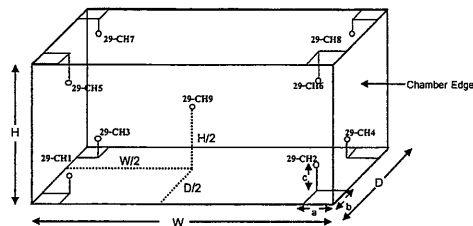
Approved By

FM-L15 117/15-05-63

Certificate No. T212123

Page 3 of 3

Calibration Report



Remark :

Internal Dimensions of Chamber : W (Width) = 70 cm. , H (Height) = 130 cm. and D (Depth) = 55 cm.
Size of Installed Standard sensor number 29-CH1 to number 29-CH8 : a = 5 cm. , b = 5 cm. and c = 5 cm.
Size of Installed Standard sensor number 29-CH9 : W/2 = 70 cm./2 , H/2 = 130 cm./2 and D/2 = 55cm./2

Measurement Results

Calibration Point	Average Standard Reading at each position (°C)								
	29-CH1	29-CH2	29-CH3	29-CH4	29-CH5	29-CH6	29-CH7	29-CH8	29-CH9
20	20.04	20.06	20.19	19.86	19.68	20.08	20.12	19.80	20.07
25	24.99	25.06	25.18	24.89	24.74	25.12	25.16	24.80	25.10

Chamber (Incubator)			Temperature Distribution			
Setting (°C)	Reading (°C)		Stability (±°C)	Uniformity (°C)	Uncertainty (±°C)	Coverage Factor k
	Min , Max	Average				
20.0	-	20.0	0.05	1.01	0.38	2.00
25.0	-	25.0	0.07	0.96	0.38	2.00

* The quoted uncertainty exclude "uniformity"

The calibration result apply only the above calibrated item.

The result of test was found accurate as shown on date and place of test only.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k which for a t-distribution, providing a level of confidence of approximately 95 %.

Approved By

FM-L15 117/15-05-63

Certificate No. T220630

Page 1 of 5

Certificate of Calibration

Equipment : HOT BLOCK
Manufacturer : Environmental Express
Model : B3000- 240
Serial No. : 2017CODW116
Customer Code : BKK_EN0222
ID No. : T6769A4
Customer : ALS Laboratory Group (Thailand) Co.,Ltd.
104 Phathanakan 40, Phathanakan Rd., Khwaeng Phatthanakan,
Khet Suan Luang, Bangkok 10250
Customer Location : Wet Chemistry Lab2
Date of Receipt : 21 March 2022
Calibrated By : Watcharapon Sangtong (Technician)
Approved By : [Signature] / Sujjar Nakkakred (Site Calibration Manager)
Date of Issue : 03 APR 2022

REVIEW BY Sarawat M.
APPROVED BY [Signature]
NEXT CAL. DATE 21/03/25

The uncertainties are for a confidence probability of approximately 95%.

This Certificate is issued in accordance with the conditions of accreditation granted by the Thai Laboratory Accreditation Scheme which has assessed the measurement capability of the laboratory and its traceability to recognized national standards and to the units of measurement realized at the corresponding national standard laboratory. This certificate may not be reproduced other than in full except with the prior written approval of the Metrological Center.

FM-L12 109/30-05-57

Certificate No. T220630

Page 2 of 5

Calibration Report

Equipment : HOT BLOCK
Date of Calibration : 21 March 2022
Environment : Temperature : 21.8-23.1 °C
Line Voltage : 221.6-226.3 V
Relative Humidity : 55 - 65 %RH

Condition of this results of calibration :

1. This equipment was calibrated by insert nine standard thermocouples type T into its chamber , the other one standard thermocouples type T use for ambient temperature measurement . The calibration was done in according to WI-T20.
All data show below were final values and the initial data from customer request . The temperature scale used was based on ITS - 90 .

2. Reference Standard Instrument :

Instrument	Model	Instrument No.	Certificate No.	Due Date
TC	TYPE T	TN51-TN60	T220275	28 February 2023
TC	TYPE T	TN61-TN70	T220275	28 February 2023
DATA LOGGER	34970A	T47	T220275	28 February 2023

3. This certificate is traceable to :

National Institute of Metrology (Thailand) through Metrological Center (NSC-TISI-TIS 17025 CALIBRATION 0244.)

4. Condition of calibrated item : good

Equipment Description :

Time Constant 1 Hour - Minute At 150 °C
Fresh Air Damper ☐ Open ☐ Min ☐ Medium ☐ Max
☐ Close
☒ Not Available

5. Adjustment :

() without adjustment (X) after adjustment

Approved By

FM-L13 108/30-05-57



Certificate No. T220630

Page 3 of 5

Calibration Report

R7	49	50	51	52	53	54	55	56
R6	41	42	43	44	45	46	47	48
R5	33	34	35	36	37	38	39	40
R4	25	26	27	28	29	30	31	32
R3	17	18	19	20	21	22	23	24
R2	9	10	11	12	13	14	15	16
R1	1	2	3	4	5	6	7	8

CONTROLLER

No.1 = TN51	No.13 = TN63	No.25 = TN55	No.37 = TN67	No.49 = TN59
No.2 = TN52	No.14 = TN64	No.26 = TN56	No.38 = TN68	No.50 = TN60
No.3 = TN53	No.15 = TN65	No.27 = TN57	No.39 = TN69	No.51 = TN61
No.4 = TN54	No.16 = TN66	No.28 = TN58	No.40 = TN70	No.52 = TN62
No.5 = TN55	No.17 = TN67	No.29 = TN59	No.41 = TN51	No.53 = TN63
No.6 = TN56	No.18 = TN68	No.30 = TN60	No.42 = TN52	No.54 = TN64
No.7 = TN57	No.19 = TN69	No.31 = TN61	No.43 = TN53	No.55 = TN65
No.8 = TN58	No.20 = TN70	No.32 = TN62	No.44 = TN54	No.56 = TN66
No.9 = TN59	No.21 = TN51	No.33 = TN63	No.45 = TN55	
No.10 = TN60	No.22 = TN52	No.34 = TN64	No.46 = TN56	
No.11 = TN61	No.23 = TN53	No.35 = TN65	No.47 = TN57	
No.12 = TN62	No.24 = TN54	No.36 = TN66	No.48 = TN58	

Approved By.

FM-L13 108/30-05-57



Certificate No. T220630

Page 4 of 5

Calibration Report

Measurement Results

Calibration Point	Average Standard Reading at each position (°C)							
	R1	TN51	TN52	TN53	TN54	TN55	TN56	TN57
CAL POINT	Max	149.42	150.39	149.10	149.91	150.92	150.58	151.54
	Min	149.27	150.15	148.51	149.65	150.72	150.39	151.43
	Average	149.35	150.27	148.81	149.78	150.83	150.48	151.49
	R2	TN59	TN60	TN61	TN62	TN63	TN64	TN65
CAL POINT	Max	150.66	150.45	151.00	151.76	150.66	150.67	150.73
	Min	150.46	150.16	150.74	151.51	150.48	150.56	149.40
	Average	150.56	150.31	150.87	151.63	150.57	150.58	149.52
	R3	TN67	TN68	TN69	TN70	TN51	TN52	TN53
CAL POINT	Max	150.90	151.18	151.10	151.05	150.16	150.55	149.86
	Min	150.68	151.00	150.84	150.75	149.36	149.17	148.95
	Average	150.79	151.09	150.97	150.90	149.76	149.86	149.41
	R4	TN55	TN56	TN57	TN58	TN59	TN60	TN61
CAL POINT	Max	150.82	150.07	151.63	150.72	150.35	149.78	150.24
	Min	149.53	149.71	149.57	148.67	148.46	148.86	149.55
	Average	150.17	149.89	150.60	149.70	149.41	149.32	149.90
	R5	TN63	TN64	TN65	TN66	TN67	TN68	TN69
CAL POINT	Max	150.00	149.68	150.31	149.66	150.34	150.48	150.09
	Min	149.81	149.58	149.49	149.42	149.20	149.60	149.69
	Average	149.90	149.63	149.90	149.54	149.77	150.04	149.89
	R6	TN51	TN52	TN53	TN54	TN55	TN56	TN57
CAL POINT	Max	149.25	150.37	148.53	149.06	150.91	150.04	151.13
	Min	149.07	150.18	148.28	148.78	150.69	149.83	150.95
	Average	149.16	150.28	148.41	148.92	150.80	149.94	151.04
	R7	TN59	TN60	TN61	TN62	TN63	TN64	TN65
CAL POINT	Max	149.38	149.24	149.88	150.17	149.72	149.45	149.51
	Min	149.22	149.05	149.68	149.99	149.61	149.34	149.48
	Average	149.30	149.15	149.78	150.08	149.67	149.40	149.56

Approved By.

FM-L13 108/30-05-57



Certificate No. T220630

Page 5 of 5

Calibration Report

Measurement Results:

HOT BLOCK			Temperature Distribution	
Setting (°C)	Reading (°C)		Stability (±°C)	Uncertainty (±°C)
	Min , Max	Average		
150.0	149.9 , 150.1	150.0	1.04	1.44

* The quoted uncertainty exclude " uniformity "

The calibration result apply only the above calibrated item.

The result of test was found accurate as shown on date and place of test only.

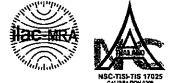
The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k which for a t-distribution, providing a level of confidence of approximately 95 % .

Approved By.

FM-L13 108/30-05-57



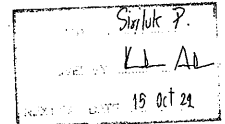
Bara Scientific Co., Ltd.
968 U Chu Liang Building Floor 7 Rama 4 Road
Siam Bangkok Bangkok Thailand 10500
Tel : 02-6324300 Fax : 02-6375496-7
www.barscientific.com



Certificate of Calibration

Number of Page(s) 1 of 3

Certificate No. BSCG-UV-290/21
Equipment UV/Vis Spectrophotometer
Model UV-1800
Manufacturer Shimadzu
Serial No. A11454908533CD
ID No. BKK_EN0018
Date of receipt 15 October 2021
Date of calibration 15 October 2021
Date of issue 25 October 2021



Customer name ALS Laboratory Group (Thailand) Co., Ltd.
Address 104 Soi Phatthanakan 40, Phatthanakan Road, Phatthanakan, Suan Luang, Bangkok 10250

Temperature (25.0 - 26.4) °C (On site)
Humidity (49.5 - 53.4) %RH (On site)

Equipment condition Good Operation

Calibration Location Organic Prep

Calibration Procedure In-house method WI-UV-702-01 based on ASTM E275-01

Traceability Wavelength Accuracy is traceable to certificate No. 87839 and 87844
Photometric Accuracy is traceable to certificate No. 87845 and 87877
Stray Light is traceable to certificate No. 87825
The above certificate are traceable to SI unit through Starna Scientific Ltd.
(UKAS accredited calibration laboratory NO. 0659)

Calibrated by Mr.Wanchana Janloy

Approved by

Mr.Kanchit Choothep
Technical Manager

The above results are valid exclusively for the calibrated item(s) as mention in this report / certificate
Advertising the report / Certificate and publicity of the results are prohibited and also shall not be reproduced
except in full, without written approval of the Bara Scientific Co., Ltd.

FM-UV-708-02 Rev.01 (23/01/63)



Bara Scientific Co., Ltd.
968 U Chu Liang Building Floor7 Rama4 Road
Silom Bangkok Bangkok Thailand 10500
Tel : 02-6324300 Fax : 02-6375496-7
www.barascientific.com



Certificate of Calibration

Certificate No. BSCC-UV-290/21

Number of Page(s)

2 of 3

Calibration Results:

1. Wavelength Accuracy

Certified Wavelength (nm)	UUC (nm)	Error (nm)	Uncertainty (±nm)
241.70	241.55	-0.15	0.18
334.02	333.80	-0.22	0.18
418.53	418.40	-0.13	0.18
572.99	572.85	-0.14	0.18
879.41	879.15	-0.26	0.18

2. Photometric Accuracy (UV)

Wavelength (nm)	Certified Absorbance (A)	UUC (A)	Error (A)	Uncertainty (±A)
235	0.0000	0.0000	0.0000	0.0075
	0.7174	0.7198	0.0024	0.0075
257	0.0000	-0.0001	-0.0001	0.0075
	0.8362	0.8377	0.0015	0.0075
313	0.0000	0.0000	0.0000	0.0075
	0.2778	0.2803	0.0025	0.0075
350	0.0000	-0.0001	-0.0001	0.0075
	0.6202	0.6221	0.0019	0.0075

*CNR = Customer not request

The above results are valid exclusively for the calibrated item(s) as mention in this report / certificate. Advertising the report / Certificate and publicity of the results are prohibited and also shall not be reproduced except in full, without written approval of the Bara Scientific Co., Ltd.

FM-UV-708-02 Rev 01 (2301/163)



Bara Scientific Co., Ltd.
968 U Chu Liang Building Floor7 Rama4 Road
Silom Bangkok Bangkok Thailand 10500
Tel : 02-6324300 Fax : 02-6375496-7
www.barascientific.com



Certificate of Calibration

Certificate No. BSCC-UV-290/21

Number of Page(s)

3 of 3

Calibration Results:

3. Photometric Accuracy (Visible)

Wavelength (nm)	Certified Absorbance (A)	UUC (A)	Error (A)	Uncertainty (±A)
420.0	0.0000	0.0000	0.0000	0.0042
	0.5631	0.5570	-0.0061	0.0042
	0.7390	0.7334	-0.0056	0.0042
	1.0863	1.0816	-0.0047	0.0042
440.0	0.0000	0.0000	0.0000	0.0042
	0.5524	0.5469	-0.0055	0.0042
	0.7217	0.7166	-0.0051	0.0042
	1.0506	1.0570	0.0064	0.0042
485.0	0.0000	0.0000	0.0000	0.0042
	0.5018	0.4956	-0.0062	0.0042
	0.6657	0.6610	-0.0047	0.0042
	0.9775	0.9740	-0.0035	0.0042
546.1	0.0000	0.0000	0.0000	0.0042
	0.5147	0.5113	-0.0034	0.0042
	0.6743	0.6705	-0.0038	0.0042
	0.9909	0.9880	-0.0029	0.0042
590.0	0.0000	0.0000	0.0000	0.0042
	0.5427	0.5394	-0.0033	0.0042
	0.7037	0.7001	-0.0036	0.0042
	1.0338	1.0323	-0.0015	0.0042
635.0	0.0000	0.0000	0.0000	0.0042
	0.5268	0.5235	-0.0033	0.0042
	0.6720	0.6685	-0.0035	0.0042
	0.9864	0.9847	-0.0017	0.0042

*CNR = Customer not request

4. Stray Light

Standard cut-off wavelength (nm)	Unit Under Calibration(UUC) Wavelength (nm)	Transmission (%)	Absorbance (A)
200.91±0.11nm	200.31	0.9399	2.0274

The Stray light transmission reference is less than 1.0%T and Stray light absorbance reference is greater than 2.00A
*Stray Light not NSC-ONSC Accredited.

The measurement uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2 providing a level of confidence of approximately 95%.

End of Certificate

The above results are valid exclusively for the calibrated item(s) as mention in this report / certificate. Advertising the report / Certificate and publicity of the results are prohibited and also shall not be reproduced except in full, without written approval of the Bara Scientific Co., Ltd.

FM-UV-708-02 Rev 01 (2301/163)



TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES
5344 PATTANAKARN ROAD SOI 18, SUANLUANG, SUANLUANG BANGKOK 10250
TEL. 0-2717-3000-27 FAX. 0-2719-9484



Cert.No.: 22CH199
Page.: 1 of 2

Certificate of Calibration

Equipment : pH Meter
Manufacturer : Mettler Toledo
Model : SevenGo S2
Serial No. : B617388431
ID No. : BKK_LG0004
Condition As-Received: Used Item
Received Date : 08 February 2022
Calibration Date : 10 February 2022
Reference : 2202-0244DSC-12
Submitted by : ALS Laboratory Group (Thailand) Co.,Ltd.
104 Phatthanakan 40, Phatthanakan Rd.,
Khwaeng Phatthanakan, Khet Suan Luang,
Bangkok 10250 Thailand
Ambient Temperature : (25 ± 2.5) °C
Relative Humidity : (50 ± 15) %
Calibration Procedure : In - house method :
- CP-CH5 by direct measurement with standard
voltage calibrator and direct measurement
with certified reference material (CRM)

Calibrated by : Uthen Kankawi

Approved by :
Approved Signatory

(/) Malee Bulkruea
() Sathip Meangmai
() Warakorn Lemgagtrakul

Issue Date : 14 February 2022

The Uncertainties are for a confidence probability of approximately 95%

This certificate may not be reproduced other than in full, except with the prior written
Approval of the head of Corporate Services 3 : Equipment Calibration and Testing Services.



Cert. No.: 22CH199
Page.: 2 of 2

Condition of this calibration result

1. Reference Standard Instrument

Instrument : 1) Document Process Calibrator
Serial No. 43160066 ID No. 130RC092 Cert. No. 21E1223/1 Due Date 27 Apr 2022
This certification is traceable to the International System of Unit maintained at:
- Traceable to National Institute of Metrology (Thailand), NIMT

2. Certified Reference Materials

The measurement results are traceable to SI through CPA chem Ltd.,
ANSI-ASQ National Accreditation Board, Accredited No. AR-1835

Buffer Solution	Manufacturer	Lot No.	Exp. date
pH 4.008	CPA chem	766820	23 Sep 2023
pH 6.983	CPA chem	766822	04 Sep 2022
pH 10.015	CPA chem	766824	04 Sep 2022

3. This certificate is valid only to the item calibrated on date and place of calibration.

Calibration Results

Function : mV Measurement

Performing standard curve by Fluke at pH (4,7,10)

Unit Under Calibration	Nominal Value	Standard Voltage Input	Actual Reading	Uncertainty of Measurement	Coverage factor
	pH	mV	mV	(±mV)	k
pH Meter	4.00	177.48	177	0.58	2.00
S/N: B617388431	7.00	0.00	0	7.00	2.00
	10.00	-177.48	-178	0.58	2.00

Function : pH Measurement

Performing three buffers standard curve by using buffer nominal pH (4,7,10)

Unit Under Calibration	Standard pH Buffer Solution	Actual pH Reading	Actual mV Reading (mV)	Uncertainty of pH measurement (±)	Coverage factor k
pH Electrode	4.008	4.01	178	0.0079	2.00
S/N: 2026288	6.983	6.98	3	0.0099	2.00
	10.015	10.02	-174	0.0092	2.00

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k, providing a level of confidence of approximately 95%.

-00-

Malee



TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES
53/44 PATTANAKARN ROAD SOI 18, SUANLUANG, SUANLUANG BANGKOK 10250
TEL. 0-2717-3000-27 FAX. 0-2719-9484



Cert. No.: 22LM11
Page.: 1 of 2

Certificate of Calibration

Equipment : pH Meter with Sensor
Manufacturer : Mettler Toledo
Model : SevenGo S2
Serial No. : B617388431
ID No. : BKK_LG0004
Submitted by : ALS Laboratory Group (Thailand) Co., Ltd.
104 Phatthanakan 40, Phatthanakan Rd.,
Khwaeng Phatthanakan, Khet Suan Luang,
Bangkok 10250 Thailand
Location : TPA On Site Calibration Laboratory
Received Order : 8 February 2022
Calibrated Date : 11 February 2022
Ambient Temperature : (26 ± 10) °C
Relative Humidity : (50 ± 30) %
AC Line Voltage : (220 ± 22) V

Calibrated by : Prescha Hlahib

Approved by :
Approved Signatory

() Pornthippa Tameyakul
() Malee Butkruea
() Suwit Imjai

Issue Date : 18 February 2022

The Uncertainties are for a confidence probability of approximately 95%

This certificate may not be reproduced other than in full, except with the prior written
Approval of the head of Corporate Services 3 : Equipment Calibration and Testing Services.

A 0037968

BKK_EL0037



Equipment : pH Meter with Sensor
Condition As-Received : Used Item
Reference : 2202-0244DSC-16

Cert. No.: 22LM11
Page.: 2 of 2

Procedure Used :-

Calibration were conducted using in-house calibration procedure CP-OT01 according to comparison with Industrial Platinum Resistance Thermometer (IPRT) into Temperature Bath.
The temperature scale used was based on ITS-90.

Condition of this result of calibration

1. Reference standard instrument:-

Instrument	Model	Serial No.	Cert. No.	Due Date
1) Digital Thermometer	1523	2188080	2111273	22 Nov 2022

2. This certificate is valid only to the item calibrated on date and place of calibration.

3. This certification is traceable to the International System of Unit.

Result of Calibration :- (*) Without Adjustment

Function : Temperature measurement.

This instrument was connected with temperature sensor, S/N.: 2026288

Calibration Point (°C)	Immersion Depth (mm)	Standard Temperature (°C)	UUC* Reading (°C)	Error (°C)	Uncertainty (± °C)	Coverage Factor k
20.0	120	20.003	20.2	0.197	0.16	2.00
25.0	120	25.003	25.2	0.197	0.16	2.00
30.0	120	30.004	30.3	0.296	0.16	2.00
35.0	120	35.002	35.3	0.298	0.16	2.00
40.0	120	40.002	40.3	0.298	0.16	2.00
45.0	120	45.005	45.3	0.295	0.16	2.00
50.0	120	50.005	50.3	0.295	0.16	2.00

UUC* : Unit Under Calibration

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor *k*, providing a level of confidence of approximately 95 %.

-00-

a 1095819

© 2020 by Agilent Technologies

Agilent CrossLab Compliance Services

Certificate of System Qualification

ES-OQ

System ID: MY16010005
Organization Name: ALS Laboratory Group (Thailand) Co., Ltd.
Organization Location: 104 Phatthanakan 40 Phatthanakan Rd., Bangkok 10250

Date: September 13, 2021 5:49:11 PM

EQP Name: AgilentRecommended

EQP Revision: ES.02.50

Overall Qualification Status: Pass

Preparation

Pass

Instrument Tests

Pass

Autosampler Operation

Pass

REVIEW BY
APPROVED BY
NEXT CAL. DATE 12 Mar 23

Date: September 13, 2021 5:49:11 PM
System ID: MY16010005

Page 1 / 5

© 2020 by Agilent Technologies

Agilent CrossLab Compliance Services

Instrument Details

Purpose

This section describes the as found system configuration.

Details

Spectrometer 1

Manufacturer: Agilent Technologies
Name: 5100 SVDV
Model Number: G8010A
Sample Introduction: Double pass glass cyclonic spraychamber and seaspray nebulizer
Serial Number: MY16010005
Firmware Revision: 5395

Chiller 1

Manufacturer: Agilent Technologies
Name: Other Unspecified
Other Unspecified Name: Chiller
Model Number: Other Unspecified
Other Unspecified Model Number: G3292-80201
Serial Number: 2008-00159

Autosampler 1

Manufacturer: Agilent Technologies
Name: SPS4
Model Number: G8410A
Serial Number: AU15440764

Switching Valve Accessory 1

Manufacturer: Agilent Technologies
Name: SVS 2+
Model Number: G8485A
Serial Number: AU16040115

Date: September 13, 2021 5:49:11 PM
System ID: MY16010005

Page 2 / 5

Electronic Signature

Purpose

This signature page was created and published because the ACE sign-off action was executed, which is valid for the entire document, including attachments. The ACE sign-off is an electronic signature that requires two distinct identification components: unique username and personal password. The Agilent representative who has delivered this service understands the meaning and legal status of an electronic signature. As a trained official operator, the Agilent representative has a unique password and login to access ACE and electronically sign this document. (Other e-signatures can be applied to this document using a Document Content Management or other suitable method defined in your data access and control procedures.)

Details

Full Name of Signer: Kanyakorn Sukphajareem
Logged On User Name: phimpapha.jeeaphong@agilent.com
Signature Creation Date: September 13, 2021
Reason for Signature: Executed protocol and published this original version of document

Regulatory Disclaimer

This document provides a protocol to verify and record instrument configuration and evidence of proper operation. It has been prepared from our interpretation of applicable regulations as well as industry best practices. The document is designed to provide an important component of a complete compliance package. Validation depends upon many factors and use of this protocol alone does not assure compliance. Agilent Technologies makes no promises or representations as to its sufficiency for any specific regulatory program.

Warranty

Agilent Technologies makes no warranty of any kind to this material, including but not limited to, the implied warranties or merchantability and fitness for a particular purpose. Agilent Technologies shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this material.

Date: September 13, 2021 5:49:11 PM
System ID: MY16010005

Page 3 / 5

User Name: phimpapha.jeeaphong Hostname: ASBKKW328			System ID: MY16010005 Print Date: September 13, 2021 5:49:12 PM	
OQHW 5100 ICPOES ALS 08Sep21 Transaction log :				
Time	Transaction State	Activity Performed	Type of Transaction	Optional Information
September 8, 2021 8:49:59 AM	Audit	SessionCreated	Session	None
September 8, 2021 8:49:59 AM	Start	Configuration	Session	None
September 8, 2021 8:49:59 AM	Audit	EndSession	Licensing	User is FieldEngineer and does not require an unlock code
September 8, 2021 9:07:06 AM	Audit	EqLoaded	Session	EQP details for primary technique [E1] - File path: [ProtocolPacks\ExConfiguration\08Sep21\Ex.02.50.00.00] EQP File Name: [Ex.02.50.00.00] EQP Name: [AgilentRecommended]
September 8, 2021 9:07:11 AM	End	Configuration	Session	None
September 8, 2021 9:07:15 AM	Start	Qualification	Session	OQ
September 8, 2021 9:07:15 AM	Start	Execution	Preparation : 5100 SVDV: Qualitative Test - No setpoints associated	None
September 8, 2021 9:34:25 AM	End	Execution	Preparation : 5100 SVDV: Qualitative Test - No setpoints associated	Run Count : 1
September 8, 2021 9:34:28 AM	Start	Execution	Instrument Tests : 5100 SVDV: Qualitative Test - No setpoints associated	None
September 8, 2021 9:51:27 AM	End	Execution	Instrument Tests : 5100 SVDV: Qualitative Test - No setpoints associated	Run Count : 1

Page 1 / 2

Page 1 / 2

Date: September 13, 2021 5:49:11 PM
System ID: MY16010005

Page 4 / 5

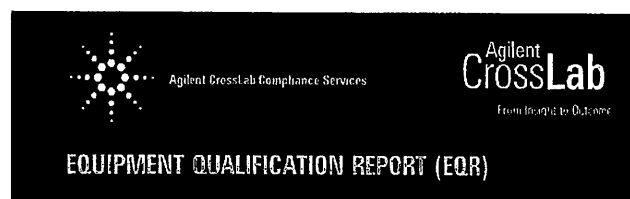
User Name: phimpapha.jeeaphong Hostname: ASBKKW328			System ID: MY16010005 Print Date: September 13, 2021 5:49:12 PM	
OQHW 5100 ICPOES ALS 08Sep21 Transaction log :				
Time	Transaction State	Activity Performed	Type of Transaction	Optional Information
September 8, 2021 9:51:30 AM	Start	Execution	Autosampler Operation : Autosampler 1 - SPS4: Qualitative Test - No setpoints associated	None
September 8, 2021 9:51:38 AM	End	Execution	Autosampler Operation : Autosampler 1 - SPS4: Qualitative Test - No setpoints associated	Run Count : 1
September 8, 2021 9:51:38 AM	End	Qualification	Session	OQ
September 8, 2021 9:51:38 AM	Start	Reporting	Session	None
September 8, 2021 10:55:40 AM	Audit	AccClosed	Session	None
September 13, 2021 5:01:28 PM	Audit	AccRestarted	Session	None
September 13, 2021 5:01:28 PM	Audit	SessionReloaded	Session	None
September 13, 2021 5:01:28 PM	Start	Qualification	Session	OQ
September 13, 2021 5:47:55 PM	Audit	Reporting	Session	Report Generated : Certificate

Page 2 / 2

Page 2 / 2

Date: September 13, 2021 5:49:11 PM
System ID: MY16010005

Page 5 / 5



Agilent CrossLab Compliance

Qualification Type: ES-OQ

System ID: MY16010005

EQP Name: AgilentRecommended

EQP Details: Agilent Technologies System

EQP Revision: ES.02.50

EQP Release Date: March 2020

Date: September 13, 2021 5:50:41 PM

Report Type: Report

Org. Name: ALS Laboratory Group (Thailand) Co., Ltd.

Org. Location: 104 Phatthanakan 40 Phatthanakan Rd., Bangkok 10250

Date: September 13, 2021 5:50:41 PM
System ID: MY16010005

Page 1 / 34

Table of Contents

Section	Page
Cover page	1
Table of Contents	2
Test Summary	3
Service Details	4
Instrument Details	5
Protocol Details	6
Tests	7
Preparation : 5100 SVDV	7
Instrument Tests : 5100 SVDV	10
Autosampler Operation : Autosampler 1 - SPS4	11
Declaration of Change Control	12
Attachments	13
Signature	31
Transaction Logs	32

Date: September 13, 2021 5:50:41 PM
System ID: MY16010005

Page 2 / 34

Test Summary

Purpose

This section includes a status for each scheduled test and the overall qualification. For each test that is run, (1) the status is automatically determined based on pre-defined limits, and (2) the total number of times the test was run is displayed. For detailed results and specifications for a test, refer to the test results in this EQR.

Details	Status	Runs
Test		
Preparation : 5100 SVDV	Pass	1
Instrument Tests : 5100 SVDV	Pass	1
Autosampler Operation : Autosampler 1 - SPS4	Pass	1
Overall Qualification Status		
Pass		

Date: September 13, 2021 5:50:41 PM
System ID: MY16010005

Page 3 / 34

Service Details

Purpose

This section includes local contact and delivery details for this service.

General Details

Service Order No/Request: 6004823273
EQP Name: AgilentRecommended
EQP Revision: ES.02.50
Report Type: Report

Organization Details

Name: ALS Laboratory Group (Thailand) Co., Ltd.
Location: 104 Phatthanakan 40 Phatthanakan Rd., Bangkok 10250

Local Contact Details

Name: Khun Thitima Boonpeng
Job Title: Scientist 2, Life Sciences
Qualification Location: ICP Room

Operator Details

Name: Kanyakorn sukpathrajarn
Job Title: Field Service Engineer

Data Acquisition Details

Acquisition Software Name: ICP Expert
Acquisition Software Revision: 7.5.3.11953

Customer Data System (CDS): Es: ICP Expert

Date: September 13, 2021 5:50:41 PM
System ID: MY16010005

Page 4 / 34

Instrument Details

Purpose

This section describes the as found system configuration.

Details

Spectrometer 1

Manufacturer: Agilent Technologies
Name: 5100 SVDV
Model Number: G8010A
Sample Introduction: Double pass glass cyclonic spraychamber and seaspray nebulizer
Serial Number: MY16010005
Firmware Revision: 5395

Chiller 1

Manufacturer: Agilent Technologies
Name: Other Unspecified
Other Unspecified Name: Chiller
Model Number: Other Unspecified
Other Unspecified Model Number: G3292-80201
Serial Number: 2008-00159

Autosampler 1

Manufacturer: Agilent Technologies
Name: SPS4
Model Number: G8410A
Serial Number: AU15440764

Switching Valve Accessory 1

Manufacturer: Agilent Technologies
Name: SVS 2+
Model Number: G8485A
Serial Number: AU16040115

Date: September 13, 2021 5:50:41 PM
System ID: MY16010005

Page 5 / 34

Protocol Details

Purpose

This section lists the revisions for all test units used in this report. For complete test-specific and high-level change details, refer to the Revision History document.

Test Revision	Test
ES.02.50	Autosampler Operation
ES.02.50	Instrument Tests
ES.02.50	Preparation

Date: September 13, 2021 5:50:41 PM
System ID: MY16010005

Page 6 / 34

Preparation

Purpose

This test records a status for each preparation task for the Agilent ICP-OES.

Configuration Details

Model/Serial No.:	G8010A	MY16010005
-------------------	--------	------------

Results

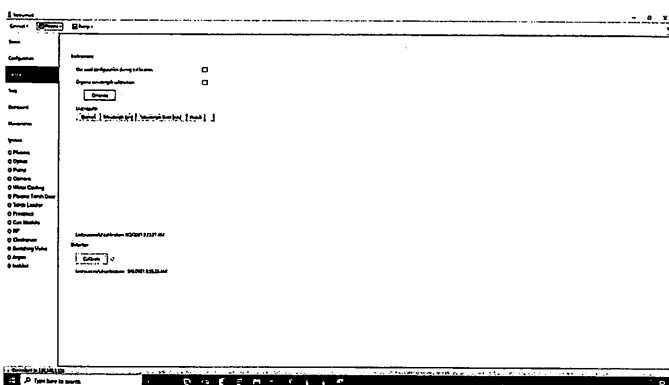
Criteria	Observed Result	Expected Result	Status
Does the plasma ignite successfully in the first three attempts?	Yes	Yes	Pass
Was the detector calibration performed and completed successfully?	Yes	Yes	Pass
Was the instrument calibration performed and completed successfully?	Yes	Yes	Pass

Date: September 13, 2021 5:50:41 PM
System ID: MY16010005

Page 7 / 34

Test Evidence

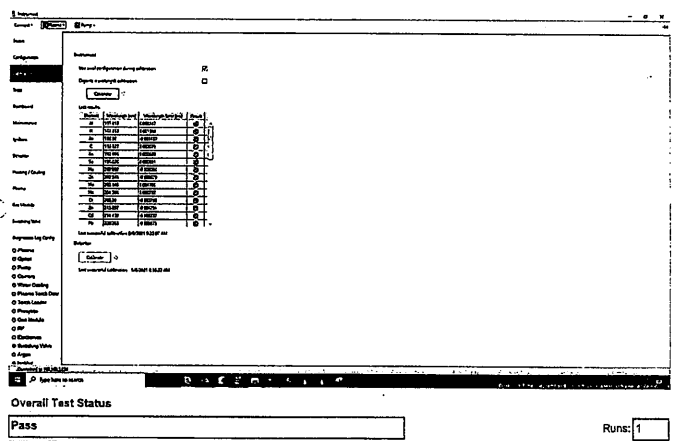
Image Details: Was the detector calibration performed and completed successfully?
Date and Time: September 8, 2021 9:07:42 AM
Host Name: ASBKQWX328



Date: September 13, 2021 5:50:41 PM
System ID: MY16010005

Page 8 / 34

Image Details: Was the instrument calibration performed and completed successfully?
Date and Time: September 8, 2021 9:33:30 AM
Host Name: ASBKQWX328



Overall Test Status

Pass	Runs: 1
------	---------

Date: September 13, 2021 5:50:41 PM
System ID: MY16010005

Page 9 / 34

Instrument Tests

Purpose

This test records a status for each of the automated tests within the Agilent ICP-OES CDS. For detailed test criteria, refer to the attached report.

Configuration Details

Model/Serial No.: G8010A MY16010005

Results	Observed Result	Expected Result	Status
---------	-----------------	-----------------	--------

Are the Functional Tests results within acceptance criteria?

Subsystem Communications

Yes	Yes	Pass
-----	-----	------

Air Flow

Yes	Yes	Pass
-----	-----	------

Water Flow

Yes	Yes	Pass
-----	-----	------

Gas Flows

Yes	Yes	Pass
-----	-----	------

RF Generator

Yes	Yes	Pass
-----	-----	------

Camera

Yes	Yes	Pass
-----	-----	------

Optics

Yes	Yes	Pass
-----	-----	------

Are the Instrument Performance Tests results within acceptance criteria?

Resolution

Yes	Yes	Pass
-----	-----	------

Sensitivity

Yes	Yes	Pass
-----	-----	------

Precision

Yes	Yes	Pass
-----	-----	------

Overall Test Status

Pass Runs: 1

Date: September 13, 2021 5:50:41 PM
System ID: MY16010005

Page 10 / 34

Autosampler Operation

Purpose

This test verifies that the autosampler operates properly.

Configuration Details

Model/Serial No.: G8410A AU15440784

Results

Criteria	Observed Result	Expected Result	Status
----------	-----------------	-----------------	--------

Does the autosampler successfully move to the specified location(s)?

Yes	Yes	Pass
-----	-----	------

Overall Test Status

Pass Runs: 1

Date: September 13, 2021 5:50:41 PM
System ID: MY16010005

Page 11 / 34

Declaration of Change Control

This document is under change control. Revision history is maintained and printed on each document. Access to the master documents is limited to process owners. Documents receive periodic review and cannot be assigned an evergreen status. The qualification performed according to this document refers only to the hardware/software configuration in place at the time of the qualification. Agilent Technologies recommends that instrument configuration change management procedures be in place in order to maintain the validation process. Any changes to the analytical or computer hardware or software must be clearly specified. A change management system provides a means for determining the degree of requalification required according to the extent of the changes made. All details of the changes must be thoroughly recorded and documented, together with details of completed tests and their results. Note: Hardware/software configuration management is the customer's responsibility.

Attachments

Location	Category	Document Name	Page
EQR	General	Certificate of Qualification for ACE	1
EQR	General	Certificate of Qualification for ACE	1
EQR	General	Operator's training certificate and qualifications	1
EQR	Material	Certificate of Analysis Wavelength calibration solution	4
EQR	Comments	General	1
EQR	General	Instrument's Test Report	5
EQR	General	Instrument's Test Report	4

Date: September 13, 2021 5:50:41 PM
System ID: MY16010005

Page 12 / 34

Date: September 13, 2021 5:50:41 PM
System ID: MY16010005

Page 13 / 34

General

Document Name: Certificate of Qualification for ACE



Agilent Compliance Engine Self Qualification

Date: September 8, 2021 10:10:10 AM
 Drive Serial #: EAF04572 Platform Revision: A.03.01

Individual self-qualification reports for each specific technique installed are also available upon request. They provide additional details on the general report from the concise summary and are structured by the actual algorithms challenged during the process. There is not a one-to-one relationship between algorithms and QC program tests because some algorithms are used by several tests and across multiple similar hardware components of the qualified systems.

Technique Type	Tests Completed	Result
UV-Vis Spectrophotometer	13	Conforms
Atomic Absorption	7	Conforms
Capillary Electrophoresis	10	Conforms
Software	8	Conforms
Emission Spectroscopy	3	Conforms
Infrared Spectroscopy	7	Conforms

Overall Qualification Status

Conforms

Date: September 13, 2021 5:50:41 PM
 System ID: MY16010005

Page 14 / 34

General

Document Name: Certificate of Qualification for ACE



Certificate of Completion

Learner Name: Kanyakorn Sukphajareem
 Title Of Course: AN-CE-SS-II-030-A: ACE 3.X User Update Training
 Completion Date: June 25, 2020
 Certified By Company: Learning at Agilent

All Service and Support training certificates have the following specific limitations.

A certificate for Service and Support training is only valid while employed by Agilent Technologies or while working as an Agilent-authorized service provider, through which the service employee has ongoing access to Agilent's Safety Alerts, Service Notes, internal technical updates, update training, current documentation, technical support, courses, and parts updates. Completion of training alone, without being employed by Agilent Technologies, does not qualify an individual to safely install, service or maintain Agilent products.

Date: September 13, 2021 5:50:41 PM
 System ID: MY16010005

Page 15 / 34

General

Document Name: Operator's training certificate and qualifications



Certificate of Completion

Learner Name: Kanyakorn Sukphajareem
 Title Of Course: ANV-CE-ICPOES-2-008-A: Agilent 5100 ICP-OES Support Neophyte Training
 Completion Date: November 2, 2017
 Certified By Company: Learning at Agilent

All Service and Support training certificates have the following specific limitations.

A certificate for Service and Support training is only valid while employed by Agilent Technologies or while working as an Agilent-authorized service provider, through which the service employee has ongoing access to Agilent's Safety Alerts, Service Notes, internal technical updates, update training, current documentation, technical support, courses, and parts updates. Completion of training alone, without being employed by Agilent Technologies, does not qualify an individual to safely install, service or maintain Agilent products.

Date: September 13, 2021 5:50:41 PM
 System ID: MY16010005

Page 16 / 34

Materials

Document Name: Certificate of Analysis Wavelength calibration solution



CERTIFICATE OF ANALYSIS

Agilent Product Name: Wavelength Calibration Solution for ICP-OES & MP-AES, 6 mg/L, 500mL
 Agilent Part No: 8519030100
 Lot No: 801007841

Analysis	Storage Material	CAS #	Certified Conc.	Analysis	Storage Material	CAS #	Certified Conc.
Al	Al(NO ₃) ₃	7784-272	8.890 ± 0.025 mg/L	Mn	Mn	7439-96-5	8.890 ± 0.025 mg/L
As	As	7440-382	8.890 ± 0.025 mg/L	Ni	(NH ₄) ₂ SO ₄	12125-024	8.890 ± 0.025 mg/L
Ba	Ba(NO ₃) ₂	10521-11-1	8.890 ± 0.025 mg/L	Si	Si	7440-21-2	8.890 ± 0.025 mg/L
Ca	Ca	7440-49-4	8.890 ± 0.025 mg/L	Pb	Pb	7440-14-1	8.890 ± 0.025 mg/L
Co	Co	7440-48-4	8.890 ± 0.025 mg/L	Se	Se	7782-492	8.890 ± 0.025 mg/L
Cr	CrO ₃	13336-35-4	8.890 ± 0.025 mg/L	Sn	SnO ₂	1327-35-9	8.890 ± 0.025 mg/L
Cu	Cu	7440-48-4	8.890 ± 0.025 mg/L	Zn	Zn	7440-66-4	8.890 ± 0.025 mg/L
K	KNO ₃	7727-37-1	50.00 ± 0.25 mg/L				

Model: 85190301

Intended Use: This solution is intended for use as a certified reference material or calibration standard for inductively coupled plasma optical emission spectrometry (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), atomic absorption spectrometry (AAS or AAAS), microwave plasma atomic emission spectrometry (MP-AES), X-ray fluorescence spectrometry (XRF), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured under a quality management system that is registered to ISO 9001:2015 (EN 9001:2015). This CRM was prepared to the certified concentrations shown above by gravimetric methods using single-element concentrations that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to the NIST SRM 1643e listed below. This solution was stabilized using high purity nitric acid (99.999%) and stored under nitrogen (N₂) in a 500 mL amber glass bottle. The balance used in the preparation of this CRM was calibrated against NIST SRM 1643e. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined based upon gravimetric procedures. Secondary verification of the certified concentrations was performed using ICP-OES that was calibrated and/or referenced against NIST SRM 1643e, 1643a, 1643b, 1643c, 1643d, 1643e, 1643f, 1643g, 1643h, 1643i, 1643j, 1643k, 1643l, 1643m, 1643n, 1643o, 1643p, 1643q, 1643r, 1643s, 1643t, 1643u, 1643v, 1643w, 1643x, 1643y, and 1643z. The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.


Instructions for Use: Agilent recommends that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy the analyst should: (1) use only pre-cleaned containers and components, (2) avoid pipetting directly from the CRM's original container, (3) use a minimum subsample size of 500 µL, (4) make dilutions using calibrated balances or certified volumetric glassware, (5) check for volume using the same method as the original CRM, and (6) never pour or pipette back into the original container. This solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or expose to direct sunlight. Molecular exposure to moisture or high humidity.

Date: September 13, 2021 5:50:41 PM
 System ID: MY16010005


Page 17 / 34

Document Name:

Certificate of Analysis Wavelength calibration solution



Period of Validity: Agilent assumes the accuracy of this solution until the expiration date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes to the stability of the solution.

Example lot signature

Chad Coulman, Certifying Officer


Date of release: 8 April 2020
Date of expiration: 8 October 2021

Date: September 13, 2021 5:50:41 PM
System ID: MY16010005

Page 18 / 34

Document Name:

Certificate of Analysis Wavelength calibration solution



Related Information: Refer to the Safety Data Sheet (SDS), which can be obtained at www.agilent.com/cs/sds

Homogeneity: This solution was developed to be homogeneous by procedures consistent with the requirements of ISO 17024 and ISO 9001:2015. Replicate samples of the product solution were analyzed to confirm its homogeneity. In accordance with ISO 9001:2015, homogeneity and stability. To ensure homogeneity, care should be taken to follow the instructions for use, as doing so will facilitate the certified volume and uncertainties.

Further Information: Please contact Agilent for further information about this CRM.

Quality Certification: This CRM was prepared under a quality management system that is:

- Registered to ISO 9001 – Quality Management Systems – Requirements (TUV NORD Cert. Reg. No. 41 186 1600231)
- Accredited to ISO 17024 – General Requirements for the Competence of Reference Material Producers (ASLA Cert. No. 2019-02)
- Accredited to ISO 17025 – General Requirements for the Competence of Testing and Calibration Laboratories (ASLA Cert. No. 2019-02)

Date: September 13, 2021 5:50:41 PM
System ID: MY16010005

Page 19 / 34

Document Name:

Certificate of Analysis Wavelength calibration solution

Date: September 13, 2021 5:50:41 PM
System ID: MY16010005

Page 20 / 34

Comments

Date/Time:

September 13, 2021 5:27:56 PM

Test:

General

Comment:

Start OQ on 08 Sep 21 and found water flow fail. So repair job complete for 13 Sep 21 and OQ continue to complete.

Date: September 13, 2021 5:50:41 PM
System ID: MY16010005

Page 21 / 34

General

Document Name: Instrument's Test Report

Report Summary

Instrument Model Agilent 5100/5110 SVDV ICP-OES
Instrument ID G8010A/G8014A
Instrument Serial Number MY16010005
Software Version 7.5.3.11953
Firmware Version 5385
Tested By Kanyikom S.
Test started on 9/8/2021 9:51:21 AM
Test Completed On 9/8/2021 9:58:35 AM

Result Summary

Subsystem Communications Test Pass
Air Flow Test Skipped
Water Flow Test Skipped
Gas Flow Test Skipped
RF Generator Test Skipped
Camera Test Skipped
Optics Test Pass
Advanced Valve System Test Skipped
Resolution Test Pass
Sensitivity Test Pass
Precision Test Pass

Subsystem Communications Test Pass

Optics Test

Radial Pass
Intensity 3082178 3162060 3419288
Wavelength 737.212 737.212 737.212

Page 1 of 5

Date: September 13, 2021 5:50:41 PM
System ID: MY16010005

Page 22 / 34

Document Name: Instrument's Test Report

Resolution Test

Element Wavelength	Specification	Width
N (174.213 nm)	≤ 9.40	7.54
As (188.980 nm)	≤ 8.20	8.43
C (183.027 nm)	≤ 11.50	8.89
Mo (202.032 nm)	≤ 8.20	8.50
Cr (206.158 nm)	≤ 13.40	11.05
Zn (213.857 nm)	≤ 8.70	7.27
Pb (220.353 nm)	≤ 9.50	7.52
Co (228.815 nm)	≤ 17.20	12.66
Ba (228.424 nm)	≤ 8.40	7.80
Mn (257.610 nm)	≤ 13.30	8.89
Mn (280.568 nm)	≤ 20.30	18.83
Cr (267.716 nm)	≤ 11.00	8.53
Cu (324.754 nm)	≤ 25.00	18.14
Cu (327.395 nm)	≤ 14.20	11.75
Sr (358.071 nm)	≤ 33.50	28.94
Ba (455.403 nm)	≤ 44.00	33.57
Sr (460.753 nm)	≤ 38.00	22.58
Ba (493.408 nm)	≤ 36.00	25.86
Ba (614.171 nm)	≤ 42.00	26.45
Ar (775.283 nm)	≤ 74.00	60.55
K (768.491 nm)	≤ 80.00	66.42

Page 2 of 5

Date: September 13, 2021 5:50:41 PM
System ID: MY16010005

Page 23 / 34

Document Name: Instrument's Test Report

Sensitivity Test

Element Wavelength	Specification	Method	Ratio	Standard	Blank
As (188.980 nm)	≥ 46.0	SRBR	88.8	900.1	94.9
Se (196.026 nm)	≥ 41.0	SRBR	55.8	709.4	113.8
Zn (213.857 nm)	≥ 1421.0	SRBR	2066.3	29674.4	187.9
Pb (220.353 nm)	≥ 46.0	SRBR	100.9	1392.6	152.2
Mn (257.610 nm)	≥ 3518.0	SRBR	864.17	127413.8	365.9
Al (308.152 nm)	≥ 3.4	SBR	6.9	24237.9	3081.8
Ba (493.408 nm)	≥ 34.0	SBR	95.1	1016416.2	10563.7
K (768.491 nm)	≥ 1.8	SBR	4.4	82043.9	15321.8

Adul

Element Wavelength	Specification	Method	Ratio	Standard	Blank
As (188.980 nm)	≥ 208.0	SRBR	292.4	5108.5	273.5
Se (196.026 nm)	≥ 159.0	SRBR	199.9	3803.2	321.0
Zn (213.857 nm)	≥ 243.0	SRBR	793.6	12455.9	237.0
Pb (220.353 nm)	≥ 1743.0	SRBR	4924.5	130852.8	696.4
Cd (214.439 nm)	≥ 4227.0	SRBR	4508.6	67692.4	375.1
Pb (220.353 nm)	≥ 320.0	SRBR	327.3	7653.1	490.3
Mn (257.610 nm)	≥ 10625.0	SRBR	19008.6	632891.9	1104.7
Cr (267.716 nm)	≥ 1048.0	SRBR	4115.3	173998.6	1751.9
Cu (324.754 nm)	≥ 18.0	SBR	46.6	188303.3	3980.0
Al (308.152 nm)	≥ 6.0	SBR	16.7	156852.6	8877.5
Ba (493.408 nm)	≥ 60.0	SBR	168.0	5374076.7	31787.6
K (768.491 nm)	≥ 24.0	SBR	94.9	2536127.0	38594.9

Precision Test

Element Wavelength	Specification	Measured Value % RSD
As (188.980 nm)	≤ 2.80	1.08
Se (196.026 nm)	≤ 2.80	1.38
Zn (213.857 nm)	≤ 1.50	0.62
Pb (220.353 nm)	≤ 2.80	0.72
Mn (257.610 nm)	≤ 1.50	0.44

Page 3 of 5

Date: September 13, 2021 5:50:41 PM
System ID: MY16010005

Page 24 / 34

Document Name: Instrument's Test Report

Al (308.152 nm)	≤ 1.50	0.45
Ba (493.408 nm)	≤ 1.50	0.48
K (768.491 nm)	≤ 1.50	0.34

Element Wavelength	Specification	Measured Value % RSD
As (188.980 nm)	≤ 1.50	0.64
Se (196.026 nm)	≤ 1.50	0.58
Zn (213.857 nm)	≤ 1.50	0.29
Pb (220.353 nm)	≤ 1.50	0.38
Cd (214.439 nm)	≤ 1.50	0.30
Mn (257.610 nm)	≤ 1.50	0.47
Cr (267.716 nm)	≤ 1.50	0.30
Cu (324.754 nm)	≤ 1.50	0.45
Al (308.152 nm)	≤ 1.50	0.36
Ba (493.408 nm)	≤ 1.50	0.50
K (768.491 nm)	≤ 1.50	0.46

Report Detail

Tests Run - Operator: Kanyikom S.
Subsystem Communications Test - Started
Subsystem Status
Main Power Module - Passed
Gas Control Module - Passed
RF Generator - Passed
Pre-optics Module - Passed
Optics/Camera Control Module - Passed
Peristaltic Pump - Passed
Subsystem Communications Test Completed - Passed
Optics Test - Started
Test View Mode Intensities Status
LED Off - Passed
Shutter opened - Passed
Peak Intensity Radial mode 3082178.14 - Passed
Shutter closed - Passed
Peak Intensity (closed shutter) Radial mode 55.00 - Passed
Shutter opened - Passed
Optical Argon Ratio: Calculated Value = 2.88, Factory Value = 2.80
Peak Intensity Axial mode 3162050.45 - Passed

Page 4 of 5

Date: September 13, 2021 5:50:41 PM
System ID: MY16010005

Page 25 / 34

Document Name: Instrument's Test Report

Radial-Axial Intensity Ratio(Range 0-100) - 1.03 - Passed
Peak Intensity Simultaneous mode 3415297.63 - Passed
Shutter closed - Passed
Optics Test Completed - Passed
Instrument Performance - Started
Instrument Performance Completed - Passed

Page 5 of 5

Date: September 13, 2021 5:50:41 PM
System ID: MY16010005

Page 28 / 34

General

Document Name: Instrument's Test Report

Report Summary
Instrument Model Agilent 5100/5110 SVDV ICP-OES
Instrument ID G8010A/G8014A
Instrument Serial Number MY16010005
Software Version 7.5.3.11853
Firmware Version 5995
Tested By Kanyakorn S.
Test started on 9/13/2021 5:33:48 PM
Test Completed On 9/13/2021 5:46:50 PM

Result Summary
Subsystem Communications Test Pass
Air Flow Test Pass
Water Flow Test Pass
Gas Flow Test Pass
RF Generator Test Pass
Camera Test Pass
Optics Test Pass
Advanced Valve System Test Skipped
Resolution Test Skipped
Sensitivity Test Skipped
Proddion Test Skipped

Subsystem Communications Test Pass

Air Flow Test Pass

30% Air Flow (relative speed)	60% Air Flow (relative speed)
11.00	16.00

Water Flow Test Pass

RF Water Flow(L/min)	Camera Water Flow (L/min)	Water Inlet Temperature (°C)
1.21	1.14	23.01

Page 1 of 4

Date: September 13, 2021 5:50:41 PM
System ID: MY16010005

Page 27 / 34

Document Name: Instrument's Test Report

Gas Flow Test Pass
Nebulizer Target Flow Actual Flow Back Pressure Auxiliary Target Flow Actual Flow Back Pressure
0.70 0.71 278.75 2.00 2.00 106.21
Makeup Target Flow Actual Flow Back Pressure Plasma Target Flow Actual Flow Back Pressure
2.00 2.00 108.53 18.00 17.96 19.76
RF Generator Test Pass
RF Power Supply Test Passed
RF Power Supply (V) 130.522
RF Oscillator Test Passed
RF Oscillator Frequency (MHz) 26.917
Work Coil Current (A) 44.873
RF Power Supply Current (A) 1.896
G4M Test Pass
Black Level Test Noise Test Photo Response Test
Passed Passed Passed
Optics Test Pass
Intensity Radial Axial SVDV
295633 300947 3265038
Wavelength 737.212 737.212 737.212

Report Detail

Tests Run - Operator: Kanyakorn S.
Subsystem Communications Test - Started
Subsystem Status
Main Power Module - Passed
Gas Control Module - Passed
RF Generator - Passed
Pre-optics Module - Passed
Optics/Camera Control Module - Passed

Page 2 of 4

Date: September 13, 2021 5:50:41 PM
System ID: MY16010005

Page 28 / 34

Document Name: Instrument's Test Report

Pedestal Pump - Passed
Subsystem Communications Test Completed - Passed
Air Flow - Started
Fan Speed(%) Air Flow(relative speed) Status
30% 11 - Passed
60% 16 - Passed
Air Flow Completed - Passed
Water Flow - Started
RF Water Flow(L/min) = 1.21
Camera Water Flow (L/min) = 1.14
Water Inlet Temperature = 23.01
RF Water Flow(L/min) (adj) = 0.00
Water Flow Completed - Passed
Gas Flow - Started
Channel Target Actual Pressure Failure Status
Auxiliary Gas 0.00 0.06 N/A - Passed
Auxiliary Gas 2.00 2.00 N/A - Passed
Nebulizer Gas 0.00 0.07 0.00 N/A - Passed
Plasma Gas 0.00 1.18 N/A - Passed
Plasma Gas 16.00 17.96 N/A - Passed
Makeup Gas 0.00 0.00 N/A - Passed
Makeup Gas 2.00 2.00 N/A - Passed
Purge Gas 0.70 0.70 N/A - Passed
Purge Gas 3.70 3.70 N/A - Passed
All Channel flows ON - Passed
All Channel flows OFF - Passed
Gas Flow Completed - Passed
RF Generator - Started
RF generator turned off - Passed
RF generator turned on - Passed
Bias Control = 0 V - Passed
RF Power Supply - Set Value = 150V, Actual Value = 130.33V - Passed
RF Oscillator Started - Passed
RF Oscillator Frequency(Hz) = 26.92, Workcoil Current(Amps) = 44.87, RF Power Supply Current(Amps) = 2.00 - Passed
RF Oscillator stopped - Passed
RF generator turned off - Passed
RF Generator Completed - Passed
Camera Test - Started
Black level test - PASSED
Noise test - PASSED
Photo response test - PASSED
Camera Test Completed - Passed
Optics Test - Started
Test View Mode Interleave Status
LED Off - Passed

Page 3 of 4

Date: September 13, 2021 5:50:41 PM
System ID: MY16010005

Page 29 / 34

Document Name:

Instrument's Test Report

Plasma Ignite Started
Plasma Ignite - Passed
Waiting 5 min for plasma warm up
Shutter opened - Passed
Peak Intensity Radial mode 2965832.60 - Passed
Shutter closed - Passed
Peak Intensity (closed shutter) Radial mode 55.45 - Passed
Shutter opened - Passed
Optical Argon Ratio: Calculated Value = 2.53, Factory Value = 2.60
Peak Intensity Axial mode 3002947.39 - Passed
Radial-Axial Intensity Ratio (Range 0-100) - 1.01 - Passed
Peak Intensity Simultaneous mode 2255035.45 - Passed
Shutter closed - Passed
Optics Test Completed - Passed

Page 4 of 4

Date: September 13, 2021 5:50:41 PM
System ID: MY16010005

Page 30 / 34

Electronic Signature

Purpose

This signature page was created and published because the ACE sign-off action was executed, which is valid for the entire document, including attachments. The ACE sign-off is an electronic signature that requires two distinct identification components: unique username and personal password. The Agilent representative who has delivered this service understands the meaning and legal status of an electronic signature. As a trained official operator, the Agilent representative has a unique password and login to access ACE and electronically sign this document. (Other e-signatures can be applied to this document using a Document Content Management or other suitable method defined in your data access and control procedures.)

Details

Full Name of Signer: Kanyakorn Sukpathrajaree
Logged On User Name: phimpapha.jeeaphong@agilent.com
Signature Creation Date: September 13, 2021
Reason for Signature: Executed protocol and published this original version of document

Regulatory Disclaimer

This document provides a protocol to verify and record instrument configuration and evidence of proper operation. It has been prepared from our interpretation of applicable regulations as well as industry best practices. The document is designed to provide an important component of a complete compliance package. Validation depends upon many factors and use of this protocol alone does not assure compliance. Agilent Technologies makes no promises or representations as to its sufficiency for any specific regulatory program.

Warranty

Agilent Technologies makes no warranty of any kind to this material, including but not limited to, the implied warranties or merchantability and fitness for a particular purpose. Agilent Technologies shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this material.

Date: September 13, 2021 5:50:41 PM
System ID: MY16010005

Page 31 / 34

User Name: phimpapha.jeeaphong
Host Name: ASBKKW328
System ID: MY16010005
Print Date: September 13, 2021 5:50:44 PM

OQHW 5100 ICPOES ALS 08Sep21 Transaction log:

Time	Transaction State	Activity Performed	Type of Transaction	Optional Information
September 8, 2021 8:49:59 AM	Audit	Session Created	Session	None
September 8, 2021 8:49:59 AM	Start	Configuration	Session	None
September 8, 2021 8:49:59 AM	Audit	Enrollment	Licensing	User is Field Engineer and does not require an unlock code
September 8, 2021 9:07:06 AM	Audit	Eqp Loaded	Session	EQP details for primary technique (Eq) - File path: (Protocol/Probe/Ext/Configured) on02.596Ex.02.50.eqp EQP File Name: (Ex.02.50.eqp), EQP Name: (AgilentRecommended)
September 8, 2021 9:07:11 AM	End	Configuration	Session	None
September 8, 2021 9:07:15 AM	Start	Qualification	Session	OQ
September 8, 2021 9:07:15 AM	Start	Execution	Preparation : 5100 SVDV: Qualitative Test - No setpoints associated	None
September 8, 2021 9:34:35 AM	End	Execution	Preparation : 5100 SVDV: Qualitative Test - No setpoints associated	Run Count: 1
September 8, 2021 9:34:39 AM	Start	Execution	Instrument Tests : 5100 SVDV: Qualitative Test - No setpoints associated	None
September 8, 2021 9:51:27 AM	End	Execution	Instrument Tests : 5100 SVDV: Qualitative Test - No setpoints associated	Run Count: 1

Page 1 / 3

Date: September 13, 2021 5:50:41 PM
System ID: MY16010005

Page 32 / 34

User Name: phimpapha.jeeaphong
Host Name: ASBKKW328
System ID: MY16010005
Print Date: September 13, 2021 5:50:44 PM

OQHW 5100 ICPOES ALS 08Sep21 Transaction log:

Time	Transaction State	Activity Performed	Type of Transaction	Optional Information
September 8, 2021 9:51:30 AM	Start	Execution	Autosampler Operation : Autosampler 1 - SPS4: Qualitative Test - No setpoints associated	None
September 8, 2021 9:51:38 AM	End	Execution	Autosampler Operation : Autosampler 1 - SPS4: Qualitative Test - No setpoints associated	Run Count: 1
September 8, 2021 9:51:38 AM	End	Qualification	Session	OQ
September 8, 2021 9:51:38 AM	Start	Reporting	Session	None
September 8, 2021 10:55:49 AM	Audit	Acc Closed	Session	None
September 13, 2021 5:01:26 PM	Audit	Acc Restarted	Session	None
September 13, 2021 5:01:26 PM	Audit	Session Reloaded	Session	None
September 13, 2021 5:01:26 PM	Start	Qualification	Session	OQ
September 13, 2021 5:47:56 PM	Audit	Reporting	Session	Report Generated : Certificate

Page 2 / 3

Date: September 13, 2021 5:50:41 PM
System ID: MY16010005

Page 33 / 34

User Name: phimpapha.jeersophon System ID: MY16010005
 Hostname: ASBIOKYO328 Print Date: September 13, 2021 5:50:44 PM

OQHW 5100 IGPDES ALB 05Sep21 Transaction log:

Time	Transaction State	Activity Performed	Type of Transaction	Optional Information
September 13, 2021 5:48:13 PM	Audit	Reporting	Session	Report Signed : Certificate PDF Name: OQHW 5100 IGPDES ALB 05Sep21_20210913_Certifica User Name: phimpapha.jeersophon@sgl Full Name of Signer: Kanyithorn Subpaanajanten Reason for signature: Executed protocol and published this original version of document
September 13, 2021 5:49:25 PM	Audit	Reporting	Session	Report Generated : Report

Page 3 / 3

Date: September 13, 2021 5:50:41 PM
 System ID: MY16010005

Page 34 / 34

Metrological Center

SCI ECO Services Company Limited

33/2 Moo 3, T.Banpa, A.Kaengkhoh, Saraburi 18110

Telephone : +66 2 586 5792-4 Fax : +66 2 586 5109

Website : www.scieco.co.th E-Mail : calibrate@scg.co.th

Metrological Center

SCI ECO Services Company Limited

33/2 Moo 3, T.Banpa, A.Kaengkhoh, Saraburi 18110


Telephone : +66 2 586 5792-4 Fax : +66 2 586 5109

Website : www.scieco.co.th E-Mail : calibrate@scg.co.th

Certificate No. T220730

Page 1 of 6

Certificate of Calibration

Equipment : HEATING BLOCK
 Manufacturer : Environmental Express
 Model : SC 196
 Serial No. : 6974CECW3285
 Customer Code : BKK_EL0054
 ID No. : T5306A3
 Customer : ALS Laboratory Group (Thailand) Co.,Ltd.
 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan,
 Khet Suan Luang, Bangkok 10250
 Customer Location : Acid Digestion Lab
 Date of Receipt : 30 March 2022
 Calibrated By : Watcharapon Sangtong (Technician)
 Approved By :  / Sujjar Naknakred (Site Calibration Manager)
 Date of Issue : 12 APR 2022

REVIEW BY Tattaporn C.
 APPROVED BY Sangtong
 NEXT CAL DATE 7/10/23

The uncertainties are for a confidence probability of approximately 95%.

This Certificate is issued in accordance with the conditions of accreditation granted by the Thai Laboratory Accreditation Scheme which has assessed the measurement capability of the laboratory and its traceability to recognized national standards and to the units of measurement realized at the corresponding national standard laboratory. This certificate may not be reproduced other than in full except with the prior written approval of the Metrological Center.

FM-L12 108/30-05-57



Metrological Center

SCI ECO Services Company Limited

33/2 Moo 3, T.Banpa, A.Kaengkhoh, Saraburi 18110

Telephone : +66 2 586 5792-4 Fax : +66 2 586 5109

Website : www.scieco.co.th E-Mail : calibrate@scg.co.th



Metrological Center

SCI ECO Services Company Limited

33/2 Moo 3, T.Banpa, A.Kaengkhoh, Saraburi 18110

Telephone : +66 2 586 5792-4 Fax : +66 2 586 5109

Website : www.scieco.co.th E-Mail : calibrate@scg.co.th

Certificate No. T220730

Page 2 of 6

Calibration Report

Equipment : HEATING BLOCK
 Date of Calibration : 7 April 2022
 Environment : Temperature : 21.8-23.1 °C
 Line Voltage : 221.6-226.3 V
 Relative Humidity : 55 - 65 %RH

Condition of this results of calibration :

- This equipment was calibrated by insert nine standard thermocouples type T into its chamber , the other one standard thermocouples type T use for ambient temperature measurement . The calibration was done in according to WI-T20.
 All data show below were final values and the initial data from customer request . The temperature scale used was based on ITS - 90 .
- Reference Standard Instrument :

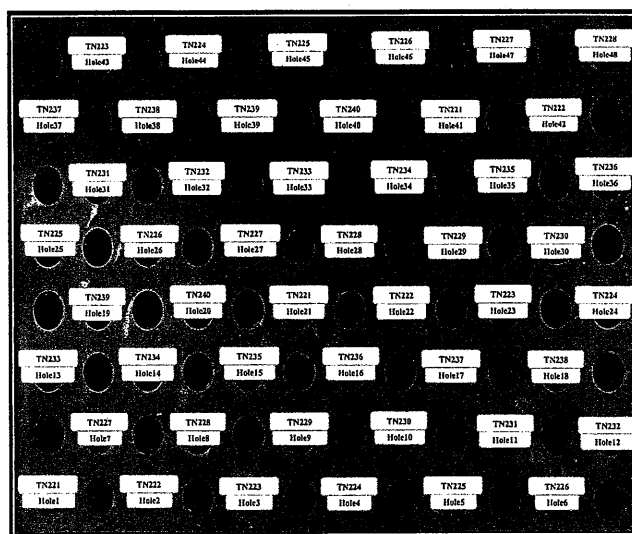
Instrument	Model	Instrument No.	Certificate No.	Due Date
TC	TYPE T	TN221-TN230	T210008	08 June 2022
TC	TYPE T	TN231-TN240	T210008	08 June 2022
DATA LOGGER	34970A	T149	T210008	08 June 2022
- This certificate is traceable to :
 National Institute of Metrology (Thailand) through Metrological Center (NSC-TIS-TIS 17025 CALIBRATION 0244.)
- Condition of calibrated item : good
 Equipment Description :
 Time Constant 2 Hour 25 Minute At 95 °C
 Fresh Air Damper ☐ Open ☐ Min ☐ Medium ☐ Max
☐ Close
☒ Not Available
- Adjustment :
 () without adjustment (X) after adjustment

Approved By 

Certificate No. T220730

Page 3 of 6

Calibration Report



FRONT CONTROL

Approved By 



Metrological Center

SCI ECO Services Company Limited

33/2 Moo 3, T.Banpa, A.Kaengkhohi, Saraburi 18110

Telephone : +66 2 586 5792-4 Fax : +66 2 586 5109

Website : www.scieco.co.th E-Mail : calibrate@scg.co.th

Certificate No. T220730

Page 4 of 6

Calibration Report

Measurement Results		Average Standard Reading at each position (°C)					
Calibration Point		TN221	TN222	TN223	TN224	TN225	TN226
R1 Hole1-Hole6	Max	93.60	93.82	94.05	94.20	94.36	94.26
	Min	93.07	93.26	93.51	93.66	93.82	93.71
	Average	93.33	93.54	93.78	93.93	94.09	93.98
R2 Hole7-Hole12	Max	94.59	94.79	94.63	94.55	94.82	95.00
	Min	94.05	94.25	94.08	93.97	94.26	94.44
	Average	94.32	94.52	94.36	94.26	94.54	94.72
R3 Hole13-Hole18	Max	95.03	94.54	94.78	94.84	95.06	94.73
	Min	94.46	93.98	94.20	94.28	94.49	94.18
	Average	94.74	94.26	94.49	94.56	94.78	94.45
R4 Hole19-Hole24	Max	94.89	94.82	95.73	95.85	95.73	96.10
	Min	94.33	94.26	95.51	95.62	95.51	95.85
	Average	94.61	94.54	95.62	95.73	95.62	95.97
R5 Hole25-Hole30	Max	96.28	96.39	96.37	96.54	96.19	96.04
	Min	96.01	96.10	96.02	96.20	95.89	95.71
	Average	96.15	96.24	96.20	96.37	96.04	95.88
R6 Hole31-Hole36	Max	96.84	96.97	97.03	96.48	96.33	95.76
	Min	96.53	96.65	96.71	96.08	95.98	95.43
	Average	96.68	96.81	96.87	96.28	96.16	95.60
R7 Hole37-Hole42	Max	96.46	96.15	96.19	96.06	96.95	97.09
	Min	96.13	95.84	95.85	95.72	96.64	96.78
	Average	96.30	95.99	96.02	95.89	96.80	96.93
R8 Hole43-Hole48	Max	96.91	96.58	96.13	96.19	96.34	96.19
	Min	96.55	96.21	95.80	95.87	96.03	95.88
	Average	96.73	96.40	95.96	96.03	96.18	96.03

Approved By.

FM-L13 108/30-05-57



Metrological Center

SCI ECO Services Company Limited

33/2 Moo 3, T.Banpa, A.Kaengkhohi, Saraburi 18110

Telephone : +66 2 586 5792-4 Fax : +66 2 586 5109

Website : www.scieco.co.th E-Mail : calibrate@scg.co.th

Certificate No. T220730

Page 5 of 6

Calibration Report

Measurement Results		Average Standard Reading at each position (°C)					
Calibration Point		TN221	TN222	TN223	TN224	TN225	TN226
R1 Hole1-Hole6	Max	104.47	104.65	104.79	105.31	105.47	105.46
	Min	104.15	104.27	104.45	104.98	105.14	105.20
	Average	104.31	104.46	104.62	105.15	105.31	105.33
R2 Hole7-Hole12	Max	105.55	105.73	105.65	105.84	105.97	106.07
	Min	105.28	105.43	105.35	105.52	105.68	105.83
	Average	105.42	105.58	105.50	105.68	105.82	105.95
R3 Hole13-Hole18	Max	106.14	106.06	105.81	106.05	105.81	105.87
	Min	105.85	105.81	105.55	105.80	105.53	105.64
	Average	106.00	105.94	105.68	105.92	105.67	105.75
R4 Hole19-Hole24	Max	105.86	105.60	104.44	104.51	104.28	104.78
	Min	105.61	105.37	104.27	104.35	104.12	104.61
	Average	105.74	105.48	104.35	104.43	104.20	104.69
R5 Hole25-Hole30	Max	104.94	104.93	104.97	105.08	104.68	104.69
	Min	104.77	104.75	104.76	104.90	104.51	104.49
	Average	104.85	104.84	104.86	104.99	104.60	104.59
R6 Hole31-Hole36	Max	105.44	105.45	105.61	104.95	104.84	104.42
	Min	105.27	105.27	105.44	104.76	104.66	104.25
	Average	105.36	105.36	105.53	104.86	104.75	104.33
R7 Hole37-Hole42	Max	105.17	104.70	104.59	104.51	105.22	105.53
	Min	105.00	104.53	104.41	104.35	105.04	105.37
	Average	105.08	104.62	104.50	104.43	105.13	105.45
R8 Hole43-Hole48	Max	105.61	105.45	105.10	104.77	104.87	105.02
	Min	105.44	105.28	104.92	104.60	104.70	104.85
	Average	105.53	105.37	105.01	104.69	104.79	104.93

Approved By.

FM-L13 108/30-05-57



Metrological Center

SCI ECO Services Company Limited

33/2 Moo 3, T.Banpa, A.Kaengkhohi, Saraburi 18110

Telephone : +66 2 586 5792-4 Fax : +66 2 586 5109

Website : www.scieco.co.th E-Mail : calibrate@scg.co.th

Certificate No. T220730

Page 5 of 6

Calibration Report

Measurement Results:

HEATING BLOCK			Temperature Distribution	
Setting (°C)	Reading (°C)		Stability (±°C)	Uncertainty (±°C)
	Min , Max	Average		
100.0	100.0 , 100.4	100.1	0.29	0.83
105.0	105.0 , 105.4	105.1	0.20	0.79

* The quoted uncertainty exclude " uniformity "

The calibration result apply only the above calibrated item.

The result of test was found accurate as shown on date and place of test only.

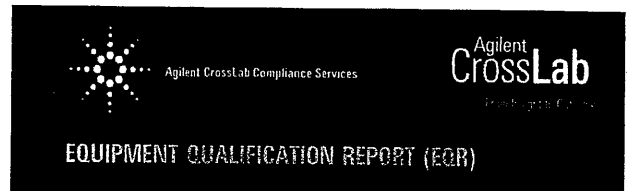
The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k which for a t-distribution, providing a level of confidence of approximately 95 % .

Approved By.

FM-L13 108/30-05-57

© 2021 by Agilent Technologies

Agilent CrossLab Compliance Services



Agilent CrossLab Compliance

Qualification Type: ICPMS-QQ

System ID: JP15471169

EQP Name: AgilentRecommended

EQP Revision: ICPMS.02.50

EQP Publish Date: March 2020

Date: September 30, 2021 4:07:18 PM

Report Type: Report

Org. Name: ALS Laboratory Group (Thailand) Co.,Ltd.

Org. Location: 104 Phattanakam 40, Suan Luang, Bangkok 10250.

REVIEW BY	
APPROVED BY	
NEXT CAL. DATE	29 March 2023

Date: September 30, 2021 4:07:18 PM
System ID: JP15471169

Page 1 / 34

Table of Contents

Section	Page
Cover	1
Table of Contents	2
Test Summary	3
Service Details	4
Instrument Details	5
Calculation Formulas	7
Protocol Details	8
C Tests	9
Autosampler Check : SPS4	9
Integrated Sample Introduction System (ISIS) Check : ISIS3	10
Autotune : G8403A	11
Background (No Gas Mode) : G8403A	13
Background (Gas Modes) : G8403A	14
20-Minute Stability (No Gas Mode) : G8403A	15
Declaration of Change Control	16
Attachments	17
Electronic Signature	31
C Transaction Logs	32

Date: September 30, 2021 4:07:18 PM
System ID: JP15471169

Page 2 / 34

Test Summary

Purpose

This section includes a status for each scheduled test and the overall qualification. For each test that is run, (1) the status is automatically determined based on pre-defined limits, and (2) the total number of times the test was run is displayed. For detailed results and specifications for a test, refer to the test results in this EQR.

Details		
Test	Status	Runs
Autosampler Check : SPS4	Pass	1
C Integrated Sample Introduction System (ISIS) Check : ISIS3	Pass	1
Autotune : G8403A	Pass	1
Background (No Gas Mode) : G8403A	Pass	1
Background (Gas Modes) : G8403A	Pass	1
20-Minute Stability (No Gas Mode) : G8403A	Pass	1
Overall Qualification Status		
Pass		

Date: September 30, 2021 4:07:18 PM
System ID: JP15471169

Page 3 / 34

Service Details

Purpose

This section includes local contact and delivery details for this service.

General Details

Service Order No./Request: 6004837154
EQP Name: Agilent Recommended
EQP Revision: ICPMS.02.50
Report Type: Report

Organization Details

Name: ALS Laboratory Group (Thailand) Co., Ltd.
C Location: 104 Phattanakarn 40, Suan Luang, Bangkok 10250.

Local Contact Details

Name: Chetchanai Komarekul.
Job Title: Manager
Qualification Location: Laboratory

Operator Details

Name: Panithee Kurasathain
Job Title: Field Service Engineer.

Data Acquisition Details

Acquisition Software Name: MassHunter
Acquisition Software Revision: C.01.04

Customer Data System (CDS): IcpMs: MassHunter

Date: September 30, 2021 4:07:18 PM
System ID: JP15471169

Page 4 / 34

Instrument Details

Purpose

This section describes the as found system configuration.

Details

ICP-MS 1

Manufacturer: Agilent Technologies
Name: 7900
Model Number: G8403A
Installed Options: #100H: Standard Package with Hydrogen option
Detector Type: SQ
C Nebulizer: Mira Mist (G3161)
Spray Chamber: Quartz
Torch: Quartz
Sampling Cone: Ni
Skimmer Cone: Ni
Serial Number: JP15471169
Firmware Revision: C.01.04

ISIS 1

Manufacturer: Agilent Technologies
Name: ISIS3
Model Number: G8411A
Type: Peristaltic pump system
C Serial Number: JP15510227

Autosampler 1

Manufacturer: Agilent Technologies
Name: SPS4
Model Number: G8410A
Serial Number: AU15430722

Date: September 30, 2021 4:07:18 PM
System ID: JP15471169

Page 5 / 34

Chiller 1

Manufacturer	Agilent Technologies
Name	Chiller
Model Number	G3292A
Serial Number	3U1610713

Calculation Formulas

Purpose

This section includes calculation formulas for all available tests. Depending upon which tests are scheduled, all or some apply to your qualification.

For a description of calculations for ICP-MS tests performed by the MassHunter software, refer to the MassHunter application and documentation.

Date: September 30, 2021 4:07:18 PM
System ID: JP15471169

Page 6 / 34

Date: September 30, 2021 4:07:18 PM
System ID: JP15471169

Page 7 / 34

Protocol Details

Purpose

This section lists the revisions for all test units used in this report. For complete test-specific and high-level change details, refer to the Revision History document.

Test Revision	Test
ICPMS.02.50	20-Minute Stability (No Gas Mode)
ICPMS.02.50	Autosampler Check
ICPMS.02.50	Autotune
ICPMS.02.50	Background (Gas Modes)
ICPMS.02.50	Background (No Gas Mode)
ICPMS.02.50	Integrated Sample Introduction System (ISIS) Check

Autosampler Check

Purpose

This test demonstrates that the autosampler module is correctly installed and connected. It does not test module performance.

Setpoint

Results

Criteria	Observed Result	Expected Result	Status
After the self test, is probe in the home position?	Yes	Yes	Pass
As commanded, is the probe positioned at Vial 2?	Yes	Yes	Pass
Setpoint Status:	Pass		Runs: 1

Overall Autosampler Check Test Status

Pass

Date: September 30, 2021 4:07:18 PM
System ID: JP15471169

Page 8 / 34

Date: September 30, 2021 4:07:18 PM
System ID: JP15471169

Page 9 / 34

Integrated Sample Introduction System (ISIS) Check

Purpose

This test demonstrates that the ISIS module is correctly installed and connected. It does not test module performance.

Setpoint

Results

Criteria	Observed Result	Expected Result	Status
As commanded, does the pump rotate?	Yes	Yes	Pass
As commanded, do the valves load and inject?	Yes	Yes	Pass
Setpoint Status:	Pass		Runs: 1
Overall Integrated Sample Introduction System (ISIS) Check Test Status	Pass		

Date: September 30, 2021 4:07:18 PM
System ID: JP15471169

Page 10 / 34

Autotune

Purpose

This test uses traceable checkout standards to run a software-executed autotune in all modes. The tune report provides values for peak width, mass axis, sensitivity, oxide species, and doubly-charged species tests.

Setpoint

Results

Peakwidth Mass 7	0.719	AMU
Agilent Recommended:	>= 0.65	
	<= 0.80	
Status:	Pass	
Peakwidth Mass 89	0.750	AMU
Agilent Recommended:	>= 0.65	
	<= 0.80	
Status:	Pass	
Peakwidth Mass 205	0.713	AMU
Agilent Recommended:	>= 0.65	
	<= 0.80	
Status:	Pass	
Mass Axis 7	7.05	AMU
Agilent Recommended:	>= 6.9	
	<= 7.1	
Status:	Pass	
Mass Axis 89	88.95	AMU
Agilent Recommended:	>= 88.9	
	<= 89.1	
Status:	Pass	
Mass Axis 205	205.00	AMU
Agilent Recommended:	>= 204.9	
	<= 205.1	
Status:	Pass	

Date: September 30, 2021 4:07:18 PM
System ID: JP15471169

Page 11 / 34

Mass 7 Sensitivity No Gas

Agilent Recommended:

Status:

94.28	Mcps/ppm
>= 25.5	
Pass	

Mass 89 Sensitivity No Gas

Agilent Recommended:

Status:

307.15	Mcps/ppm
>= 127.5	
Pass	

Mass 205 Sensitivity No Gas

Agilent Recommended:

Status:

203.77	Mcps/ppm
>= 76.5	
Pass	

Mass 59 Sensitivity He

Agilent Recommended:

Status:

28.38	Mcps/ppm
>= 23.8	
Pass	

Mass 89 Sensitivity H2

Agilent Recommended:

Status:

129.27	Mcps/ppm
>= 68	
Pass	

Oxide Ratio 159/140

Agilent Recommended:

Status:

1.047	%
<= 1.38	
Pass	

Doubly Charged Species Ratio 70/140

Agilent Recommended:

Status:

1.482	%
<= 2.3	
Pass	

Setpoint Status:

Pass

Runs: 1

Overall Autotune Test Status

Pass

Date: September 30, 2021 4:07:18 PM
System ID: JP15471169

Page 12 / 34

Background (No Gas Mode)

Purpose

This test examines the background of the ICP-MS in no gas mode by monitoring ions during a blank run.

Setpoint

Conditions

Masses:

7	AMU
89	AMU
205	AMU

Measurements and Results

Masses (AMU):

Measured Value:

Agilent Recommended:

Status:

7	89	205
3.200	3.300	9.900
cps		
<= 6.9	<= 4.6	<= 11.5
Pass	Pass	Pass

Setpoint Status:

Pass

Runs: 1

Overall Background (No Gas Mode) Test Status

Pass

Date: September 30, 2021 4:07:18 PM
System ID: JP15471169

Page 13 / 34

Background (Gas Mode)

Purpose

This test examines the background of the ICP-MS in the various gas modes by monitoring ions during a blank run.

Setpoint	Gas Mode:	Helium
----------	-----------	--------

Conditions	
Mass:	78 AMU
Integration Time:	1.0 sec
Cycles:	20

Measurements and Results	
Mass (AMU):	78
Measured Value:	42.8500 cps
Agilent Recommended:	≤ 115
Status:	Pass

Setpoint Status:	Pass	Runs: 1
------------------	------	---------

Setpoint	Gas Mode:	Hydrogen
----------	-----------	----------

Conditions	
Mass:	78 AMU
Integration Time:	1.0 sec
Cycles:	20

Measurements and Results	
Mass (AMU):	78
Measured Value:	2.1500 cps
Agilent Recommended:	≤ 4.6
Status:	Pass

Setpoint Status:	Pass	Runs: 1
------------------	------	---------

Overall Background (Gas Mode) Test Status	
Pass	

Date: September 30, 2021 4:07:18 PM
System ID: JP15471169

Page 14 / 34

20-Minute Stability (No Gas Mode)

Purpose

This test monitors the abundance of ions present in the checkout standard over a 20-minute period to verify that the signal is stable. The %RSD of the abundance of given ions is calculated internally by the software and compared to the limit.

Setpoint	
----------	--

Conditions	
Mode:	Spectrum
Masses:	7, 9, 59, 89, 140, 205
Integration Time:	9.99 sec
Peak Pattern:	3 points/peak
Repetitions:	20
Sweeps/Replicates:	100

Measurements and Results	
Masses (AMU):	7, 89, 205
Stability RSD:	0.98400, 0.51485, 0.73011 %
Agilent Recommended:	≤ 2.3, ≤ 2.3, ≤ 2.3
Status:	Pass, Pass, Pass

Setpoint Status:	Pass	Runs: 1
------------------	------	---------

Overall 20-Minute Stability (No Gas Mode) Test Status	
Pass	

Date: September 30, 2021 4:07:18 PM
System ID: JP15471169

Page 15 / 34

Declaration of Change Control

This document is under change control. Revision history is maintained and printed on each document. Access to the master documents is limited to process owners. Documents receive periodic review and cannot be assigned an evergreen status. The qualification performed according to this document refers only to the hardware/software configuration in place at the time of the qualification. Agilent Technologies recommends that instrument configuration change management procedures be in place in order to maintain the validation process. Any changes to the analytical or computer hardware or software must be clearly specified. A change management system provides a means for determining the degree of requalification required according to the extent of the changes made. All details of the changes must be thoroughly recorded and documented, together with details of completed tests and their results. Note: Hardware/software configuration management is the customer's responsibility.

Date: September 30, 2021 4:07:18 PM
System ID: JP15471169

Page 16 / 34

Attachments

Training requirements note: The delivery engineer attaches an ACE technique-specific training certificate to the Equipment Qualification Report (EQR). Obtaining ACE technique-specific certification includes pre-requisite trainings for Data Integrity, General Compliance topics (GMP, GLP, ALCOA, etc.), instrument hardware and software components, and the ACE technique itself. The one certificate encompasses all pre-requisite trainings as documented in the Agilent Learning Management System called Success Factors.


Location	Category	Document Name	Page
EQR	General	Certificate of System Qualification	18
EQR	General	Operator's training certificate and qualifications	19
EQR	General	Certificate of Qualification for ACE	20
EQR	General	Certificate of Qualification for ACE	21
EQR	General	Tune reports	22
EQR	General	Test Report	25
EQR	General	Test Report	27
EQR	General	Test Report	29

Date: September 30, 2021 4:07:18 PM
System ID: JP15471169

Page 17 / 34

General

Document Name: Certificate of System Qualification

 **Agilent Technologies**

Agilent Compliance Engine Self Qualification

Date: September 14, 2021 4:59:16 PM
Drive Serial #: ACA025C9 Platform Revision: ACE 3.11

Individual self-qualification reports for each specific technique installed are also available upon request. They provide additional details on the general report from the course summary and are structured by the actual algorithms challenged during the process. There is not a one-to-one relationship between algorithms and OQ program tests because some algorithms are used by several tests and across multiple similar hardware components of the qualified systems.

Technique Type	Tests Completed	Result
Atomic Absorption	7	Conforms
Capillary Electrophoresis	10	Conforms
Dissolution	6	Conforms
Emission Spectroscopy	3	Conforms
Gas Chromatography - GCMS	17	Conforms
Gas Chromatography	29	Conforms
Gas Permeation Chromatography	9	Conforms
ICP-MS	6	Conforms
Infrared Spectroscopy	7	Conforms
Liquid Chromatography	17	Conforms
Liquid Chromatography - LCMS	8	Conforms
Microfluidics	18	Conforms
Sample Preparation - Gas Chromatography	9	Conforms
Sample Preparation - Liquid Chromatography	8	Conforms
Supercritical Fluid Chromatography	15	Conforms
Software	6	Conforms
UV-Vis Spectrophotometer	13	Conforms

Overall Qualification Status
Conforms

Date: September 30, 2021 4:07:18 PM
System ID: JP15471169

Page 18 / 34

General

Document Name: Operator's training certificate and qualifications

 **Agilent Technologies**

Certificate of Completion

Learner Name: Penihop Kunsathain

Title Of Course: AN-CE-ICPMS-2-038-A: Agilent 7900 ICPMS FSE update training

Completion Date: June 7, 2014

Certified By Company: Learning at Agilent

All Service and Support training certificates have the following specific limitations.

A certificate for Service and Support training is only valid while employed by Agilent Technologies or while working as an Agilent-authorized service provider, through which the service employee has ongoing access to Agilent's Safety Alerts, Service Notes, internal technical updates, update training, current documentation, technical support, remote parts, and parts updates. Completion of training alone, without being employed by Agilent Technologies, does not qualify an individual to safely install, service or maintain Agilent products.

Date: September 30, 2021 4:07:18 PM
System ID: JP15471169

Page 19 / 34

General

Document Name: Certificate of Qualification for ACE

 **Agilent Technologies**

Certificate of Completion

Learner Name: Penihop Kunsathain

Title Of Course: AN-CE-SS-II-030-A: ACE 3.X User Update Training

Completion Date: July 7, 2020

Certified By Company: Learning at Agilent

All Service and Support training certificates have the following specific limitations.

A certificate for Service and Support training is only valid while employed by Agilent Technologies or while working as an Agilent-authorized service provider, through which the service employee has ongoing access to Agilent's Safety Alerts, Service Notes, internal technical updates, update training, current documentation, technical support, remote parts, and parts updates. Completion of training alone, without being employed by Agilent Technologies, does not qualify an individual to safely install, service or maintain Agilent products.

Date: September 30, 2021 4:07:18 PM
System ID: JP15471169

Page 20 / 34

General

Document Name: Certificate of Qualification for ACE

 **Agilent Technologies**

Certificate of Completion

Learner Name: Penihop Kunsathain

Title Of Course: AN-CE-ICPMS-2-035-B: CrossLab Compliance Hardware Specific Delivery for Agilent ICP-MS Systems

Completion Date: October 31, 2020

Certified By Company: Learning at Agilent

All Service and Support training certificates have the following specific limitations.

A certificate for Service and Support training is only valid while employed by Agilent Technologies or while working as an Agilent-authorized service provider, through which the service employee has ongoing access to Agilent's Safety Alerts, Service Notes, internal technical updates, update training, current documentation, technical support, remote parts, and parts updates. Completion of training alone, without being employed by Agilent Technologies, does not qualify an individual to safely install, service or maintain Agilent products.

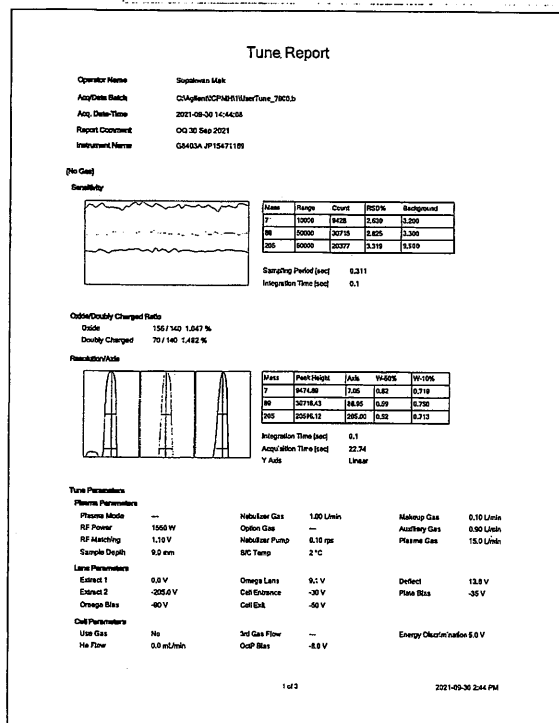
Date: September 30, 2021 4:07:18 PM
System ID: JP15471169

Page 21 / 34

General

Document Name:

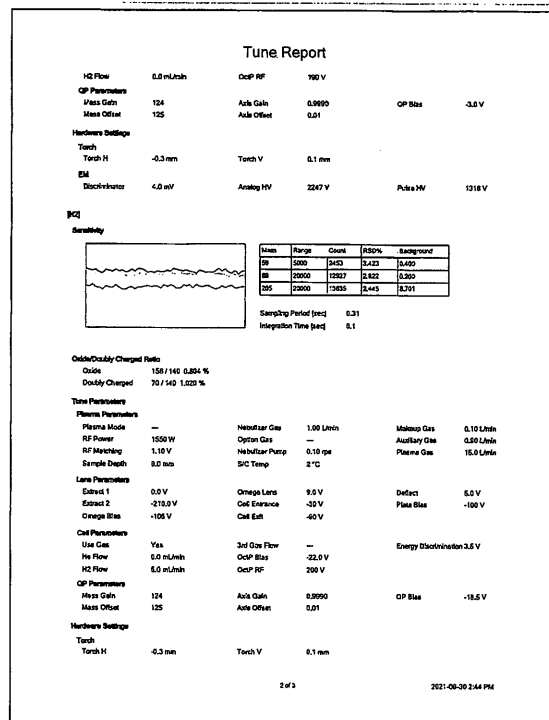
Tune reports

Date: September 30, 2021 4:07:18 PM
System ID: JF15471169

Page 22 / 34

Document Name:

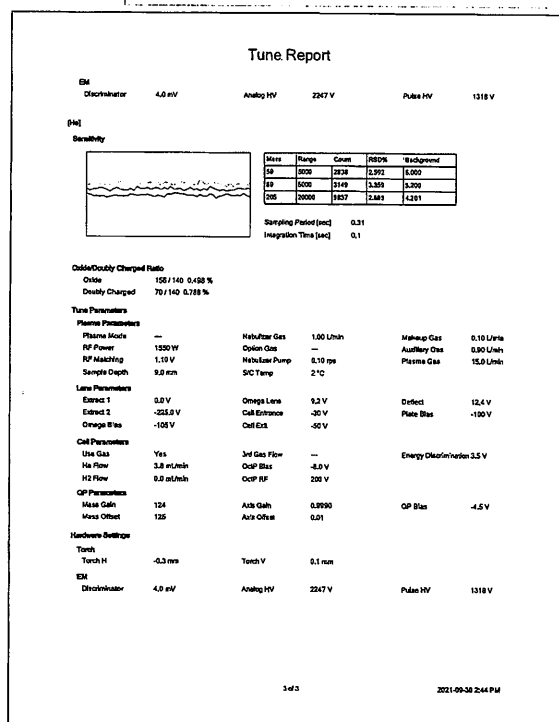
Tune reports

Date: September 30, 2021 4:07:18 PM
System ID: JF15471169

Page 23 / 34

Document Name:

Tune reports

Date: September 30, 2021 4:07:18 PM
System ID: JF15471169

Page 24 / 34

General

Document Name:

Test Report

Batch Summary Report									
Batch Folder:	C:\Agilent\031785\MS\MS								
Analysis File:	85 MS.ms								
Tune Step:	#1 MS								
Run	Acq Date/Time	File Name	Sample Name	Type	Level	Duration			
1	2021-09-30 14:11:47	85 MS.ms	Sample			1.0000			

Page 1 / 2
2021-09-30 14:23:39

Date: September 30, 2021 4:07:18 PM
System ID: JF15471169

Page 25 / 34

Document Name:

Test Report

Batch Summary Report

Analyte Table	
Sample Name	QPS
1. 8.2 Hz	22.9500

Page 2 / 2

2021-09-30 14:23:40

Date: September 30, 2021 4:07:18 PM
System ID: JP15471159

Page 26 / 34

General

Document Name:

Test Report

Batch Summary Report

Batch Folder: D:\Agilent Services\00_30 Sep 2021\BG H2 newsh
Analyte File: BG H2 newsh.bln
Tune Step: #1 H2

Slct	Acq. Date/Time	Data File	Sample Name	Type	Level	Dilution
1	2021-09-30 15:08:58	BG H2.d	BG H2	Sample		1.0000

Page 1 / 2

2021-09-30 15:10:31

Date: September 30, 2021 4:07:18 PM
System ID: JP15471159

Page 27 / 34

Document Name:

Test Report

Batch Summary Report

Analyte Table	
Sample Name	QPS
1. 8.6 Hz	2.1500

Page 2 / 2

2021-09-30 15:10:31

Date: September 30, 2021 4:07:18 PM
System ID: JP15471159

Page 28 / 34

General

Document Name:

Test Report

Batch Summary Report

Batch Folder: D:\Agilent Services\00_30 Sep 2021\LD Minsh
Analyte File: 20 Minsh.bln
Tune Step: #1 Min Gas

Slct	Acq. Date/Time	Data File	Sample Name	Type	Level	Dilution
1	2021-09-30 15:17:04	20 Min.d	20 Min	Sample		1.0000

Page 1 / 2

2021-09-30 15:46:42

Date: September 30, 2021 4:07:18 PM
System ID: JP15471159

Page 29 / 34

Document Name:

Test Report

Batch Summary Report

Analyze Table		7	1No.Gas1	9	1No.Gas1	10	1No.Gas1	11	1No.Gas1	12	1No.Gas1	13	1No.Gas1	14	1No.Gas1
Sample Name		CPS STD		CPS STD		CPS STD		CPS STD		CPS STD		CPS STD		CPS STD	
1 25.47m		0.56400		7.62461		0.45857		0.61493		0.61014		0.73911			

Page 2 / 2

2021-09-30 15:46:43

Electronic Signature

Purpose

This signature page was created and published because the ACE sign-off action was executed, which is valid for the entire document, including attachments. The ACE sign-off is an electronic signature that requires two distinct identification components: unique username and personal password. The Agilent representative who has delivered this service understands the meaning and legal status of an electronic signature. As a trained official operator, the Agilent representative has a unique password and login to access ACE and electronically sign this document. (Other e-signatures can be applied to this document using a Document Content Management or other suitable method defined in your data access and control procedures.)

Details

Full Name of Signer: Panthep Kurasathin
 Logged On User Name: panthep_kurasathin@agilent.com
 Signature Creation Date: September 30, 2021
 Reason for Signature: Executed protocol and published this original version of document

Regulatory Disclaimer

This document provides a protocol to verify and record instrument configuration and evidence of proper operation. It has been prepared from our interpretation of applicable regulations as well as industry best practices. The document is designed to provide an important component of a complete compliance package. Validation depends upon many factors and use of this protocol alone does not assure compliance. Agilent Technologies makes no promises or representations as to its sufficiency for any specific regulatory program.

Warranty

Agilent Technologies makes no warranty of any kind to this material, including but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Agilent Technologies shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this material.

Date: September 30, 2021 4:07:18 PM
 System ID: JP15471169

Page 30 / 34

Date: September 30, 2021 4:07:18 PM
 System ID: JP15471169

Page 31 / 34

User Name: panthep_kurasathin
 Hostname: ASBKXW315
 System ID: JP15471169
 Print Date: September 30, 2021 4:07:22 PM

ALS OQHW 7900 30Sep21 Transaction log:

Time	Transaction State	Activity Performed	Type of Transaction	Optional Information
September 30, 2021 3:50:07 PM	Auth	SessionCreated	Session	None
September 30, 2021 3:50:07 PM	Start	Configuration	Session	None
September 30, 2021 3:50:07 PM	Auth	EndSession	LicenseKey	User is Field Engineer and does not require an unlock code
September 30, 2021 3:52:51 PM	Auth	EqLoaded	Session	EOP details for primary technique (topMe) - File path: (ProtocolPath)\topMe\Config\unfolds\02.50\topMe.02.50.a.gp, EOP File Name: (topMe.02.50.a.gp), EOP Name: (AgilentRecommended)
September 30, 2021 3:52:54 PM	End	Configuration	Session	None
September 30, 2021 3:52:57 PM	Start	Qualification	Session	OQ
September 30, 2021 3:52:57 PM	Start	Execution	Autosampler Check : SP54: Autosampler Check	None
September 30, 2021 3:53:03 PM	End	Execution	Autosampler Check : SP54: Autosampler Check	Run Count : 1
September 30, 2021 3:53:04 PM	Start	Execution	Integrated Sample Introduction System (SIS) Check : R553: Integrated Sample Introduction System (SIS) Check	None
September 30, 2021 3:53:06 PM	End	Execution	Integrated Sample Introduction System (SIS) Check	Run Count : 1

Page 1 / 3

Date: September 30, 2021 4:07:18 PM
 System ID: JP15471169

Page 32 / 34

User Name: panthep_kurasathin
 Hostname: ASBKXW315
 System ID: JP15471169
 Print Date: September 30, 2021 4:07:22 PM

ALS OQHW 7900 30Sep21 Transaction log:

Time	Transaction State	Activity Performed	Type of Transaction	Optional Information
September 30, 2021 3:53:10 PM	Start	Execution	Autotune : G8403A: Autotune 1	None
September 30, 2021 3:55:08 PM	End	Execution	Autotune : G8403A: Autotune 1	Run Count : 1
September 30, 2021 3:55:12 PM	Start	Execution	Background (No Gas Mode): G8403A: No Gas Mode Background 1	None
September 30, 2021 3:55:40 PM	End	Execution	Background (No Gas Mode): G8403A: No Gas Mode Background 1	Run Count : 1
September 30, 2021 3:55:43 PM	Start	Execution	Background (Gas Mode): G8403A: Gas Mode Background 3-Helium	None
September 30, 2021 3:58:17 PM	End	Execution	Background (Gas Mode): G8403A: Gas Mode Background 3-Helium	Run Count : 1
September 30, 2021 3:58:19 PM	Start	Execution	Background (Gas Mode): G8403A: Gas Mode Background 3-Hydrogen	None
September 30, 2021 3:58:38 PM	End	Execution	Background (Gas Mode): G8403A: Gas Mode Background 3-Hydrogen	Run Count : 1
September 30, 2021 3:58:41 PM	Start	Execution	20-Minute Stability (No Gas Mode): G8403A: 20-Minute Stability (No Gas Mode) 1	None
September 30, 2021 3:57:22 PM	End	Execution	20-Minute Stability (No Gas Mode): G8403A: 20-Minute Stability (No Gas Mode) 1	Run Count : 1
September 30, 2021 3:57:24 PM	End	Qualification	Session	OQ
September 30, 2021 3:57:24 PM	Start	Reporting	Session	None

Page 2 / 3

Date: September 30, 2021 4:07:18 PM
 System ID: JP15471169

Page 33 / 34

User Name: panthep_kurokathai	System Id: JP15471169			
Hostname: ASBKKWX315	Print Date: September 30, 2021 4:57:22 PM			
ALS QGNW 7950 30Sep21 Transaction log :				
Time	Transaction State	Activity Performed	Type of Transaction	Optional Information
September 30, 2021 4:52:07 PM	Auth	Reporting	Session	Report Generated : Certificate
September 30, 2021 4:52:17 PM	Auth	Reporting	Session	Report Generated : Report
September 30, 2021 4:53:59 PM	Start	Qualification	Session	OQ
September 30, 2021 4:54:09 PM	End	Qualification	Session	OQ
September 30, 2021 4:54:09 PM	Start	Reporting	Session	None
September 30, 2021 4:54:26 PM	Auth	Reporting	Session	Report Generated : Certificate
September 30, 2021 4:54:36 PM	Auth	Reporting	Session	Report Generated : Report

Page 3 / 3

REVIEW BY Sudarat N.
APPROVED BY Smita N.
NEXT CAL. DATE 5/06/2023

Maintenance Protocol

Atomic Fluorescence Spectrometer
mercur DUO /
mercur DUO plus

Date: September 30, 2021 4:07:18 PM
System ID: JP15471169

Page 34 / 34

analytikjena
An Endress+Hauser Company

analytikjena
An [ndriana] Haryono Comptech

Serial-No.: R170A0143 Customer-No.: 004-002
Date: 6/06/2022. Carried out by: Mr. Sanchai Phouon

Maintenance with following Operational Qualification (OQ)
(requires a separate OQ protocol)

Company	အိတ် ၂၀၁၀/၂၀၁၁ အသံအသံအသံ အိတ် (အသံအသံ) အိတ်
User	အိတ်အိတ် အသံအသံ
Department	Lab
Street	၂၀၁ အသံအသံအသံ ၂၀ အသံအသံအသံ အသံအသံ
Zip Code, City	အသံအသံ အသံအသံအသံ ၂၀၁၀
Country	အသံအသံ
Phone	
Fax	
E-mail	

Maintenance works basic unit

- tightness visual check inside the Mercur
- visual check if gold-traps are broken
- visual check if spectrometer is contaminated
- visual check of the fluorescence cell
- visual check of the absorption cell, incl. window
- reactor cleaning
- check pump-hose, if necessary change it
- check swivel drive (SEV)
- check drying-hose, output gas-liquid-separator
- test Bubble-Sensor
- check gas flows
- check volume flows, reagents
- recording stray light values
- measurement with 30 ng/l

Maintenance works Autosampler

Serial No.: 52 1102 250

- lubricate the dosing-winding (Teflon-grease-spray)
- clean the dosing cylinder, if necessary exchange it
- lubricate the winding system of the height drive with some drops of oil
- check the toothed belt
- check the position of the mechanical stopper (height: 13mm)
- check the pump rate of mixing pump (<14s AS52, typ./s<20s AS52S, typ.10s)
- check the pump rate of washing cup
- check the electrical hose connections for good contact
- check the connectors of the magnetic valves
- check the dosing hose for buckling, if necessary exchange it

Device parameter	nominal value	actual value
visual check general tightness inside the Mercur	o.k.: <input checked="" type="checkbox"/>	changed: <input type="checkbox"/>
visual check Goldtraps (Goldtraps 2 / NG)	o.k.: <input checked="" type="checkbox"/>	changed: <input type="checkbox"/>
visual check spectrometer		
Fluorescence cell	o.k.: <input checked="" type="checkbox"/>	changed: <input type="checkbox"/>
Absorption cell, incl. window	o.k.: <input checked="" type="checkbox"/>	changed: <input type="checkbox"/>
lens	o.k.: <input checked="" type="checkbox"/>	changed: <input type="checkbox"/>
Swivel drive (SEV)	o.k.: <input checked="" type="checkbox"/>	changed: <input type="checkbox"/>
check pump hoses	o.k.: <input checked="" type="checkbox"/>	changed: <input type="checkbox"/>
check hoses and hose connectors	o.k.: <input checked="" type="checkbox"/>	changed: <input type="checkbox"/>
check and clean reactor	o.k.: <input checked="" type="checkbox"/>	changed: <input type="checkbox"/>
check drying hose output Gas-liquid-separator	o.k.: <input checked="" type="checkbox"/>	changed: <input type="checkbox"/>
check bubble-sensor	o.k.: <input checked="" type="checkbox"/>	not o.k.: <input type="checkbox"/>
Check gasflow		
Argon pressure valve 4	1.2 – 1.5 bar	1.5 bar
Valve 1	10 Nl/h or 0.166 Nl/min	0.166
Valve 2	50 Nl/h or 0.833 Nl/min	0.833
Valve 3	5 Nl/h or 0.083 Nl/min	0.083
Valve 4	10 Nl/h or 0.166 Nl/min	0.167
Check liquidflow		
Acid	2.5ml/min ± 1 ml	2.5 ml/min
Red.-agent	2.5ml/min ± 1 ml	2.5 ml/min
Sample	10ml/min ± 2 ml	10 ml/min
Adventitious light - values	(V)	from file
100	0	0
200	0	0
300	0	0
350	0	1
400	1	3
450	4	7
500	9	17
550	19	36
575	26	51
600	36	71

Device parameter	nominal value	actual value
Analytical parameters Fluorescence cell		
Conditions.: max. conc.: 10 µg/L PMT-voltage: ...369...V		
Blank-solution	Int. > 0.0015	Int... 0.0003
without enrichment / FBR 30 ng/L	RSD < 3 %	Int... 0.0058
Conditions.: max. conc.: 1.7 µg/L PMT-voltage: ...352...V		
Blank-solution	Int. > 0.008	Int... 0.0040
with enrichment / FBR 30 ng/L	RSD < 3 %	Int... 0.0242
Fok.- factor (Int ₂ / Int ₁)	> 3.5	RSD... 4.206
Analytical parameters Absorption cell		
Blank-solution	Ext. > 0.0012	Ext... 0.0010
without enrichment / FBR 100 ng/L	RSD < 5 %	Ext... 0.0048
Comments		

Mr. Srichai Pak-on
 Signature Technician

Bangkok, 6/06/2022
 Place, Date (DD/MM/YYYY)

สุรชัย พักออน
 Signature Customer

6/06/2022
 Place, Date (DD/MM/YYYY)

ภาคผนวก จ

สำเนาหนังสือใบอนุญาตขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน



ที่ อก ๐๓๑๐(๑)/ ๑๐๖๙

กรมโรงงานอุตสาหกรรม
ถนนพระรามที่ ๖ เขตราชเทวี
กรุงเทพมหานคร ๑๐๔๐๐

๒๘ มกราคม ๒๕๖๕

เรื่อง ต่ออายุหนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน

เรียน กรรมการผู้จัดการ บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด

อ้างถึง คำขอขึ้นทะเบียน/ต่ออายุ/เปลี่ยนแปลงบุคลากร และชนิดสารมลพิษของห้องปฏิบัติการวิเคราะห์เอกชน
ลงวันที่ ๓๐ กรกฎาคม ๒๕๖๓

สิ่งที่ส่งมาด้วย ๑. รายชื่อผู้ควบคุมดูแลห้องปฏิบัติการวิเคราะห์ จำนวน ๑ แผ่น
๒. รายชื่อเจ้าหน้าที่ประจำห้องปฏิบัติการวิเคราะห์ จำนวน ๕ แผ่น
๓. ขอบข่ายสารมลพิษที่ได้รับขึ้นทะเบียนจากกรมโรงงานอุตสาหกรรม จำนวน ๓๑ แผ่น

ตามหนังสือที่อ้างถึง บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด ขอต่ออายุ
หนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน เลขทะเบียน ว-๒๐๔ สถานที่ตั้งเลขที่ ๑๐๔
ซอยพัฒนาการ ๔๐ ถนนพัฒนาการ แขวงพัฒนาการ เขตสวนหลวง กรุงเทพมหานคร
ต่อกรมโรงงานอุตสาหกรรม นั้น

กรมโรงงานอุตสาหกรรมพิจารณาแล้ว ให้บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย)
จำกัด ต่ออายุหนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน โดยมีองค์ประกอบดังนี้
ก. ผู้ควบคุมดูแลห้องปฏิบัติการวิเคราะห์ จำนวน ๖ ราย ตามสิ่งที่ส่งมาด้วย ๑
ข. เจ้าหน้าที่ประจำห้องปฏิบัติการวิเคราะห์ จำนวน ๑๖๒ ราย ตามสิ่งที่ส่งมาด้วย ๒
ค. ขอบข่ายสารมลพิษที่ได้รับขึ้นทะเบียนให้วิเคราะห์ในน้ำเสีย จำนวน ๕๙ รายการ น้ำใต้ดิน
จำนวน ๑๒๖ รายการ อากาศเสีย ๑๖ รายการ สิ่งปฏิกูลหรือวัสดุที่ไม่ใช้แล้ว จำนวน ๓๕ รายการ และดิน
จำนวน ๑๒๕ รายการ รวมทั้งสิ้นจำนวน ๓๖๑ รายการ ตามสิ่งที่ส่งมาด้วย ๓

หนังสือฉบับนี้จะหมดอายุในวันที่ ๒ กันยายน ๒๕๖๖ หากประสงค์จะต่ออายุหนังสือ
รับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน ให้ยื่นคำขอต่ออายุพร้อมเอกสารประกอบคำขอ
ต่อกรมโรงงานอุตสาหกรรม ภายใน ๓๐ วัน ก่อนวันสิ้นอายุของหนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์
เอกชน ซึ่งคำขอต่ออายุดังกล่าวขอรับได้ที่กรมโรงงานอุตสาหกรรม

จึงเรียนมาเพื่อทราบ

ขอแสดงความนับถือ

(นายศิระ จันทรเจ็ด)

นักวิทยาศาสตร์ชำนาญการพิเศษ วิชาการกรมทพ
ผู้อำนวยการกองวิจัยและเตือนภัยมลพิษโรงงาน
ปฏิบัติราชการแทนอธิบดีกรมโรงงานอุตสาหกรรม

กองวิจัยและเตือนภัยมลพิษโรงงาน

กลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษและทะเบียนห้องปฏิบัติการ

โทร. ๐ ๒๒๐๒ ๔๑๔๖ ๐ ๒๒๐๒ ๔๐๐๒

โทรสาร ๐ ๒๓๕๔ ๓๒๐๘ ๐ ๒๓๕๔ ๓๔๑๕

เอกสารแนบท้ายหนังสือรับต่ออายุขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน

บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด

ที่ อก ๐๓๑๐(๑)/

เลขทะเบียน ว-๒๐๔

ลงวันที่ ๒๘ มกราคม ๒๕๖๕

ก. ผู้ควบคุมดูแลห้องปฏิบัติการวิเคราะห์ จำนวน ๖ ราย

๑) นางสาวยุพาพร จันทร์เปล่ง	ทะเบียนเลขที่ ว-๒๐๔-ค-๔๗๐๐
๒) นางสาวชนัญ โภมารกุล ณ นคร	ทะเบียนเลขที่ ว-๒๐๔-ค-๔๗๐๑
๓) นายศรายุทธ จิตรานนท์	ทะเบียนเลขที่ ว-๒๐๔-ค-๔๗๐๒
๔) นางสาวกนกกร เอนก	ทะเบียนเลขที่ ว-๒๐๔-ค-๖๑๑๑
๕) นายสุริยา สอนแก้ว	ทะเบียนเลขที่ ว-๒๐๔-ค-๖๑๑๒
๖) นายวิชาญ ชุมพรี	ทะเบียนเลขที่ ว-๒๐๔-ค-๖๑๑๓

(นายศิระ จันทรเจ็ด)

นักวิทยาศาสตร์ชำนาญการพิเศษ วิชาการกรมทพ
ผู้อำนวยการกองวิจัยและเตือนภัยมลพิษโรงงาน
ปฏิบัติราชการแทนอธิบดีกรมโรงงานอุตสาหกรรม

เอกสารแนบท้ายหนังสือรับต่ออายุขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน

บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด

เลขทะเบียน ว-๒๐๔

ที่ ออก ๐๓๑๐(๑) ๑๐๖๕

ลงวันที่ ๒๘ มกราคม ๒๕๖๕

ข. เจ้าหน้าที่ประจำห้องปฏิบัติการวิเคราะห์ จำนวน ๑๖๒ ราย

๑) นางสาวจินดา โชกุลธรรม	ทะเบียนเลขที่ ว-๒๐๔-จ-๔๗๐๘
๒) นางสาวสาวิตรี น้อยเสงี่ยม	ทะเบียนเลขที่ ว-๒๐๔-จ-๔๗๐๙
๓) นางสาวฉวีภาณุรัตน์ อิมขม	ทะเบียนเลขที่ ว-๒๐๔-จ-๔๗๑๐
๔) นางสาวนรินทร์ สายแสง	ทะเบียนเลขที่ ว-๒๐๔-จ-๔๗๑๕
๕) นางสาวนันทิตี สมบูรณ์	ทะเบียนเลขที่ ว-๒๐๔-จ-๔๗๑๖
๖) นางสาวศรัณยา เฉลิมธำรงศรี	ทะเบียนเลขที่ ว-๒๐๔-จ-๔๗๑๗
๗) นางสาวสรารักษ์ มงคลจิรวุฒิ	ทะเบียนเลขที่ ว-๒๐๔-จ-๔๗๑๙
๘) นางสาวศิริลักษณ์ พึ่งแพง	ทะเบียนเลขที่ ว-๒๐๔-จ-๔๗๒๐
๙) นายนพพงศ์ จันทร์พันธุ์	ทะเบียนเลขที่ ว-๒๐๔-จ-๕๔๐๘
๑๐) นายนเรศรชัย โกมลาลัย	ทะเบียนเลขที่ ว-๒๐๔-จ-๕๔๑๑
๑๑) นายธนา จริยา	ทะเบียนเลขที่ ว-๒๐๔-จ-๕๔๑๔
๑๒) นางสาวเกศรินทร์ แก้วมัน	ทะเบียนเลขที่ ว-๒๐๔-จ-๕๔๑๖
๑๓) นางสาวสุวิมล ชัยเรืองวุฒิ	ทะเบียนเลขที่ ว-๒๐๔-จ-๕๔๑๗
๑๔) นางสาวสุชาดา ธรรมถาวร	ทะเบียนเลขที่ ว-๒๐๔-จ-๕๔๒๑
๑๕) นางสาวเปรมิกา ชัยเดชธนกุล	ทะเบียนเลขที่ ว-๒๐๔-จ-๕๔๒๓
๑๖) นางสาวศศิธร หนูสวัสดิ์	ทะเบียนเลขที่ ว-๒๐๔-จ-๕๔๒๔
๑๗) นางสาวเสาวลักษณ์ ภูณภาอำพร	ทะเบียนเลขที่ ว-๒๐๔-จ-๕๔๒๕
๑๘) นายอภิสิทธิ์ สิงหา	ทะเบียนเลขที่ ว-๒๐๔-จ-๕๔๒๖
๑๙) นายศักดิ์สิทธิ์ ไพศาลพิสุทธิ	ทะเบียนเลขที่ ว-๒๐๔-จ-๕๔๒๗
๒๐) ว่าที่ร้อยตรีหญิง พรรณิภา ข้าเจริญ	ทะเบียนเลขที่ ว-๒๐๔-จ-๕๔๒๘
๒๑) นางจิตดา คำแก้ว	ทะเบียนเลขที่ ว-๒๐๔-จ-๕๔๓๑
๒๒) นางสาวอรวรรณ รักยง	ทะเบียนเลขที่ ว-๒๐๔-จ-๖๑๑๕
๒๓) นางสาวนพรัตน์ แยมกรณัต	ทะเบียนเลขที่ ว-๒๐๔-จ-๖๑๑๙
๒๔) นายจุลเดช วารินทร์	ทะเบียนเลขที่ ว-๒๐๔-จ-๖๑๒๐
๒๕) นางสาวดาญรัตน์ ร้องคำ	ทะเบียนเลขที่ ว-๒๐๔-จ-๖๑๒๑
๒๖) นายนคร สุขเจริญ	ทะเบียนเลขที่ ว-๒๐๔-จ-๖๑๒๒
๒๗) นายบัญชา นามเขตต์	ทะเบียนเลขที่ ว-๒๐๔-จ-๖๑๒๓
๒๘) นายพรมมี ศรีปัดเนตร	ทะเบียนเลขที่ ว-๒๐๔-จ-๖๑๒๕
๒๙) นายอุทิศ อุ่นลิ้ม	ทะเบียนเลขที่ ว-๒๐๔-จ-๖๑๒๖
๓๐) ว่าที่ร้อยตรี เฉลิมเกียรติ อมรศรีเสริม	ทะเบียนเลขที่ ว-๒๐๔-จ-๖๑๒๘
๓๑) นางสาววริยา สร้างนา	ทะเบียนเลขที่ ว-๒๐๔-จ-๖๑๒๙
๓๒) นายอนุพงศ์ รัตนศรีประเสริฐ	ทะเบียนเลขที่ ว-๒๐๔-จ-๖๑๓๐
๓๓) นางสาวจุฑารัตน์ ไอนันท์ยะ	ทะเบียนเลขที่ ว-๒๐๔-จ-๖๒๕๒
๓๔) นางสาวจาวรรณ พิมพ์ลิขิต	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๐๗๖

(นายศิระ จันทร์เลิศ)

๓๕) นางสาวปรางค์ทิพย์...

นักวิทยาศาสตร์ชำนาญการพิเศษ รักษาการแทน
ผู้อำนวยการกองวิจัยและพัฒนาก่อนคลินิก
สำนักงานคณะกรรมการอาหารและยา

- ๒ -

๓๕) นางสาวปรางค์ทิพย์ กิจไพศาลศักดิ์	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๐๗๙
๓๖) นางสาวเดือนใจ ทางกลาง	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๐๘๐
๓๗) นางสาวจิราพร ศิริเวช	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๐๘๒
๓๘) นายวรากร ผูกรักษ์	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๐๘๓
๓๙) นายทง วิริยะสทกิจ	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๐๘๔
๔๐) นายอนิธ เจนจบ	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๐๘๕
๔๑) นายคณิศร ข้าเพชร	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๐๘๖
๔๒) นายอรรถพล นิยมวิทยาพันธ์	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๐๘๗
๔๓) นายภูวิช พรหมสะอาด	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๐๘๘
๔๔) นายธนเดช โภคาพิพัฒน์	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๐๘๙
๔๕) นายชวฤทธิ์ วงษ์จันทร์	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๐๙๐
๔๖) นายอาทิตย์ ศรีแสน	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๐๙๑
๔๗) นายเจตตินทร์ คงศักดิ์ไทย	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๐๙๒
๔๘) นายจรัส บุญยั้ง	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๐๙๕
๔๙) นายธนาณัติ เอนก	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๐๙๖
๕๐) นายอภิวัฒน์ ทุมหนู	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๐๙๗
๕๑) นางสาวสุภาขวัญ มาก	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๐๙๘
๕๒) นางสาวทัตพร ขวาลสมบูรณ์	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๑๐๐
๕๓) นางสาวธิดิมา บุญเพ็ง	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๑๐๑
๕๔) นางสาวกนกอร เข้มเพ็ชร	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๑๐๒
๕๕) นางสาวพัชรียา หงษ์สมดี	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๑๐๓
๕๖) นางสาวภาณุดา สุรวงศ์ตระกูล	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๑๐๔
๕๗) นางสาวภาณุมาศ นามวัฒน์	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๑๐๕
๕๘) นางสาวอุไรรัตน์ ทังสร้างแป้น	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๑๐๖
๕๙) นายธีรวัฒน์ ปวงสุข	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๑๐๗
๖๐) นายอิทธิพล ยะโส	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๑๐๘
๖๑) นายประพจน์ วรรณชูชัย	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๑๐๙
๖๒) นายชยธร พวงทิพย์	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๑๑๐
๖๓) นางสาวกนกวรรณ จันทบาล	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๑๑๑
๖๔) นางสาวเกษร หลักบุญ	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๑๑๒
๖๕) นายสิทธิโชค ธงเงิน	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๑๑๓
๖๖) นางศิวารวรรณ ใจบุญ	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๕๐๕
๖๗) นางสาวพรรณธิดา ทุมคง	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๕๐๘
๖๘) นางสาวศรณีย์ ยิ่งดี	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๕๐๙
๖๙) นายนาถกร ศรีวิริยะ	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๕๑๐
๗๐) นายสุวิชา ทองอ่อน	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๕๑๑
๗๑) นายวิญญู บุญตะนัย	ทะเบียนเลขที่ ว-๒๐๔-จ-๗๕๑๓

(นายศิระ จันทร์เลิศ)

๓๖) นายสมบูรณ์...

นักวิทยาศาสตร์ชำนาญการพิเศษ รักษาการแทน
ผู้อำนวยการกองวิจัยและพัฒนาก่อนคลินิก
สำนักงานคณะกรรมการอาหารและยา

๗๒) นายสมบุรณ์ บุตรจันทร์
๗๓) นายวิรัตน์ ไชยชนะรา
๗๔) นายนฤพนธ์ เพิ่มพูน
๗๕) นายจิรณัฐ ขาวละออ
๗๖) นายสมโภช วันสา
๗๗) นายอัสรี นามบุรี
๗๘) นายณัฐนันท์ ปานประเสริฐ
๗๙) นายอัครเวศ จ่อสาว
๘๐) นายประเสริฐ สุระขันธ
๘๑) นายบุญกุล จันทร์เนียม
๘๒) นายพิรพงษ์ ทองคุณปริดา
๘๓) นายนฤพล ทองนุช
๘๔) นายอนุวัฒน์ ม่วงแพ
๘๕) นายเจตศรวาณ ปิตตะมะ
๘๖) นายกฤษณะ สายวรรณ
๘๗) นายพิชัย บุญยงค์
๘๘) นายภาณุพงศ์ โอเมวค์
๘๙) นายสามารถ คุ่มปลี
๙๐) นายสัณชัย โกศรีนาม
๙๑) นายณัฐวุฒิ ศรีประเสริฐ
๙๒) นายชวลิต นาคพนม
๙๓) นายพงศ์ธร ชัยทิพย์
๙๔) ว่าที่ร้อยตรี ภาณุพงศ์ แสนศรี
๙๕) นายสิทธิโชค ทาสิดา
๙๖) นายธนากร อินสุตา
๙๗) นางสาววรรณิษา ขาติวันชัย
๙๘) นางสาวพิมพ์ตะวัน มินากุล
๙๙) นางสาวเพชรรัตน์ สิงห์สมบุญ
๑๐๐) นางสาวชญาณีน พรหมจันทร์
๑๐๑) นายกรีติ ทวีราช
๑๐๒) นายจักริน หมั่นวิชา
๑๐๓) นายฉัตรชัย สุขเปี้ย
๑๐๔) นายณรรณห์ ต๊ะทองคำ
๑๐๕) นายศุภพล สนนอก
๑๐๖) นายทักษ์ดนัย อุบลศรี
๑๐๗) นายธนศร นามะกุลณา
๑๐๘) นายฉัตรพงศ์ บัวแดง

ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๑๔
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๑๕
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๑๖
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๑๗
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๑๘
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๑๙
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๒๐
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๒๑
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๒๒
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๒๓
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๒๔
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๒๕
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๒๖
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๒๗
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๒๘
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๒๙
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๓๐
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๓๑
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๓๒
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๓๓
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๓๔
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๓๕
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๓๖
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๓๗
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๓๘
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๓๙
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๔๐
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๔๑
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๔๒
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๔๓

(นายศิระ จันทร์เจิด)

นักวิทยาศาสตร์ชำนาญการพิเศษ วิชาการการแพทย์

ผู้อำนวยการกองวิจัยและเฝ้าระวังโรคพิษภัย

ปฎิบัติราชการแทนอธิบดีกองวิจัยและเฝ้าระวังโรคพิษภัย

๑๐๙) นายณนทชัย...

๑๐๙) นายณนทชัย อุปลัมภ
๑๑๐) นายณัฐพล คุณสุทธิ
๑๑๑) นายณันท์วัฒน์ สาริน
๑๑๒) นายปิยะนัฐ พลมะศรี
๑๑๓) นายพงศ์สิริ โสมเขียว
๑๑๔) นายพีรพัฒน์ กำคำ
๑๑๕) นายภาณุพงศ์ มานิตย์
๑๑๖) นายมงคล ผลาพิทย์
๑๑๗) นายมนินทร์ พูลศิริ
๑๑๘) นายสิรินันท์ ทองอิน
๑๑๙) นายอนเนชา พันสมัย
๑๒๐) นายอดิศักดิ์ ผมไผ
๑๒๑) นายอนันตชัย วิสม
๑๒๒) นายณัฐดนัย เจือละของ
๑๒๓) นายวรวิธ คีนิก
๑๒๔) นายแสงตะวัน นตะลัด
๑๒๕) นายยุทธพงศ์ รัตนะ
๑๒๖) นายชัยวัฒน์ ไชยชนะกิจ
๑๒๗) นายวิศรุต ศรีธรรมมา
๑๒๘) นายณนทกร เมื่อกผ่อง
๑๒๙) นายกำชัย สุทธิ
๑๓๐) นางสาวณัฐภรณ์ รักทะเล
๑๓๑) นางสาวประภาภรณ์ บุตรพรม
๑๓๒) นางสาวนิลาวัลย์ นามพรม
๑๓๓) นางสาวพัชรินทร์ แสนสร้อย
๑๓๔) นายไพรัชย์ เปี่ยมพิมาย
๑๓๕) นางสาวศุภมาศ ทองมาก
๑๓๖) นางสาวลลิตา จิตรสว่าง
๑๓๗) นางสาวชไมพร เล็กอุเขียว
๑๓๘) นางสาวกฤติมาพร คำมีแก่น
๑๓๙) นางสาวสกลรัตน์ ภาณุภูมิ
๑๔๐) นางสาวกาญจนา คงคุณ
๑๔๑) นางสาวไพรินทร์ ศรีรูปี
๑๔๒) นางสาวทิพนทร ผุยปัญญา
๑๔๓) นางสาวสาธิตา ปานทอง
๑๔๔) นางสาววิสา ทองนวล
๑๔๕) นางสาวอรรษา คำคล่อง

ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๔๔
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๔๕
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๔๖
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๔๗
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๔๘
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๕๔๙
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๖๐๐
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๖๐๑
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๖๐๒
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๖๐๓
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๖๐๔
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๖๐๕
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๖๐๖
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๖๐๗
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๖๐๘
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๖๐๙
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๖๑๐
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๖๑๑
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๖๑๒
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๖๑๓
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๖๑๔
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๖๑๕
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๖๑๖
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๖๑๗
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๖๑๘
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๖๑๙
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๖๒๐
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๖๒๑
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๖๒๒
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๖๒๓
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๖๒๔
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๖๒๕
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๖๒๖
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๖๒๗
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๖๒๘
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๖๒๙
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๖๓๐
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๖๓๑
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๖๓๒
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๖๓๓
ทะเบียนเลขที่ ๖-๒๐๔-จ-๗๖๓๔

(นายศิระ จันทร์เจิด)

นักวิทยาศาสตร์ชำนาญการพิเศษ วิชาการการแพทย์

ผู้อำนวยการกองวิจัยและเฝ้าระวังโรคพิษภัย

ปฎิบัติราชการแทนอธิบดีกองวิจัยและเฝ้าระวังโรคพิษภัย

๑๔๖) นางสาวชุตานภรณ์...

๑๔๖) นางสาวสุดาภรณ์ สุนทรสนาม	ทะเบียนเลขที่ ๖-๒๐๔-จ-๙๒๓๕
๑๔๗) นางสาวสุดารัตน์ นนทประสาธ	ทะเบียนเลขที่ ๖-๒๐๔-จ-๙๒๓๖
๑๔๘) นางสาวรัชนิกร เนียมกลาง	ทะเบียนเลขที่ ๖-๒๐๔-จ-๙๒๓๗
๑๔๙) นางสาวกัญญารัตน์ ศรีนิลทา	ทะเบียนเลขที่ ๖-๒๐๔-จ-๙๒๓๘
๑๕๐) นางสาวอัญชลี คำจันทร์	ทะเบียนเลขที่ ๖-๒๐๔-จ-๙๒๓๙
๑๕๑) นายบุญฤทธิ์ เอี่ยมเทศ	ทะเบียนเลขที่ ๖-๒๐๔-จ-๙๒๔๐
๑๕๒) นายศิริวัฒน์ พานิชย์	ทะเบียนเลขที่ ๖-๒๐๔-จ-๙๒๔๑
๑๕๓) นางสาวศุภรดา ปันมยุรา	ทะเบียนเลขที่ ๖-๒๐๔-จ-๙๒๔๒
๑๕๔) นางสาวพาฤดี คุณนนาน	ทะเบียนเลขที่ ๖-๒๐๔-จ-๙๒๔๓
๑๕๕) นางสาวจิราเจต พองดา	ทะเบียนเลขที่ ๖-๒๐๔-จ-๙๒๔๔
๑๕๖) นางสาวกนกภรณ์ อูระ	ทะเบียนเลขที่ ๖-๒๐๔-จ-๙๒๔๕
๑๕๗) นางสาวอารยา มีชัย	ทะเบียนเลขที่ ๖-๒๐๔-จ-๙๒๔๖
๑๕๘) นางสาวจิตสุภา ประเทืองสุข	ทะเบียนเลขที่ ๖-๒๐๔-จ-๙๒๔๗
๑๕๙) นางสาวอริสา วิริยะขันติธรรม	ทะเบียนเลขที่ ๖-๒๐๔-จ-๙๒๔๘
๑๖๐) นางสาววิชุดา นาคผจญ	ทะเบียนเลขที่ ๖-๒๐๔-จ-๙๒๔๙
๑๖๑) นางสาวพนิดา ยอดอินทร์	ทะเบียนเลขที่ ๖-๒๐๔-จ-๙๒๕๐
๑๖๒) นางสาวนันทิยา จันทะสุน	ทะเบียนเลขที่ ๖-๒๐๔-จ-๙๒๕๑



(นายศิระ จันทะสุน)

นักวิทยาศาสตร์ชำนาญการพิเศษ รักษาการแพทย์
ผู้อำนวยการกองวิจัยและเตือนภัยมลพิษโรงงาน
ปฏิบัติราชการแทนอธิบดีกรมโรงงานอุตสาหกรรม

เอกสารแนบท้ายหนังสือรับต่ออายุขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน

บริษัท เอแอลเอส แลบบอราทอรี กรุป (ประเทศไทย) จำกัด

เลขทะเบียน ๖-๒๐๔

ที่ อก ๐๓๑๐(๑)/ ๑๐๖๕

ลงวันที่ ๒๘ มกราคม ๒๕๖๕

ขอขยายสารมลพิษที่ได้รับขึ้นทะเบียนจากกรมโรงงานอุตสาหกรรม จำนวน ๓๖๑ รายการ

น้ำเสีย จำนวน 59 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Aldicarb	High-Performance Liquid Chromatographic Method ⁽⁴⁾
2	Aldicarb Sulfone	High-Performance Liquid Chromatographic Method ⁽⁴⁾
3	Aldicarb Sulfoxide	High-Performance Liquid Chromatographic Method ⁽⁴⁾
4	Aldrin	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
5	Arsenic	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
6	Barium	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
7	α-BHC	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
8	β-BHC	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
9	δ-BHC	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
10	γ-BHC	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
11	Biochemical Oxygen Demand	1) 5-Day BOD Test, Azide Modification Method ⁽⁴⁾ 2) 5-Day BOD Test, Membrane Electrode Method ⁽⁴⁾
12	Carbaryl	High-Performance Liquid Chromatographic Method ⁽⁴⁾
13	Carbofuran	High-Performance Liquid Chromatographic Method ⁽⁴⁾
14	Cadmium	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
15	Chemical Oxygen Demand	1) Closed Reflux, Colorimetric Method ⁽⁴⁾ 2) Closed Reflux, Titrimetric Method ⁽⁴⁾
16	Chlordane	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
17	Chromium	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
18	Color	ADMI Weighted-Ordinate Spectrophotometric Method

(นางริกาญจน์ ฉัตรสกุลวิไล)

ผู้อำนวยการกลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษ
และทะเบียนห้องปฏิบัติการ

19 Copper...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
19	Copper	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
20	Cyanide	Distillation, Colorimetric Method ⁽⁴⁾
21	2,4'-DDD	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
22	4,4'-DDD	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
23	2,4'-DDE	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
24	4,4'-DDE	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
25	2,4'-DDT	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
26	4,4'-DDT	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
27	Dieldrin	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
28	Endosulfan Sulfate	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
29	Endosulfan I	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
30	Endosulfan II	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
31	Endrin	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
32	Endrin Aldehyde	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
33	Formaldehyde	Distillation, Colorimetric Method ⁽³⁾
34	Free Chlorine	1) DPD Ferrous Titrimetric Method ⁽⁴⁾ 2) Iodometric Method ⁽⁴⁾
35	Heptachlor	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
36	Heptachlor epoxide	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
37	Hexavalent Chromium	Filtration, Colorimetric Method ⁽⁴⁾
38	3-Hydroxycarbofuran	High-Performance Liquid Chromatographic Method ⁽⁴⁾
39	Lead	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
40	Manganese	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
41	Mercury	1) Digestion, Cold-Vapor Atomic Absorption Spectrometric Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/Mass spectrometric Method ⁽⁴⁾
42	Methiocarb	High-Performance Liquid Chromatographic Method ⁽⁴⁾
43	Methoxychlor	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾

วิมล
(นางริกาณจน์ ฉัตรสกุลวิไล)
ผู้อำนวยการกลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษ
และทะเบียนห้องปฏิบัติการ

44 Methomyl...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
44	Methomyl	High-Performance Liquid Chromatographic Method ⁽⁴⁾
45	Nickel	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
46	Oil & Grease	1) Liquid-Liquid, Partition-Gravimetric Method ⁽⁴⁾ 2) Soxhlet Extraction Method ⁽⁴⁾
47	Oxamyl	High-Performance Liquid Chromatographic Method ⁽⁴⁾
48	Propoxur	High-Performance Liquid Chromatographic Method ⁽⁴⁾
49	pH	Electrometric Method ⁽⁴⁾
50	Phenols	1) Distillation, Chloroform Extraction Method ⁽⁴⁾ 2) Distillation, Direct Photometric Method ⁽⁴⁾
51	Selenium	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
52	Sulfide	Iodometric Method ⁽⁴⁾
53	Temperature	Laboratory and Field Methods ⁽⁴⁾
54	Total Dissolved Solids	Dried at 180 °C ⁽⁴⁾
55	Total Kjeldahl Nitrogen	Semi-Micro Kjeldahl Method ⁽⁴⁾
56	Total Suspended Solids	Dried at 103-105 °C ⁽⁴⁾
57	Toxaphene	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
58	Trivalent Chromium	1) Digestion, Inductively Coupled Plasma Method; Colorimetric Method; Calculation ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method; Colorimetric Method; Calculation ⁽⁴⁾
59	Zinc	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ⁽⁴⁾

น้ำใต้ดิน จำนวน 126 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Acenaphthene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
2	Acetone	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾

วิมล
(นางริกาณจน์ ฉัตรสกุลวิไล)
ผู้อำนวยการกลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษ
และทะเบียนห้องปฏิบัติการ

3 Aldrin...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
3	Aldrin	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
4	Anthracene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
5	Antimony	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
6	Arsenic	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
7	Atrazine	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
8	Barium	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
9	Benz(a)anthracene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
10	Benzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
11	Benzo(b)fluoranthene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
12	Benzo(k)fluoranthene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
13	Benzoic Acid	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
14	Benzo(a)pyrene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
15	Benzo[g,h,i]perylene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
16	Beryllium	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
17	Bis(2-chloroethyl)ether	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾

วิธีทบทวน

18 Bis(2-ethylhexyl)phthalate...

(นางริกาญจน์ จัตรสกุลวิไล)
ผู้อำนวยการศูนย์มาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษ
กรมควบคุมมลพิษ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
18	Bis(2-ethylhexyl)phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
19	Bromodichloromethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
20	Bromoform	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
21	Butanol	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
22	Butyl Benzyl Phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
23	Cadmium	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
24	Carbazole	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
25	Carbon Disulfide	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
26	Carbon tetrachloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
27	Chlordane	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
28	p-Chloroaniline	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
29	Chlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
30	Chlorodibromomethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
31	Chloroform	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
32	2-Chlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
33	Chromium	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾

วิธีทบทวน

34 Chromium (III)...

(นางริกาญจน์ จัตรสกุลวิไล)
ผู้อำนวยการศูนย์มาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษ
กรมควบคุมมลพิษ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
34	Chromium (III)	1) Digestion, Inductively Coupled Plasma Method; Colorimetric Method; Calculation ^[4] 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method; Colorimetric Method; Calculation ^[4]
35	Chromium (VI)	Colorimetric Method ^[4]
36	Chrysene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
37	Cyanide	Distillation, Colorimetric Method ^[4]
38	2,4-D	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
39	DDD	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
40	DDE	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
41	DDT	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
42	Dibenz(a,h)anthracene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
43	Di-n-Butyl Phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
44	1,2-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[4]
45	1,3-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[4]
46	1,4-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[4]
47	3,3-Dichlorobenzidine	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
48	1,1-Dichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[4]
49	1,2-Dichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[4]
50	1,1-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[4]

51

cis-1,2-Dichloroethylene...

(นางริกาญจน์ ฉัตรสกุลวิไล)
ผู้อำนวยการกลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษ
กรมการขนส่งทางบก

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
51	cis-1,2-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[4]
52	trans-1,2-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[4]
53	2,4-Dichlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
54	1,2-Dichloropropane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[4]
55	1,3-Dichloropropane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[4]
56	1,3-Dichloropropene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[4]
57	Dieldrin	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
58	Diethyl Phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
59	2,4-Dimethylphenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
60	2,4-Dinitrophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
61	2,4-Dinitrotoluene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
62	2,6-Dinitrotoluene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
63	Di-n-Octyl Phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
64	Endosulfan	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
65	Endrin	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
66	Ethylbenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[4]
67	Fluoranthene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]

68

Fluorene...

(นางริกาญจน์ ฉัตรสกุลวิไล)
ผู้อำนวยการกลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษ
และทะเบียนห้องปฏิบัติการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
68	Fluorene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
69	Heptachlor	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
70	Heptachlor epoxide	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
71	Hexachlorobenzene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
72	Hexachloro-1,3-butadiene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
73	n-Hexane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
74	α-HCH	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
75	β-HCH	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
76	γ-HCH	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
77	Hexachlorocyclopentadiene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
78	Hexachloroethane	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
79	Indeno(1,2,3-cd)pyrene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
80	Isophorone	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
81	Lead	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
82	Manganese	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
83	Mercury	1) Cold Vapor Atomic Absorption Spectrometric Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾

วิมล

84 Methanol...

(นางริกาญจน์ ฉัตรสกุลวิไล)

ผู้อำนวยการกลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษ
และทะเบียนห้องปฏิบัติการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
84	Methanol	1) Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
85	Methoxychlor	2) Equilibrium Headspace, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
86	Methyl Bromide	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
87	Methylene Chloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
88	2-Methylphenol	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
89	2-Methylnaphthalene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
90	Methyl tert-Butyl Ether	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
91	Naphthalene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
92	Nickel	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
93	Nitrobenzene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
94	N-Nitrosodiphenylamine	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
95	N-Nitrosodi-n-Propylamine	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
96	Polychlorinated Biphenyls - PCB 1016 - PCB 1221 - PCB 1232 - PCB 1242 - PCB 1248 - PCB 1254 - PCB 1260	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾

วิมล

97 Pentachlorophenol...

(นางริกาญจน์ ฉัตรสกุลวิไล)

ผู้อำนวยการกลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษ
และทะเบียนห้องปฏิบัติการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
97	Pentachlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
98	pH	Electrometric Method ^[4]
99	Phenanthrene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
100	Phenol	1) Distillation, Direct Photometric Method ^[4] 2) Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
101	Pyrene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
102	Selenium	1) Digestion, Inductively Coupled Plasma Method ^[4] 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[4]
103	Silver	1) Digestion, Inductively Coupled Plasma Method ^[4] 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[4]
104	Styrene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[4]
105	1,1,2,2-Tetrachloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[4]
106	Tetrachloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[4]
107	Toluene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[4]
108	Toxaphene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
109	TPH (C ₅ -C ₈)	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[13,24]
110	TPH (C ₈ -C ₁₆)	Solvent Extraction, Gas Chromatographic Method ^[9,21]
111	TPH (C ₁₆ -C ₃₅)	Solvent Extraction, Gas Chromatographic Method ^[9,21]
112	1,2,4-Trichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[4]
113	1,1,1-Trichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[4]

วิทย์พงษ์

114 1,1,2-Trichloroethane...

(นางริกาญจน์ ฉัตรสกุลวิไล)

ผู้อำนวยการกลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษ
และทะเบียนห้องปฏิบัติการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
114	1,1,2-Trichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[4]
115	Trichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[4]
116	2,4,5-Trichlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
117	2,4,6-Trichlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[4]
118	1,3,5-Trimethylbenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[4]
119	Vanadium	1) Digestion, Inductively Coupled Plasma Method ^[4] 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[4]
120	Vinyl Acetate	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[4]
121	Vinyl Chloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[4]
122	m-Xylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[4]
123	o-Xylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[4]
124	p-Xylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[4]
125	Xylene (Total)	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[4]
126	Zinc	1) Digestion, Inductively Coupled Plasma Method ^[4] 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[4]

อากาศเสีย (ปล่อยระบาย) จำนวน 16 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Antimony	Isokinetic, Digestion, Inductively Coupled Plasma Method ^[5]
2	Arsenic	Isokinetic, Digestion, Inductively Coupled Plasma Method ^[5]


วิทย์พงษ์

3 Carbon Monoxide...

(นางริกาญจน์ ฉัตรสกุลวิไล)

ผู้อำนวยการกลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษ
และทะเบียนห้องปฏิบัติการ


ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
3	Carbon Monoxide	1) Sampling Bag Non-Dispersive Infrared Method ^[5] 2) Non-Dispersive Infrared Method ^[5] 3) Instrumental Analyzer Method ^[5]
4	Chlorine	1) Absorption Sampling, Ion Chromatographic Method ^[5] 2) Isokinetic Sampling, Ion Chromatographic Method ^[5]
5	Copper	Isokinetic, Digestion, Inductively Coupled Plasma Method ^[5]
6	Dioxins	Isokinetic Sampling, Analysis by ISO/IEC 17025 Accredited Laboratory or Analysis by Department of Industrial Works Registered Laboratory (Dioxins/Furans Analysis Approved) ^[5]
7	Hydrogen Chloride	1) Absorption Sampling, Ion Chromatographic Method ^[5] 2) Isokinetic Sampling, Ion Chromatographic Method ^[5]
8	Hydrogen Sulfide	Absorption Sampling, Iodometric Method ^[5]
9	Lead	Isokinetic, Digestion, Inductively Coupled Plasma Method ^[5]
10	Mercury	1) Isokinetic Sampling, Digestion, Cold-Vapor Atomic Absorption Spectrometric Method ^[5] 2) Isokinetic, Digestion, Inductively Coupled Plasma Method ^[5]
11	Opacity	Ringelmann's Method ^[2]
12	Oxides of Nitrogen	1) Absorption Sampling, Phenoldisulfonic Acid Method ^[5] 2) Chemiluminescence Method ^[5] 3) Instrumental Analyzer Method ^[5]
13	Sulfur Dioxide	1) Absorption Sampling, Barium-Thorin Titrimetric Method ^[5] 2) UV-Fluorescence Method ^[5] 3) Instrumental Analyzer Method ^[5]
14	Sulfuric Acid	Isokinetic Sampling, Barium-Thorin Titrimetric Method ^[5]
15	Total Suspended Particulate	Isokinetic Sampling, Gravimetric Method ^[5]
16	Xylene	Absorption Sampling, Gas Chromatographic Method ^[5]


 (นางจิราญจน์ จิตตรกุลชัย)
 ผู้อำนวยการศูนย์มาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษ
 กรมควบคุมมลพิษ

สิ่งปฏิกูล...

สิ่งปฏิกูลหรือวัสดุที่ไม่ใช้แล้ว จำนวน 35 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Aldrin	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[1,9,25] 2) Soxhlet Extraction, Gas Chromatographic Method ^[10,22] 3) Automated Soxhlet Extraction, Gas Chromatographic Method ^[22,31]
2	Antimony	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^[1,6,15] 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[1,6,16] 3) Digestion, Inductively Coupled Plasma Method ^[7,15] 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[7,16]
3	Arsenic	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^[1,6,15] 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[1,6,16] 3) Digestion, Inductively Coupled Plasma Method ^[7,15] 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[7,16]
4	Barium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^[1,6,15] 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[1,6,16] 3) Digestion, Inductively Coupled Plasma Method ^[7,15] 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[7,16]
5	Beryllium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^[1,6,15] 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[1,6,16] 3) Digestion, Inductively Coupled Plasma Method ^[7,15] 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[7,16]


 (นางจิราญจน์ จิตตรกุลชัย)
 ผู้อำนวยการศูนย์มาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษ
 กรมควบคุมมลพิษ

6 Cadmium...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
6	Cadmium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1,6,15) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1,6,16) 3) Digestion, Inductively Coupled Plasma Method ^(7,15) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,16)
7	Chlordane	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1,19,25) 2) Soxhlet Extraction, Gas Chromatographic Method ^(10,22) 3) Automated Soxhlet Extraction, Gas Chromatographic Method ^(22,31)
8	Chromium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1,6,15) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1,6,16) 3) Digestion, Inductively Coupled Plasma Method ^(7,15) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,16)
9	Chromium (III)	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method; Waste Extraction, Colorimetric Method; Calculation Method ^(1,6,15,17) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method; Waste Extraction, Colorimetric Method; Calculation Method ^(1,6,16,17) 3) Digestion, Inductively Coupled Plasma Method; Alkaline Digestion, Colorimetric Method; Calculation Method ^(7,8,15,17) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method; Alkaline Digestion, Colorimetric Method; Calculation Method ^(7,8,16,17)
10	Chromium (VI)	1) Waste Extraction, Colorimetric Method ^(1,6,17) 2) Alkaline Digestion, Colorimetric Method ^(8,17)

วิมล

(นางริกาญจน์ ฉัตรสกุลวิไล)

ผู้อำนวยการกลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษ
กรมควบคุมมลพิษ

11 Cobalt...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
11	Cobalt	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1,6,15) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1,6,16) 3) Digestion, Inductively Coupled Plasma Method ^(7,15) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,16)
12	Copper	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1,6,15) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1,6,16) 3) Digestion, Inductively Coupled Plasma Method ^(7,15) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,16)
13	2,4-D	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1,9,25) 2) Soxhlet Extraction, Gas Chromatographic Method ^(10,22) 3) Automated Soxhlet Extraction, Gas Chromatographic Method ^(22,31)
14	DDD	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1,9,25) 2) Soxhlet Extraction, Gas Chromatographic Method ^(10,22) 3) Automated Soxhlet Extraction, Gas Chromatographic Method ^(22,31)
15	DDE	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1,9,25) 2) Soxhlet Extraction, Gas Chromatographic Method ^(10,22) 3) Automated Soxhlet Extraction, Gas Chromatographic Method ^(22,31)
16	DDT	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1,9,25)

วิมล

(นางริกาญจน์ ฉัตรสกุลวิไล)

ผู้อำนวยการกลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษ
กรมควบคุมมลพิษ

2) Soxhlet...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
17	Dieldrin	2) Soxhlet Extraction, Gas Chromatographic Method ^[10,22] 3) Automated Soxhlet Extraction, Gas Chromatographic Method ^[22,31]
18	Endrin	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[1,9,25] 2) Soxhlet Extraction, Gas Chromatographic Method ^[10,22] 3) Automated Soxhlet Extraction, Gas Chromatographic Method ^[22,31]
19	Heptachlor	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[1,9,25] 2) Soxhlet Extraction, Gas Chromatographic Method ^[10,22] 3) Automated Soxhlet Extraction, Gas Chromatographic Method ^[22,31]
20	Lead	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^[1,6,15] 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[1,6,16] 3) Digestion, Inductively Coupled Plasma Method ^[7,15] 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[7,16]
21	Lindane	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[1,9,25] 2) Soxhlet Extraction, Gas Chromatographic Method ^[10,22] 3) Automated Soxhlet Extraction, Gas Chromatographic Method ^[22,31]
22	Mercury	1) Waste Extraction, Digestion, Cold-Vapor Atomic Absorption Spectrometric Method ^[1,6,18]

วิธีพิมพ์

(นางริกาญจน์ ฉัตรสกุลวิไล)

ผู้อำนวยการกลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษ

2) Waste Extraction...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
23	Methoxychlor	2) Waste Extraction, Thermal Decomposition Amalgamation and Atomic Absorption Spectrometric Method ^[1,6,19] 3) Waste Extraction, Digestion, Cold-Vapor Atomic Fluorescence Spectrometric Method ^[1,6,20] 4) Digestion, Cold-Vapor Atomic Absorption Spectrometric Method ^[18] 5) Thermal Decomposition Amalgamation and Atomic Absorption Spectrometric Method ^[19] 6) Digestion, Cold-Vapor Atomic Fluorescence Spectrometric Method ^[20]
24	Mirex	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^[1,9,25] 2) Soxhlet Extraction, Gas Chromatographic Method ^[10,22] 3) Automated Soxhlet Extraction, Gas Chromatographic Method ^[22,31]
25	Molybdenum	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^[1,6,15] 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[1,6,16] 3) Digestion, Inductively Coupled Plasma Method ^[7,15] 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[7,16]
26	Nickel	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^[1,6,15] 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[1,6,16] 3) Digestion, Inductively Coupled Plasma Method ^[7,15] 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[7,16]


วิธีพิมพ์

(นางริกาญจน์ ฉัตรสกุลวิไล)

ผู้อำนวยการกลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษ


27 Polychlorinated...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
27	Polychlorinated biphenyls (PCBs) - Aroclor 1016 - Aroclor 1221 - Aroclor 1232 - Aroclor 1242 - Aroclor 1248 - Aroclor 1254 - Aroclor 1260 - 2-Chlorobiphenyl - 2,3-Dichlorobiphenyl - 2,2',5'-Trichlorobiphenyl - 2,4',5'-Trichlorobiphenyl - 2,2',3,5'-Tetrachlorobiphenyl - 2,2',5,5'-Tetrachlorobiphenyl - 2,3',4,4'-Tetrachlorobiphenyl - 2,2',3,4,5'-Pentachlorobiphenyl - 2,2',4,5,5'-Pentachlorobiphenyl - 2,3,3',4',6-Pentachlorobiphenyl - 2,2',3,4,4',5'-Hexachlorobiphenyl - 2,2',3,4,5,5'-Hexachlorobiphenyl - 2,2',3,5,5',6-Hexachlorobiphenyl - 2,2',4,4',5,5'-Hexachlorobiphenyl - 2,2',3,3',4,4',5'-Heptachlorobiphenyl - 2,2',3,4,4',5,5'-Heptachlorobiphenyl - 2,2',3,4,4',5,6'-Heptachlorobiphenyl - 2,2',3,4',5,5',6'-Heptachlorobiphenyl - 2,2',3,3',4,4',5,5',6'-Nonachlorobiphenyl	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic Method ^(1,9,23) 2) Soxhlet Extraction, Gas Chromatographic Method ^(10,23) 3) Automated Soxhlet Extraction, Gas Chromatographic Method ^(22,31)


 (นางริกาญจน์ จิตรสกุลวิไล)
 ผู้อำนวยการกลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษ

28 Pentachlorophenol...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
28	Pentachlorophenol	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1,9,25) 2) Soxhlet Extraction, Gas Chromatographic Method ^(10,22) 3) Automated Soxhlet Extraction, Gas Chromatographic Method ^(22,31)
29	pH	Electrometric Method ^(29,30)
30	Selenium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1,6,15) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1,6,16) 3) Digestion, Inductively Coupled Plasma Method ^(7,15) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,16)
31	Silver	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1,6,15) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1,6,16)
32	Thallium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1,6,15) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1,6,16) 3) Digestion, Inductively Coupled Plasma Method ^(7,15) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,16)
33	Toxaphene	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1,9,25) 2) Soxhlet Extraction, Gas Chromatographic Method ^(10,22) 3) Automated Soxhlet Extraction, Gas Chromatographic Method ^(22,31)
34	Vanadium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1,6,15) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1,6,16) 3) Digestion, Inductively Coupled Plasma Method ^(7,15)


 (นางริกาญจน์ จิตรสกุลวิไล)
 ผู้อำนวยการกลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษ

4) Digestion...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
35	Zinc	4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[7,16] 1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^[1,6,15] 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[1,6,16] 3) Digestion, Inductively Coupled Plasma Method ^[7,15] 4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[7,16]

ดิน จำนวน 125 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Acenaphthene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
2	Acetone	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
3	Aldrin	1) Soxhlet Extraction, Gas Chromatographic Method ^[10,22] 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
4	Anthracene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
5	Antimony	1) Digestion, Inductively Coupled Plasma Method ^[7,15] 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[7,16]
6	Arsenic	1) Digestion, Inductively Coupled Plasma Method ^[7,15] 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[7,16]
7	Atrazine	1) Soxhlet Extraction, Gas Chromatographic Method ^[10,22] 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
8	Barium	1) Digestion, Inductively Coupled Plasma Method ^[7,15] 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[7,16]

วิทย์
(นางริกาญจน์ ฉัตรสกุลวิไล)

ผู้อำนวยการกลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษ

9 Benz(a)anthracene...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
9	Benz(a)anthracene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
10	Benzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
11	Benzo(b)fluoranthene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
12	Benzo(k)fluoranthene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
13	Benzoic acid	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
14	Benzo(a)pyrene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
15	Benzo(g,h,i)perylene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
16	Beryllium	1) Digestion, Inductively Coupled Plasma Method ^[7,15] 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[7,16]
17	Bis(2-chloroethyl)ether	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
18	Bis(2-ethylhexyl)phthalate	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
19	Bromodichloromethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
20	Bromoform	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
21	Butanol	Equilibrium Headspace, Gas Chromatographic/ Mass Spectrometric Method ^[12,24]
22	Butyl Benzyl Phthalate	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
23	Cadmium	1) Digestion, Inductively Coupled Plasma Method ^[7,15] 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[7,16]
24	Carbazole	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
25	Carbon Disulfide	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]

วิทย์
(นางริกาญจน์ ฉัตรสกุลวิไล)

ผู้อำนวยการกลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษ

26 Carbon tetrachloride...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
26	Carbon tetrachloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
27	Chlordane	1) Soxhlet Extraction, Gas Chromatographic Method ^[10,22] 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
28	p-Chloroaniline	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
29	Chlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
30	Chlorodibromomethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
31	Chloroform	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
32	2-Chlorophenol	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
33	Chromium	1) Digestion, Inductively Coupled Plasma Method ^[7,15] 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[7,16]
34	Chromium (III)	1) Digestion, Inductively Coupled Plasma Method; Alkaline Digestion, Colorimetric Method; Calculation Method ^[7,8,15,17] 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method; Alkaline Digestion, Colorimetric Method; Calculation Method ^[7,8,16,17]
35	Chromium (VI)	Alkaline Digestion, Colorimetric Method ^[8,17]
36	Chrysene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
37	Cyanide	Extraction, Distillation, Colorimetric Method ^[26,27,28]
38	2,4-D	1) Soxhlet Extraction, Gas Chromatographic Method ^[10,22] 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
39	DDD	1) Soxhlet Extraction, Gas Chromatographic Method ^[10,22] 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]

40 DDE...

(นางริกาญจน์ ฉัตรสกุลวิไล)

ผู้อำนวยการศูนย์มาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
40	DDE	1) Soxhlet Extraction, Gas Chromatographic Method ^[10,22] 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
41	DDT	1) Soxhlet Extraction, Gas Chromatographic Method ^[10,22] 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
42	Dibenz(a,h)anthracene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
43	Di-n-Butyl Phthalate	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
44	1,2-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
45	1,3-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
46	1,4-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
47	3,3-Dichlorobenzidine	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
48	1,1-Dichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
49	1,2-Dichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
50	1,1-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
51	cis-1,2-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
52	trans-1,2-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
53	2,4-Dichlorophenol	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
54	1,2-Dichloropropane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
55	1,3-Dichloropropane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
56	1,3-Dichloropropene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]

57 Dieldrin...

(นางริกาญจน์ ฉัตรสกุลวิไล)

ผู้อำนวยการศูนย์มาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
57	Dieldrin	1) Soxhlet Extraction, Gas Chromatographic Method ^[10,22] 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[25,31]
58	Diethyl Phthalate	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[25,31]
59	2,4-Dimethylphenol	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[25,31]
60	2,4-Dinitrophenol	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[25,31]
61	2,4-Dinitrotoluene	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[25,31]
62	2,6-Dinitrotoluene	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[25,31]
63	Di-n-Octyl Phthalate	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[25,31]
64	Endosulfan	1) Soxhlet Extraction, Gas Chromatographic Method ^[10,22] 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[25,31]
65	Endrin	1) Soxhlet Extraction, Gas Chromatographic Method ^[10,22] 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[25,31]
66	Ethylbenzene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[14,24]
67	Fluoranthene	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[25,31]
68	Fluorene	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[25,31]
69	Heptachlor	1) Soxhlet Extraction, Gas Chromatographic Method ^[10,22] 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[25,31]
70	Heptachlor Epoxide	1) Soxhlet Extraction, Gas Chromatographic Method ^[10,22] 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[25,31]

วิทย์
(นางรวิภาญจน์ อัครสกุลวิไล)
ผู้อำนวยการกลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษ

71 Hexachlorobenzene...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
71	Hexachlorobenzene	1) Soxhlet Extraction, Gas Chromatographic Method ^[10,22] 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[25,31]
72	Hexachloro-1,3-butadiene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[14,24]
73	n-Hexane	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^[14,24]
74	α-HCH	1) Soxhlet Extraction, Gas Chromatographic Method ^[10,22] 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[25,31]
75	β-HCH	1) Soxhlet Extraction, Gas Chromatographic Method ^[10,22] 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[25,31]
76	γ-HCH	1) Soxhlet Extraction, Gas Chromatographic Method ^[10,22] 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[25,31]
77	Hexachlorocyclopentadiene	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[25,31]
78	Hexachloroethane	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[25,31]
79	Indeno(1,2,3-cd)pyrene	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[25,31]
80	Isophorone	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^[25,31]
81	Lead	1) Digestion, Inductively Coupled Plasma Method ^[7,15] 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[7,16]
82	Manganese	1) Digestion, Inductively Coupled Plasma Method ^[7,15] 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^[7,16]
83	Mercury	1) Digestion, Cold-Vapor Atomic Absorption Spectrometric Method ^[18]

วิทย์
(นางรวิภาญจน์ อัครสกุลวิไล)
ผู้อำนวยการกลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษ
และเจ้าหน้าที่ปฏิบัติการ

2) Thermal...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
84	Methanol	2) Thermal Decomposition, Amalgamation, and Atomic Absorption Spectrophotometry ^[19] 3) Digestion, Cold-Vapor Atomic Fluorescence Spectrometric Method ^[20] Equilibrium Headspace, Gas Chromatographic/ Mass Spectrometric Method ^[12,24]
85	Methoxychlor	1) Soxhlet Extraction, Gas Chromatographic Method ^[10,22] 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
86	Methyl Bromide	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
87	Methylene Chloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
88	2-methylphenol	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
89	2-Methylnaphthalene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
90	Methyl tert-Butyl Ether	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
91	Naphthalene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
92	Nickel	1) Digestion, Inductively Coupled Plasma Method ^[7,15] 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[7,16]
93	Nitrobenzene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
94	N-Nitrosodiphenylamine	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
95	N-Nitrosodi-n-propylamine	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
96	Polychlorinated biphenyls (PCBs) - Aroclor 1016 - Aroclor 1221 - Aroclor 1232	1) Soxhlet Extraction, Gas Chromatographic Method ^[10,23] 2) Automated Soxhlet Extraction, Gas Chromatographic Method ^[23,32]

อัทฉะ
(นางริกาญจน์ ฉัตรสกุลวิไล)
ผู้อำนวยการกลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษ

- Aroclor 1242...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
	- Aroclor 1242 - Aroclor 1248 - Aroclor 1254 - Aroclor 1260 - 2-Chlorobiphenyl - 2,2',3,5'-Tetrachlorobiphenyl - 2,2',5,5'-Tetrachlorobiphenyl - 2,3',4,4'-Tetrachlorobiphenyl - 2,2',3,4,5'-Pentachlorobiphenyl - 2,2',4,5,5'-Pentachlorobiphenyl - 2,3,3',4',6-Pentachlorobiphenyl - 2,2',3,4,4',5'-Hexachlorobiphenyl - 2,2',3,4,5,5'-Hexachlorobiphenyl - 2,2',3,5,5',6-Hexachlorobiphenyl - 2,2',4,4',5,5'-Hexachlorobiphenyl - 2,2',3,3',4,4',5-Heptachlorobiphenyl - 2,2',3,4,4',5,5'-Heptachlorobiphenyl - 2,2',3,4,4',5,6-Heptachlorobiphenyl - 2,2',3,4',5,5',6-Heptachlorobiphenyl - 2,2',3,3',4,4',5,6-Nonachlorobiphenyl	
97	Pentachlorophenol	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
98	Phenanthrene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
99	Phenol	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
100	Pyrene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]

อัทฉะ
(นางริกาญจน์ ฉัตรสกุลวิไล)
ผู้อำนวยการกลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษ
คณะเบื้ยนห้องปฏิบัติการ

101 Selenium...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
101	Selenium	1) Digestion, Inductively Coupled Plasma Method ^[7,15] 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[7,16]
102	Silver	1) Digestion, Inductively Coupled Plasma Method ^[7,15] 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[7,16]
103	Styrene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
104	1,1,2,2-Tetrachloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
105	Tetrachloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
106	Toluene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
107	Toxaphene	1) Soxhlet Extraction, Gas Chromatographic Method ^[10,22] 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
108	TPH (C ₅ -C ₈)	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
109	TPH (C ₈ -C ₁₆)	1) Solvent Extraction, Gas Chromatographic Method ^[11,21] 2) Automated Soxhlet Extraction, Gas Chromatographic Method ^[21,31]
110	TPH (C ₁₆ -C ₃₅)	1) Solvent Extraction, Gas Chromatographic Method ^[11,21] 2) Automated Soxhlet Extraction, Gas Chromatographic Method ^[21,31]
111	1,2,4-Trichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
112	1,1,1-Trichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
113	1,1,2-Trichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
114	Trichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
115	2,4,5-Trichlorophenol	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]

วิมล

116 2,4,6-Trichlorophenol...

(นางริกาญจน์ ฉัตรสกุลวิไล)

ผู้อำนวยการศูนย์มาตรฐานวิชาการวิเคราะห์ทดสอบมลพิษ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
116	2,4,6-Trichlorophenol	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^[25,31]
117	1,3,5-Trimethylbenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
118	Vanadium	1) Digestion, Inductively Coupled Plasma Method ^[7,15] 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[7,16]
119	Vinyl Acetate	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
120	Vinyl Chloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
121	m-Xylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
122	o-Xylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
123	p-Xylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
124	Xylene (Total)	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^[14,24]
125	Zinc	1) Digestion, Inductively Coupled Plasma Method ^[7,15] 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[7,16]

เอกสารอ้างอิง

- กระทรวงอุตสาหกรรม. ประกาศกระทรวงอุตสาหกรรม, พ.ศ. 2548. เรื่อง การกำจัดสิ่งปฏิกูลหรือวัสดุที่ไม่ใช้แล้ว.ราชกิจจานุเบกษา. 25 มกราคม 2549. เล่มที่ 123 ตอนพิเศษ 11ง.
- กระทรวงอุตสาหกรรม. ประกาศกระทรวงอุตสาหกรรม, พ.ศ. 2549. เรื่อง กำหนดค่าปริมาณเขม่าควันที่เจือปนในอากาศที่ระบายออกจากปล่องของหม้อน้ำโรงสีข้าวที่ใช้กลบเป็นเชื้อเพลิง.ราชกิจจานุเบกษา. 4 ธันวาคม 2549. เล่มที่ 123 ตอนพิเศษ 125ง.
- สมาคมวิศวกรรมสิ่งแวดล้อมแห่งประเทศไทย. คู่มือวิเคราะห์น้ำเสีย. พิมพ์ครั้งที่ 4. กรุงเทพฯ: เรือนแก้วการพิมพ์, 2547.
- APHA, AWWA, WEF. Standard Methods for the Examination of Water and Wastewater. 23rd ed. Washington, DC: APHA, 2017.
- United States Environmental Protection Agency. Standards of Performance for New Stationary Sources. 40 CFR 60. Appendix A, 2019.
- United States Environmental Protection Agency. Test Methods for Evaluation Solid Waste Physical/Chemical Methods. SW-846, 1997.


วิมล

7. United States...

(นางริกาญจน์ ฉัตรสกุลวิไล)


ผู้อำนวยการศูนย์มาตรฐานวิชาการวิเคราะห์ทดสอบมลพิษ

7. United States Environmental Protection Agency. Test Methods for Evaluation Solid Waste Physical/Chemical Methods. Acid Digestion of Sludges and Sediments and Soils. SW-846 Method 3050B, 1996.
8. United States Environmental Protection Agency. Test Methods for Evaluation Solid Waste Physical/Chemical Methods. Alkaline Digestion for Hexavalent Chromium. SW-846 Method 3060A, 1996.
9. United States Environmental Protection Agency. Test Methods for Evaluation Solid Waste Physical/Chemical Methods. Separatory Funnel Liquid-Liquid Extraction. SW-846 Method 3510C, 1996.
10. United States Environmental Protection Agency. Test Methods for Evaluation Solid Waste Physical/Chemical Methods. Soxhlet Extraction. SW-846 Method 3540C, 1996.
11. United States Environmental Protection Agency. Test Methods for Evaluation Solid Waste Physical/Chemical Methods. Microscale Solvent Extraction (MSE). SW-846 Method 3570, 2002.
12. United States Environmental Protection Agency. Test Methods for Evaluation Solid Waste Physical/Chemical Methods. Volatile Organic Compounds (VOCs) in Various Sample Matrices Using Equilibrium Headspace Analysis. SW-846 Method 5021A, 2014.
13. United States Environmental Protection Agency. Test Methods for Evaluation Solid Waste Physical/Chemical Methods. Purge-and-Trap for Aqueous Samples. SW-846 Method 5030B, 1996.
14. United States Environmental Protection Agency. Test Methods for Evaluation Solid Waste Physical/Chemical Methods. Closed-System Purge-and-Trap and Extraction for Volatile Organics in Soil and Waste Samples. SW-846 Method.5035, 1996.
15. United States Environmental Protection Agency. Test Methods for Evaluation Solid Waste Physical/Chemical Methods. Inductively Coupled Plasma- Atomic Emission Spectrometry. SW-846 Method 6010B, 1996.
16. United States Environmental Protection Agency. Test Methods for Evaluation Solid Waste Physical/Chemical Methods. Inductively Coupled Plasma-Mass Spectrometry. SW-846 Method 6020A, 2007.
17. United States Environmental Protection Agency. Test Methods for Evaluation Solid Waste Physical/Chemical Methods. Chromium, Hexavalent (Colorimetric). SW-846 Method 7196A, 1992.
18. United States Environmental Protection Agency. Test Methods for Evaluation Solid Waste Physical/Chemical Methods. Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique). SW-846 Method 7471B, 2007.
19. United States Environmental Protection Agency. Test Methods for Evaluation Solid Waste Physical/Chemical Methods. Mercury in Solids and Solutions by Thermal Decomposition, Amalgamation, and Atomic Absorption Spectrophotometry. SW-846 Method 7473, 2007


(นางริภาญจน์ จัตรสกุลวิไล)
ผู้อำนวยการกลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษ
www.pob.go.th

20. United States...

20. United States Environmental Protection Agency. Test Methods for Evaluation Solid Waste Physical/Chemical Methods. Mercury in Sediment and Tissue Sample by Atomic Fluorescence Spectrometry. SW-846 Method 7474, 2007.
21. United States Environmental Protection Agency. Test Methods for Evaluation Solid Waste Physical/Chemical Methods. Nonhalogenated Organics Using GC/FID. SW-846 Method 8015B, 1996.
22. United States Environmental Protection Agency. Test Methods for Evaluation Solid Waste Physical/Chemical Methods. Organochlorine Pesticides by Gas Chromatography. SW-846 Method 8081B, 2007.
23. United States Environmental Protection Agency. Test Methods for Evaluation Solid Waste Physical/Chemical Methods. Polychlorinated Biphenyls (PCBs) by Gas Chromatography. SW-846 Method 8082, 1996.
24. United States Environmental Protection Agency. Test Methods for Evaluation Solid Waste Physical/Chemical Methods. Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS). SW-846 Method 8260D, 2018.
25. United States Environmental Protection Agency. Test Methods for Evaluation Solid Waste Physical/Chemical Methods. Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS). SW-846 Method 8270E, 2018.
26. United States Environmental Protection Agency. Test Methods for Evaluation Solid Waste Physical/Chemical Methods. Total and Amenable Cyanide: Distillation SW-846 Method 9010B, 1996.
27. United States Environmental Protection Agency. Test Methods for Evaluation Solid Waste Physical/Chemical Methods. Cyanide Extraction Procedure for Solids and Oil. SW-846 Method 9013A, 1996.
28. United States Environmental Protection Agency. Test Methods for Evaluation Solid Waste Physical/Chemical Methods. Cyanide in Waters and Extracts Using Titrimetric and Manual Spectrophotometric Procedures. SW-846 Method 9014, 2014.
29. United States Environmental Protection Agency. Test Methods for Evaluation Solid Waste Physical/Chemical Methods. pH Electrometric Measurement. SW-846 Method 9040C, 2004.
30. United States Environmental Protection Agency. Test Methods for Evaluation Solid Waste Physical/Chemical Methods. Soil and Waste pH. SW-846 Method 9045D, 2004.
31. United States Environmental Protection Agency. Test Methods for Evaluation Solid Waste Physical/Chemical Methods. Automated Soxhlet Extraction. SW-846 Method 3541, 1994.


(นางริภาญจน์ จัตรสกุลวิไล)
ผู้อำนวยการกลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษ
และทะเบียนห้องปฏิบัติการ

กลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษและทะเบียนห้องปฏิบัติการ กองวิจัยและเตือนภัยมลพิษโรงงาน กรมโรงงานอุตสาหกรรม โทร. ๐ ๒๒๐๒ ๔๐๐๒, ๔๑๔๖



บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด

104 ซ. พัฒนาการ 40 ถ. พัฒนาการ แขวงพัฒนาการ เขตสวนหลวง กรุงเทพฯ 10250

โทรศัพท์ 0-2715-8700 โทรสาร 0-2715-8799 www.alsglobal.com