

ภาคผนวก ค

ผลการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม

ภาคผนวก ค-1

ผลการตรวจวัดคุณภาพอากาศจากปล่องระบาย



Analysis / Test Report

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

P/O :
Project Name : Air Testing
Project Location :

Lot ID: 2314336
Date Received : Feb 24, 2023
Date Reported : Mar 03, 2023
Report Number: 2561822-1

Page 1 of 1

Sample Number : 2314336-1
Sampled Date : Feb 23, 2023
Sample Description : Emission from Stationary Source
Location : Boiler #2 57T Tsa 2
Date Analysis Commenced : Feb 27, 2023
Condition of Sample : Extracted into two 2-L collection flasks, one 10-L air sampling bag, one filter paper placed in plastic petri dish and one amber plastic bottle, refrigerated

Stack Description

Ambient Pressure	748	mmHg	Diameter	2.90	m	Oxygen	12.8	%
Ambient Temperature	30.0	°C	Shape	Circle		Carbon Dioxide	8.1	%
Type of Process	Combustion		Stack Temperature	72.7	°C	Gas Velocity	5.7	m/s
Type of Fuel	Biomass (Bagasse)		Moisture	14.57	%	Flow Rate (Actual Q2)	98648	Nm ³ /hr

Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result at 7 % O ₂	Guideline Limit	Method	Testing Location
Air Testing								
Carbon Monoxide	10:20 AM - 10:30 AM	ppm	-	1.0	150	690	United States Environmental Protection Agency, EPA Method 10	Bangkok
Oxides of Nitrogen	10:00 AM - 10:10 AM	ppm	-	1.06	19.6	200	United States Environmental Protection Agency, EPA Method 7	Bangkok
Sulfur dioxide	10:00 AM - 10:30 AM	ppm	-	2.0	<2.00	60	United States Environmental Protection Agency, EPA Method 6	Bangkok
Total Suspended Particulate	10:00 AM - 10:42 AM	mg/m ³	-	0.5	84.0	320	United States Environmental Protection Agency, EPA Method 5	Bangkok

Guideline : Notification of the Ministry of Industry 2005 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)

Sampled By : Kritsana Salwan, Prasert Surakhon

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

Technical Management

Orawan R.
Orawan Rakying
Scientist (3)
โทรศัพท์ 0-204-6115

Approved by

Kanokkorn Anek
Kanokkorn Anek
Senior Manager
โทรศัพท์ 0-204-6111

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Analysis / Test Report

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

P/O :
Project Name : Air Testing
Project Location :

Lot ID: 2314336
Date Received : Feb 24, 2023
Date Reported : Mar 03, 2023
Report Number: 2561822-2

Page 1 of 1

Reference Number : 2314336-1
Sampling Date : Feb 23, 2023
Sample Description : Emission from Stationary Source
Location : Boiler #2 57T Tsa 2
Type of Fuel : Biomass (Bagasse)

สรุปผลการตรวจวัด Opacity

ผลการตรวจวัดค่าความทึบแสงของผู้ตรวจวัดคนที่ 1	ผลการตรวจวัดค่าความทึบแสงของผู้ตรวจวัดคนที่ 2
ชื่อ นายอภิเดช นามสกุล สาขารักษ์	ชื่อ นายประเสริฐ นามสกุล สุระพันธ์
ตำแหน่ง นักวิทยาศาสตร์	ตำแหน่ง นักวิทยาศาสตร์
สังกัด แผนกตรวจวัดสิ่งแวดล้อมภาคสนาม	สังกัด แผนกตรวจวัดสิ่งแวดล้อมภาคสนาม
ค่าความทึบแสงที่ตรวจวัดได้ ร้อยละ 6.75	ค่าความทึบแสงที่ตรวจวัดได้ ร้อยละ 6.91

ค่าความแตกต่างของผลการตรวจวัดระหว่างผู้ตรวจวัดแต่ละคน
= ผลการตรวจวัดค่าความทึบแสงของผู้ตรวจวัดคนที่ 1 - ผลการตรวจวัดค่าความทึบแสงของผู้ตรวจวัดคนที่ 2
= 0.16
☐ ผลการตรวจวัดใช้เทียบกันมาตรฐานไม่ได้ ต้องตรวจวัดใหม่
☒ ผลการตรวจวัดใช้เทียบกันมาตรฐานได้

สรุปผลการตรวจวัดค่าความทึบแสงของเขม่าควันจากสถานประกอบการที่ไปพบ
ค่าความทึบแสงของเขม่าควัน
= ผลการตรวจวัดของผู้ตรวจวัดคนที่ 1 + ผลการตรวจวัดของผู้ตรวจวัดคนที่ 2
2 = 6.83
☐ เกินมาตรฐานค่าความทึบแสงร้อยละ 10
☒ ไม่เกินมาตรฐานค่าความทึบแสงร้อยละ 10

หมายเหตุ 1) ที่มาตรฐาน : ประกาศกระทรวงอุตสาหกรรม เรื่อง กำหนดค่าปริมาณเขม่าควันที่เจือปนในอากาศ ที่ระเหยออกจากปล่องของหม้อไอน้ำโรงงาน พ.ศ. 2549

ลงชื่อ *KRITSANA* ผู้ตรวจวัดคนที่ 1
(กฤษณะ สาขารักษ์)
วันที่ 23 เดือน กุมภาพันธ์ พ.ศ. 2566

ลงชื่อ *Prasert S.* ผู้ตรวจวัดคนที่ 2
(ประเสริฐ สุระพันธ์)
วันที่ 23 เดือน กุมภาพันธ์ พ.ศ. 2566

Approved by

Sarayu Jitranont
Sarayu Jitranont
Assistant General Manager

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Analysis / Test Report

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

P/O :
Project Name : Air Testing
Project Location :

Lot ID: 2314334
Date Received : Feb 24, 2023
Date Reported : Mar 03, 2023
Report Number: 2561819-1

Page 1 of 4

Sample Number : 2314334-1
Sampled Date : Feb 22, 2023
Sample Description : Emission from Stationary Source
Location : โรงงาน Boiler #1 80T 1st 2
Date Analysis Commenced : Feb 27, 2023
Condition of Sample : Drawn into two 2-L collection flasks, one 10-L air sampling bag, one filter paper placed in plastic petri dish and one amber plastic bottle, refrigerated

Stack Description									
Ambient Pressure	748	mmHg	Diameter	2.90	m	Oxygen	10.7	%	
Ambient Temperature	30.0	°C	Shape	Circle		Carbon Dioxide	10.1	%	
Type of Process	Combustion		Stack Temperature	84.2	°C	Gas Velocity	12.2	m/s	
Type of Fuel	Biomass (Bagasse)		Moisture	15.97	%	Flow Rate (Actual O2)	200395	Nm3/hr	
Analyte	Sampled Time	Unit	LOD	LOQ (LOR)	Result at 7 %O ₂	Guideline Limit	Method	Testing Location	
Air Testing									
Oxides of Nitrogen	02:10 PM - 02:20 PM	ppm	-	1.06	58.4	200	United States Environmental Protection Agency, EPA Method 7	Bangkok	
Sulfur dioxide	02:10 PM - 02:40 PM	ppm	-	2.0	<2.00	60	United States Environmental Protection Agency, EPA Method 6	Bangkok	
Total Suspended Particulate	02:10 PM - 02:52 PM	mg/m3	-	0.5	100	320	United States Environmental Protection Agency, EPA Method 5	Bangkok	

Guideline : Notification of the Ministry of Industry 2005 (B.E. 2549) Published in the Royal Government Gazette, Vol.123 Special Part 125 D, dated December 4, 2006 (B.E. 2549)

Sampled By : Kritsana Saliwan, Prasert Surakhan

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

Technical Management : *Orawan R.*
Orawan Rakying
Scientist (3)
ทะเบียนเลขที่ 2-204-4-6115

Approved by : *Kanokorn Anek*
Kanokorn Anek
Senior Manager
ทะเบียนเลขที่ 2-204-4-6111

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Analysis / Test Report

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

P/O :
Project Name : Air Testing
Project Location :

Lot ID: 2314334
Date Received : Feb 24, 2023
Date Reported : Mar 03, 2023
Report Number : 2561819-2

Page 1 of 1

Reference Number : 2314334-1
Sampling Date : Feb 22, 2023
Sample Description : Emission from Stationary Source
Location : โรงงาน Boiler #1 80T 1st 2
Type of Fuel : Biomass (Bagasse)

สรุปผลการตรวจวัด Opacity

ผลการตรวจวัดค่าความทึบแสงของฝุ่นละอองที่ 1 : ผลการตรวจวัดค่าความทึบแสงของฝุ่นละอองที่ 2 :
ชื่อ นายเอกชัย : นายสุก สำนวณ : ชื่อ นายประเสริฐ : นายสุก สุระอินทร์ :
ตำแหน่ง นักวิทยาศาสตร์ : ตำแหน่ง นักวิทยาศาสตร์ :
สังกัด แผนกตรวจวัดสิ่งแวดล้อมภาคสนาม : สังกัด แผนกตรวจวัดสิ่งแวดล้อมภาคสนาม :
ค่าความทึบแสงที่ตรวจวัดได้ ร้อยละ : 7.50 : ค่าความทึบแสงที่ตรวจวัดได้ ร้อยละ : 7.66

ค่าความแตกต่างของผลการตรวจวัดระหว่างผู้ตรวจวัดแต่ละคน
= ผลการตรวจวัดค่าความทึบแสงของฝุ่นละอองที่ 1 - ผลการตรวจวัดค่าความทึบแสงของฝุ่นละอองที่ 2
= 0.16

☐ ผลการตรวจวัดใช้เทียบมาตรฐานไม่ได้ ต้องตรวจวัดใหม่
☒ ผลการตรวจวัดใช้เทียบมาตรฐานได้

สรุปผลการตรวจวัดค่าความทึบแสงของเขม่าควันจากสถานะประกอบกิจการที่ใช้หม้อไอน้ำ

ค่าความทึบแสงของเขม่าควัน
= ผลการตรวจวัดค่าความทึบแสงของฝุ่นละอองที่ 1 + ผลการตรวจวัดค่าความทึบแสงของฝุ่นละอองที่ 2
2 = 7.58

☐ เกินมาตรฐานค่าความทึบแสงร้อยละ 10 ☒ ไม่เกินมาตรฐานค่าความทึบแสงร้อยละ 10

หมายเหตุ 1) ขึ้นค่ามาตรฐาน : ปรอทตรวจวัดสถานะธรรม เรื่อง กำหนดค่าปริมาณเขม่าควันที่เจือปนในอากาศ ที่ระบอบจากแปลงของหม้อไอน้ำของโรงงาน พ.ศ. 2549

ลงชื่อ KRITSANA ผู้ตรวจวัดคนที่ 1
(กฤษณะ สำนวณ)
วันที่ 22 เดือน กุมภาพันธ์ พ.ศ. 2566

ลงชื่อ Prasert S. ผู้ตรวจวัดคนที่ 2
(ประเสริฐ สุระอินทร์)
วันที่ 22 เดือน กุมภาพันธ์ พ.ศ. 2566

Approved by : *Sarayu Jitranont*
Sarayu Jitranont
Assistant General Manager

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ภาคผนวก ค-2

ผลการตรวจวัดคุณภาพอากาศโดยทั่วไป



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 : Factory License No.10410000125343_EIA Monitoring
Project Location :

Lot ID: 2315523
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2564552-1

Page 1 of 1

Sample Description	Air Quality				
Location	วัดสวนผักนาก (GPS 48Q 281051, 1891307)				
Date Analysis Commenced	Mar 20, 2023				
Condition of Sample	Drawn into one glass filter paper (8x10 inch) placed in plastic bag and one quartz filter paper (8x10 inch) placed in plastic bag				
Sample Number	Sampled Date	Total Suspended Particulate (mg/m3)	Particulate Matter (PM-10) (mg/m3)	Barometric Pressure (mm Hg)	Atmospheric Temperature (°C)
2315523-1	Mar 08 - Mar 09, 2023	0.269	0.089	747	28
2315523-2	Mar 09 - Mar 10, 2023	0.172	0.053	747	29
2315523-3	Mar 10 - Mar 11, 2023	0.182	0.058	747	30
2315523-4	Mar 11 - Mar 12, 2023	0.247	0.081	747	32
2315523-5	Mar 12 - Mar 13, 2023	0.153	0.038	747	31
2315523-6	Mar 13 - Mar 14, 2023	0.104	0.028	747	29
2315523-7	Mar 14 - Mar 15, 2023	0.188	0.051	747	30
Guideline		0.33	0.12	-	-

Reference Method

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

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

Sampled By : Natthapon Kunasut

Remark :

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

Approved by

Orawan R.

Orawan Rakyong
Scientist (3)

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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 : Factory License No.10410000125343_EIA Monitoring
Project Location :

Lot ID: 2315524
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2564559-1

Page 1 of 1

Sample Description	Air Quality				
Location	วัดสวนผักนาก (GPS 48Q 279878, 1889419)				
Date Analysis Commenced	Mar 20, 2023				
Condition of Sample	Drawn into one glass filter paper (8x10 inch) placed in plastic bag and one quartz filter paper (8x10 inch) placed in plastic bag				
Sample Number	Sampled Date	Total Suspended Particulate (mg/m3)	Particulate Matter (PM-10) (mg/m3)	Barometric Pressure (mm Hg)	Atmospheric Temperature (°C)
2315524-1	Mar 08 - Mar 09, 2023	0.210	0.079	747	28
2315524-2	Mar 09 - Mar 10, 2023	0.180	0.059	747	29
2315524-3	Mar 10 - Mar 11, 2023	0.183	0.058	747	30
2315524-4	Mar 11 - Mar 12, 2023	0.183	0.071	747	32
2315524-5	Mar 12 - Mar 13, 2023	0.161	0.048	747	31
2315524-6	Mar 13 - Mar 14, 2023	0.085	0.030	747	29
2315524-7	Mar 14 - Mar 15, 2023	0.137	0.056	747	30
Guideline		0.33	0.12	-	-

Reference Method

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

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

Sampled By : Natthapon Kunasut

Remark :

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

Approved by

Orawan R.

Orawan Rakyong
Scientist (3)

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Analysis / Test Report



TESTING
No.0009

Client : Kasol Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :

Lot ID: 2315525
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2564567-1

Page 1 of 1

Sample Description : Air Quality
Location : บ้านสวน (GPS 48Q 278998, 1887277)
Date Analysis Commenced : Mar 20, 2023
Condition of Sample : Drawn into one glass filter paper (8x10 inch) placed in plastic bag and one quartz filter paper (8x10 inch) placed in plastic bag

Sample Number	Sampled Date	Total Suspended Particulate (mg/m3)	Particulate Matter (PM-10) (mg/m3)	Barometric Pressure (mm Hg)	Atmospheric Temperature (°C)
2315525-1	Mar 08 - Mar 09, 2023	0.182	0.078	747	28
2315525-2	Mar 09 - Mar 10, 2023	0.116	0.047	747	29
2315525-3	Mar 10 - Mar 11, 2023	0.139	0.060	747	30
2315525-4	Mar 11 - Mar 12, 2023	0.173	0.068	747	32
2315525-5	Mar 12 - Mar 13, 2023	0.103	0.035	747	31
2315525-6	Mar 13 - Mar 14, 2023	0.065	0.027	747	29
2315525-7	Mar 14 - Mar 15, 2023	0.140	0.049	747	30
Guideline		0.33	0.12	-	-

Reference Method

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

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

Remark :

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

Approved by

Orawan R.

Orawan Rakhyong
Scientist (3)

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Analysis / Test Report



TESTING
No.0009

Client : Kasol Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :

Lot ID: 2315526
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2564570-1

Page 1 of 1

Sample Description : Air Quality
Location : บ้านสวน (GPS 48Q 276878, 1887972)
Date Analysis Commenced : Mar 20, 2023
Condition of Sample : Drawn into one glass filter paper (8x10 inch) placed in plastic bag and one quartz filter paper (8x10 inch) placed in plastic bag

Sample Number	Sampled Date	Total Suspended Particulate (mg/m3)	Particulate Matter (PM-10) (mg/m3)	Barometric Pressure (mm Hg)	Atmospheric Temperature (°C)
2315526-1	Mar 08 - Mar 09, 2023	0.177	0.079	747	28
2315526-2	Mar 09 - Mar 10, 2023	0.140	0.051	747	29
2315526-3	Mar 10 - Mar 11, 2023	0.160	0.062	747	30
2315526-4	Mar 11 - Mar 12, 2023	0.165	0.071	747	32
2315526-5	Mar 12 - Mar 13, 2023	0.115	0.038	747	31
2315526-6	Mar 13 - Mar 14, 2023	0.128	0.037	747	29
2315526-7	Mar 14 - Mar 15, 2023	0.160	0.069	747	30
Guideline		0.33	0.12	-	-

Reference Method

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

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

Remark :

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

Approved by

Orawan R.

Orawan Rakhyong
Scientist (3)

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1405-23 / 0903

S:\Reports_Air Ambient\7Days.rpt (5:24PM)



Analysis / Test Report

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

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

Lot ID: 2315513
Date Received : Mar 17, 2023
Date Reported : Mar 22, 2023
Report Number: 2564526-1

Page 1 of 1

Sample Description	Air Quality						
Location	โรงเรียนเทศบาล (GPS 48Q 281051, 1891307)						
Parameter	Nitrogen dioxide (ppm)						
Measurement Date	Mar 08, 2023 - Mar 15, 2023						
Measurement by	Nattapon Kunnasut						
Time	2315513-1 Mar 08, 2023	2315513-2 Mar 09, 2023	2315513-3 Mar 10, 2023	2315513-4 Mar 11, 2023	2315513-5 Mar 12, 2023	2315513-6 Mar 13, 2023	2315513-7 Mar 14, 2023
09:00 AM - 10:00 AM	0.005	0.004	0.002	0.006	0.005	0.002	0.002
10:00 AM - 11:00 AM	0.003	0.002	0.002	0.003	0.002	0.001	0.001
11:00 AM - 12:00 PM	0.002	0.002	0.001	0.003	0.002	0.001	0.001
12:00 PM - 01:00 PM	0.002	0.001	0.001	0.002	0.001	0.001	0.001
01:00 PM - 02:00 PM	0.001	0.001	0.001	0.001	0.002	0.001	0.002
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	0.002	<0.001	0.001	0.001	0.001	0.001
05:00 PM - 06:00 PM	0.003	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	0.002	0.001	0.002	0.002	0.001	<0.001	0.001
08:00 PM - 09:00 PM	0.010	0.002	0.014	0.009	0.001	<0.001	0.004
09:00 PM - 10:00 PM	0.002	0.024	0.029	0.004	0.001	0.007	0.007
10:00 PM - 11:00 PM	0.004	0.033	0.034	0.024	0.001	0.013	0.013
11:00 PM - 12:00 AM	0.017	0.026	0.059	0.016	<0.001	0.001	0.022
12:00 AM - 01:00 AM	0.032	0.038	0.019	0.015	0.001	0.001	0.021
01:00 AM - 02:00 AM	0.008	0.020	0.007	0.018	0.002	0.001	0.044
02:00 AM - 03:00 AM	0.012	0.004	0.005	0.013	0.001	0.001	0.043
03:00 AM - 04:00 AM	0.020	0.011	0.011	0.022	0.002	0.001	0.034
04:00 AM - 05:00 AM	0.023	0.008	0.012	0.012	0.001	0.001	0.034
05:00 AM - 06:00 AM	0.028	0.014	0.011	0.008	0.002	0.002	0.019
06:00 AM - 07:00 AM	0.035	0.020	0.019	0.018	0.002	0.002	0.035
07:00 AM - 08:00 AM	0.019	0.043	0.031	0.019	0.002	0.002	0.053
08:00 AM - 09:00 AM	0.022	0.014	0.020	0.026	0.002	0.004	0.031
Average	0.011	0.011	0.012	0.009	0.002	0.001	0.016
1hr - Maximum	0.035	0.043	0.059	0.026	0.005	0.004	0.053
Standard 1hr - Average	0.170	0.170	0.170	0.170	0.170	0.170	0.170

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

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S:\Reports\Air_SQ\N2O.rpt (5:06PM)



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 :

Lot ID: 2315520
Date Received : Mar 17, 2023
Date Reported : Mar 22, 2023
Report Number: 2564530-1

Page 1 of 1

Sample Description	Air Quality						
Location	โรงเรียนเทศบาล (GPS 48Q 279878, 1889419)						
Parameter	Nitrogen dioxide (ppm)						
Measurement Date	Mar 08, 2023 - Mar 15, 2023						
Measurement by	Nattapon Kunnasut						
Time	2315520-1 Mar 08, 2023	2315520-2 Mar 09, 2023	2315520-3 Mar 10, 2023	2315520-4 Mar 11, 2023	2315520-5 Mar 12, 2023	2315520-6 Mar 13, 2023	2315520-7 Mar 14, 2023
10:00 AM - 11:00 AM	0.002	0.001	0.002	0.004	0.001	<0.001	<0.001
11:00 AM - 12:00 PM	0.002	<0.001	0.001	0.016	<0.001	<0.001	<0.001
12:00 PM - 01:00 PM	<0.001	<0.001	0.001	0.001	0.005	<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	0.004	<0.001	0.011	0.004	<0.001	<0.001	<0.001
08:00 PM - 09:00 PM	0.032	0.001	0.057	0.031	<0.001	<0.001	0.010
09:00 PM - 10:00 PM	0.002	0.014	0.033	0.017	<0.001	<0.001	0.021
10:00 PM - 11:00 PM	0.011	0.057	0.030	0.042	<0.001	<0.001	0.022
11:00 PM - 12:00 AM	0.059	0.033	0.055	0.017	0.001	<0.001	0.042
12:00 AM - 01:00 AM	0.058	0.014	0.039	0.025	<0.001	<0.001	0.027
01:00 AM - 02:00 AM	0.027	0.006	0.011	0.032	<0.001	<0.001	0.049
02:00 AM - 03:00 AM	0.027	0.002	0.010	0.031	<0.001	<0.001	0.044
03:00 AM - 04:00 AM	0.022	0.016	0.017	0.002	<0.001	<0.001	0.037
04:00 AM - 05:00 AM	0.045	0.030	0.013	0.006	<0.001	0.002	0.059
05:00 AM - 06:00 AM	0.031	0.025	0.006	0.019	<0.001	0.002	0.047
06:00 AM - 07:00 AM	0.012	0.054	0.008	0.026	0.001	0.004	0.074
07:00 AM - 08:00 AM	0.036	0.031	0.063	0.031	0.005	0.008	0.086
08:00 AM - 09:00 AM	0.037	0.023	0.031	0.027	0.006	0.006	0.050
09:00 AM - 10:00 AM	0.004	0.004	0.007	0.003	0.002	0.002	0.006
Average	0.017	0.013	0.017	0.014	0.001	0.001	0.024
1hr - Maximum	0.059	0.057	0.063	0.042	0.006	0.008	0.086
Standard 1hr - Average	0.170	0.170	0.170	0.170	0.170	0.170	0.170

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

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Analysis / Test Report

Client : 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: 2315521
Date Received : Mar 17, 2023
Date Reported : Mar 22, 2023
Report Number: 2564532-1

Page 1 of 1

Sample Description : Air Quality
Location : ไร่สุพรรณ (GPS 48Q 278998, 1887277)
Parameter : Nitrogen dioxide (ppm)
Measurement Date : Mar 08, 2023 - Mar 15, 2023
Measurement by : Natthapon Kunasut

Time	2315521-1 Mar 08, 2023	2315521-2 Mar 09, 2023	2315521-3 Mar 10, 2023	2315521-4 Mar 11, 2023	2315521-5 Mar 12, 2023	2315521-6 Mar 13, 2023	2315521-7 Mar 14, 2023
11:00 AM - 12:00 PM	0.001	0.001	0.012	0.002	0.001	0.001	<0.001
12:00 PM - 01:00 PM	0.002	0.001	<0.001	0.002	0.001	<0.001	<0.001
01:00 PM - 02:00 PM	0.002	0.001	<0.001	0.002	0.001	<0.001	<0.001
02:00 PM - 03:00 PM	0.002	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	0.014	<0.001	<0.001
08:00 PM - 09:00 PM	0.002	0.001	0.002	0.002	0.001	<0.001	0.001
09:00 PM - 10:00 PM	0.002	0.002	0.014	0.002	<0.001	<0.001	0.042
10:00 PM - 11:00 PM	0.003	0.003	0.002	0.004	<0.001	<0.001	0.017
11:00 PM - 12:00 AM	0.018	0.005	0.005	0.040	<0.001	<0.001	0.054
12:00 AM - 01:00 AM	0.097	0.002	0.034	0.026	<0.001	<0.001	0.029
01:00 AM - 02:00 AM	0.049	0.002	0.019	0.015	<0.001	<0.001	0.026
02:00 AM - 03:00 AM	0.024	0.002	0.009	0.013	<0.001	<0.001	0.019
03:00 AM - 04:00 AM	0.009	0.002	0.006	0.003	<0.001	<0.001	0.024
04:00 AM - 05:00 AM	0.009	0.006	0.010	0.003	<0.001	<0.001	0.018
05:00 AM - 06:00 AM	0.005	0.016	0.006	0.007	<0.001	0.001	0.014
06:00 AM - 07:00 AM	0.004	0.005	0.005	0.009	0.001	0.001	0.008
07:00 AM - 08:00 AM	0.024	0.036	0.009	0.016	0.001	0.002	0.063
08:00 AM - 09:00 AM	0.028	0.021	0.033	0.016	0.002	0.002	0.057
09:00 AM - 10:00 AM	0.004	0.002	0.008	0.003	0.002	0.001	0.010
10:00 AM - 11:00 AM	0.002	0.002	0.003	0.002	0.001	<0.001	0.003
Average	0.012	0.005	0.008	0.007	0.002	<0.001	0.016
1hr - Maximum	0.097	0.036	0.034	0.040	0.014	0.002	0.063
Standard 1hr - Average	0.170	0.170	0.170	0.170	0.170	0.170	0.170

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

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Approved by

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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 :

Lot ID: 2315522
Date Received : Mar 17, 2023
Date Reported : Mar 22, 2023
Report Number: 2564535-1

Page 1 of 1

Sample Description : Air Quality
Location : ไร่สุพรรณ (GPS 48Q 276878, 1887972)
Parameter : Nitrogen dioxide (ppm)
Measurement Date : Mar 08, 2023 - Mar 15, 2023
Measurement by : Natthapon Kunasut

Time	2315522-1 Mar 08, 2023	2315522-2 Mar 09, 2023	2315522-3 Mar 10, 2023	2315522-4 Mar 11, 2023	2315522-5 Mar 12, 2023	2315522-6 Mar 13, 2023	2315522-7 Mar 14, 2023
12:00 PM - 01:00 PM	0.001	0.002	0.007	0.010	0.009	<0.001	0.015
01:00 PM - 02:00 PM	0.003	0.001	0.011	0.011	0.012	0.001	0.023
02:00 PM - 03:00 PM	0.002	0.012	0.001	0.011	0.021	0.001	0.018
03:00 PM - 04:00 PM	0.002	0.011	0.011	0.024	0.011	0.011	0.011
04:00 PM - 05:00 PM	0.011	0.011	0.001	0.004	0.001	0.001	0.004
05:00 PM - 06:00 PM	0.001	<0.001	0.001	0.014	0.001	0.001	0.002
06:00 PM - 07:00 PM	0.001	0.009	0.021	0.009	0.001	0.001	0.002
07:00 PM - 08:00 PM	0.001	0.004	0.024	0.008	0.012	0.001	0.002
08:00 PM - 09:00 PM	0.024	0.004	0.024	0.006	0.002	0.001	0.002
09:00 PM - 10:00 PM	0.002	0.003	0.022	0.008	0.002	0.001	0.008
10:00 PM - 11:00 PM	0.022	0.016	0.013	0.003	0.002	0.003	0.009
11:00 PM - 12:00 AM	0.013	0.020	0.007	0.005	0.016	0.003	0.002
12:00 AM - 01:00 AM	0.021	0.007	0.005	0.023	0.003	0.002	0.004
01:00 AM - 02:00 AM	0.007	0.003	0.008	0.004	0.001	0.002	0.003
02:00 AM - 03:00 AM	0.011	0.002	0.008	0.002	0.001	0.002	0.004
03:00 AM - 04:00 AM	0.018	0.003	0.010	0.002	0.001	0.001	0.008
04:00 AM - 05:00 AM	0.004	0.008	0.014	0.002	0.001	0.011	0.005
05:00 AM - 06:00 AM	0.013	0.013	0.042	0.001	0.001	0.012	0.010
06:00 AM - 07:00 AM	0.022	0.013	0.028	0.001	<0.001	0.003	0.004
07:00 AM - 08:00 AM	0.003	0.012	0.012	0.001	0.010	0.010	0.003
08:00 AM - 09:00 AM	0.003	0.003	0.006	0.001	0.028	0.007	0.004
09:00 AM - 10:00 AM	0.002	0.002	0.003	0.001	0.014	0.008	0.003
10:00 AM - 11:00 AM	0.002	0.012	0.002	0.001	0.001	0.011	0.010
11:00 AM - 12:00 PM	0.002	0.016	0.002	0.001	0.001	0.014	0.004
Average	0.008	0.008	0.012	0.006	0.006	0.005	0.007
1hr - Maximum	0.024	0.020	0.042	0.024	0.028	0.014	0.023
Standard 1hr - Average	0.170	0.170	0.170	0.170	0.170	0.170	0.170

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

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Analysis / Test Report

Client : 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: 2315527
Date Received : Mar 17, 2023
Date Reported : Mar 22, 2023
Report Number: 2564572-1

Page 1 of 1

Sample Description Air Quality
Location ตำบลกุดหว้าน้อย (GPS 48Q 281051, 1891307)
Parameter Sulfur Dioxide (ppm)
Measurement Date Mar 08, 2023 - Mar 15, 2023
Measurement by Natthapon Kunnasut

Time	2315527-1 Mar 08, 2023	2315527-2 Mar 09, 2023	2315527-3 Mar 10, 2023	2315527-4 Mar 11, 2023	2315527-5 Mar 12, 2023	2315527-6 Mar 13, 2023	2315527-7 Mar 14, 2023
09:00 AM - 10:00 AM	0.002	0.002	0.002	0.002	0.002	0.002	0.002
10:00 AM - 11:00 AM	0.002	0.002	0.002	0.002	0.002	0.002	0.002
11:00 AM - 12:00 PM	0.002	0.002	0.002	0.002	0.002	0.002	0.002
12:00 PM - 01:00 PM	0.002	0.002	0.002	0.002	0.002	0.002	0.002
01:00 PM - 02:00 PM	0.002	0.002	0.002	0.002	0.002	0.002	0.002
02:00 PM - 03:00 PM	0.002	0.002	0.002	0.002	0.002	0.002	0.002
03:00 PM - 04:00 PM	0.003	0.002	0.002	0.002	0.002	0.002	0.002
04:00 PM - 05:00 PM	0.003	0.002	0.002	0.002	0.002	0.002	0.002
05:00 PM - 06:00 PM	0.003	0.002	0.002	0.002	0.002	0.002	0.002
06:00 PM - 07:00 PM	0.003	0.002	0.002	0.002	0.002	0.002	0.002
07:00 PM - 08:00 PM	0.002	0.002	0.002	0.002	0.002	0.002	0.002
08:00 PM - 09:00 PM	0.002	0.002	0.002	0.002	0.002	0.002	0.002
09:00 PM - 10:00 PM	0.002	0.002	0.002	0.002	0.002	0.002	0.002
10:00 PM - 11:00 PM	0.002	0.002	0.002	0.002	0.002	0.002	0.002
11:00 PM - 12:00 AM	0.002	0.002	0.002	0.002	0.002	0.002	0.002
12:00 AM - 01:00 AM	0.002	0.002	0.002	0.002	0.002	0.002	0.002
01:00 AM - 02:00 AM	0.002	0.002	0.002	0.002	0.002	0.002	0.002
02:00 AM - 03:00 AM	0.002	0.002	0.002	0.002	0.002	0.002	0.002
03:00 AM - 04:00 AM	0.002	0.002	0.002	0.002	0.002	0.002	0.002
04:00 AM - 05:00 AM	0.002	0.002	0.002	0.002	0.002	0.002	0.002
05:00 AM - 06:00 AM	0.002	0.002	0.002	0.002	0.002	0.002	0.002
06:00 AM - 07:00 AM	0.002	0.002	0.002	0.002	0.002	0.002	0.002
07:00 AM - 08:00 AM	0.002	0.002	0.002	0.002	0.002	0.002	0.002
08:00 AM - 09:00 AM	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Average	0.002	0.002	0.002	0.002	0.002	0.002	0.002
1hr - Maximum	0.003	0.002	0.002	0.002	0.002	0.002	0.002
Standard 1hr - Average	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Standard 24 hrs - Average	0.12	0.12	0.12	0.12	0.12	0.12	0.12

Standard : Notification of the National Environment Board No.10, 1995 (B.E.2538), No. 21, 2001 (B.E.2544) and No.24, 2004 (B.E.2547).
Reference Method : US EPA Method Part 53 and 58

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102529 (000)

S:\Reports_Air SO\Orawan Rpt (S 28PM)



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 :

Lot ID: 2315528
Date Received : Mar 17, 2023
Date Reported : Mar 22, 2023
Report Number: 2564573-1

Page 1 of 1

Sample Description Air Quality
Location ตำบลกุดหว้าน้อย (GPS 48Q 279878, 1889419)
Parameter Sulfur Dioxide (ppm)
Measurement Date Mar 08, 2023 - Mar 15, 2023
Measurement by Natthapon Kunnasut

Time	2315528-1 Mar 08, 2023	2315528-2 Mar 09, 2023	2315528-3 Mar 10, 2023	2315528-4 Mar 11, 2023	2315528-5 Mar 12, 2023	2315528-6 Mar 13, 2023	2315528-7 Mar 14, 2023
10:00 AM - 11:00 AM	0.002	0.003	0.003	0.004	0.003	0.002	0.003
11:00 AM - 12:00 PM	0.003	0.003	0.003	0.003	0.003	0.002	0.003
12:00 PM - 01:00 PM	0.003	0.003	0.003	0.003	0.003	0.003	0.003
01:00 PM - 02:00 PM	0.003	0.003	0.003	0.003	0.003	0.003	0.003
02:00 PM - 03:00 PM	0.003	0.003	0.003	0.003	0.003	0.003	0.003
03:00 PM - 04:00 PM	0.003	0.003	0.003	0.003	0.003	0.003	0.003
04:00 PM - 05:00 PM	0.003	0.003	0.003	0.003	0.003	0.003	0.003
05:00 PM - 06:00 PM	0.003	0.003	0.003	0.003	0.003	0.003	0.003
06:00 PM - 07:00 PM	0.003	0.003	0.003	0.003	0.003	0.003	0.003
07:00 PM - 08:00 PM	0.003	0.003	0.003	0.003	0.003	0.003	0.003
08:00 PM - 09:00 PM	0.003	0.003	0.003	0.003	0.003	0.003	0.003
09:00 PM - 10:00 PM	0.003	0.003	0.003	0.003	0.003	0.003	0.003
10:00 PM - 11:00 PM	0.003	0.003	0.003	0.003	0.004	0.003	0.003
11:00 PM - 12:00 AM	0.003	0.002	0.003	0.003	0.002	0.002	0.003
12:00 AM - 01:00 AM	0.002	0.002	0.003	0.003	0.002	0.002	0.003
01:00 AM - 02:00 AM	0.002	0.002	0.003	0.003	0.002	0.002	0.003
02:00 AM - 03:00 AM	0.002	0.002	0.002	0.002	0.002	0.002	0.003
03:00 AM - 04:00 AM	0.002	0.002	0.002	0.002	0.002	0.002	0.003
04:00 AM - 05:00 AM	0.002	0.002	0.002	0.002	0.002	0.002	0.003
05:00 AM - 06:00 AM	0.002	0.003	0.002	0.003	0.003	0.002	0.003
06:00 AM - 07:00 AM	0.002	0.003	0.003	0.003	0.002	0.002	0.003
07:00 AM - 08:00 AM	0.002	0.003	0.003	0.003	0.003	0.003	0.003
08:00 AM - 09:00 AM	0.002	0.003	0.003	0.003	0.002	0.003	0.003
09:00 AM - 10:00 AM	0.002	0.002	0.004	0.003	0.003	0.003	0.003
Average	0.003	0.003	0.003	0.003	0.003	0.003	0.003
1hr - Maximum	0.003	0.003	0.004	0.004	0.004	0.003	0.003
Standard 1hr - Average	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Standard 24 hrs - Average	0.12	0.12	0.12	0.12	0.12	0.12	0.12

Standard : Notification of the National Environment Board No.10, 1995 (B.E.2538), No. 21, 2001 (B.E.2544) and No.24, 2004 (B.E.2547).
Reference Method : US EPA Method Part 53 and 58

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S:\Reports_Air SO\Orawan Rpt (S 34PM)



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: 2315529
Date Received : Mar 17, 2023
Date Reported : Mar 22, 2023
Report Number: 2564578-1

Page 1 of 1

Sample Description Air Quality
Location บ้านสวน (GPS 48Q 278996, 1887277)
Parameter Sulfur Dioxide (ppm)
Measurement Date Mar 08, 2023 - Mar 15, 2023
Measurement by Natthapon Kunnasut

Time	2315529-1 Mar 08, 2023	2315529-2 Mar 09, 2023	2315529-3 Mar 10, 2023	2315529-4 Mar 11, 2023	2315529-5 Mar 12, 2023	2315529-6 Mar 13, 2023	2315529-7 Mar 14, 2023
11:00 AM - 12:00 PM	0.003	0.003	0.003	0.003	0.003	0.003	0.003
12:00 PM - 01:00 PM	0.003	0.003	0.003	0.003	0.003	0.003	0.003
01:00 PM - 02:00 PM	0.004	0.003	0.003	0.003	0.003	0.003	0.003
02:00 PM - 03:00 PM	0.004	0.003	0.003	0.003	0.003	0.003	0.003
03:00 PM - 04:00 PM	0.004	0.003	0.003	0.003	0.003	0.003	0.003
04:00 PM - 05:00 PM	0.004	0.003	0.003	0.003	0.003	0.003	0.003
05:00 PM - 06:00 PM	0.004	0.003	0.003	0.003	0.003	0.003	0.003
06:00 PM - 07:00 PM	0.003	0.003	0.003	0.003	0.002	0.003	0.003
07:00 PM - 08:00 PM	0.003	0.003	0.003	0.002	0.003	0.003	0.003
08:00 PM - 09:00 PM	0.003	0.003	0.003	0.002	0.003	0.003	0.003
09:00 PM - 10:00 PM	0.003	0.003	0.003	0.002	0.003	0.003	0.003
10:00 PM - 11:00 PM	0.003	0.003	0.003	0.003	0.003	0.003	0.003
11:00 PM - 12:00 AM	0.004	0.003	0.003	0.002	0.003	0.003	0.003
12:00 AM - 01:00 AM	0.003	0.003	0.003	0.002	0.003	0.003	0.003
01:00 AM - 02:00 AM	0.003	0.003	0.003	0.002	0.003	0.003	0.003
02:00 AM - 03:00 AM	0.003	0.003	0.003	0.002	0.003	0.003	0.003
03:00 AM - 04:00 AM	0.003	0.003	0.003	0.002	0.003	0.003	0.002
04:00 AM - 05:00 AM	0.003	0.003	0.002	0.002	0.003	0.003	0.002
05:00 AM - 06:00 AM	0.003	0.003	0.002	0.002	0.002	0.003	0.002
06:00 AM - 07:00 AM	0.003	0.003	0.003	0.002	0.002	0.003	0.003
07:00 AM - 08:00 AM	0.003	0.003	0.003	0.002	0.002	0.003	0.003
08:00 AM - 09:00 AM	0.003	0.003	0.003	0.002	0.002	0.003	0.003
09:00 AM - 10:00 AM	0.003	0.003	0.003	0.002	0.002	0.003	0.003
10:00 AM - 11:00 AM	0.003	0.002	0.003	0.003	0.003	0.003	0.003
Average	0.003	0.003	0.003	0.003	0.003	0.003	0.003
1hr - Maximum	0.004	0.003	0.003	0.003	0.003	0.003	0.003
Standard 1hr - Average	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Standard 24 hrs - Average	0.12	0.12	0.12	0.12	0.12	0.12	0.12

Standard : Notification of the National Environment Board No.10, 1995 (B.E.2538), No. 21, 2001 (B.E.2544) and No.24, 2004 (B.E.2547).
Reference Method : US EPA Method Part 53 and 58

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Analysis / Test Report

Client : 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: 2315530
Date Received : Mar 17, 2023
Date Reported : Mar 22, 2023
Report Number: 2564580-1

Page 1 of 1

Sample Description Air Quality
Location บ้านสวน (GPS 48Q 276878, 1887972)
Parameter Sulfur Dioxide (ppm)
Measurement Date Mar 08, 2023 - Mar 15, 2023
Measurement by Natthapon Kunnasut

Time	2315530-1 Mar 08, 2023	2315530-2 Mar 09, 2023	2315530-3 Mar 10, 2023	2315530-4 Mar 11, 2023	2315530-5 Mar 12, 2023	2315530-6 Mar 13, 2023	2315530-7 Mar 14, 2023
12:00 PM - 01:00 PM	0.002	0.002	0.001	0.002	0.002	0.003	0.002
01:00 PM - 02:00 PM	0.002	0.002	0.002	0.001	0.002	0.002	0.002
02:00 PM - 03:00 PM	0.002	0.002	0.002	0.001	0.002	0.002	0.002
03:00 PM - 04:00 PM	0.002	<0.001	0.002	0.002	0.002	0.002	0.002
04:00 PM - 05:00 PM	0.002	0.002	0.002	0.002	0.002	0.002	0.002
05:00 PM - 06:00 PM	0.002	0.001	0.002	0.002	0.002	0.002	0.002
06:00 PM - 07:00 PM	0.001	0.002	0.002	0.002	0.002	0.002	0.002
07:00 PM - 08:00 PM	0.002	0.002	0.002	0.002	0.002	0.001	0.002
08:00 PM - 09:00 PM	0.001	0.001	0.002	0.002	0.002	0.002	0.002
09:00 PM - 10:00 PM	0.002	0.001	0.002	0.002	0.001	0.002	0.002
10:00 PM - 11:00 PM	0.002	0.001	0.002	0.002	<0.001	0.002	0.002
11:00 PM - 12:00 AM	0.001	0.001	0.002	0.002	0.002	0.002	0.002
12:00 AM - 01:00 AM	0.002	0.002	0.002	0.002	0.002	0.002	0.002
01:00 AM - 02:00 AM	0.001	0.002	0.002	0.002	0.002	0.002	0.002
02:00 AM - 03:00 AM	0.001	0.002	0.002	0.002	0.002	0.002	0.002
03:00 AM - 04:00 AM	0.001	0.002	0.002	0.002	0.002	0.002	0.002
04:00 AM - 05:00 AM	0.002	0.001	0.002	0.001	0.002	0.002	0.002
05:00 AM - 06:00 AM	0.002	0.001	0.002	0.002	0.001	0.002	0.002
06:00 AM - 07:00 AM	0.002	0.002	0.002	0.002	0.002	0.002	0.002
07:00 AM - 08:00 AM	0.002	0.002	0.002	0.002	0.002	0.002	0.002
08:00 AM - 09:00 AM	0.002	0.002	0.002	0.002	0.002	0.002	0.002
09:00 AM - 10:00 AM	0.002	0.002	0.002	0.001	0.002	0.002	0.002
10:00 AM - 11:00 AM	0.002	0.002	0.002	0.002	0.002	0.002	0.002
11:00 AM - 12:00 PM	0.002	0.001	0.002	0.002	0.002	0.002	0.002
Average	0.002	0.002	0.002	0.002	0.002	0.002	0.002
1hr - Maximum	0.002	0.002	0.002	0.002	0.002	0.003	0.002
Standard 1hr - Average	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Standard 24 hrs - Average	0.12	0.12	0.12	0.12	0.12	0.12	0.12

Standard : Notification of the National Environment Board No.10, 1995 (B.E.2538), No. 21, 2001 (B.E.2544) and No.24, 2004 (B.E.2547).
Reference Method : US EPA Method Part 53 and 58

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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 : 2315531
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number : 2564582-1

Page 1 of 2

Sample Number : 2315531-1 to 7
Parameter : Wind Speed / Wind Direction
Location : โรงสีน้ำตาลโพธิ์ทอง (GPS 48Q 279878, 1889419)
Sampling Date : Mar 08 - Mar 15, 2023
Sampling by : Nitthapon Kunasut

Time	Mar 08 - Mar 09, 2023		Mar 09 - Mar 10, 2023		Mar 10 - Mar 11, 2023		Mar 11 - Mar 12, 2023		Mar 12 - Mar 13, 2023		Mar 13 - Mar 14, 2023		Mar 14 - Mar 15, 2023	
	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)
09:00 AM - 10:00 AM	0.5	116.0	ESE	1.1	81.0	E	1.3	162.0	SSE	1.7	281.0	W	0.5	102.0
10:00 AM - 11:00 AM	0.9	92.0	E	0.3	158.0	SSE	0.9	225.0	SW	0.3	294.0	WNW	1.2	165.0
11:00 AM - 12:00 PM	0.6	19.0	NNE	1.5	30.0	NNE	1.2	113.0	ESE	1.2	324.0	NW	0.2	-
12:00 PM - 01:00 PM	0.6	63.0	ESE	0.6	181.0	S	1.2	242.0	WSW	1.1	46.0	NE	1.6	119.0
01:00 PM - 02:00 PM	0.2	-	-	1.4	77.0	ENE	1.1	0.0	N	1.3	65.0	ENE	0.7	186.0
02:00 PM - 03:00 PM	0.3	117.0	ESE	0.6	64.0	ENE	1.3	30.0	NNE	0.9	47.0	NE	1.3	91.0
03:00 PM - 04:00 PM	0.5	116.0	ESE	1.9	108.0	ESE	0.9	102.0	ESE	0.6	157.0	SSE	1.2	31.0
04:00 PM - 05:00 PM	0.3	101.0	E	0.5	47.0	NE	0.2	-	-	0.8	67.0	ENE	1.0	61.0
05:00 PM - 06:00 PM	0.5	78.0	ENE	0.6	101.0	E	0.6	90.0	E	0.7	70.0	ENE	1.0	111.0
06:00 PM - 07:00 PM	0.7	188.0	S	0.7	101.0	E	0.5	90.0	E	0.9	70.0	ENE	0.7	91.0
07:00 PM - 08:00 PM	0.4	168.0	SSE	0.8	97.0	E	0.1	-	-	0.6	70.0	ENE	1.3	110.0
08:00 PM - 09:00 PM	0.5	57.0	ENE	0.5	97.0	E	0.2	-	-	0.5	191.0	S	1.7	105.0
09:00 PM - 10:00 PM	0.4	57.0	ENE	0.3	97.0	E	0.6	218.0	SW	0.6	191.0	S	1.1	121.0
10:00 PM - 11:00 PM	0.6	57.0	ENE	0.2	-	-	0.4	234.0	SW	0.4	191.0	S	3.7	55.0
11:00 PM - 12:00 AM	0.3	63.0	ENE	0.5	97.0	E	0.9	225.0	SW	0.2	-	-	1.8	79.0
12:00 AM - 01:00 AM	0.4	57.0	ENE	1.7	86.0	E	1.1	253.0	WSW	0.3	191.0	S	0.8	116.0
01:00 AM - 02:00 AM	0.7	57.0	ENE	0.3	102.0	ESE	0.7	253.0	WSW	0.4	104.0	ESE	0.6	74.0
02:00 AM - 03:00 AM	0.5	71.0	ENE	1.1	102.0	ESE	0.5	253.0	WSW	0.4	104.0	ESE	1.2	103.0
03:00 AM - 04:00 AM	0.9	71.0	ENE	0.9	102.0	ESE	0.7	253.0	WSW	0.6	107.0	ESE	0.6	131.0
04:00 AM - 05:00 AM	0.3	71.0	ENE	0.5	102.0	ESE	0.4	251.0	WSW	0.4	105.0	ESE	1.0	41.0
05:00 AM - 06:00 AM	0.8	61.0	ENE	0.7	102.0	ESE	0.3	251.0	WSW	0.2	-	-	0.1	-
06:00 AM - 07:00 AM	0.2	-	-	0.6	102.0	ESE	0.6	252.0	WSW	0.3	105.0	ESE	1.2	64.0
07:00 AM - 08:00 AM	0.4	47.0	NE	0.4	102.0	ESE	0.5	278.0	W	0.4	105.0	ESE	0.5	33.0
08:00 AM - 09:00 AM	0.7	113.0	ESE	0.2	-	-	0.2	-	-	0.3	45.0	NE	1.7	72.0

Reference Method : Cup Anemometer & Anodized Aluminium Vane Method

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Approved by

Sarayuth Jitranont
Assistant General Manager

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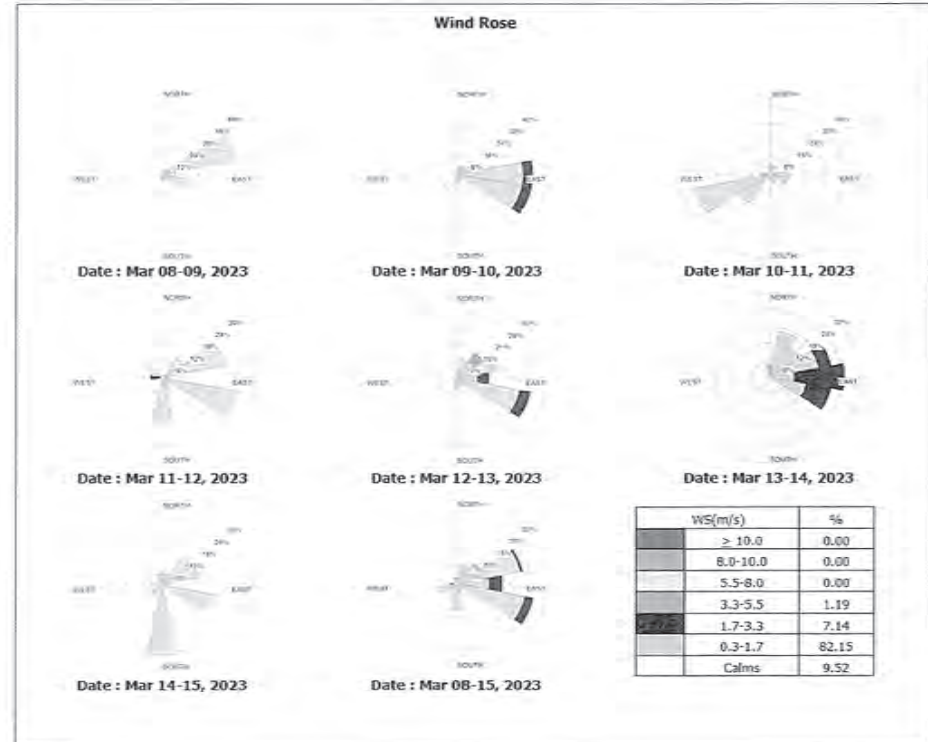
Analysis / Test Report

Client : 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 : 2315531
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number : 2564582-1

Page 2 of 2



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Approved by

Sarayuth Jitranont
Assistant General Manager

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ผลการตรวจวัดคุณภาพน้ำฝน



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: 2276837
Date Received : Jul 26, 2022
Date Reported : Jul 29, 2022
Report Number : 2351286-1

Page 1 of 4

Sample Number 2276837-1
Sample Date Jul 25, 2022 11:00 AM
Sample Description น้ำฝน
Location ไร่สวนผักสวนครัว
Date Analysis Commenced Jul 27, 2022
Condition of Sample Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
Nitrate as N	mg/L	0.05	0.2	0.3	APHA (2017), 4110 B	Bangkok
pH at 25 degree C	-	-	-	7.5	Based on APHA (2017), 4500-H (B)	Bangkok
Sulfate	mg/L	0.15	0.5	<0.5	APHA (2017), 4110 B	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	Based on APHA (2017), 2540 D	Bangkok

Sampled By : Adisak Phonphai

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

Approved by

Siriluk P.
Siriluk Puengpang
Supervisor

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14025-23/INV0

S:\Report\AL_2602_01 (4-199)



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: 2276837
Date Received : Jul 26, 2022
Date Reported : Jul 29, 2022
Report Number : 2351286-1

Page 2 of 4

Sample Number 2276837-2
Sample Date Jul 25, 2022 11:20 AM
Sample Description น้ำฝน
Location ไร่สวนผักสวนครัว
Date Analysis Commenced Jul 27, 2022
Condition of Sample Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
Nitrate as N	mg/L	0.05	0.2	0.3	APHA (2017), 4110 B	Bangkok
pH at 25 degree C	-	-	-	7.6	Based on APHA (2017), 4500-H (B)	Bangkok
Sulfate	mg/L	0.15	0.5	<0.5	APHA (2017), 4110 B	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	Based on APHA (2017), 2540 D	Bangkok

Sampled By : Adisak Phonphai

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

Approved by

Siriluk P.
Siriluk Puengpang
Supervisor

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S:\Report\AL_2602_01 (4-199)



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: 2276837
Date Received : Jul 26, 2022
Date Reported : Jul 29, 2022
Report Number : 2351286-1

Page 3 of 4

Sample Number 2276837-3
Sample Date Jul 25, 2022 11:35 AM
Sample Description น้ำดื่ม
Location วัดธรรมนิศ
Date Analysis Commenced Jul 27, 2022
Condition of Sample Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
Nitrate as N	mg/L	0.06	0.2	<0.2	APHA (2017), 4110 B	Bangkok
pH at 25 degree C	-	-	-	7.4	Based on APHA (2017), 4500-H (B)	Bangkok
Sulfate	mg/L	0.15	0.5	<0.5	APHA (2017), 4110 B	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	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)

Approved by

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Siriluk Puengpang
Supervisor

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9405-07/ENGL

S:\Report\AL_0604_01 (5-0205)



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: 2276837
Date Received : Jul 26, 2022
Date Reported : Jul 29, 2022
Report Number : 2351286-1

Page 4 of 4

Sample Number 2276837-4
Sample Date Jul 25, 2022 11:50 AM
Sample Description น้ำดื่ม
Location วัดธรรมนิศ
Date Analysis Commenced Jul 27, 2022
Condition of Sample Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
Nitrate as N	mg/L	0.06	0.2	1.1	APHA (2017), 4110 B	Bangkok
pH at 25 degree C	-	-	-	7.3	Based on APHA (2017), 4500-H (B)	Bangkok
Sulfate	mg/L	0.15	0.5	<0.5	APHA (2017), 4110 B	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	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)

Approved by

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Siriluk Puengpang
Supervisor

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S:\Report\AL_0604_01 (5-0205)



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: 2287454
Date Received : Aug 25, 2022
Date Reported : Aug 29, 2022
Report Number : 2377304-1

Page 1 of 4

Sample Number : 2287454-1
Sampled Date : Aug 24, 2022 10:10 AM
Sample Description : น้ำฝน
Location : ไร่สวนกล้วยน้ำว้า
Date Analysis Commenced : Aug 26, 2022
Condition of Sample : Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
Nitrate as N	mg/L	0.06	0.2	<0.2	APHA (2017), 4110 B	Bangkok
pH at 25 degree C		-	-	5.0	Based on APHA (2017), 4500-H (B)	Bangkok
Sulfate	mg/L	0.15	0.5	<0.5	APHA (2017), 4110 B	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	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)

Approved by

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Siriluk Puengpang
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SI/25-231 (FMS)

SI/Report/AL_NoGL.rpt (4/27/22)



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: 2287454
Date Received : Aug 25, 2022
Date Reported : Aug 29, 2022
Report Number : 2377304-1

Page 2 of 4

Sample Number : 2287454-2
Sampled Date : Aug 24, 2022 10:30 AM
Sample Description : น้ำฝน
Location : ไร่สวนกล้วยน้ำว้า
Date Analysis Commenced : Aug 26, 2022
Condition of Sample : Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
Nitrate as N	mg/L	0.06	0.2	1.1	APHA (2017), 4110 B	Bangkok
pH at 25 degree C		-	-	5.9	Based on APHA (2017), 4500-H (B)	Bangkok
Sulfate	mg/L	0.15	0.5	1.4	APHA (2017), 4110 B	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	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)

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SI/25-231 (FMS)

SI/Report/AL_NoGL.rpt (4/27/22)



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: 2287454
Date Received : Aug 25, 2022
Date Reported : Aug 29, 2022
Report Number : 2377304-1

Page 3 of 4

Sample Number : 2287454-3
Sample Date : Aug 24, 2022 10:50 AM
Sample Description : น้ำใน
Location : บ่อประปา
Date Analysis Commenced : Aug 26, 2022
Condition of Sample : Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
Nitrate as N	mg/L	0.06	0.2	<0.2	APHA (2017), 4110 B	Bangkok
pH at 25 degree C	-	-	-	8.0	Based on APHA (2017), 4500-H (B)	Bangkok
Sulfate	mg/L	0.15	0.5	<0.5	APHA (2017), 4110 B	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	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)

Approved by

Siriluk P.
Siriluk Puengsang
Supervisor

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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: 2287454
Date Received : Aug 25, 2022
Date Reported : Aug 29, 2022
Report Number : 2377304-1

Page 4 of 4

Sample Number : 2287454-4
Sample Date : Aug 24, 2022 11:10 AM
Sample Description : น้ำใน
Location : บ่อประปา
Date Analysis Commenced : Aug 26, 2022
Condition of Sample : Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
Nitrate as N	mg/L	0.06	0.2	<0.2	APHA (2017), 4110 B	Bangkok
pH at 25 degree C	-	-	-	5.0	Based on APHA (2017), 4500-H (B)	Bangkok
Sulfate	mg/L	0.15	0.5	<0.5	APHA (2017), 4110 B	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	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)

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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: 22102052
Date Received : Oct 01, 2022
Date Reported : Oct 05, 2022
Report Number : 2408144-1

Page 1 of 4

Sample Number 22102052-1
Sample Date Sep 30, 2022 1:50 PM
Sample Description น้ำใส
Location ไร่สวนผักสวนครัว
Date Analysis Commenced Oct 03, 2022
Condition of Sample Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
Nitrate as N	mg/L	0.06	0.2	<0.2	APHA (2017), 4110 B	Bangkok
pH at 25 degree C				6.7	Based on APHA (2017), 4500-H (B)	Bangkok
Sulfate	mg/L	0.15	0.5	<0.5	APHA (2017), 4110 B	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L		5	<5	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)

Approved by

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Siriluk Puengpang
Supervisor

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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: 22102052
Date Received : Oct 01, 2022
Date Reported : Oct 05, 2022
Report Number : 2408144-1

Page 2 of 4

Sample Number 22102052-2
Sample Date Sep 30, 2022 2:10 PM
Sample Description น้ำใส
Location ไร่สวนผักสวนครัว
Date Analysis Commenced Oct 03, 2022
Condition of Sample Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
Nitrate as N	mg/L	0.06	0.2	0.8	APHA (2017), 4110 B	Bangkok
pH at 25 degree C				7.2	Based on APHA (2017), 4500-H (B)	Bangkok
Sulfate	mg/L	0.15	0.5	16.6	APHA (2017), 4110 B	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L		5	<5	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)

Approved by

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Siriluk Puengpang
Supervisor

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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: 22102052

Date Received : Oct 01, 2022
Date Reported : Oct 05, 2022
Report Number : 2408144-1

Page 3 of 4

Sample Number : 22102052-3
Sampled Date : Sep 30, 2022 1:00 PM
Sample Description : น้ำดื่ม
Location : บ้านดอน
Date Analysis Commenced : Oct 03, 2022
Condition of Sample : Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
Nitrate as N	mg/L	0.06	0.2	<0.2	APHA (2017), 4110 B	Bangkok
pH at 25 degree C	-	-	-	6.9	Based on APHA (2017), 4500-H (B)	Bangkok
Sulfate	mg/L	0.15	0.5	<0.5	APHA (2017), 4110 B	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	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)

Approved by

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Siriluk Puengpang
Supervisor

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14025-20 (PMA)

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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: 22102052

Date Received : Oct 01, 2022
Date Reported : Oct 05, 2022
Report Number : 2408144-1

Page 4 of 4

Sample Number : 22102052-4
Sampled Date : Sep 30, 2022 1:30 PM
Sample Description : น้ำดื่ม
Location : บ้านดอน
Date Analysis Commenced : Oct 03, 2022
Condition of Sample : Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Method	Testing Location
Water Testing						
Nitrate as N	mg/L	0.06	0.2	<0.2	APHA (2017), 4110 B	Bangkok
pH at 25 degree C	-	-	-	6.3	Based on APHA (2017), 4500-H (B)	Bangkok
Sulfate	mg/L	0.15	0.5	<0.5	APHA (2017), 4110 B	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	<5	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)

Approved by

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Siriluk Puengpang
Supervisor

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ภาคผนวก ค-4

ผลการตรวจวัดคุณภาพกลิ่น



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.

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

P/O :

Project Name : Factory License No.10410000125343_EIA Monitoring

Project Location :

Lot ID: 2315654

Date Received : Mar 17, 2023

Date Reported : Mar 28, 2023

Report Number: 2564792-1

Page 1 of 1

Sample Description	Air Quality						
Location	ภายนอกตึกฝ่ายที่ล้อมรอบลานกองกากอ้อยในแนวทิศทางลมพัดผ่านใต้ลม (GPS 48Q 278881, 1888402)						
Parameter	Hydrogen Sulfide (ug/m3)						
Measurement Date	Mar 14, 2023 - Mar 15, 2023						
Measurement by	Sangtawan Natasat						
	2315654-1	-	-	-	-	-	-
Time	Mar 14, 2023	-	-	-	-	-	-
09:00 AM - 10:00 AM	4.0	-	-	-	-	-	-
10:00 AM - 11:00 AM	4.9	-	-	-	-	-	-
11:00 AM - 12:00 PM	7.4	-	-	-	-	-	-
12:00 PM - 01:00 PM	6.0	-	-	-	-	-	-
01:00 PM - 02:00 PM	7.5	-	-	-	-	-	-
02:00 PM - 03:00 PM	6.6	-	-	-	-	-	-
03:00 PM - 04:00 PM	6.0	-	-	-	-	-	-
04:00 PM - 05:00 PM	10.2	-	-	-	-	-	-
05:00 PM - 06:00 PM	8.4	-	-	-	-	-	-
06:00 PM - 07:00 PM	4.9	-	-	-	-	-	-
07:00 PM - 08:00 PM	8.6	-	-	-	-	-	-
08:00 PM - 09:00 PM	4.5	-	-	-	-	-	-
09:00 PM - 10:00 PM	2.8	-	-	-	-	-	-
10:00 PM - 11:00 PM	2.4	-	-	-	-	-	-
11:00 PM - 12:00 AM	2.4	-	-	-	-	-	-
12:00 AM - 01:00 AM	2.1	-	-	-	-	-	-
01:00 AM - 02:00 AM	2.0	-	-	-	-	-	-
02:00 AM - 03:00 AM	2.0	-	-	-	-	-	-
03:00 AM - 04:00 AM	4.7	-	-	-	-	-	-
04:00 AM - 05:00 AM	2.9	-	-	-	-	-	-
05:00 AM - 06:00 AM	2.0	-	-	-	-	-	-
06:00 AM - 07:00 AM	7.5	-	-	-	-	-	-
07:00 AM - 08:00 AM	7.5	-	-	-	-	-	-
08:00 AM - 09:00 AM	7.5	-	-	-	-	-	-
Average	5.2	-	-	-	-	-	-
1hr - Maximum	10.2	-	-	-	-	-	-
Standard 1hr - Average	180	-	-	-	-	-	-

Standard : The Arizona Department of Environmental Quality Air Programs Division Dated May 11, B.E. 2542 (1999)

Reference Method :

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Approved by

Orawan R.

Orawan Rakyong
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ภาคผนวก ค-5

ผลการตรวจวัดระดับเสียงทั่วไป



Analysis / Test Report

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

P/O :
Project Name : Factory License No.10410000125341_EIA Monitoring
Project Location :

Lot ID: 2315533
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2603791-1

Page 1 of 1

Sample Number : 2315533-1
Parameter : Noise (Leq 24 hrs.)
Location : บริเวณพื้นที่ปลูกข้าว (GPS 48Q 279384, 1889169)
Measurement Date : Mar 05 - Mar 05, 2023
Measurement by : Natthapon Kumasat
Sound Level meter : Serial No. 222599

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	51.2	48.0	49.2
03:00 PM - 04:00 PM	51.4	71.1	47.9
04:00 PM - 05:00 PM	51.3	72.2	48.2
05:00 PM - 06:00 PM	51.5	71.4	48.3
06:00 PM - 07:00 PM	56.4	78.8	51.4
07:00 PM - 08:00 PM	54.8	71.7	52.0
08:00 PM - 09:00 PM	53.5	66.3	51.3
09:00 PM - 10:00 PM	52.2	70.7	49.2
10:00 PM - 11:00 PM	52.8	68.1	50.3
11:00 PM - 12:00 AM	51.7	63.6	49.3
12:00 AM - 01:00 AM	64.0	81.3	58.5
01:00 AM - 02:00 AM	55.9	75.2	48.9
02:00 AM - 03:00 AM	73.4	75.6	88.9
03:00 AM - 04:00 AM	73.7	75.8	72.9
04:00 AM - 05:00 AM	69.4	76.0	67.5
05:00 AM - 06:00 AM	70.9	77.3	67.0
06:00 AM - 07:00 AM	72.9	83.3	71.2
07:00 AM - 08:00 AM	65.9	77.6	52.0
08:00 AM - 09:00 AM	52.4	75.7	49.1
09:00 AM - 10:00 AM	53.0	76.5	48.7
10:00 AM - 11:00 AM	52.3	71.3	48.5
11:00 AM - 12:00 PM	50.9	67.3	47.5
12:00 PM - 01:00 PM	50.5	69.1	46.4
01:00 PM - 02:00 PM	51.7	71.2	47.2

Leq Average 24 hrs. (dB(A)) : 66.0
Lmax (dB(A)) : 83.3
L90 (dB(A)) : 49.3
Ldn (dB(A)) : 75.7
Standard (dB(A)) : 70
Reference Method : ISO1996-1 and 1996-2
Standard : 1. ใช้มาตรฐานการวัดและประเมินค่าระดับเสียง (พ.ร.บ. 2540) ที่กรมควบคุมมลพิษกำหนดไว้
2. ใช้มาตรฐานการวัดและประเมินค่าระดับเสียง (พ.ร.บ. 2540) ที่กรมควบคุมมลพิษกำหนดไว้ และใช้มาตรฐานการวัดและประเมินค่าระดับเสียง (พ.ร.บ. 2540) ที่กรมควบคุมมลพิษกำหนดไว้

Technical Management

Orawan R.
Orawan Raksong
Scientist (1)

Approved by

Supt S.
Supt. Salameeh
Section Head

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RIGHT SOLUTIONS

5 Viphavadi, Anurak Rd. (4.219M)



Analysis / Test Report

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

P/O :
Project Name : Factory License No.10410000125341_EIA Monitoring
Project Location :

Lot ID: 2315533
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2603791-1

Page 1 of 1

Sample Number : 2315533-2
Parameter : Noise (Leq 24 hrs.)
Location : บริเวณพื้นที่ปลูกข้าว (GPS 48Q 279384, 1889169)
Measurement Date : Mar 09 - Mar 10, 2023
Measurement by : Natthapon Kumasat
Sound Level meter : Serial No. 222599

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	50.9	71.1	48.8
03:00 PM - 04:00 PM	50.9	68.2	47.1
04:00 PM - 05:00 PM	52.3	74.7	46.3
05:00 PM - 06:00 PM	52.0	67.7	48.7
06:00 PM - 07:00 PM	56.3	76.1	51.3
07:00 PM - 08:00 PM	53.2	66.6	48.7
08:00 PM - 09:00 PM	51.3	73.4	48.1
09:00 PM - 10:00 PM	52.2	83.6	48.0
10:00 PM - 11:00 PM	50.9	68.4	48.5
11:00 PM - 12:00 AM	51.1	79.8	46.8
12:00 AM - 01:00 AM	71.9	75.5	70.6
01:00 AM - 02:00 AM	74.8	83.5	74.6
02:00 AM - 03:00 AM	73.2	73.9	75.1
03:00 AM - 04:00 AM	73.6	72.8	72.8
04:00 AM - 05:00 AM	72.4	76.0	71.6
05:00 AM - 06:00 AM	72.5	76.2	73.4
06:00 AM - 07:00 AM	75.6	79.9	75.1
07:00 AM - 08:00 AM	70.2	79.0	68.7
08:00 AM - 09:00 AM	69.0	75.9	65.9
09:00 AM - 10:00 AM	53.0	70.1	48.5
10:00 AM - 11:00 AM	52.4	71.3	48.9
11:00 AM - 12:00 PM	53.5	69.0	50.4
12:00 PM - 01:00 PM	52.2	68.8	48.2
01:00 PM - 02:00 PM	52.4	75.1	48.3

Leq Average 24 hrs. (dB(A)) : 69.3
Lmax (dB(A)) : 83.6
L90 (dB(A)) : 49.0
Ldn (dB(A)) : 76.9
Standard (dB(A)) : 70
Reference Method : ISO1996-1 and 1996-2
Standard : 1. ใช้มาตรฐานการวัดและประเมินค่าระดับเสียง (พ.ร.บ. 2540) ที่กรมควบคุมมลพิษกำหนดไว้
2. ใช้มาตรฐานการวัดและประเมินค่าระดับเสียง (พ.ร.บ. 2540) ที่กรมควบคุมมลพิษกำหนดไว้ และใช้มาตรฐานการวัดและประเมินค่าระดับเสียง (พ.ร.บ. 2540) ที่กรมควบคุมมลพิษกำหนดไว้

Technical Management

Orawan R.
Orawan Raksong
Scientist (1)

Approved by

Supt S.
Supt. Salameeh
Section Head

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RIGHT SOLUTIONS

5 Viphavadi, Anurak Rd. (4.219M)



Analysis / Test Report

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

P/O :
Project Name : Factory License No.10410000125341_EIA Monitoring
Project Location :

Lot ID: 2315533
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2603791-1

Page 1 of 1

Sample Number : 2315533-3
Parameter : Noise (Leq 24 hrs.)
Location : บริเวณพื้นที่ปลูกข้าว (GPS 48Q 279384, 1889169)
Measurement Date : Mar 10 - Mar 11, 2023
Measurement by : Natthapon Kumasat
Sound Level meter : Serial No. 222599

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	50.5	70.2	47.2
03:00 PM - 04:00 PM	52.0	72.6	46.1
04:00 PM - 05:00 PM	51.6	73.4	48.1
05:00 PM - 06:00 PM	51.5	88.7	48.2
06:00 PM - 07:00 PM	53.3	77.9	52.9
07:00 PM - 08:00 PM	54.2	66.9	51.7
08:00 PM - 09:00 PM	52.0	66.4	49.7
09:00 PM - 10:00 PM	53.7	70.0	49.7
10:00 PM - 11:00 PM	63.6	78.4	61.2
11:00 PM - 12:00 AM	50.1	63.6	48.4
12:00 AM - 01:00 AM	73.9	75.4	71.8
01:00 AM - 02:00 AM	75.1	75.6	75.1
02:00 AM - 03:00 AM	75.3	75.8	75.3
03:00 AM - 04:00 AM	75.4	75.8	75.4
04:00 AM - 05:00 AM	75.8	76.1	75.7
05:00 AM - 06:00 AM	75.6	76.2	75.6
06:00 AM - 07:00 AM	74.7	77.2	74.1
07:00 AM - 08:00 AM	73.0	86.6	69.7
08:00 AM - 09:00 AM	55.6	78.7	49.8
09:00 AM - 10:00 AM	52.4	69.6	48.4
10:00 AM - 11:00 AM	51.2	66.2	48.2
11:00 AM - 12:00 PM	51.0	69.2	47.3
12:00 PM - 01:00 PM	49.9	67.1	45.3
01:00 PM - 02:00 PM	50.5	67.2	46.7

Leq Average 24 hrs. (dB(A)) : 70.2
Lmax (dB(A)) : 88.6
L90 (dB(A)) : 49.2
Ldn (dB(A)) : 79.9
Standard (dB(A)) : 70
Reference Method : ISO1996-1 and 1996-2
Standard : 1. ใช้มาตรฐานการวัดและประเมินค่าระดับเสียง (พ.ร.บ. 2540) ที่กรมควบคุมมลพิษกำหนดไว้
2. ใช้มาตรฐานการวัดและประเมินค่าระดับเสียง (พ.ร.บ. 2540) ที่กรมควบคุมมลพิษกำหนดไว้ และใช้มาตรฐานการวัดและประเมินค่าระดับเสียง (พ.ร.บ. 2540) ที่กรมควบคุมมลพิษกำหนดไว้

Technical Management

Orawan R.
Orawan Raksong
Scientist (1)

Approved by

Supt S.
Supt. Salameeh
Section Head

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RIGHT SOLUTIONS

5 Viphavadi, Anurak Rd. (4.219M)



Analysis / Test Report

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

P/O :
Project Name : Factory License No.10410000125341_EIA Monitoring
Project Location :

Lot ID: 2315533
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2603791-1

Page 1 of 1

Sample Number : 2315533-4
Parameter : Noise (Leq 24 hrs.)
Location : บริเวณพื้นที่ปลูกข้าว (GPS 48Q 279384, 1889169)
Measurement Date : Mar 11 - Mar 12, 2023
Measurement by : Natthapon Kumasat
Sound Level meter : Serial No. 222599

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	51.0	72.7	46.9
03:00 PM - 04:00 PM	50.5	70.2	47.4
04:00 PM - 05:00 PM	52.0	72.4	48.5
05:00 PM - 06:00 PM	51.8	80.6	48.3
06:00 PM - 07:00 PM	55.9	79.9	51.4
07:00 PM - 08:00 PM	54.3	72.5	51.4
08:00 PM - 09:00 PM	51.0	69.7	50.5
09:00 PM - 10:00 PM	51.3	67.8	48.1
10:00 PM - 11:00 PM	52.0	68.2	50.2
11:00 PM - 12:00 AM	52.9	63.6	50.5
12:00 AM - 01:00 AM	52.1	66.5	50.2
01:00 AM - 02:00 AM	71.8	67.1	73.4
02:00 AM - 03:00 AM	75.4	76.2	75.4
03:00 AM - 04:00 AM	75.5	76.3	75.3
04:00 AM - 05:00 AM	75.7	75.7	75.7
05:00 AM - 06:00 AM	76.0	76.4	76.0
06:00 AM - 07:00 AM	75.3	74.9	74.9
07:00 AM - 08:00 AM	74.3	76.5	73.8
08:00 AM - 09:00 AM	62.0	87.2	47.8
09:00 AM - 10:00 AM	52.8	72.0	47.6
10:00 AM - 11:00 AM	51.1	66.2	47.1
11:00 AM - 12:00 PM	51.5	72.8	46.3
12:00 PM - 01:00 PM	49.7	69.3	46.4
01:00 PM - 02:00 PM	50.5	68.3	46.4

Leq Average 24 hrs. (dB(A)) : 69.8
Lmax (dB(A)) : 87.2
L90 (dB(A)) : 50.2
Ldn (dB(A)) : 70.4
Standard (dB(A)) : 70
Reference Method : ISO1996-1 and 1996-2
Standard : 1. ใช้มาตรฐานการวัดและประเมินค่าระดับเสียง (พ.ร.บ. 2540) ที่กรมควบคุมมลพิษกำหนดไว้
2. ใช้มาตรฐานการวัดและประเมินค่าระดับเสียง (พ.ร.บ. 2540) ที่กรมควบคุมมลพิษกำหนดไว้ และใช้มาตรฐานการวัดและประเมินค่าระดับเสียง (พ.ร.บ. 2540) ที่กรมควบคุมมลพิษกำหนดไว้

Technical Management

Orawan R.
Orawan Raksong
Scientist (1)

Approved by

Supt S.
Supt. Salameeh
Section Head

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5 Viphavadi, Anurak Rd. (4.219M)



Analysis / Test Report

Client : Kasit Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :

Lot ID: 2315534
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2603083-1

Page 1 of 1

Sample Number : 2315534-2
Parameter : Noise (Leq 24 hrs.)
Location : ห้วยน้ำขุ่น/น้ำขุ่นใต้ (GPS 40Q 279216, 1888633)
Measurement Date : Mar 09 - Mar 10, 2023
Measurement by : Natthapon Kunasut
Sound Level meter : Serial No. 709777

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	52.2	72.2	49.9
03:00 PM - 04:00 PM	54.7	75.4	52.5
04:00 PM - 05:00 PM	56.7	77.7	54.3
05:00 PM - 06:00 PM	58.5	79.7	56.5
06:00 PM - 07:00 PM	59.9	81.4	57.6
07:00 PM - 08:00 PM	55.7	78.1	53.8
08:00 PM - 09:00 PM	57.3	79.1	55.0
09:00 PM - 10:00 PM	58.6	77.9	57.4
10:00 PM - 11:00 PM	58.4	79.9	56.5
11:00 PM - 12:00 AM	54.9	80.8	53.2
12:00 AM - 01:00 AM	58.2	74.6	52.4
01:00 AM - 02:00 AM	54.2	68.9	51.7
02:00 AM - 03:00 AM	53.7	70.8	51.5
03:00 AM - 04:00 AM	56.8	73.6	53.8
04:00 AM - 05:00 AM	59.0	73.1	57.8
05:00 AM - 06:00 AM	56.5	72.1	55.5
06:00 AM - 07:00 AM	61.9	80.9	58.4
07:00 AM - 08:00 AM	58.0	67.1	56.7
08:00 AM - 09:00 AM	57.4	69.8	53.1
09:00 AM - 10:00 AM	56.7	76.8	54.1
10:00 AM - 11:00 AM	54.7	67.0	52.0
11:00 AM - 12:00 PM	55.9	73.9	52.7
12:00 PM - 01:00 PM	55.5	76.0	53.1
01:00 PM - 02:00 PM	58.6	77.6	53.6

Leq Average 24 hrs. (dB(A))

Lmax (dB(A))

L90 (dB(A))

Ldn (dB(A))

Standard (dB(A))

Reference Method : ISO1996-1 and 1996-2

Standard

1. ข้อมูลที่ได้มาจากการวัดเสียงตามวิธีมาตรฐาน ISO 19 (พ.ศ. 2546) ที่กรมวิทยาศาสตร์บริการรับรอง
2. ข้อมูลที่ได้มาจากการวัดเสียงตามวิธีมาตรฐาน ISO 19 (พ.ศ. 2546) ที่กรมวิทยาศาสตร์บริการรับรอง

โดยมี พ.ร.บ. 2546

Technical Management

Orawan R.
Orawan Rakwong
Scientist (1)

Approved by

Supat S.
Supat Salameh
Section Head

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Analysis / Test Report

Client : Kasit Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :

Lot ID: 2315534
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2603083-1

Page 1 of 1

Sample Number : 2315534-1
Parameter : Noise (Leq 24 hrs.)
Location : ห้วยน้ำขุ่น/น้ำขุ่นใต้ (GPS 40Q 279216, 1888633)
Measurement Date : Mar 10 - Mar 11, 2023
Measurement by : Natthapon Kunasut
Sound Level meter : Serial No. 709777

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	56.7	83.0	51.8
03:00 PM - 04:00 PM	57.2	81.9	54.3
04:00 PM - 05:00 PM	54.6	76.2	49.4
05:00 PM - 06:00 PM	54.0	73.4	51.8
06:00 PM - 07:00 PM	56.0	74.4	54.1
07:00 PM - 08:00 PM	57.9	69.1	56.5
08:00 PM - 09:00 PM	57.4	68.2	56.0
09:00 PM - 10:00 PM	57.4	82.6	55.7
10:00 PM - 11:00 PM	57.4	71.9	55.6
11:00 PM - 12:00 AM	57.0	70.0	55.4
12:00 AM - 01:00 AM	56.9	72.7	55.3
01:00 AM - 02:00 AM	61.1	69.6	58.6
02:00 AM - 03:00 AM	61.6	69.4	59.4
03:00 AM - 04:00 AM	57.8	70.3	56.6
04:00 AM - 05:00 AM	58.1	79.3	56.8
05:00 AM - 06:00 AM	56.8	70.5	55.8
06:00 AM - 07:00 AM	59.2	74.4	57.9
07:00 AM - 08:00 AM	60.4	74.5	57.6
08:00 AM - 09:00 AM	63.0	69.0	61.1
09:00 AM - 10:00 AM	52.6	72.1	50.9
10:00 AM - 11:00 AM	53.7	67.4	50.4
11:00 AM - 12:00 PM	53.9	61.3	52.1
12:00 PM - 01:00 PM	55.2	71.6	53.0
01:00 PM - 02:00 PM	53.0	72.4	51.1

Leq Average 24 hrs. (dB(A))

Lmax (dB(A))

L90 (dB(A))

Ldn (dB(A))

Standard (dB(A))

Reference Method : ISO1996-1 and 1996-2

Standard

1. ข้อมูลที่ได้มาจากการวัดเสียงตามวิธีมาตรฐาน ISO 19 (พ.ศ. 2546) ที่กรมวิทยาศาสตร์บริการรับรอง
2. ข้อมูลที่ได้มาจากการวัดเสียงตามวิธีมาตรฐาน ISO 19 (พ.ศ. 2546) ที่กรมวิทยาศาสตร์บริการรับรอง

โดยมี พ.ร.บ. 2546

Technical Management

Orawan R.
Orawan Rakwong
Scientist (1)

Approved by

Supat S.
Supat Salameh
Section Head

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RIGHT SOLUTIONS

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Analysis / Test Report

Client : Kasit Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :

Lot ID: 2315534
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2603083-1

Page 1 of 1

Sample Number : 2315534-4
Parameter : Noise (Leq 24 hrs.)
Location : ห้วยน้ำขุ่น/น้ำขุ่นใต้ (GPS 40Q 279216, 1888633)
Measurement Date : Mar 11 - Mar 12, 2023
Measurement by : Natthapon Kunasut
Sound Level meter : Serial No. 709777

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	53.8	75.0	51.9
03:00 PM - 04:00 PM	52.2	69.0	50.2
04:00 PM - 05:00 PM	53.7	77.1	49.8
05:00 PM - 06:00 PM	50.5	64.6	46.9
06:00 PM - 07:00 PM	54.4	70.8	52.8
07:00 PM - 08:00 PM	55.5	65.2	54.8
08:00 PM - 09:00 PM	56.3	74.9	54.6
09:00 PM - 10:00 PM	56.2	73.6	54.8
10:00 PM - 11:00 PM	58.6	77.2	57.4
11:00 PM - 12:00 AM	56.9	73.9	55.7
12:00 AM - 01:00 AM	57.7	66.2	56.2
01:00 AM - 02:00 AM	56.0	68.3	54.3
02:00 AM - 03:00 AM	54.8	73.7	52.9
03:00 AM - 04:00 AM	52.8	71.6	51.3
04:00 AM - 05:00 AM	55.4	69.6	54.0
05:00 AM - 06:00 AM	57.4	72.4	55.8
06:00 AM - 07:00 AM	56.0	74.6	54.5
07:00 AM - 08:00 AM	53.5	70.3	51.6
08:00 AM - 09:00 AM	57.6	80.5	50.0
09:00 AM - 10:00 AM	51.1	70.1	48.9
10:00 AM - 11:00 AM	50.5	61.2	48.1
11:00 AM - 12:00 PM	50.9	67.0	46.4
12:00 PM - 01:00 PM	53.2	60.6	50.1
01:00 PM - 02:00 PM	52.5	69.0	50.3

Leq Average 24 hrs. (dB(A))

Lmax (dB(A))

L90 (dB(A))

Ldn (dB(A))

Standard (dB(A))

Reference Method : ISO1996-1 and 1996-2

Standard

1. ข้อมูลที่ได้มาจากการวัดเสียงตามวิธีมาตรฐาน ISO 19 (พ.ศ. 2546) ที่กรมวิทยาศาสตร์บริการรับรอง
2. ข้อมูลที่ได้มาจากการวัดเสียงตามวิธีมาตรฐาน ISO 19 (พ.ศ. 2546) ที่กรมวิทยาศาสตร์บริการรับรอง

โดยมี พ.ร.บ. 2546

Technical Management

Orawan R.
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Analysis / Test Report

Client : Kasit Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :

Lot ID: 2315534
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2603083-1

Page 1 of 1

Sample Number : 2315534-5
Parameter : Noise (Leq 24 hrs.)
Location : ห้วยน้ำขุ่น/น้ำขุ่นใต้ (GPS 40Q 279216, 1888633)
Measurement Date : Mar 12 - Mar 13, 2023
Measurement by : Natthapon Kunasut
Sound Level meter : Serial No. 709777

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	52.1	72.6	50.4
03:00 PM - 04:00 PM	53.2	71.4	50.7
04:00 PM - 05:00 PM	57.6	78.4	58.7
05:00 PM - 06:00 PM	57.4	76.0	52.2
06:00 PM - 07:00 PM	54.5	77.9	52.1
07:00 PM - 08:00 PM	52.2	65.6	50.6
08:00 PM - 09:00 PM	52.3	59.2	50.9
09:00 PM - 10:00 PM	53.1	79.2	51.0
10:00 PM - 11:00 PM	53.7	74.3	50.0
11:00 PM - 12:00 AM	52.4	70.9	50.0
12:00 AM - 01:00 AM	51.9	67.1	50.2
01:00 AM - 02:00 AM	53.8	73.5	49.3
02:00 AM - 03:00 AM	48.5	64.9	46.9
03:00 AM - 04:00 AM	46.4	61.0	46.8
04:00 AM - 05:00 AM	46.8	80.0	47.9
05:00 AM - 06:00 AM	49.0	65.3	47.7
06:00 AM - 07:00 AM	50.4	65.7	48.3
07:00 AM - 08:00 AM	52.1	71.9	49.0
08:00 AM - 09:00 AM	60.1	78.4	49.8
09:00 AM - 10:00 AM	56.7	75.6	50.9
10:00 AM - 11:00 AM	52.8	70.9	50.2
11:00 AM - 12:00 PM	52.7	72.3	50.0
12:00 PM - 01:00 PM	51.7	78.9	49.0
01:00 PM - 02:00 PM	52.3	74.3	48.6

Leq Average 24 hrs. (dB(A))

Lmax (dB(A))

L90 (dB(A))

Ldn (dB(A))

Standard (dB(A))

Reference Method : ISO1996-1 and 1996-2

Standard

1. ข้อมูลที่ได้มาจากการวัดเสียงตามวิธีมาตรฐาน ISO 19 (พ.ศ. 2546) ที่กรมวิทยาศาสตร์บริการรับรอง
2. ข้อมูลที่ได้มาจากการวัดเสียงตามวิธีมาตรฐาน ISO 19 (พ.ศ. 2546) ที่กรมวิทยาศาสตร์บริการรับรอง

โดยมี พ.ร.บ. 2546

Technical Management

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Supat Salameh
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Analysis / Test Report

Client : Kasol Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphavapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location

Lot ID: 2315534
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2603854-1

Page 1 of 1

Sample Number : 2315534-6
Parameter : Noise (Leq 24 hrs.)
Location : bufrensuahaiwunhai (GPS 48Q 279216, 1888633)
Measurement Date : Mar 13 - Mar 14, 2023
Measurement by : Natthapon Kinnasut
Sound Level meter : Serial No. 709777

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	55.4	75.0	49.0
03:00 PM - 04:00 PM	49.7	69.5	47.8
04:00 PM - 05:00 PM	53.1	74.3	48.4
05:00 PM - 06:00 PM	54.1	75.5	50.4
06:00 PM - 07:00 PM	51.3	70.8	51.4
07:00 PM - 08:00 PM	53.3	71.3	51.3
08:00 PM - 09:00 PM	52.6	69.2	50.5
09:00 PM - 10:00 PM	52.4	68.0	50.9
10:00 PM - 11:00 PM	52.4	69.3	50.9
11:00 PM - 12:00 AM	52.1	72.4	50.5
12:00 AM - 01:00 AM	52.7	73.9	51.6
01:00 AM - 02:00 AM	51.4	67.4	49.3
02:00 AM - 03:00 AM	52.9	66.0	51.7
03:00 AM - 04:00 AM	53.7	72.6	52.3
04:00 AM - 05:00 AM	50.9	64.0	49.3
05:00 AM - 06:00 AM	51.3	62.3	50.0
06:00 AM - 07:00 AM	51.7	65.0	50.3
07:00 AM - 08:00 AM	52.2	76.8	50.2
08:00 AM - 09:00 AM	53.4	76.5	53.1
09:00 AM - 10:00 AM	55.3	75.3	49.9
10:00 AM - 11:00 AM	56.0	78.3	47.6
11:00 AM - 12:00 PM	55.6	70.0	50.0
12:00 PM - 01:00 PM	58.2	78.4	50.2
01:00 PM - 02:00 PM	53.3	68.3	51.2

Leq Average 24 hrs. (dB(A)) : 54.0
Lmax (dB(A)) : 76.8
L90 (dB(A)) : 50.3
Ldn (dB(A)) : 59.1
Standard (dB(A)) : 70 115

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ข้อมูลที่ได้จากการวัดค่าเสียงดังตามข้อกำหนดในข้อ 15 (พ.ร.บ. 2540) สำหรับการรายงานผลการวัดค่าเสียงดัง
2. ข้อมูลที่ได้จากการวัดค่าเสียงดังตามข้อกำหนดในข้อ 15 (พ.ร.บ. 2540) สำหรับการรายงานผลการวัดค่าเสียงดัง
ตาม พ.ร.บ. 2548

Technical Management

Orawan R.
Orawan Rattayong
Scientist (J)

Approved by

Supt S.
Supt. Salameh
Section Head

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RIGHT SOLUTIONS

3 Voprosi Air Noise (p. 4.40P)



Analysis / Test Report

Client : Kasol Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphavapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location

Lot ID: 2315535
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2603931-1

Page 1 of 1

Sample Number : 2315535-1
Parameter : Noise (Leq 24 hrs.)
Location : bufrensuahaiwunhai (GPS 48Q 279402, 1888929)
Measurement Date : Mar 08 - Mar 09, 2023
Measurement by : Natthapon Kinnasut
Sound Level meter : Serial No. 1000335

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	56.9	70.8	55.6
03:00 PM - 04:00 PM	61.0	72.9	59.7
04:00 PM - 05:00 PM	60.6	77.2	59.4
05:00 PM - 06:00 PM	57.3	66.9	56.0
06:00 PM - 07:00 PM	59.0	82.7	52.0
07:00 PM - 08:00 PM	56.4	69.2	55.7
08:00 PM - 09:00 PM	56.3	64.6	55.8
09:00 PM - 10:00 PM	56.5	77.6	55.2
10:00 PM - 11:00 PM	56.4	69.8	55.3
11:00 PM - 12:00 AM	56.2	64.8	55.3
12:00 AM - 01:00 AM	56.5	64.0	55.7
01:00 AM - 02:00 AM	56.4	63.9	55.6
02:00 AM - 03:00 AM	56.0	63.8	55.3
03:00 AM - 04:00 AM	56.6	66.4	55.9
04:00 AM - 05:00 AM	55.9	69.8	54.8
05:00 AM - 06:00 AM	55.3	73.4	54.1
06:00 AM - 07:00 AM	57.2	84.5	55.1
07:00 AM - 08:00 AM	59.1	71.0	57.4
08:00 AM - 09:00 AM	59.7	75.8	57.5
09:00 AM - 10:00 AM	57.7	83.2	54.6
10:00 AM - 11:00 AM	58.3	75.0	55.2
11:00 AM - 12:00 PM	56.9	72.8	54.6
12:00 PM - 01:00 PM	57.8	76.4	56.3
01:00 PM - 02:00 PM	57.7	70.9	56.4

Leq Average 24 hrs. (dB(A)) : 57.7
Lmax (dB(A)) : 84.5
L90 (dB(A)) : 55.7
Ldn (dB(A)) : 63.1
Standard (dB(A)) : 70 115

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ข้อมูลที่ได้จากการวัดค่าเสียงดังตามข้อกำหนดในข้อ 15 (พ.ร.บ. 2540) สำหรับการรายงานผลการวัดค่าเสียงดัง
2. ข้อมูลที่ได้จากการวัดค่าเสียงดังตามข้อกำหนดในข้อ 15 (พ.ร.บ. 2540) สำหรับการรายงานผลการวัดค่าเสียงดัง
ตาม พ.ร.บ. 2548

Technical Management

Orawan R.
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Scientist (J)

Approved by

Supt S.
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RIGHT SOLUTIONS

3 Voprosi Air Noise (p. 4.40P)



Analysis / Test Report

Client : Kasol Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphavapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location

Lot ID: 2315534
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2603854-1

Page 1 of 1

Sample Number : 2315534-7
Parameter : Noise (Leq 24 hrs.)
Location : bufrensuahaiwunhai (GPS 48Q 279216, 1888833)
Measurement Date : Mar 14 - Mar 15, 2023
Measurement by : Natthapon Kinnasut
Sound Level meter : Serial No. 709777

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	54.0	76.6	51.7
03:00 PM - 04:00 PM	56.5	73.5	52.2
04:00 PM - 05:00 PM	59.4	73.3	50.4
05:00 PM - 06:00 PM	57.8	79.5	48.4
06:00 PM - 07:00 PM	52.4	79.2	49.2
07:00 PM - 08:00 PM	54.0	77.0	51.8
08:00 PM - 09:00 PM	52.3	69.5	54.1
09:00 PM - 10:00 PM	55.0	74.9	54.3
10:00 PM - 11:00 PM	56.4	75.7	54.6
11:00 PM - 12:00 AM	56.2	75.2	54.6
12:00 AM - 01:00 AM	56.2	72.8	54.6
01:00 AM - 02:00 AM	56.1	74.7	54.8
02:00 AM - 03:00 AM	52.4	65.9	51.3
03:00 AM - 04:00 AM	51.8	62.4	49.8
04:00 AM - 05:00 AM	51.4	68.0	49.5
05:00 AM - 06:00 AM	51.2	66.3	49.7
06:00 AM - 07:00 AM	51.3	70.6	51.4
07:00 AM - 08:00 AM	51.6	75.5	49.1
08:00 AM - 09:00 AM	51.5	75.1	49.0
09:00 AM - 10:00 AM	51.0	75.5	50.0
10:00 AM - 11:00 AM	50.3	78.4	50.9
11:00 AM - 12:00 PM	51.5	68.2	51.2
12:00 PM - 01:00 PM	50.8	70.7	48.8
01:00 PM - 02:00 PM	57.8	78.1	48.8

Leq Average 24 hrs. (dB(A)) : 55.4
Lmax (dB(A)) : 82.4
L90 (dB(A)) : 50.9
Ldn (dB(A)) : 61.1
Standard (dB(A)) : 70 115

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ข้อมูลที่ได้จากการวัดค่าเสียงดังตามข้อกำหนดในข้อ 15 (พ.ร.บ. 2540) สำหรับการรายงานผลการวัดค่าเสียงดัง
2. ข้อมูลที่ได้จากการวัดค่าเสียงดังตามข้อกำหนดในข้อ 15 (พ.ร.บ. 2540) สำหรับการรายงานผลการวัดค่าเสียงดัง
ตาม พ.ร.บ. 2548

Technical Management

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RIGHT SOLUTIONS

3 Voprosi Air Noise (p. 4.40P)



Analysis / Test Report

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphavapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.1041000125343_EIA Monitoring
Project Location :

Lot ID: 2315535
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2603935-1

Page 1 of 1

Sample Number : 2315535-3
Parameter : Noise (Leq 24 hrs.)
Location : ตำบลนาโพธิ์พอแก้ว/บ้านนาโพธิ์ (GPS 48Q 279482, 1888929)
Measurement Date : Mar 10 - Mar 11, 2023
Measurement by : Natthapon Kunasut
Sound Level meter : Serial No. 1000335

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	59.5	85.0	57.2
03:00 PM - 04:00 PM	60.3	74.6	58.5
04:00 PM - 05:00 PM	59.8	73.2	58.2
05:00 PM - 06:00 PM	58.0	69.7	55.7
06:00 PM - 07:00 PM	55.1	67.1	54.2
07:00 PM - 08:00 PM	55.5	65.7	54.7
08:00 PM - 09:00 PM	55.9	63.7	55.0
09:00 PM - 10:00 PM	56.4	75.3	55.4
10:00 PM - 11:00 PM	56.6	70.0	55.3
11:00 PM - 12:00 AM	55.5	63.2	54.7
12:00 AM - 01:00 AM	55.4	62.6	54.4
01:00 AM - 02:00 AM	56.6	67.0	55.4
02:00 AM - 03:00 AM	56.2	62.5	55.2
03:00 AM - 04:00 AM	55.9	59.3	54.8
04:00 AM - 05:00 AM	56.0	64.5	55.1
05:00 AM - 06:00 AM	56.7	66.7	55.6
06:00 AM - 07:00 AM	56.5	70.9	57.1
07:00 AM - 08:00 AM	58.2	72.3	56.6
08:00 AM - 09:00 AM	60.2	73.3	57.6
09:00 AM - 10:00 AM	60.6	74.3	58.5
10:00 AM - 11:00 AM	59.5	78.6	58.1
11:00 AM - 12:00 PM	59.0	73.4	57.3
12:00 PM - 01:00 PM	59.0	74.6	57.3
01:00 PM - 02:00 PM	59.4	74.0	57.8

Leq Average 24 hrs. (dB(A))

58.0

85.0

55.8

Lmax (dB(A))

L90 (dB(A))

Ldn (dB(A))

Standard (dB(A))

Reference Method : ISO1996-1 and 1996-2

Standard

1. มาตรการควบคุมการลดผลกระทบสิ่งแวดล้อม ฉบับที่ 15 (พ.ศ. 2540) ที่กระทรวงทรัพยากรธรรมชาติและสิ่งแวดล้อมกำหนด

2. มาตรการควบคุมการลดผลกระทบสิ่งแวดล้อม ฉบับที่ 15 (พ.ศ. 2540) ที่กระทรวงทรัพยากรธรรมชาติและสิ่งแวดล้อมกำหนด

โดย พ.ร.บ. 2548

Technical Management

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Orawan Rukying
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Approved by

Supt S
Supat Salmeh
Section Head

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E-MAIL: info@alsglobal.com

www.alsglobal.com

NIGHT SOLUTIONS

14025-231 ENAIL

3 Reports, Air noise only (4 40PM)



Analysis / Test Report

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphavapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.1041000125343_EIA Monitoring
Project Location :

Lot ID: 2315535
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2603935-1

Page 1 of 1

Sample Number : 2315535-4
Parameter : Noise (Leq 24 hrs.)
Location : ตำบลนาโพธิ์พอแก้ว/บ้านนาโพธิ์ (GPS 48Q 279482, 1888929)
Measurement Date : Mar 11 - Mar 12, 2023
Measurement by : Natthapon Kunasut
Sound Level meter : Serial No. 1000335

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	61.4	79.4	55.0
03:00 PM - 04:00 PM	60.9	77.7	55.4
04:00 PM - 05:00 PM	60.8	83.5	55.3
05:00 PM - 06:00 PM	59.7	79.5	54.6
06:00 PM - 07:00 PM	59.0	80.7	53.2
07:00 PM - 08:00 PM	59.8	80.9	54.8
08:00 PM - 09:00 PM	58.9	78.7	53.3
09:00 PM - 10:00 PM	59.2	82.0	53.0
10:00 PM - 11:00 PM	57.4	78.9	52.3
11:00 PM - 12:00 AM	57.4	80.0	52.0
12:00 AM - 01:00 AM	57.0	74.8	51.3
01:00 AM - 02:00 AM	56.2	81.5	49.4
02:00 AM - 03:00 AM	55.0	68.9	47.3
03:00 AM - 04:00 AM	54.8	63.0	46.3
04:00 AM - 05:00 AM	57.0	76.3	49.0
05:00 AM - 06:00 AM	57.2	70.8	50.6
06:00 AM - 07:00 AM	59.4	73.7	53.4
07:00 AM - 08:00 AM	60.9	83.3	54.3
08:00 AM - 09:00 AM	60.9	78.1	54.2
09:00 AM - 10:00 AM	61.2	83.0	53.7
10:00 AM - 11:00 AM	61.3	83.8	54.6
11:00 AM - 12:00 PM	61.5	80.7	54.5
12:00 PM - 01:00 PM	60.1	76.4	54.8
01:00 PM - 02:00 PM	61.5	82.9	55.2

Leq Average 24 hrs. (dB(A))

58.5

88.7

53.4

Lmax (dB(A))

L90 (dB(A))

Ldn (dB(A))

Standard (dB(A))

Reference Method : ISO1996-1 and 1996-2

Standard

1. มาตรการควบคุมการลดผลกระทบสิ่งแวดล้อม ฉบับที่ 15 (พ.ศ. 2540) ที่กระทรวงทรัพยากรธรรมชาติและสิ่งแวดล้อมกำหนด

2. มาตรการควบคุมการลดผลกระทบสิ่งแวดล้อม ฉบับที่ 15 (พ.ศ. 2540) ที่กระทรวงทรัพยากรธรรมชาติและสิ่งแวดล้อมกำหนด

โดย พ.ร.บ. 2548

Technical Management

Orawan R.
Orawan Rukying
Scientist (3)

Approved by

Supt S
Supat Salmeh
Section Head

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NIGHT SOLUTIONS

14025-231 ENAIL

3 Reports, Air noise only (4 40PM)



Analysis / Test Report

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphavapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.1041000125343_EIA Monitoring
Project Location :

Lot ID: 2315535
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2603935-1

Page 1 of 1

Sample Number : 2315535-5
Parameter : Noise (Leq 24 hrs.)
Location : ตำบลนาโพธิ์พอแก้ว/บ้านนาโพธิ์ (GPS 48Q 279482, 1888929)
Measurement Date : Mar 12 - Mar 13, 2023
Measurement by : Natthapon Kunasut
Sound Level meter : Serial No. 1000335

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	59.1	84.4	51.8
03:00 PM - 04:00 PM	59.1	80.3	52.1
04:00 PM - 05:00 PM	58.9	81.5	52.6
05:00 PM - 06:00 PM	59.6	80.6	51.8
06:00 PM - 07:00 PM	58.8	76.8	53.5
07:00 PM - 08:00 PM	58.2	79.1	55.4
08:00 PM - 09:00 PM	55.8	69.5	49.5
09:00 PM - 10:00 PM	56.2	82.9	54.6
10:00 PM - 11:00 PM	56.8	80.9	55.3
11:00 PM - 12:00 AM	54.0	76.3	45.7
12:00 AM - 01:00 AM	53.5	68.3	44.5
01:00 AM - 02:00 AM	54.4	79.3	44.7
02:00 AM - 03:00 AM	52.5	70.4	41.7
03:00 AM - 04:00 AM	51.4	66.0	40.3
04:00 AM - 05:00 AM	52.5	69.3	43.3
05:00 AM - 06:00 AM	53.3	77.0	45.9
06:00 AM - 07:00 AM	59.0	83.5	57.8
07:00 AM - 08:00 AM	59.3	83.1	51.8
08:00 AM - 09:00 AM	58.3	86.8	51.7
09:00 AM - 10:00 AM	59.2	82.6	52.3
10:00 AM - 11:00 AM	58.6	78.2	52.1
11:00 AM - 12:00 PM	59.6	78.1	52.1
12:00 PM - 01:00 PM	58.6	76.3	51.1
01:00 PM - 02:00 PM	57.2	75.8	50.0

Leq Average 24 hrs. (dB(A))

57.3

86.3

50.6

Lmax (dB(A))

L90 (dB(A))

Ldn (dB(A))

Standard (dB(A))

Reference Method : ISO1996-1 and 1996-2

Standard

1. มาตรการควบคุมการลดผลกระทบสิ่งแวดล้อม ฉบับที่ 15 (พ.ศ. 2540) ที่กระทรวงทรัพยากรธรรมชาติและสิ่งแวดล้อมกำหนด

2. มาตรการควบคุมการลดผลกระทบสิ่งแวดล้อม ฉบับที่ 15 (พ.ศ. 2540) ที่กระทรวงทรัพยากรธรรมชาติและสิ่งแวดล้อมกำหนด

โดย พ.ร.บ. 2548

Technical Management

Orawan R.
Orawan Rukying
Scientist (3)

Approved by

Supt S
Supat Salmeh
Section Head

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NIGHT SOLUTIONS

14025-231 ENAIL

3 Reports, Air noise only (4 40PM)



Analysis / Test Report

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphavapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.1041000125343_EIA Monitoring
Project Location :

Lot ID: 2315535
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2603935-1

Page 1 of 1

Sample Number : 2315535-6
Parameter : Noise (Leq 24 hrs.)
Location : ตำบลนาโพธิ์พอแก้ว/บ้านนาโพธิ์ (GPS 48Q 279482, 1888929)
Measurement Date : Mar 13 - Mar 14, 2023
Measurement by : Natthapon Kunasut
Sound Level meter : Serial No. 1000335

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	58.9	86.9	51.5
03:00 PM - 04:00 PM	61.1	80.8	52.3
04:00 PM - 05:00 PM	59.1	88.8	52.2
05:00 PM - 06:00 PM	59.3	79.2	51.3
06:00 PM - 07:00 PM	58.8	85.7	53.7
07:00 PM - 08:00 PM	58.0	78.1	52.1
08:00 PM - 09:00 PM	57.1	82.4	50.5
09:00 PM - 10:00 PM	56.9	78.1	49.2
10:00 PM - 11:00 PM	55.3	76.3	46.2
11:00 PM - 12:00 AM	54.4	75.3	46.3
12:00 AM - 01:00 AM	52.3	69.3	43.9
01:00 AM - 02:00 AM	52.3	75.2	45.2
02:00 AM - 03:00 AM	51.0	68.5	45.2
03:00 AM - 04:00 AM	53.9	75.3	45.0
04:00 AM - 05:00 AM	53.4	85.1	45.0
05:00 AM - 06:00 AM	56.4	75.6	46.8
06:00 AM - 07:00 AM	57.8	80.8	49.3
07:00 AM - 08:00 AM	57.6	72.8	51.4
08:00 AM - 09:00 AM	59.8	78.4	52.1
09:00 AM - 10:00 AM	58.9	78.1	52.0
10:00 AM - 11:00 AM	60.2	82.0	52.8
11:00 AM - 12:00 PM	59.5	80.4	51.3
12:00 PM - 01:00 PM	61.8	82.9	50.8
01:00 PM - 02:00 PM	58.1	77.9	51.6

Leq Average 24 hrs. (dB(A))

56.0

86.4

50.5

Lmax (dB(A))

L90 (dB(A))

Ldn (dB(A))

Standard (dB(A))

Reference Method : ISO1996-1 and 1996-2

Standard

1. มาตรการควบคุมการลดผลกระทบสิ่งแวดล้อม ฉบับที่ 15 (พ.ศ. 2540) ที่กระทรวงทรัพยากรธรรมชาติและสิ่งแวดล้อมกำหนด

2. มาตรการควบคุมการลดผลกระทบสิ่งแวดล้อม ฉบับที่ 15 (พ.ศ. 2540) ที่กระทรวงทรัพยากรธรรมชาติและสิ่งแวดล้อมกำหนด

โดย พ.ร.บ. 2548

Technical Management

Orawan R.
Orawan Rukying
Scientist (3)

Approved by

Supt S
Supat Salmeh
Section Head

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NIGHT SOLUTIONS

14025-231 ENAIL

3 Reports, Air noise only (4 40PM)



Analysis / Test Report

Client : Kasol Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :

Lot ID: 2315535
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2609337-1

Page 1 of 1

Sample Number : 2315535-7
Parameter : Noise (Leq 24 hrs.)
Location : Tufnangdaiwathaiwathai (GPS 48Q 27962, 1888929)
Measurement Date : Mar 14 - Mar 15, 2023
Measurement by : Natthapon Kunhasut
Sound Level meter : Serial No. 1000335

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	59.9	80.3	52.2
03:00 PM - 04:00 PM	59.4	82.8	53.3
04:00 PM - 05:00 PM	59.3	83.3	52.6
05:00 PM - 06:00 PM	59.9	83.2	52.7
06:00 PM - 07:00 PM	59.3	86.5	52.3
07:00 PM - 08:00 PM	57.7	75.5	52.1
08:00 PM - 09:00 PM	57.4	75.4	52.6
09:00 PM - 10:00 PM	56.4	72.9	51.4
10:00 PM - 11:00 PM	55.9	73.9	51.9
11:00 PM - 12:00 AM	55.4	71.6	51.3
12:00 AM - 01:00 AM	55.6	59.2	50.2
01:00 AM - 02:00 AM	55.4	51.9	50.8
02:00 AM - 03:00 AM	54.6	82.9	48.4
03:00 AM - 04:00 AM	54.8	68.7	46.9
04:00 AM - 05:00 AM	54.8	46.3	46.3
05:00 AM - 06:00 AM	55.5	72.6	47.7
06:00 AM - 07:00 AM	57.3	74.6	50.4
07:00 AM - 08:00 AM	59.5	84.0	52.9
08:00 AM - 09:00 AM	59.4	87.6	50.8
09:00 AM - 10:00 AM	60.3	84.7	52.6
10:00 AM - 11:00 AM	59.4	86.5	52.4
11:00 AM - 12:00 PM	60.2	78.4	52.6
12:00 PM - 01:00 PM	59.6	81.5	52.9
01:00 PM - 02:00 PM	59.5	80.5	51.8

Leq Average 24 hrs. (dB(A)) : 58.2
Lmax (dB(A)) : 86.3
L90 (dB(A)) : 51.8
Ldn (dB(A)) : 62.7
Standard (dB(A)) : 70
Reference Method : ISO1996-1 and ISO1996-2

Standard : 1. ข้อมูลที่ได้จากการตรวจวัดค่าเสียงดังเกินกว่า 15 (n. 2540) (ค่ามาตรฐานการตรวจวัดค่าเสียงดัง)
2. ข้อมูลที่ได้จากการตรวจวัดค่าเสียงดังเกินกว่า 15 (n. 2540) (ค่ามาตรฐานการตรวจวัดค่าเสียงดัง)
3. ข้อมูลที่ได้จากการตรวจวัดค่าเสียงดังเกินกว่า 15 (n. 2540) (ค่ามาตรฐานการตรวจวัดค่าเสียงดัง)
4. ข้อมูลที่ได้จากการตรวจวัดค่าเสียงดังเกินกว่า 15 (n. 2540) (ค่ามาตรฐานการตรวจวัดค่าเสียงดัง)

Technical Management : *Orawan R.*
Orawan Rattayong
Scientist (3)

Approved by : *Supt S.*
Supt. Salameh
Section Head

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14025-22 (ENL)

5-Report_Air Noise (p. 6-14PM)



Analysis / Test Report

Client : Kasol Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :

Lot ID: 2315536
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2609338-1

Page 1 of 1

Sample Number : 2315536-1
Parameter : Noise (Leq 24 hrs.)
Location : Tufnangdaiwathaiwathai (GPS 48Q 277638, 1888807)
Measurement Date : Mar 08 - Mar 09, 2023
Measurement by : Natthapon Kunhasut
Sound Level meter : Serial No. 223228

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	42.3	64.2	36.7
03:00 PM - 04:00 PM	42.9	63.8	38.8
04:00 PM - 05:00 PM	42.8	66.2	40.2
05:00 PM - 06:00 PM	44.9	84.1	43.0
06:00 PM - 07:00 PM	46.7	59.8	47.3
07:00 PM - 08:00 PM	50.4	62.7	49.1
08:00 PM - 09:00 PM	50.7	66.3	49.3
09:00 PM - 10:00 PM	53.3	66.7	51.0
10:00 PM - 11:00 PM	51.9	64.0	50.1
11:00 PM - 12:00 AM	53.6	62.2	51.9
12:00 AM - 01:00 AM	53.7	56.0	51.4
01:00 AM - 02:00 AM	52.8	78.3	50.6
02:00 AM - 03:00 AM	59.4	58.6	48.9
03:00 AM - 04:00 AM	50.3	63.4	48.7
04:00 AM - 05:00 AM	49.1	56.9	47.7
05:00 AM - 06:00 AM	49.5	62.3	47.7
06:00 AM - 07:00 AM	50.8	87.4	48.6
07:00 AM - 08:00 AM	50.4	89.3	47.6
08:00 AM - 09:00 AM	47.0	71.2	41.3
09:00 AM - 10:00 AM	49.6	68.3	49.4
10:00 AM - 11:00 AM	46.5	62.8	49.0
11:00 AM - 12:00 PM	46.6	65.2	43.7
12:00 PM - 01:00 PM	46.0	80.1	42.4
01:00 PM - 02:00 PM	47.1	79.4	45.1

Leq Average 24 hrs. (dB(A)) : 49.9
Lmax (dB(A)) : 79.4
L90 (dB(A)) : 47.6
Ldn (dB(A)) : 57.7
Standard (dB(A)) : 70
Reference Method : ISO1996-1 and ISO1996-2

Standard : 1. ข้อมูลที่ได้จากการตรวจวัดค่าเสียงดังเกินกว่า 15 (n. 2540) (ค่ามาตรฐานการตรวจวัดค่าเสียงดัง)
2. ข้อมูลที่ได้จากการตรวจวัดค่าเสียงดังเกินกว่า 15 (n. 2540) (ค่ามาตรฐานการตรวจวัดค่าเสียงดัง)
3. ข้อมูลที่ได้จากการตรวจวัดค่าเสียงดังเกินกว่า 15 (n. 2540) (ค่ามาตรฐานการตรวจวัดค่าเสียงดัง)
4. ข้อมูลที่ได้จากการตรวจวัดค่าเสียงดังเกินกว่า 15 (n. 2540) (ค่ามาตรฐานการตรวจวัดค่าเสียงดัง)

Technical Management : *Orawan R.*
Orawan Rattayong
Scientist (3)

Approved by : *Supt S.*
Supt. Salameh
Section Head

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14025-22 (ENL)

5-Report_Air Noise (p. 6-14PM)



Analysis / Test Report

Client : Kasol Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :

Lot ID: 2315536
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2609337-1

Page 1 of 1

Sample Number : 2315536-2
Parameter : Noise (Leq 24 hrs.)
Location : Tufnangdaiwathaiwathai (GPS 48Q 277638, 1888807)
Measurement Date : Mar 09 - Mar 10, 2023
Measurement by : Natthapon Kunhasut
Sound Level meter : Serial No. 223228

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	46.0	75.7	41.3
03:00 PM - 04:00 PM	44.6	62.1	42.3
04:00 PM - 05:00 PM	43.9	85.5	41.7
05:00 PM - 06:00 PM	45.6	62.3	43.3
06:00 PM - 07:00 PM	47.1	67.2	45.1
07:00 PM - 08:00 PM	50.4	58.5	49.6
08:00 PM - 09:00 PM	51.6	65.2	49.8
09:00 PM - 10:00 PM	50.4	61.8	48.0
10:00 PM - 11:00 PM	49.4	59.4	48.5
11:00 PM - 12:00 AM	49.9	83.2	48.4
12:00 AM - 01:00 AM	49.8	47.2	47.2
01:00 AM - 02:00 AM	49.0	58.0	47.3
02:00 AM - 03:00 AM	46.5	57.6	45.2
03:00 AM - 04:00 AM	49.0	60.7	47.6
04:00 AM - 05:00 AM	48.4	42.1	42.1
05:00 AM - 06:00 AM	49.2	63.2	48.2
06:00 AM - 07:00 AM	53.1	79.2	49.6
07:00 AM - 08:00 AM	50.0	66.9	48.3
08:00 AM - 09:00 AM	50.1	68.3	48.3
09:00 AM - 10:00 AM	48.2	66.3	42.4
10:00 AM - 11:00 AM	46.3	67.3	42.7
11:00 AM - 12:00 PM	43.8	62.8	40.3
12:00 PM - 01:00 PM	39.6	63.3	36.3
01:00 PM - 02:00 PM	45.6	64.1	38.0

Leq Average 24 hrs. (dB(A)) : 48.6
Lmax (dB(A)) : 75.7
L90 (dB(A)) : 41.3
Ldn (dB(A)) : 55.9
Standard (dB(A)) : 70
Reference Method : ISO1996-1 and ISO1996-2

Standard : 1. ข้อมูลที่ได้จากการตรวจวัดค่าเสียงดังเกินกว่า 15 (n. 2540) (ค่ามาตรฐานการตรวจวัดค่าเสียงดัง)
2. ข้อมูลที่ได้จากการตรวจวัดค่าเสียงดังเกินกว่า 15 (n. 2540) (ค่ามาตรฐานการตรวจวัดค่าเสียงดัง)
3. ข้อมูลที่ได้จากการตรวจวัดค่าเสียงดังเกินกว่า 15 (n. 2540) (ค่ามาตรฐานการตรวจวัดค่าเสียงดัง)
4. ข้อมูลที่ได้จากการตรวจวัดค่าเสียงดังเกินกว่า 15 (n. 2540) (ค่ามาตรฐานการตรวจวัดค่าเสียงดัง)

Technical Management : *Orawan R.*
Orawan Rattayong
Scientist (3)

Approved by : *Supt S.*
Supt. Salameh
Section Head

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ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

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14025-22 (ENL)

5-Report_Air Noise (p. 6-14PM)



Analysis / Test Report

Client : Kasol Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :

Lot ID: 2315536
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2609337-1

Page 1 of 1

Sample Number : 2315536-3
Parameter : Noise (Leq 24 hrs.)
Location : Tufnangdaiwathaiwathai (GPS 48Q 277638, 1888807)
Measurement Date : Mar 10 - Mar 11, 2023
Measurement by : Natthapon Kunhasut
Sound Level meter : Serial No. 223228

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	44.1	63.6	41.1
03:00 PM - 04:00 PM	44.0	72.2	40.8
04:00 PM - 05:00 PM	43.7	87.6	42.4
05:00 PM - 06:00 PM	44.8	62.1	42.7
06:00 PM - 07:00 PM	46.1	61.9	44.5
07:00 PM - 08:00 PM	46.7	57.7	47.7
08:00 PM - 09:00 PM	49.6	56.8	48.7
09:00 PM - 10:00 PM	49.7	60.7	48.7
10:00 PM - 11:00 PM	50.2	61.0	48.7
11:00 PM - 12:00 AM	50.3	57.0	48.9
12:00 AM - 01:00 AM	49.8	57.0	48.9
01:00 AM - 02:00 AM	47.8	58.2	44.8
02:00 AM - 03:00 AM	50.6	37.2	48.3
03:00 AM - 04:00 AM	49.2	58.2	47.2
04:00 AM - 05:00 AM	46.7	61.9	47.1
05:00 AM - 06:00 AM	49.1	59.0	47.6
06:00 AM - 07:00 AM	50.1	64.5	48.6
07:00 AM - 08:00 AM	46.2	68.9	42.9
08:00 AM - 09:00 AM	46.6	62.1	44.1
09:00 AM - 10:00 AM	44.0	66.1	36.3
10:00 AM - 11:00 AM	44.8	87.0	38.9
11:00 AM - 12:00 PM	48.5	72.3	45.1
12:00 PM - 01:00 PM	43.5	63.4	42.3
01:00 PM - 02:00 PM	43.3	76.1	37.8

Leq Average 24 hrs. (dB(A)) : 47.8
Lmax (dB(A)) : 76.1
L90 (dB(A)) : 41.8
Ldn (dB(A)) : 55.6
Standard (dB(A)) : 70
Reference Method : ISO1996-1 and ISO1996-2

Standard : 1. ข้อมูลที่ได้จากการตรวจวัดค่าเสียงดังเกินกว่า 15 (n. 2540) (ค่ามาตรฐานการตรวจวัดค่าเสียงดัง)
2. ข้อมูลที่ได้จากการตรวจวัดค่าเสียงดังเกินกว่า 15 (n. 2540) (ค่ามาตรฐานการตรวจวัดค่าเสียงดัง)
3. ข้อมูลที่ได้จากการตรวจวัดค่าเสียงดังเกินกว่า 15 (n. 2540) (ค่ามาตรฐานการตรวจวัดค่าเสียงดัง)
4. ข้อมูลที่ได้จากการตรวจวัดค่าเสียงดังเกินกว่า 15 (n. 2540) (ค่ามาตรฐานการตรวจวัดค่าเสียงดัง)

Technical Management : *Orawan R.*
Orawan Rattayong
Scientist (3)

Approved by : *Supt S.*
Supt. Salameh
Section Head

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14025-22 (ENL)

5-Report_Air Noise (p. 6-14PM)



Analysis / Test Report

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

P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :

Lot ID: 2315536
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2603971-1

Page 1 of 1

Sample Number : 2315536-4
Parameter : Noise (Leq 24 hrs.)
Location : หอประชุมโรงเรียนบ้านจันทน์ (GPS 40Q 277638, 1088807)
Measurement Date : Mar 11 - Mar 12, 2023
Measurement by : Natthapon Kunnasut
Sound Level meter : Serial No. 222528

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	42.2	46.0	38.7
03:00 PM - 04:00 PM	43.4	55.3	40.2
04:00 PM - 05:00 PM	45.5	76.3	39.9
05:00 PM - 06:00 PM	44.7	72.3	42.1
06:00 PM - 07:00 PM	47.5	63.6	46.4
07:00 PM - 08:00 PM	49.7	59.3	49.7
08:00 PM - 09:00 PM	47.7	56.4	46.7
09:00 PM - 10:00 PM	49.1	55.8	47.9
10:00 PM - 11:00 PM	46.5	55.4	47.0
11:00 PM - 12:00 AM	47.5	58.2	48.6
12:00 AM - 01:00 AM	48.9	61.8	47.8
01:00 AM - 02:00 AM	49.8	63.2	48.1
02:00 AM - 03:00 AM	49.5	63.4	47.9
03:00 AM - 04:00 AM	48.6	58.2	46.5
04:00 AM - 05:00 AM	46.4	58.2	44.9
05:00 AM - 06:00 AM	48.8	63.9	46.2
06:00 AM - 07:00 AM	48.0	67.4	45.8
07:00 AM - 08:00 AM	51.3	71.3	44.8
08:00 AM - 09:00 AM	50.2	69.8	42.5
09:00 AM - 10:00 AM	44.7	64.2	41.4
10:00 AM - 11:00 AM	49.3	68.8	42.3
11:00 AM - 12:00 PM	45.4	60.9	42.6
12:00 PM - 01:00 PM	46.8	61.7	42.0
01:00 PM - 02:00 PM	45.0	64.6	42.3

Leq Average 24 hrs. (dB(A)) : 48.0
Lmax (dB(A)) : 76.3
L90 (dB(A)) : 44.9
Ldn (dB(A)) : 55.0
Standard (dB(A)) : 70
Reference Method : ISO1996-1 and 1996-2

Standard : 1. ผู้ตรวจประเมินผลกระทบสิ่งแวดล้อมระดับ 15 (พ.ร.บ. 2540) ห้ามมีการก่อสร้างโรงงานอุตสาหกรรมในพื้นที่
2. ผู้ตรวจประเมินผลกระทบสิ่งแวดล้อมระดับ 15 (พ.ร.บ. 2540) ห้ามมีการก่อสร้างโรงงานอุตสาหกรรมในพื้นที่
ตาม พ.ร.บ. 2546

Technical Management

Orawan R.
Orawan Rattayong
Scientist (1)

Approved by

Supt S
Supt Salamsah
Section Head

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RIGHT SOLUTIONS

5 Vajiravithaya Rd. (S. 88) PM



Analysis / Test Report

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

P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :

Lot ID: 2315536
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2603972-1

Page 1 of 1

Sample Number : 2315536-5
Parameter : Noise (Leq 24 hrs.)
Location : หอประชุมโรงเรียนบ้านจันทน์ (GPS 40Q 277638, 1088807)
Measurement Date : Mar 12 - Mar 13, 2023
Measurement by : Natthapon Kunnasut
Sound Level meter : Serial No. 222528

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	46.2	45.4	41.9
03:00 PM - 04:00 PM	46.0	65.5	43.7
04:00 PM - 05:00 PM	49.1	69.5	42.9
05:00 PM - 06:00 PM	50.7	69.5	45.0
06:00 PM - 07:00 PM	47.9	62.1	46.2
07:00 PM - 08:00 PM	49.4	59.7	47.1
08:00 PM - 09:00 PM	47.3	62.3	46.4
09:00 PM - 10:00 PM	48.7	61.8	46.9
10:00 PM - 11:00 PM	53.0	65.4	48.2
11:00 PM - 12:00 AM	51.8	66.8	48.5
12:00 AM - 01:00 AM	47.6	58.7	46.1
01:00 AM - 02:00 AM	46.9	62.2	45.6
02:00 AM - 03:00 AM	46.2	59.1	45.3
03:00 AM - 04:00 AM	48.8	56.4	45.1
04:00 AM - 05:00 AM	48.6	66.3	45.5
05:00 AM - 06:00 AM	47.6	60.0	45.8
06:00 AM - 07:00 AM	46.0	62.5	43.5
07:00 AM - 08:00 AM	46.2	69.4	42.6
08:00 AM - 09:00 AM	54.4	75.2	42.1
09:00 AM - 10:00 AM	50.1	68.1	44.6
10:00 AM - 11:00 AM	47.3	65.9	44.9
11:00 AM - 12:00 PM	47.3	51.9	45.0
12:00 PM - 01:00 PM	47.6	72.3	43.6
01:00 PM - 02:00 PM	50.2	69.6	42.1

Leq Average 24 hrs. (dB(A)) : 49.2
Lmax (dB(A)) : 85.4
L90 (dB(A)) : 45.0
Ldn (dB(A)) : 55.7
Standard (dB(A)) : 70
Reference Method : ISO1996-1 and 1996-2

Standard : 1. ผู้ตรวจประเมินผลกระทบสิ่งแวดล้อมระดับ 15 (พ.ร.บ. 2540) ห้ามมีการก่อสร้างโรงงานอุตสาหกรรมในพื้นที่
2. ผู้ตรวจประเมินผลกระทบสิ่งแวดล้อมระดับ 15 (พ.ร.บ. 2540) ห้ามมีการก่อสร้างโรงงานอุตสาหกรรมในพื้นที่
ตาม พ.ร.บ. 2546

Technical Management

Orawan R.
Orawan Rattayong
Scientist (1)

Approved by

Supt S
Supt Salamsah
Section Head

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RIGHT SOLUTIONS

5 Vajiravithaya Rd. (S. 88) PM



Analysis / Test Report

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

P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :

Lot ID: 2315536
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2603973-1

Page 1 of 1

Sample Number : 2315536-6
Parameter : Noise (Leq 24 hrs.)
Location : หอประชุมโรงเรียนบ้านจันทน์ (GPS 40Q 277638, 1088807)
Measurement Date : Mar 13 - Mar 14, 2023
Measurement by : Natthapon Kunnasut
Sound Level meter : Serial No. 222528

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	47.7	67.6	43.5
03:00 PM - 04:00 PM	47.6	65.3	43.5
04:00 PM - 05:00 PM	51.5	86.0	44.1
05:00 PM - 06:00 PM	49.3	67.5	44.2
06:00 PM - 07:00 PM	46.2	56.9	46.2
07:00 PM - 08:00 PM	49.1	63.1	47.5
08:00 PM - 09:00 PM	46.6	60.7	47.0
09:00 PM - 10:00 PM	47.9	68.6	46.2
10:00 PM - 11:00 PM	47.2	57.3	46.6
11:00 PM - 12:00 AM	47.6	58.5	46.3
12:00 AM - 01:00 AM	47.5	63.2	46.2
01:00 AM - 02:00 AM	46.3	56.8	44.8
02:00 AM - 03:00 AM	46.7	56.8	45.3
03:00 AM - 04:00 AM	44.5	60.1	43.1
04:00 AM - 05:00 AM	47.9	59.3	41.7
05:00 AM - 06:00 AM	41.2	62.8	41.9
06:00 AM - 07:00 AM	45.5	67.7	42.1
07:00 AM - 08:00 AM	50.3	69.5	41.3
08:00 AM - 09:00 AM	51.7	78.2	42.8
09:00 AM - 10:00 AM	47.7	68.1	42.9
10:00 AM - 11:00 AM	49.2	68.2	42.5
11:00 AM - 12:00 PM	53.0	68.2	46.2
12:00 PM - 01:00 PM	48.7	66.8	47.4
01:00 PM - 02:00 PM	43.2	72.2	37.8

Leq Average 24 hrs. (dB(A)) : 48.3
Lmax (dB(A)) : 86.0
L90 (dB(A)) : 43.5
Ldn (dB(A)) : 53.1
Standard (dB(A)) : 70
Reference Method : ISO1996-1 and 1996-2

Standard : 1. ผู้ตรวจประเมินผลกระทบสิ่งแวดล้อมระดับ 15 (พ.ร.บ. 2540) ห้ามมีการก่อสร้างโรงงานอุตสาหกรรมในพื้นที่
2. ผู้ตรวจประเมินผลกระทบสิ่งแวดล้อมระดับ 15 (พ.ร.บ. 2540) ห้ามมีการก่อสร้างโรงงานอุตสาหกรรมในพื้นที่
ตาม พ.ร.บ. 2546

Technical Management

Orawan R.
Orawan Rattayong
Scientist (1)

Approved by

Supt S
Supt Salamsah
Section Head

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RIGHT SOLUTIONS

5 Vajiravithaya Rd. (S. 88) PM



Analysis / Test Report

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

P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :

Lot ID: 2315536
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2603974-1

Page 1 of 1

Sample Number : 2315536-7
Parameter : Noise (Leq 24 hrs.)
Location : หอประชุมโรงเรียนบ้านจันทน์ (GPS 40Q 277638, 1088807)
Measurement Date : Mar 14 - Mar 15, 2023
Measurement by : Natthapon Kunnasut
Sound Level meter : Serial No. 222528

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
02:00 PM - 03:00 PM	43.6	53.4	39.7
03:00 PM - 04:00 PM	41.4	59.4	38.4
04:00 PM - 05:00 PM	52.1	70.2	40.6
05:00 PM - 06:00 PM	49.1	67.6	42.3
06:00 PM - 07:00 PM	46.5	59.0	41.7
07:00 PM - 08:00 PM	46.0	59.0	47.4
08:00 PM - 09:00 PM	48.8	57.2	46.8
09:00 PM - 10:00 PM	47.2	68.1	45.4
10:00 PM - 11:00 PM	47.7	63.9	47.4
11:00 PM - 12:00 AM	45.2	56.8	43.2
12:00 AM - 01:00 AM	44.4	52.0	41.0
01:00 AM - 02:00 AM	42.5	49.0	40.9
02:00 AM - 03:00 AM	44.4	42.4	43.8
03:00 AM - 04:00 AM	52.9	60.6	45.9
04:00 AM - 05:00 AM	54.0	71.3	46.0
05:00 AM - 06:00 AM	42.1	58.9	46.3
06:00 AM - 07:00 AM	51.0	66.4	48.3
07:00 AM - 08:00 AM	49.6	67.8	46.3
08:00 AM - 09:00 AM	43.8	64.2	39.5
09:00 AM - 10:00 AM	47.2	72.0	40.0
10:00 AM - 11:00 AM	48.5	69.5	40.6
11:00 AM - 12:00 PM	41.5	61.8	36.5
12:00 PM - 01:00 PM	41.7	66.8	37.6
01:00 PM - 02:00 PM	48.0	78.4	38.9

Leq Average 24 hrs. (dB(A)) : 46.3
Lmax (dB(A)) : 72.0
L90 (dB(A)) : 40.3
Ldn (dB(A)) : 55.3
Standard (dB(A)) : 70
Reference Method : ISO1996-1 and 1996-2

Standard : 1. ผู้ตรวจประเมินผลกระทบสิ่งแวดล้อมระดับ 15 (พ.ร.บ. 2540) ห้ามมีการก่อสร้างโรงงานอุตสาหกรรมในพื้นที่
2. ผู้ตรวจประเมินผลกระทบสิ่งแวดล้อมระดับ 15 (พ.ร.บ. 2540) ห้ามมีการก่อสร้างโรงงานอุตสาหกรรมในพื้นที่
ตาม พ.ร.บ. 2546

Technical Management

Orawan R.
Orawan Rattayong
Scientist (1)

Approved by

Supt S
Supt Salamsah
Section Head

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RIGHT SOLUTIONS

5 Vajiravithaya Rd. (S. 88) PM



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :

Lot ID: 2315629
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2604003-1

Page 1 of 1

Sample Number : 2315629-1
Parameter : Noise (Leq 24 hrs.)
Location : Trutheunthunthunthun (GPS 48Q 279854, 1889320)
Measurement Date : Mar 08 - Mar 09, 2023
Measurement by : Natthapon Kunasut
Sound Level meter : Serial No. 709776

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	51.9	55.8	44.6
11:00 AM - 12:00 PM	51.4	56.3	44.6
12:00 PM - 01:00 PM	51.2	56.9	44.1
01:00 PM - 02:00 PM	49.2	53.5	43.1
02:00 PM - 03:00 PM	52.0	57.1	46.3
03:00 PM - 04:00 PM	48.8	52.7	44.2
04:00 PM - 05:00 PM	48.9	50.7	41.8
05:00 PM - 06:00 PM	52.4	57.0	46.5
06:00 PM - 07:00 PM	52.7	57.2	47.6
07:00 PM - 08:00 PM	51.0	57.3	46.9
08:00 PM - 09:00 PM	49.7	55.2	44.9
09:00 PM - 10:00 PM	52.5	58.3	45.7
10:00 PM - 11:00 PM	48.4	56.9	43.0
11:00 PM - 12:00 AM	47.3	56.6	42.5
12:00 AM - 01:00 AM	47.3	56.5	41.9
01:00 AM - 02:00 AM	46.1	56.2	41.3
02:00 AM - 03:00 AM	46.7	56.0	41.1
03:00 AM - 04:00 AM	47.0	56.9	41.1
04:00 AM - 05:00 AM	47.6	56.7	43.0
05:00 AM - 06:00 AM	47.7	56.7	43.2
06:00 AM - 07:00 AM	51.1	65.0	47.6
07:00 AM - 08:00 AM	51.8	67.5	48.8
08:00 AM - 09:00 AM	50.9	70.9	50.5
09:00 AM - 10:00 AM	48.9	77.1	44.8

Leq Average 24 hrs. (dB(A)) : 50.1
Lmax (dB(A)) : 85.8
L90 (dB(A)) : 44.8
L50 (dB(A)) : 55.0
L10 (dB(A)) : 70
Standard (dB(A)) : ISO1996-1 and 1996-2

Reference Method : ISO1996-1 and 1996-2
Standard : 1. ข้อมูลที่ได้จากการวัดเสียงตามวิธีมาตรฐานฉบับที่ 15 (พ.ร.บ. 2546) (ตามมาตรฐานการวัดเสียงตามวิธีมาตรฐานฉบับที่ 15)
2. ข้อมูลที่ได้จากการวัดเสียงตามวิธีมาตรฐานฉบับที่ 15 (พ.ร.บ. 2546) (ตามมาตรฐานการวัดเสียงตามวิธีมาตรฐานฉบับที่ 15) โดยไม่ต้องใช้เครื่องมือวัดเสียง

Technical Management

Orawan R.
Orawan Rukong
Scientist (3)

Approved by

Supt S.
Supt Salameh
Section Head

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ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

www.alsglobal.com

1405-22 (EN)

3-Vapor/Air Noise (7.07PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :

Lot ID: 2315629
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2604004-1

Page 1 of 1

Sample Number : 2315629-2
Parameter : Noise (Leq 24 hrs.)
Location : Trutheunthunthunthun (GPS 48Q 279854, 1889320)
Measurement Date : Mar 09 - Mar 10, 2023
Measurement by : Natthapon Kunasut
Sound Level meter : Serial No. 709776

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	48.5	55.7	45.1
11:00 AM - 12:00 PM	50.9	56.0	45.6
12:00 PM - 01:00 PM	50.2	56.2	47.1
01:00 PM - 02:00 PM	49.3	55.8	43.0
02:00 PM - 03:00 PM	55.7	59.3	45.2
03:00 PM - 04:00 PM	52.7	58.2	45.1
04:00 PM - 05:00 PM	49.5	54.4	45.0
05:00 PM - 06:00 PM	50.8	56.2	46.8
06:00 PM - 07:00 PM	51.2	56.4	46.8
07:00 PM - 08:00 PM	50.2	56.2	45.3
08:00 PM - 09:00 PM	49.4	56.7	45.3
09:00 PM - 10:00 PM	49.9	57.9	44.1
10:00 PM - 11:00 PM	49.4	56.3	43.6
11:00 PM - 12:00 AM	49.8	56.1	43.1
12:00 AM - 01:00 AM	49.6	56.2	43.4
01:00 AM - 02:00 AM	47.6	53.1	41.1
02:00 AM - 03:00 AM	49.2	56.0	43.4
03:00 AM - 04:00 AM	48.8	53.3	43.9
04:00 AM - 05:00 AM	48.7	56.6	44.5
05:00 AM - 06:00 AM	49.0	56.9	44.4
06:00 AM - 07:00 AM	53.1	64.7	49.4
07:00 AM - 08:00 AM	51.2	66.7	46.2
08:00 AM - 09:00 AM	52.7	78.3	46.1
09:00 AM - 10:00 AM	47.9	59.8	44.6

Leq Average 24 hrs. (dB(A)) : 51.0
Lmax (dB(A)) : 89.2
L90 (dB(A)) : 43.0
L50 (dB(A)) : 56.5
L10 (dB(A)) : 70
Standard (dB(A)) : ISO1996-1 and 1996-2

Reference Method : ISO1996-1 and 1996-2
Standard : 1. ข้อมูลที่ได้จากการวัดเสียงตามวิธีมาตรฐานฉบับที่ 15 (พ.ร.บ. 2546) (ตามมาตรฐานการวัดเสียงตามวิธีมาตรฐานฉบับที่ 15)
2. ข้อมูลที่ได้จากการวัดเสียงตามวิธีมาตรฐานฉบับที่ 15 (พ.ร.บ. 2546) (ตามมาตรฐานการวัดเสียงตามวิธีมาตรฐานฉบับที่ 15) โดยไม่ต้องใช้เครื่องมือวัดเสียง

Technical Management

Orawan R.
Orawan Rukong
Scientist (3)

Approved by

Supt S.
Supt Salameh
Section Head

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ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

www.alsglobal.com

1405-22 (EN)

3-Vapor/Air Noise (7.07PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :

Lot ID: 2315629
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2604005-1

Page 1 of 1

Sample Number : 2315629-3
Parameter : Noise (Leq 24 hrs.)
Location : Trutheunthunthunthun (GPS 48Q 279854, 1889320)
Measurement Date : Mar 10 - Mar 11, 2023
Measurement by : Natthapon Kunasut
Sound Level meter : Serial No. 709776

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	51.0	55.5	45.1
11:00 AM - 12:00 PM	52.0	57.0	45.3
12:00 PM - 01:00 PM	54.2	61.5	45.7
01:00 PM - 02:00 PM	48.9	54.5	44.9
02:00 PM - 03:00 PM	47.7	52.8	44.1
03:00 PM - 04:00 PM	49.4	57.8	44.8
04:00 PM - 05:00 PM	49.5	57.0	44.1
05:00 PM - 06:00 PM	53.9	61.7	45.5
06:00 PM - 07:00 PM	51.0	60.5	46.3
07:00 PM - 08:00 PM	48.5	57.4	47.6
08:00 PM - 09:00 PM	47.8	56.5	44.6
09:00 PM - 10:00 PM	47.9	58.1	44.3
10:00 PM - 11:00 PM	49.2	58.5	45.9
11:00 PM - 12:00 AM	49.0	56.9	47.0
12:00 AM - 01:00 AM	48.2	57.1	47.1
01:00 AM - 02:00 AM	50.4	65.4	48.5
02:00 AM - 03:00 AM	51.0	61.3	49.0
03:00 AM - 04:00 AM	51.6	62.0	48.7
04:00 AM - 05:00 AM	49.6	60.4	46.3
05:00 AM - 06:00 AM	47.1	62.9	44.0
06:00 AM - 07:00 AM	52.7	71.5	48.8
07:00 AM - 08:00 AM	52.7	71.7	48.4
08:00 AM - 09:00 AM	52.2	75.5	46.4
09:00 AM - 10:00 AM	51.5	77.6	44.8

Leq Average 24 hrs. (dB(A)) : 50.7
Lmax (dB(A)) : 85.8
L90 (dB(A)) : 45.9
L50 (dB(A)) : 56.6
L10 (dB(A)) : 70
Standard (dB(A)) : ISO1996-1 and 1996-2

Reference Method : ISO1996-1 and 1996-2
Standard : 1. ข้อมูลที่ได้จากการวัดเสียงตามวิธีมาตรฐานฉบับที่ 15 (พ.ร.บ. 2546) (ตามมาตรฐานการวัดเสียงตามวิธีมาตรฐานฉบับที่ 15)
2. ข้อมูลที่ได้จากการวัดเสียงตามวิธีมาตรฐานฉบับที่ 15 (พ.ร.บ. 2546) (ตามมาตรฐานการวัดเสียงตามวิธีมาตรฐานฉบับที่ 15) โดยไม่ต้องใช้เครื่องมือวัดเสียง

Technical Management

Orawan R.
Orawan Rukong
Scientist (3)

Approved by

Supt S.
Supt Salameh
Section Head

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1405-22 (EN)

3-Vapor/Air Noise (7.07PM)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :

Lot ID: 2315629
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2604006-1

Page 1 of 1

Sample Number : 2315629-4
Parameter : Noise (Leq 24 hrs.)
Location : Trutheunthunthunthun (GPS 48Q 279854, 1889320)
Measurement Date : Mar 11 - Mar 12, 2023
Measurement by : Natthapon Kunasut
Sound Level meter : Serial No. 709776

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	49.7	59.2	44.7
11:00 AM - 12:00 PM	47.8	62.0	44.3
12:00 PM - 01:00 PM	46.1	64.7	44.0
01:00 PM - 02:00 PM	47.1	66.0	43.5
02:00 PM - 03:00 PM	47.9	69.6	43.5
03:00 PM - 04:00 PM	48.9	70.2	43.2
04:00 PM - 05:00 PM	49.6	64.5	44.1
05:00 PM - 06:00 PM	60.0	69.4	47.0
06:00 PM - 07:00 PM	50.8	71.8	46.1
07:00 PM - 08:00 PM	50.7	65.4	45.4
08:00 PM - 09:00 PM	50.2	63.1	48.1
09:00 PM - 10:00 PM	48.9	66.5	46.5
10:00 PM - 11:00 PM	49.4	66.2	47.5
11:00 PM - 12:00 AM	48.9	60.2	46.2
12:00 AM - 01:00 AM	48.5	61.7	46.3
01:00 AM - 02:00 AM	46.3	61.0	43.5
02:00 AM - 03:00 AM	43.7	60.7	40.6
03:00 AM - 04:00 AM	44.0	57.9	40.8
04:00 AM - 05:00 AM	46.1	59.7	42.6
05:00 AM - 06:00 AM	47.1	60.7	44.4
06:00 AM - 07:00 AM	52.0	74.1	47.2
07:00 AM - 08:00 AM	50.1	72.5	45.7
08:00 AM - 09:00 AM	48.5	69.4	43.0
09:00 AM - 10:00 AM	48.0	71.7	41.4

Leq Average 24 hrs. (dB(A)) : 50.6
Lmax (dB(A)) : 95.4
L90 (dB(A)) : 44.1
L50 (dB(A)) : 55.2
L10 (dB(A)) : 70
Standard (dB(A)) : ISO1996-1 and 1996-2

Reference Method : ISO1996-1 and 1996-2
Standard : 1. ข้อมูลที่ได้จากการวัดเสียงตามวิธีมาตรฐานฉบับที่ 15 (พ.ร.บ. 2546) (ตามมาตรฐานการวัดเสียงตามวิธีมาตรฐานฉบับที่ 15)
2. ข้อมูลที่ได้จากการวัดเสียงตามวิธีมาตรฐานฉบับที่ 15 (พ.ร.บ. 2546) (ตามมาตรฐานการวัดเสียงตามวิธีมาตรฐานฉบับที่ 15) โดยไม่ต้องใช้เครื่องมือวัดเสียง

Technical Management

Orawan R.
Orawan Rukong
Scientist (3)

Approved by

Supt S.
Supt Salameh
Section Head

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www.alsglobal.com

1405-22 (EN)

3-Vapor/Air Noise (7.07PM)



Analysis / Test Report

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

P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :

Lot ID: 2315629
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 260009-1

Page 1 of 1

Sample Number : 2315629-5
Parameter : Noise (Leq 24 hrs.)
Location : Tesfawathinburi (GPS: 40Q 279854, 1889320)
Measurement Date : Mar 12 - Mar 13, 2023
Measurement by : Natthaporn Kummasut
Sound Level meter : Serial No. 709776

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	52.4	70.7	46.8
11:00 AM - 12:00 PM	56.5	89.1	49.7
12:00 PM - 01:00 PM	46.9	68.6	43.1
01:00 PM - 02:00 PM	54.3	80.4	45.3
02:00 PM - 03:00 PM	49.3	71.4	43.8
03:00 PM - 04:00 PM	48.4	68.3	44.0
04:00 PM - 05:00 PM	49.6	72.0	45.6
05:00 PM - 06:00 PM	50.1	68.9	45.4
06:00 PM - 07:00 PM	48.4	74.0	44.1
07:00 PM - 08:00 PM	45.7	60.4	42.7
08:00 PM - 09:00 PM	41.0	42.9	42.0
09:00 PM - 10:00 PM	45.0	70.2	40.8
10:00 PM - 11:00 PM	48.5	70.1	42.9
11:00 PM - 12:00 AM	45.4	65.2	41.4
12:00 AM - 01:00 AM	44.3	65.3	41.0
01:00 AM - 02:00 AM	44.0	56.7	41.1
02:00 AM - 03:00 AM	44.5	62.8	42.5
03:00 AM - 04:00 AM	45.9	80.5	42.2
04:00 AM - 05:00 AM	46.6	64.9	42.2
05:00 AM - 06:00 AM	47.1	62.3	43.5
06:00 AM - 07:00 AM	49.8	73.1	45.3
07:00 AM - 08:00 AM	52.0	70.7	46.0
08:00 AM - 09:00 AM	49.5	72.2	44.9
09:00 AM - 10:00 AM	48.5	64.4	43.7

Leq Average 24 hrs. (dB(A))

Lmax (dB(A))

L90 (dB(A))

L50 (dB(A))

L50 (dB(A))

Standard (dB(A))

Reference Method : ISO1996-1 and 1996-2

Standard

1. ผู้จัดทำรายงานฯ ได้ตรวจสอบและวัดค่า ณ วันที่ 15 (พ.ค. 2566) และพบค่าเกินมาตรฐานตามที่กำหนดไว้

2. ผู้จัดทำรายงานฯ ได้ตรวจสอบและวัดค่า ณ วันที่ 15 (พ.ค. 2566) และพบค่าเกินมาตรฐานตามที่กำหนดไว้

ทั้งนี้ มี น.ร. 2568

Technical Management

Orawan R.
Orawan Rukying
Scientist (3)

Approved by

Supt S.
Supt Salameh
Section Head

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RIGHT SOLUTIONS

14025-23 (ENG)

3 Phatthaburan Rd. (Bangkok) 10250 Thailand



Analysis / Test Report

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

P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :

Lot ID: 2315629
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 260009-1

Page 1 of 1

Sample Number : 2315629-6
Parameter : Noise (Leq 24 hrs.)
Location : Tesfawathinburi (GPS: 40Q 279854, 1889320)
Measurement Date : Mar 13 - Mar 14, 2023
Measurement by : Natthaporn Kummasut
Sound Level meter : Serial No. 709776

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	46.8	66.5	44.1
11:00 AM - 12:00 PM	49.4	74.8	44.1
12:00 PM - 01:00 PM	53.4	79.2	48.0
01:00 PM - 02:00 PM	51.7	79.2	45.1
02:00 PM - 03:00 PM	53.4	85.4	48.4
03:00 PM - 04:00 PM	52.4	81.9	45.8
04:00 PM - 05:00 PM	49.1	78.1	45.0
05:00 PM - 06:00 PM	50.6	70.4	45.5
06:00 PM - 07:00 PM	52.1	76.1	45.5
07:00 PM - 08:00 PM	54.3	89.6	44.7
08:00 PM - 09:00 PM	45.3	60.8	42.4
09:00 PM - 10:00 PM	45.2	47.8	42.7
10:00 PM - 11:00 PM	44.0	60.4	41.6
11:00 PM - 12:00 AM	44.4	64.9	40.9
12:00 AM - 01:00 AM	44.2	60.4	42.0
01:00 AM - 02:00 AM	43.2	56.7	41.1
02:00 AM - 03:00 AM	42.9	58.5	42.0
03:00 AM - 04:00 AM	44.2	59.1	41.0
04:00 AM - 05:00 AM	41.8	56.5	41.4
05:00 AM - 06:00 AM	46.2	67.1	42.9
06:00 AM - 07:00 AM	50.8	69.0	45.9
07:00 AM - 08:00 AM	53.9	80.5	46.9
08:00 AM - 09:00 AM	51.5	85.1	46.6
09:00 AM - 10:00 AM	56.6	66.9	48.1

Leq Average 24 hrs. (dB(A))

Lmax (dB(A))

L90 (dB(A))

L50 (dB(A))

L50 (dB(A))

Standard (dB(A))

Reference Method : ISO1996-1 and 1996-2

Standard

1. ผู้จัดทำรายงานฯ ได้ตรวจสอบและวัดค่า ณ วันที่ 15 (พ.ค. 2566) และพบค่าเกินมาตรฐานตามที่กำหนดไว้

2. ผู้จัดทำรายงานฯ ได้ตรวจสอบและวัดค่า ณ วันที่ 15 (พ.ค. 2566) และพบค่าเกินมาตรฐานตามที่กำหนดไว้

ทั้งนี้ มี น.ร. 2568

Technical Management

Orawan R.
Orawan Rukying
Scientist (3)

Approved by

Supt S.
Supt Salameh
Section Head

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RIGHT SOLUTIONS

14025-23 (ENG)

3 Phatthaburan Rd. (Bangkok) 10250 Thailand



Analysis / Test Report

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

P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :

Lot ID: 2315629
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 260009-1

Page 1 of 1

Sample Number : 2315629-7
Parameter : Noise (Leq 24 hrs.)
Location : Tesfawathinburi (GPS: 40Q 279854, 1889320)
Measurement Date : Mar 14 - Mar 15, 2023
Measurement by : Natthaporn Kummasut
Sound Level meter : Serial No. 709776

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	47.7	68.8	42.7
11:00 AM - 12:00 PM	58.4	84.4	44.0
12:00 PM - 01:00 PM	40.5	63.0	43.4
01:00 PM - 02:00 PM	46.7	63.8	43.0
02:00 PM - 03:00 PM	40.7	72.3	43.5
03:00 PM - 04:00 PM	51.4	79.3	43.3
04:00 PM - 05:00 PM	50.0	75.4	44.5
05:00 PM - 06:00 PM	50.5	68.4	44.4
06:00 PM - 07:00 PM	54.5	86.6	44.8
07:00 PM - 08:00 PM	49.1	82.9	46.5
08:00 PM - 09:00 PM	56.6	83.5	48.2
09:00 PM - 10:00 PM	50.0	81.9	46.4
10:00 PM - 11:00 PM	51.0	63.8	48.4
11:00 PM - 12:00 AM	50.6	66.1	48.4
12:00 AM - 01:00 AM	50.3	83.5	47.8
01:00 AM - 02:00 AM	50.2	72.7	48.0
02:00 AM - 03:00 AM	51.4	70.8	49.7
03:00 AM - 04:00 AM	40.2	56.7	44.5
04:00 AM - 05:00 AM	46.3	70.4	43.4
05:00 AM - 06:00 AM	50.2	51.4	46.8
06:00 AM - 07:00 AM	52.2	72.4	45.9
07:00 AM - 08:00 AM	50.8	70.9	46.4
08:00 AM - 09:00 AM	49.5	67.9	44.7
09:00 AM - 10:00 AM	49.8	63.8	44.0

Leq Average 24 hrs. (dB(A))

Lmax (dB(A))

L90 (dB(A))

L50 (dB(A))

L50 (dB(A))

Standard (dB(A))

Reference Method : ISO1996-1 and 1996-2

Standard

1. ผู้จัดทำรายงานฯ ได้ตรวจสอบและวัดค่า ณ วันที่ 15 (พ.ค. 2566) และพบค่าเกินมาตรฐานตามที่กำหนดไว้

2. ผู้จัดทำรายงานฯ ได้ตรวจสอบและวัดค่า ณ วันที่ 15 (พ.ค. 2566) และพบค่าเกินมาตรฐานตามที่กำหนดไว้

ทั้งนี้ มี น.ร. 2568

Technical Management

Orawan R.
Orawan Rukying
Scientist (3)

Approved by

Supt S.
Supt Salameh
Section Head

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www.alsglobal.com

RIGHT SOLUTIONS

14025-23 (ENG)

3 Phatthaburan Rd. (Bangkok) 10250 Thailand



Analysis / Test Report

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

P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :

Lot ID: 2315632
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 260009-1

Page 1 of 1

Sample Number : 2315632-1
Parameter : Noise (Leq 24 hrs.)
Location : Banphay (GPS: 40Q 276077, 1889320)
Measurement Date : Mar 09 - Mar 09, 2023
Measurement by : Natthaporn Kummasut
Sound Level meter : Serial No. 222000

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	49.7	73.3	41.6
11:00 AM - 12:00 PM	51.1	80.7	41.3
12:00 PM - 01:00 PM	50.6	68.9	44.7
01:00 PM - 02:00 PM	50.3	66.2	43.4
02:00 PM - 03:00 PM	50.7	70.7	44.9
03:00 PM - 04:00 PM	53.4	76.0	44.7
04:00 PM - 05:00 PM	51.9	73.4	45.5
05:00 PM - 06:00 PM	52.3	73.4	46.1
06:00 PM - 07:00 PM	48.1	74.7	47.6
07:00 PM - 08:00 PM	48.2	73.1	43.5
08:00 PM - 09:00 PM	51.7	81.0	44.4
09:00 PM - 10:00 PM	49.2	63.8	45.9
10:00 PM - 11:00 PM	44.4	50.4	42.1
11:00 PM - 12:00 AM	47.6	65.8	45.6
12:00 AM - 01:00 AM	44.4	77.6	46.1
01:00 AM - 02:00 AM	47.1	66.9	45.1
02:00 AM - 03:00 AM	47.5	63.8	45.0
03:00 AM - 04:00 AM	49.8	79.7	44.3
04:00 AM - 05:00 AM	46.5	72.1	43.1
05:00 AM - 06:00 AM	46.5	54.7	44.3
06:00 AM - 07:00 AM	53.2	70.7	50.3
07:00 AM - 08:00 AM	50.6	70.8	46.4
08:00 AM - 09:00 AM	49.8	78.8	46.3
09:00 AM - 10:00 AM	46.6	78.1	44.7

Leq Average 24 hrs. (dB(A))

Lmax (dB(A))

L90 (dB(A))

L50 (dB(A))

L50 (dB(A))

Standard (dB(A))

Reference Method : ISO1996-1 and 1996-2

Standard

1. ผู้จัดทำรายงานฯ ได้ตรวจสอบและวัดค่า ณ วันที่ 15 (พ.ค. 2566) และพบค่าเกินมาตรฐานตามที่กำหนดไว้

2. ผู้จัดทำรายงานฯ ได้ตรวจสอบและวัดค่า ณ วันที่ 15 (พ.ค. 2566) และพบค่าเกินมาตรฐานตามที่กำหนดไว้

ทั้งนี้ มี น.ร. 2568

Technical Management

Orawan R.
Orawan Rukying
Scientist (3)

Approved by

Supt S.
Supt Salameh
Section Head

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RIGHT SOLUTIONS

14025-23 (ENG)

3 Phatthaburan Rd. (Bangkok) 10250 Thailand



Analysis / Test Report

Client : Kasit Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :

Lot ID: 2315632
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2604032-1

Page 1 of 1

Sample Number : 2315632-2
Parameter : Noise (Leq 24 hrs.)
Location : Naayvilo (GPS 48Q 276877; 1887945)
Measurement Date : Mar 09 - Mar 10, 2023
Measurement by : Natthapon Kumsakul
Sound Level meter : Serial No. 222600

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	50.2	55.6	45.5
11:00 AM - 12:00 PM	50.2	71.9	44.8
12:00 PM - 01:00 PM	47.8	63.3	42.7
01:00 PM - 02:00 PM	52.3	81.1	43.7
02:00 PM - 03:00 PM	54.3	80.6	47.3
03:00 PM - 04:00 PM	49.8	67.3	44.2
04:00 PM - 05:00 PM	52.8	77.4	44.9
05:00 PM - 06:00 PM	52.3	71.9	44.3
06:00 PM - 07:00 PM	46.6	73.4	42.4
07:00 PM - 08:00 PM	45.8	71.8	43.3
08:00 PM - 09:00 PM	47.2	77.2	42.1
09:00 PM - 10:00 PM	43.9	69.2	41.8
10:00 PM - 11:00 PM	44.5	57.7	42.4
11:00 PM - 12:00 AM	45.8	76.0	42.0
12:00 AM - 01:00 AM	47.3	77.0	41.3
01:00 AM - 02:00 AM	45.2	73.3	41.9
02:00 AM - 03:00 AM	42.7	62.5	40.9
03:00 AM - 04:00 AM	49.2	77.4	42.9
04:00 AM - 05:00 AM	49.8	80.2	42.2
05:00 AM - 06:00 AM	53.7	73.3	46.3
06:00 AM - 07:00 AM	55.8	76.0	50.4
07:00 AM - 08:00 AM	57.4	83.4	48.7
08:00 AM - 09:00 AM	54.2	76.8	48.2
09:00 AM - 10:00 AM	52.5	74.8	45.3

Leq Average 24 hrs. (dB(A))

Lmax (dB(A))

L90 (dB(A))

Ldn (dB(A))

Standard (dB(A))

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ข้อมูลที่ได้จากการวัดค่าเสียงตามวิธีวัดเสียง 13 (ม.ร. 2540) ไม่สามารถนำมาใช้เพื่อวัตถุประสงค์อื่นได้
2. ข้อมูลที่ได้จากการวัดค่าเสียงตามวิธีวัดเสียง 13 (ม.ร. 2540) ไม่สามารถนำมาใช้เพื่อวัตถุประสงค์อื่นได้

Standard : 1. ข้อมูลที่ได้จากการวัดค่าเสียงตามวิธีวัดเสียง 13 (ม.ร. 2540) ไม่สามารถนำมาใช้เพื่อวัตถุประสงค์อื่นได้
2. ข้อมูลที่ได้จากการวัดค่าเสียงตามวิธีวัดเสียง 13 (ม.ร. 2540) ไม่สามารถนำมาใช้เพื่อวัตถุประสงค์อื่นได้

Technical Management

Orawan R.
Orawan Rattajong
Scientist (S)

Approved by

Supt S
Supt Salameh
Section Head

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RIGHT SOLUTIONS

3 Viroon/LAN Nok (7 14PM)



Analysis / Test Report

Client : Kasit Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :

Lot ID: 2315632
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2604032-1

Page 1 of 1

Sample Number : 2315632-3
Parameter : Noise (Leq 24 hrs.)
Location : Naayvilo (GPS 48Q 276877; 1887945)
Measurement Date : Mar 10 - Mar 11, 2023
Measurement by : Natthapon Kumsakul
Sound Level meter : Serial No. 222600

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	54.1	83.5	45.6
11:00 AM - 12:00 PM	50.4	73.0	47.4
12:00 PM - 01:00 PM	50.0	71.7	42.4
01:00 PM - 02:00 PM	50.8	71.0	45.2
02:00 PM - 03:00 PM	49.3	73.7	42.2
03:00 PM - 04:00 PM	49.2	67.4	43.9
04:00 PM - 05:00 PM	48.4	68.3	44.9
05:00 PM - 06:00 PM	52.0	70.4	48.4
06:00 PM - 07:00 PM	47.4	67.8	44.1
07:00 PM - 08:00 PM	55.4	89.7	42.2
08:00 PM - 09:00 PM	44.3	64.5	42.2
09:00 PM - 10:00 PM	44.3	61.0	43.8
10:00 PM - 11:00 PM	45.2	68.2	43.4
11:00 PM - 12:00 AM	45.4	70.0	42.4
12:00 AM - 01:00 AM	44.2	66.5	41.8
01:00 AM - 02:00 AM	42.8	61.1	41.2
02:00 AM - 03:00 AM	40.9	73.6	41.2
03:00 AM - 04:00 AM	42.1	53.2	41.0
04:00 AM - 05:00 AM	42.4	53.4	41.4
05:00 AM - 06:00 AM	55.8	80.1	45.0
06:00 AM - 07:00 AM	55.3	81.2	48.4
07:00 AM - 08:00 AM	53.2	73.2	45.4
08:00 AM - 09:00 AM	52.2	82.1	44.0
09:00 AM - 10:00 AM	49.5	69.7	42.7

Leq Average 24 hrs. (dB(A))

Lmax (dB(A))

L90 (dB(A))

Ldn (dB(A))

Standard (dB(A))

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ข้อมูลที่ได้จากการวัดค่าเสียงตามวิธีวัดเสียง 13 (ม.ร. 2540) ไม่สามารถนำมาใช้เพื่อวัตถุประสงค์อื่นได้
2. ข้อมูลที่ได้จากการวัดค่าเสียงตามวิธีวัดเสียง 13 (ม.ร. 2540) ไม่สามารถนำมาใช้เพื่อวัตถุประสงค์อื่นได้

Standard : 1. ข้อมูลที่ได้จากการวัดค่าเสียงตามวิธีวัดเสียง 13 (ม.ร. 2540) ไม่สามารถนำมาใช้เพื่อวัตถุประสงค์อื่นได้
2. ข้อมูลที่ได้จากการวัดค่าเสียงตามวิธีวัดเสียง 13 (ม.ร. 2540) ไม่สามารถนำมาใช้เพื่อวัตถุประสงค์อื่นได้

Technical Management

Orawan R.
Orawan Rattajong
Scientist (S)

Approved by

Supt S
Supt Salameh
Section Head

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E-MAIL: ALS@ALS.CO.THAILAND

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RIGHT SOLUTIONS

3 Viroon/LAN Nok (7 14PM)



Analysis / Test Report

Client : Kasit Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :

Lot ID: 2315632
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2604032-1

Page 2 of 1

Sample Number : 2315632-4
Parameter : Noise (Leq 24 hrs.)
Location : Naayvilo (GPS 48Q 276877; 1887945)
Measurement Date : Mar 11 - Mar 12, 2023
Measurement by : Natthapon Kumsakul
Sound Level meter : Serial No. 222600

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	52.8	70.6	50.6
11:00 AM - 12:00 PM	52.9	72.7	47.5
12:00 PM - 01:00 PM	51.3	81.3	41.7
01:00 PM - 02:00 PM	54.7	86.7	45.0
02:00 PM - 03:00 PM	51.0	70.5	49.1
03:00 PM - 04:00 PM	51.7	67.6	49.1
04:00 PM - 05:00 PM	52.4	79.3	50.0
05:00 PM - 06:00 PM	52.8	77.8	50.3
06:00 PM - 07:00 PM	49.8	73.8	45.5
07:00 PM - 08:00 PM	47.0	65.8	44.8
08:00 PM - 09:00 PM	46.8	66.2	45.2
09:00 PM - 10:00 PM	47.2	56.5	46.0
10:00 PM - 11:00 PM	46.4	61.8	43.8
11:00 PM - 12:00 AM	46.4	68.1	42.2
12:00 AM - 01:00 AM	52.8	78.2	41.8
01:00 AM - 02:00 AM	44.8	56.6	41.2
02:00 AM - 03:00 AM	43.2	62.5	43.1
03:00 AM - 04:00 AM	43.2	52.5	42.0
04:00 AM - 05:00 AM	42.7	51.1	41.7
05:00 AM - 06:00 AM	46.7	56.9	44.6
06:00 AM - 07:00 AM	52.2	79.5	45.9
07:00 AM - 08:00 AM	50.7	66.1	44.6
08:00 AM - 09:00 AM	54.4	81.9	44.2
09:00 AM - 10:00 AM	51.3	71.8	48.6

Leq Average 24 hrs. (dB(A))

Lmax (dB(A))

L90 (dB(A))

Ldn (dB(A))

Standard (dB(A))

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ข้อมูลที่ได้จากการวัดค่าเสียงตามวิธีวัดเสียง 13 (ม.ร. 2540) ไม่สามารถนำมาใช้เพื่อวัตถุประสงค์อื่นได้
2. ข้อมูลที่ได้จากการวัดค่าเสียงตามวิธีวัดเสียง 13 (ม.ร. 2540) ไม่สามารถนำมาใช้เพื่อวัตถุประสงค์อื่นได้

Standard : 1. ข้อมูลที่ได้จากการวัดค่าเสียงตามวิธีวัดเสียง 13 (ม.ร. 2540) ไม่สามารถนำมาใช้เพื่อวัตถุประสงค์อื่นได้
2. ข้อมูลที่ได้จากการวัดค่าเสียงตามวิธีวัดเสียง 13 (ม.ร. 2540) ไม่สามารถนำมาใช้เพื่อวัตถุประสงค์อื่นได้

Technical Management

Orawan R.
Orawan Rattajong
Scientist (S)

Approved by

Supt S
Supt Salameh
Section Head

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E-MAIL: ALS@ALS.CO.THAILAND

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RIGHT SOLUTIONS

3 Viroon/LAN Nok (7 14PM)



Analysis / Test Report

Client : Kasit Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :

Lot ID: 2315632
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2604032-1

Page 1 of 1

Sample Number : 2315632-5
Parameter : Noise (Leq 24 hrs.)
Location : Naayvilo (GPS 48Q 276877; 1887945)
Measurement Date : Mar 12 - Mar 13, 2023
Measurement by : Natthapon Kumsakul
Sound Level meter : Serial No. 222600

Time	Leq (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	51.0	81.8	41.3
11:00 AM - 12:00 PM	50.1	80.1	41.4
12:00 PM - 01:00 PM	50.1	80.6	41.5
01:00 PM - 02:00 PM	51.6	73.9	41.5
02:00 PM - 03:00 PM	50.4	77.7	42.3
03:00 PM - 04:00 PM	50.6	69.2	41.9
04:00 PM - 05:00 PM	52.8	84.4	44.4
05:00 PM - 06:00 PM	47.8	73.9	42.3
06:00 PM - 07:00 PM	46.7	68.5	42.4
07:00 PM - 08:00 PM	52.9	79.3	43.1
08:00 PM - 09:00 PM	47.4	74.3	44.3
09:00 PM - 10:00 PM	53.3	81.7	46.8
10:00 PM - 11:00 PM	50.2	65.2	46.0
11:00 PM - 12:00 AM	47.0	59.4	44.1
12:00 AM - 01:00 AM	43.0	51.1	41.7
01:00 AM - 02:00 AM	43.4	61.9	41.6
02:00 AM - 03:00 AM	44.4	77.0	43.0
03:00 AM - 04:00 AM	42.2	54.1	40.8
04:00 AM - 05:00 AM	42.0	53.4	41.0
05:00 AM - 06:00 AM	49.5	67.5	44.1
06:00 AM - 07:00 AM	52.2	72.9	45.6
07:00 AM - 08:00 AM	50.2	70.2	43.6
08:00 AM - 09:00 AM	50.2	70.4	44.3
09:00 AM - 10:00 AM	50.7	71.2	44.0

Leq Average 24 hrs. (dB(A))

Lmax (dB(A))

L90 (dB(A))

Ldn (dB(A))

Standard (dB(A))

Reference Method : ISO1996-1 and 1996-2

Standard : 1. ข้อมูลที่ได้จากการวัดค่าเสียงตามวิธีวัดเสียง 13 (ม.ร. 2540) ไม่สามารถนำมาใช้เพื่อวัตถุประสงค์อื่นได้
2. ข้อมูลที่ได้จากการวัดค่าเสียงตามวิธีวัดเสียง 13 (ม.ร. 2540) ไม่สามารถนำมาใช้เพื่อวัตถุประสงค์อื่นได้

Standard : 1. ข้อมูลที่ได้จากการวัดค่าเสียงตามวิธีวัดเสียง 13 (ม.ร. 2540) ไม่สามารถนำมาใช้เพื่อวัตถุประสงค์อื่นได้
2. ข้อมูลที่ได้จากการวัดค่าเสียงตามวิธีวัดเสียง 13 (ม.ร. 2540) ไม่สามารถนำมาใช้เพื่อวัตถุประสงค์อื่นได้

Technical Management

Orawan R.
Orawan Rattajong
Scientist (S)

Approved by

Supt S
Supt Salameh
Section Head

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RIGHT SOLUTIONS

3 Viroon/LAN Nok (7 14PM)

Analysis / Test Report

Client: Kasetsart Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphuwap, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No-10410069123343_EIA Monitoring
Project Location :

Lot ID: 2315632
Date Received : Mar 17, 2023
Date Reported: Mar 24, 2023
Report Number: 2604027-1

Page 3 of 3

Sample Number	2215632-6
Parameter	Noise (Leq 24 hrs.)
Location	๙๙๙1๙๙ (GPS 48Q 276577, 1887945)
Measurement Date	Mar 23 - Mar 14, 2023
Measurement by	Natthapon Kiatnasut
Sound Level meter	Serial No. 222600

Time	Lea (SB(A))	Umax (SB(A))	L99 (SB(A))
10:00 AM - 11:00 AM	49.3	67.3	44.0
11:00 AM - 12:00 PM	40.8	46.2	41.7
12:00 PM - 01:00 PM	47.8	67.0	42.1
01:00 PM - 02:00 PM	48.0	69.5	42.6
02:00 PM - 03:00 PM	51.0	75.2	41.6
03:00 PM - 04:00 PM	50.2	51.3	42.2
04:00 PM - 05:00 PM	49.4	71.9	42.4
05:00 PM - 06:00 PM	51.3	73.0	47.7
06:00 PM - 07:00 PM	54.4	78.4	46.1
07:00 PM - 08:00 PM	46.3	70.4	43.7
08:00 PM - 09:00 PM	56.4	73.8	43.0
09:00 PM - 10:00 PM	45.3	66.9	42.4
10:00 PM - 11:00 PM	50.1	60.1	40.7
11:00 PM - 12:00 AM	42.5	63.1	40.4
12:00 AM - 01:00 AM	46.4	56.8	39.5
01:00 AM - 02:00 AM	40.2	58.8	39.3
02:00 AM - 03:00 AM	41.3	74.3	40.9
03:00 AM - 04:00 AM	62.7	78.7	41.5
04:00 AM - 05:00 AM	43.4	50.7	41.4
05:00 AM - 06:00 AM	48.4	77.0	42.5
06:00 AM - 07:00 AM	52.1	71.6	45.0
07:00 AM - 08:00 AM	51.4	77.6	44.6
08:00 AM - 09:00 AM	50.3	77.8	51.8
09:00 AM - 10:00 AM	59.7	93.3	51.5

	2007	2008	2009
Leq Average 24 hrs. (dB(A))	51.8		
Lmax (dB(A))		93.3	
L90 (dB(A))			42.2
Ldn (dB(A))	55.0		
Standard (dB(A))	70	115	

Reference Method : ISO1995-1 and 1996-2

Standard 1. ปรัชญาและกระบวนการเรียนรู้ต้องสอดคล้องกับ วิสัยทัศน์ 15 (พ.ศ. 2548) เรื่องการพัฒนาครูและบุคลากรทางการศึกษา
2. ปรัชญาและกระบวนการเรียนรู้ เรื่องการพัฒนาครูและบุคลากรทางการศึกษา จะต้องเป็นไปในทิศทางที่สอดคล้องกับปรัชญา
โรงเรียน พ.ศ. 2548

Technical Management

Orawan R.
Charvillat Rakhyang
Scientist (3)

Approved by _____

Sgt S.
Soput Salameteh
Sertifikat Heat

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Analysis / Test Report

Client: Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :

Lot ID: 2315632
Date Received : Mar 17, 2023
Date Reported : Mar 24, 2023
Report Number: 2604078-1

Page 1 of 1

Sample Number	2315632-7
Parameter	Noise (Leq 24 hrs.)
Location	๙๓๗๖๖ (GPS 40Q 276677, 1887945)
Measurement Date	Mar 14 - Mar 15, 2023
Measurement by	Nattapon Kumsas
Sound Level meter	Serial No. 222600

Time	Log (dB(A))	Lmax (dB(A))	L90 (dB(A))
10:00 AM - 11:00 AM	62.7	82.4	55.7
11:00 AM - 12:00 PM	53.5	78.4	45.0
12:00 PM - 01:00 PM	62.7	96.2	53.6
01:00 PM - 02:00 PM	53.0	79.1	44.8
02:00 PM - 03:00 PM	59.9	76.5	43.1
03:00 PM - 04:00 PM	67.6	85.3	62.3
04:00 PM - 05:00 PM	58.9	79.5	44.9
05:00 PM - 06:00 PM	53.1	69.2	47.0
06:00 PM - 07:00 PM	55.0	72.6	44.2
07:00 PM - 08:00 PM	46.8	76.0	40.9
08:00 PM - 09:00 PM	43.1	70.3	40.7
09:00 PM - 10:00 PM	43.0	66.7	38.8
10:00 PM - 11:00 PM	45.2	64.1	42.6
11:00 PM - 12:00 AM	45.0	66.3	43.4
12:00 AM - 01:00 AM	45.4	69.2	43.0
01:00 AM - 02:00 AM	45.9	54.8	44.8
02:00 AM - 03:00 AM	46.3	70.7	41.9
03:00 AM - 04:00 AM	44.2	50.4	41.3
04:00 AM - 05:00 AM	45.9	46.3	39.5
05:00 AM - 06:00 AM	50.2	61.1	43.5
06:00 AM - 07:00 AM	31.0	78.5	45.9
07:00 AM - 08:00 AM	52.6	73.7	45.4
08:00 AM - 09:00 AM	47.4	68.3	42.1
09:00 AM - 10:00 AM	46.4	74.9	47.5

07:00 AM - 10:00 AM	40.4	74.7	42.2
Leq Average 24 hrs (dB(A))	58.9		
Lmax (dB(A))		96.2	
L90 (dB(A))			43.4
Ldn (dB(A))	59.9		
Standard (dB(A))	70	115	

Reference Method : ISO 1996-1 and 1996-2

Standard 1. ประกาศคณะกรรมการสิ่งแวดล้อมแห่งชาติ ฉบับที่ 15 (พ.ศ. 2540) เรื่องกำหนดมาตรฐานสิ่งแวดล้อมโดยทั่วไป
2. ประกาศกระทรวงอุตสาหกรรม เรื่องกำหนดค่าพารามิเตอร์การปนเปื้อนในอากาศ และวิธีประเมินผลกระทบจากมลพิษทางอากาศ พ.ศ. 2548

Technical Management

Orawan R.
Orawan Rakvong
Erasmus 231

Approved by _____

Supt S.
Supt Salamah
Sentosa Island

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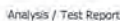
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ภาคผนวก ค-6

ผลการตรวจวัดระดับเสียงรบกวน





Client: East Pak Super Co., Ltd.
3 Hoi N. & Cho. Kienhuan, 11th Floor, District 4, HCMC

W/D 1	
Project Name	Factory Location Site 33452000121943, 214 Birmingham
Project Location	

Sample No.	121119-5
Parameter	Acoustic
Location	RefineupdownofHndG GPS 402 1710N, 120100E
Measurement Date	Mar 12, 2013
Measurement By	Stephan Kohnen
Current Contact	121119

[illegible]

Approved by: Y. A. A. I.

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www.abglobal.com



Client: Fasset Food Super Co., Ltd.

FIG. 1
Project Name: Federal License No. 1041000032149 JLA RENEWING

Sample No.	2315091-5
Parameter	Residue
Link Url	https://data.hkex.com.hk/GOV/GOV-REG-2315091-5
Measurement Date	Mar 12 - 13, 2023
Measurement By	Haitian Kumaud

[illegible]

Abstract Method: Random ISO 1995-1 and ISO 1995-2 surveys

1. Determination of the number of the respondents in the sample and the number of the respondents in the sample
2. Determination of the number of the respondents in the sample and the number of the respondents in the sample
3. Determination of the number of the respondents in the sample and the number of the respondents in the sample

100% of the respondents in the sample and the number of the respondents in the sample

Approved by Y. L. A. A. A.

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www.ahsglobal.com



Client Quest Diagnostics Co., Ltd.

Project Name: Factory Square No.1040000123249, 32A Phnom Penh

Project Location	
Sample No.	223185-6
Parameter	Microtox
Location	Tribunal de los Andes (GPS 40° 37' 26.4", 109° 16' 19")
Measurement Date	Mar 13 / 14, 2013
Measurement by	Jonathan Kaimowitz

[illegible]
$$Y_{t+1} = \Delta_t$$

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DOI: 10.1177/0886260512468111

www.alphaLyon.com



Client: Great Pond Sugar Co., Ltd.

Project Name: Factory (name No 1045000023342_XIA MICHANING)

Sample No.	231199-1
Parameter	Microtox
Location	San Francisco Bay, San Francisco, CA 94133
Measurement Date	Mar 12, 13, 2023
Measurement by	Northwest Analytical

[illegible]

Y. L. A.

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www.atsglia.com



Client: Kaiser Steel Super-Co, Inc.

F/O
Project Name: Factory License No 10410000511343 EIA Mandate

Project Location	
Sample No.	211519-g
Parameter	(Reservoir)
Longitude	106°58'17.00"E; 106°58'17.00"E
Measurement Date	Mar 13 - 18, 2013
Measurement No.	Hoffmann_Kohout

[illegible]

Approved by L. L. A. L.

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www.adaptlink.com



Client: Sweet Pea Super Co., Ltd.

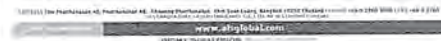
Project Name: Feeding Science (U-504500001124) BSA Modification

Project Location	
Sample No.	22050206
Parameter	Water
Location	Pathanamthitta waterfalls GPS: 8°Q 27'34", 100°11'
Measurement Date	Mar 13 - 14, 2023

[illegible]

Received 100 Thammachote Rd., Khlong Thammachote, Khlong Luang, Bangkok 10170 Thailand / E-mail: chun@chunlab.com / Fax: 66 2 616 1111

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Approved by: 
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Sandy Prater

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Approved by: K. A. A.
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 Name of Manager

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Approved by: 
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 Director Manager

Sushil Kumar
 Director Manager

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ALS Analysis / Test Report

Client: Kasit (Phu) Super Co., Ltd.
8 Phra S., Ph. Cha, Kamphaeng, Udon Thani Thailand 41370

Lat ID: 2315449
Date Reported: Mar 17, 2023
Date Reported: Mar 25, 2023
Report No.: 2304054-1

Project Name: Factory License No. 2340000022141, SJA Hanching

Sample No: 2315449-1
Parameter: Noise
Location: Substation/Power substation (nearby) (GPS: 17.9462, 104.8525) (Shut down)
Measurement Date: Mar 15, 2023
Measurement by: Natchanon Khamrui
Sound Level Meter: 8050778

Time	Leq (dBA)	Lmax (dBA)	L90 (dBA)
01:00:00-01:05:00	42.2	48.2	41.2
01:05:00-01:10:00	42.2	48.2	41.2
01:10:00-01:15:00	42.2	48.2	41.2
01:15:00-01:20:00	42.2	48.2	41.2
01:20:00-01:25:00	42.2	48.2	41.2
01:25:00-01:30:00	42.2	48.2	41.2
01:30:00-01:35:00	42.2	48.2	41.2
01:35:00-01:40:00	42.2	48.2	41.2
01:40:00-01:45:00	42.2	48.2	41.2
01:45:00-01:50:00	42.2	48.2	41.2
01:50:00-01:55:00	42.2	48.2	41.2
01:55:00-02:00:00	42.2	48.2	41.2
02:00:00-02:05:00	42.2	48.2	41.2
02:05:00-02:10:00	42.2	48.2	41.2
02:10:00-02:15:00	42.2	48.2	41.2
02:15:00-02:20:00	42.2	48.2	41.2
02:20:00-02:25:00	42.2	48.2	41.2
02:25:00-02:30:00	42.2	48.2	41.2
02:30:00-02:35:00	42.2	48.2	41.2
02:35:00-02:40:00	42.2	48.2	41.2
02:40:00-02:45:00	42.2	48.2	41.2
02:45:00-02:50:00	42.2	48.2	41.2
02:50:00-02:55:00	42.2	48.2	41.2
02:55:00-03:00:00	42.2	48.2	41.2
03:00:00-03:05:00	42.2	48.2	41.2
03:05:00-03:10:00	42.2	48.2	41.2
03:10:00-03:15:00	42.2	48.2	41.2
03:15:00-03:20:00	42.2	48.2	41.2
03:20:00-03:25:00	42.2	48.2	41.2
03:25:00-03:30:00	42.2	48.2	41.2
03:30:00-03:35:00	42.2	48.2	41.2
03:35:00-03:40:00	42.2	48.2	41.2
03:40:00-03:45:00	42.2	48.2	41.2
03:45:00-03:50:00	42.2	48.2	41.2
03:50:00-03:55:00	42.2	48.2	41.2
03:55:00-04:00:00	42.2	48.2	41.2
04:00:00-04:05:00	42.2	48.2	41.2
04:05:00-04:10:00	42.2	48.2	41.2
04:10:00-04:15:00	42.2	48.2	41.2
04:15:00-04:20:00	42.2	48.2	41.2
04:20:00-04:25:00	42.2	48.2	41.2
04:25:00-04:30:00	42.2	48.2	41.2
04:30:00-04:35:00	42.2	48.2	41.2
04:35:00-04:40:00	42.2	48.2	41.2
04:40:00-04:45:00	42.2	48.2	41.2
04:45:00-04:50:00	42.2	48.2	41.2
04:50:00-04:55:00	42.2	48.2	41.2
04:55:00-05:00:00	42.2	48.2	41.2
05:00:00-05:05:00	42.2	48.2	41.2
05:05:00-05:10:00	42.2	48.2	41.2
05:10:00-05:15:00	42.2	48.2	41.2
05:15:00-05:20:00	42.2	48.2	41.2
05:20:00-05:25:00	42.2	48.2	41.2
05:25:00-05:30:00	42.2	48.2	41.2
05:30:00-05:35:00	42.2	48.2	41.2
05:35:00-05:40:00	42.2	48.2	41.2
05:40:00-05:45:00	42.2	48.2	41.2
05:45:00-05:50:00	42.2	48.2	41.2
05:50:00-05:55:00	42.2	48.2	41.2
05:55:00-06:00:00	42.2	48.2	41.2
06:00:00-06:05:00	42.2	48.2	41.2
06:05:00-06:10:00	42.2	48.2	41.2
06:10:00-06:15:00	42.2	48.2	41.2
06:15:00-06:20:00	42.2	48.2	41.2
06:20:00-06:25:00	42.2	48.2	41.2
06:25:00-06:30:00	42.2	48.2	41.2
06:30:00-06:35:00	42.2	48.2	41.2
06:35:00-06:40:00	42.2	48.2	41.2
06:40:00-06:45:00	42.2	48.2	41.2
06:45:00-06:50:00	42.2	48.2	41.2
06:50:00-06:55:00	42.2	48.2	41.2
06:55:00-07:00:00	42.2	48.2	41.2
07:00:00-07:05:00	42.2	48.2	41.2
07:05:00-07:10:00	42.2	48.2	41.2
07:10:00-07:15:00	42.2	48.2	41.2
07:15:00-07:20:00	42.2	48.2	41.2
07:20:00-07:25:00	42.2	48.2	41.2
07:25:00-07:30:00	42.2	48.2	41.2
07:30:00-07:35:00	42.2	48.2	41.2
07:35:00-07:40:00	42.2	48.2	41.2
07:40:00-07:45:00	42.2	48.2	41.2
07:45:00-07:50:00	42.2	48.2	41.2
07:50:00-07:55:00	42.2	48.2	41.2
07:55:00-08:00:00	42.2	48.2	41.2
08:00:00-08:05:00	42.2	48.2	41.2
08:05:00-08:10:00	42.2	48.2	41.2
08:10:00-08:15:00	42.2	48.2	41.2
08:15:00-08:20:00	42.2	48.2	41.2
08:20:00-08:25:00	42.2	48.2	41.2
08:25:00-08:30:00	42.2	48.2	41.2
08:30:00-08:35:00	42.2	48.2	41.2
08:35:00-08:40:00	42.2	48.2	41.2
08:40:00-08:45:00	42.2	48.2	41.2
08:45:00-08:50:00	42.2	48.2	41.2
08:50:00-08:55:00	42.2	48.2	41.2
08:55:00-09:00:00	42.2	48.2	41.2
09:00:00-09:05:00	42.2	48.2	41.2
09:05:00-09:10:00	42.2	48.2	41.2
09:10:00-09:15:00	42.2	48.2	41.2
09:15:00-09:20:00	42.2	48.2	41.2
09:20:00-09:25:00	42.2	48.2	41.2
09:25:00-09:30:00	42.2	48.2	41.2
09:30:00-09:35:00	42.2	48.2	41.2
09:35:00-09:40:00	42.2	48.2	41.2
09:40:00-09:45:00	42.2	48.2	41.2
09:45:00-09:50:00	42.2	48.2	41.2
09:50:00-09:55:00	42.2	48.2	41.2
09:55:00-10:00:00	42.2	48.2	41.2
10:00:00-10:05:00	42.2	48.2	41.2
10:05:00-10:10:00	42.2	48.2	41.2
10:10:00-10:15:00	42.2	48.2	41.2
10:15:00-10:20:00	42.2	48.2	41.2
10:20:00-10:25:00	42.2	48.2	41.2
10:25:00-10:30:00	42.2	48.2	41.2
10:30:00-10:35:00	42.2	48.2	41.2
10:35:00-10:40:00	42.2	48.2	41.2
10:40:00-10:45:00	42.2	48.2	41.2
10:45:00-10:50:00	42.2	48.2	41.2
10:50:00-10:55:00	42.2	48.2	41.2
10:55:00-11:00:00	42.2	48.2	41.2
11:00:00-11:05:00	42.2	48.2	41.2
11:05:00-11:10:00	42.2	48.2	41.2
11:10:00-11:15:00	42.2	48.2	41.2
11:15:00-11:20:00	42.2	48.2	41.2
11:20:00-11:25:00	42.2	48.2	41.2
11:25:00-11:30:00	42.2	48.2	41.2
11:30:00-11:35:00	42.2	48.2	41.2
11:35:00-11:40:00	42.2	48.2	41.2
11:40:00-11:45:00	42.2	48.2	41.2
11:45:00-11:50:00	42.2	48.2	41.2
11:50:00-11:55:00	42.2	48.2	41.2
11:55:00-12:00:00	42.2	48.2	41.2
12:00:00-12:05:00	42.2	48.2	41.2
12:05:00-12:10:00	42.2	48.2	41.2
12:10:00-12:15:00	42.2	48.2	41.2
12:15:00-12:20:00	42.2	48.2	41.2
12:20:00-12:25:00	42.2	48.2	41.2
12:25:00-12:30:00	42.2	48.2	41.2
12:30:00-12:35:00	42.2	48.2	41.2
12:35:00-12:40:00	42.2	48.2	41.2
12:40:00-12:45:00	42.2	48.2	41.2
12:45:00-12:50:00	42.2	48.2	41.2
12:50:00-12:55:00	42.2	48.2	41.2
12:55:00-13:00:00	42.2	48.2	41.2
13:00:00-13:05:00	42.2	48.2	41.2
13:05:00-13:10:00	42.2	48.2	41.2
13:10:00-13:15:00	42.2	48.2	41.2
13:15:00-13:20:00	42.2	48.2	41.2
13:20:00-13:25:00	42.2	48.2	41.2
13:25:00-13:30:00	42.2	48.2	41.2
13:30:00-13:35:00	42.2	48.2	41.2
13:35:00-13:40:00	42.2	48.2	41.2
13:40:00-13:45:00	42.2	48.2	41.2
13:45:00-13:50:00	42.2	48.2	41.2
13:50:00-13:55:00	42.2	48.2	41.2
13:55:00-14:00:00	42.2	48.2	41.2
14:00:00-14:05:00	42.2	48.2	41.2
14:05:00-14:10:00	42.2	48.2	41.2
14:10:00-14:15:00	42.2	48.2	41.2
14:15:00-14:20:00	42.2	48.2	41.2
14:20:00-14:25:00	42.2	48.2	41.2
14:25:00-14:30:00	42.2	48.2	41.2
14:30:00-14:35:00	42.2	48.2	41.2
14:35:00-14:40:00	42.2	48.2	41.2
14:40:00-14:45:00	42.2	48.2	41.2
14:45:00-14:50:00	42.2	48.2	41.2
14:50:00-14:55:00	42.2	48.2	41.2
14:55:00-15:00:00	42.2	48.2	41.2
15:00:00-15:05:00	42.2	48.2	41.2
15:05:00-15:10:00	42.2	48.2	41.2
15:10:00-15:15:00	42.2	48.2	41.2
15:15:00-15:20:00	42.2	48.2	41.2
15:20:00-15:25:00	42.2	48.2	41.2
15:25:00-15:30:00	42.2	48.2	41.2
15:30:00-15:35:00	42.2	48.2	41.2
15:35:00-15:40:00	42.2	48.2	41.2
15:40:00-15:45:00	42.2	48.2	41.2
15:45:00-15:50:00	42.2	48.2	41.2
15:50:00-15:55:00	42.2	48.2	41.2
15:55:00-16:00:00	42.2	48.2	41.2
16:00:00-16:05:00	42.2	48.2	41.2
16:05:00-16:10:00	42.2	48.2	41.2
16:10:00-16:15:00	42.2	48.2	41.2
16:15:00-16:20:00	42.2	48.2	41.2
16:20:00-16:25:00	42.2	48.2	41.2
16:25:00-16:30:00	42.2	48.2	41.2
16:30:00-16:35:00	42.2	48.2	41.2
16:35:00-16:40:00	42.2	48.2	41.2
16:40:00-16:45:00	42.2	48.2	41.2
16:45:00-16:50:00	42.2	48.2	41.2
16:50:00-16:55:00	42.2	48.2	41.2
16:55:00-17:00:00	42.2	48.2	41.2
17:00:00-17:05:00	42.2	48.2	41.2
17:05:00-17:10:00	42.2	48.2	41.2
17:10:00-17:15:00	42.2	48.2	41.2
17:15:00-17:20:00	42.2	48.2	41.2
17:20:00-17:25:00	42.2	48.2	41.2
17:25:00-17:30:00	42.2	48.2	41.2
17:30:00-17:35:00	42.2	48.2	41.2
17:35:00-17:40:00	42.2	48.2	41.2
17:40:00-17:45:00	42.2	48.2	41.2
17:45:00-17:50:00	42.2	48.2	41.2
17:50:00-17:55:00	42.2	48.2	41.2
17:55:00-18:00:00	42.2	48.2	41.2
18:00:00-18:05:00	42.2	48.2	41.2
18:05:00-18:10:00	42.2	48.2	41.2
18:10:00-18:15:00	42.2	48.2	41.2
18:15:00-18:20:00	42.2	48.2	41.2
18:20:00-18:25:00	42.2	48.2	41.2
18:25:00-18:30:00	42.2	48.2	41.2
18:30:00-18:35:00	42.2	48.2	41.2
18:35:00-18:40:00	42.2	48.2	41.2
18:40:00-18:45:00	42.2	48.2	41.2
18:45:00-18:50:00	42.2	48.2	41.2
18:50:00-18:55:00	42.2	48.2	41.2
18:55:00-19:00:00	42.2	48.2	41.2
19:00:00-19:05:00	42.2	48.2	41.2
19:05:00-19:10:00	42.2	48.2	41.2
19:10:00-19:15:00	42.2	48.2	41.2
19:15:00-19:20:00	42.2	48.2	41.2
19:20:00-19:25:00	42.2	48.2	41.2
19:25:00-19:30:00	42.2	48.2	41.2
19:30:00-19:35:00	42.2	48.2	41.2
19:35:00-19:40:00	42.2	48.2	41.2
19:40:00-19:45:00	42.2	48.2	41.2
19:45:00-19:50:00	42.2	48.2	41.2
19:50:00-19:55:00	42.2	48.2	41.2
19:55:00-20:00:00	4		



Analysis / Test Report



TESTING
No. 0009

Client: Kasit Pail Super Co., Ltd.
8 Plot 9, Fa Oha, Komphuchay, Udon Thani Thailand 41370

Lot ID: 2315559
Date Received: Mar 17, 2023
Date Reported: Mar 23, 2023
Report No.: 2604095-1

PJO: 1
Project Name: Factory Location No. 02400002314, EA Monitoring

Sample No.: 023550-2
Parameter: Noise
Location: Full-scale/Full-scale/Line (vertical) (GPS HQ 27N36, 100000) (Shut down)
Measurement Date: Mar 17 - 18, 2023
Measurement By: Nattaporn Kanchana
Sound Level Meter: 023550

Time	Low (dBA)	Low (dBA)	Low (dBA)
02:00:00 - 02:00:05	45.0	45.0	45.0
02:00:05 - 02:00:10	45.0	45.0	45.0
02:00:10 - 02:00:15	45.0	45.0	45.0
02:00:15 - 02:00:20	45.0	45.0	45.0
02:00:20 - 02:00:25	45.0	45.0	45.0
02:00:25 - 02:00:30	45.0	45.0	45.0
02:00:30 - 02:00:35	45.0	45.0	45.0
02:00:35 - 02:00:40	45.0	45.0	45.0
02:00:40 - 02:00:45	45.0	45.0	45.0
02:00:45 - 02:00:50	45.0	45.0	45.0
02:00:50 - 02:00:55	45.0	45.0	45.0
02:00:55 - 02:01:00	45.0	45.0	45.0
02:01:00 - 02:01:05	45.0	45.0	45.0
02:01:05 - 02:01:10	45.0	45.0	45.0
02:01:10 - 02:01:15	45.0	45.0	45.0
02:01:15 - 02:01:20	45.0	45.0	45.0
02:01:20 - 02:01:25	45.0	45.0	45.0
02:01:25 - 02:01:30	45.0	45.0	45.0
02:01:30 - 02:01:35	45.0	45.0	45.0
02:01:35 - 02:01:40	45.0	45.0	45.0
02:01:40 - 02:01:45	45.0	45.0	45.0
02:01:45 - 02:01:50	45.0	45.0	45.0
02:01:50 - 02:01:55	45.0	45.0	45.0
02:01:55 - 02:02:00	45.0	45.0	45.0
02:02:00 - 02:02:05	45.0	45.0	45.0
02:02:05 - 02:02:10	45.0	45.0	45.0
02:02:10 - 02:02:15	45.0	45.0	45.0
02:02:15 - 02:02:20	45.0	45.0	45.0
02:02:20 - 02:02:25	45.0	45.0	45.0
02:02:25 - 02:02:30	45.0	45.0	45.0
02:02:30 - 02:02:35	45.0	45.0	45.0
02:02:35 - 02:02:40	45.0	45.0	45.0
02:02:40 - 02:02:45	45.0	45.0	45.0
02:02:45 - 02:02:50	45.0	45.0	45.0
02:02:50 - 02:02:55	45.0	45.0	45.0
02:02:55 - 02:03:00	45.0	45.0	45.0
02:03:00 - 02:03:05	45.0	45.0	45.0
02:03:05 - 02:03:10	45.0	45.0	45.0
02:03:10 - 02:03:15	45.0	45.0	45.0
02:03:15 - 02:03:20	45.0	45.0	45.0
02:03:20 - 02:03:25	45.0	45.0	45.0
02:03:25 - 02:03:30	45.0	45.0	45.0
02:03:30 - 02:03:35	45.0	45.0	45.0
02:03:35 - 02:03:40	45.0	45.0	45.0
02:03:40 - 02:03:45	45.0	45.0	45.0
02:03:45 - 02:03:50	45.0	45.0	45.0
02:03:50 - 02:03:55	45.0	45.0	45.0
02:03:55 - 02:04:00	45.0	45.0	45.0
02:04:00 - 02:04:05	45.0	45.0	45.0
02:04:05 - 02:04:10	45.0	45.0	45.0
02:04:10 - 02:04:15	45.0	45.0	45.0
02:04:15 - 02:04:20	45.0	45.0	45.0
02:04:20 - 02:04:25	45.0	45.0	45.0
02:04:25 - 02:04:30	45.0	45.0	45.0
02:04:30 - 02:04:35	45.0	45.0	45.0
02:04:35 - 02:04:40	45.0	45.0	45.0
02:04:40 - 02:04:45	45.0	45.0	45.0
02:04:45 - 02:04:50	45.0	45.0	45.0
02:04:50 - 02:04:55	45.0	45.0	45.0
02:04:55 - 02:05:00	45.0	45.0	45.0
02:05:00 - 02:05:05	45.0	45.0	45.0
02:05:05 - 02:05:10	45.0	45.0	45.0
02:05:10 - 02:05:15	45.0	45.0	45.0
02:05:15 - 02:05:20	45.0	45.0	45.0
02:05:20 - 02:05:25	45.0	45.0	45.0
02:05:25 - 02:05:30	45.0	45.0	45.0
02:05:30 - 02:05:35	45.0	45.0	45.0
02:05:35 - 02:05:40	45.0	45.0	45.0
02:05:40 - 02:05:45	45.0	45.0	45.0
02:05:45 - 02:05:50	45.0	45.0	45.0
02:05:50 - 02:05:55	45.0	45.0	45.0
02:05:55 - 02:06:00	45.0	45.0	45.0
02:06:00 - 02:06:05	45.0	45.0	45.0
02:06:05 - 02:06:10	45.0	45.0	45.0
02:06:10 - 02:06:15	45.0	45.0	45.0
02:06:15 - 02:06:20	45.0	45.0	45.0
02:06:20 - 02:06:25	45.0	45.0	45.0
02:06:25 - 02:06:30	45.0	45.0	45.0
02:06:30 - 02:06:35	45.0	45.0	45.0
02:06:35 - 02:06:40	45.0	45.0	45.0
02:06:40 - 02:06:45	45.0	45.0	45.0
02:06:45 - 02:06:50	45.0	45.0	45.0
02:06:50 - 02:06:55	45.0	45.0	45.0
02:06:55 - 02:07:00	45.0	45.0	45.0
02:07:00 - 02:07:05	45.0	45.0	45.0
02:07:05 - 02:07:10	45.0	45.0	45.0
02:07:10 - 02:07:15	45.0	45.0	45.0
02:07:15 - 02:07:20	45.0	45.0	45.0
02:07:20 - 02:07:25	45.0	45.0	45.0
02:07:25 - 02:07:30	45.0	45.0	45.0
02:07:30 - 02:07:35	45.0	45.0	45.0
02:07:35 - 02:07:40	45.0	45.0	45.0
02:07:40 - 02:07:45	45.0	45.0	45.0
02:07:45 - 02:07:50	45.0	45.0	45.0
02:07:50 - 02:07:55	45.0	45.0	45.0
02:07:55 - 02:08:00	45.0	45.0	45.0
02:08:00 - 02:08:05	45.0	45.0	45.0
02:08:05 - 02:08:10	45.0	45.0	45.0
02:08:10 - 02:08:15	45.0	45.0	45.0
02:08:15 - 02:08:20	45.0	45.0	45.0
02:08:20 - 02:08:25	45.0	45.0	45.0
02:08:25 - 02:08:30	45.0	45.0	45.0
02:08:30 - 02:08:35	45.0	45.0	45.0
02:08:35 - 02:08:40	45.0	45.0	45.0
02:08:40 - 02:08:45	45.0	45.0	45.0
02:08:45 - 02:08:50	45.0	45.0	45.0
02:08:50 - 02:08:55	45.0	45.0	45.0
02:08:55 - 02:09:00	45.0	45.0	45.0
02:09:00 - 02:09:05	45.0	45.0	45.0
02:09:05 - 02:09:10	45.0	45.0	45.0
02:09:10 - 02:09:15	45.0	45.0	45.0
02:09:15 - 02:09:20	45.0	45.0	45.0
02:09:20 - 02:09:25	45.0	45.0	45.0
02:09:25 - 02:09:30	45.0	45.0	45.0
02:09:30 - 02:09:35	45.0	45.0	45.0
02:09:35 - 02:09:40	45.0	45.0	45.0
02:09:40 - 02:09:45	45.0	45.0	45.0
02:09:45 - 02:09:50	45.0	45.0	45.0
02:09:50 - 02:09:55	45.0	45.0	45.0
02:09:55 - 02:10:00	45.0	45.0	45.0
02:10:00 - 02:10:05	45.0	45.0	45.0
02:10:05 - 02:10:10	45.0	45.0	45.0
02:10:10 - 02:10:15	45.0	45.0	45.0
02:10:15 - 02:10:20	45.0	45.0	45.0
02:10:20 - 02:10:25	45.0	45.0	45.0
02:10:25 - 02:10:30	45.0	45.0	45.0
02:10:30 - 02:10:35	45.0	45.0	45.0
02:10:35 - 02:10:40	45.0	45.0	45.0
02:10:40 - 02:10:45	45.0	45.0	45.0
02:10:45 - 02:10:50	45.0	45.0	45.0
02:10:50 - 02:10:55	45.0	45.0	45.0
02:10:55 - 02:11:00	45.0	45.0	45.0
02:11:00 - 02:11:05	45.0	45.0	45.0
02:11:05 - 02:11:10	45.0	45.0	45.0
02:11:10 - 02:11:15	45.0	45.0	45.0
02:11:15 - 02:11:20	45.0	45.0	45.0
02:11:20 - 02:11:25	45.0	45.0	45.0
02:11:25 - 02:11:30	45.0	45.0	45.0
02:11:30 - 02:11:35	45.0	45.0	45.0
02:11:35 - 02:11:40	45.0	45.0	45.0
02:11:40 - 02:11:45	45.0	45.0	45.0
02:11:45 - 02:11:50	45.0	45.0	45.0
02:11:50 - 02:11:55	45.0	45.0	45.0
02:11:55 - 02:12:00	45.0	45.0	45.0
02:12:00 - 02:12:05	45.0	45.0	45.0
02:12:05 - 02:12:10	45.0	45.0	45.0
02:12:10 - 02:12:15	45.0	45.0	45.0
02:12:15 - 02:12:20	45.0	45.0	45.0
02:12:20 - 02:12:25	45.0	45.0	45.0
02:12:25 - 02:12:30	45.0	45.0	45.0
02:12:30 - 02:12:35	45.0	45.0	45.0
02:12:35 - 02:12:40	45.0	45.0	45.0
02:12:40 - 02:12:45	45.0	45.0	45.0
02:12:45 - 02:12:50	45.0	45.0	45.0
02:12:50 - 02:12:55	45.0	45.0	45.0
02:12:55 - 02:13:00	45.0	45.0	45.0
02:13:00 - 02:13:05	45.0	45.0	45.0
02:13:05 - 02:13:10	45.0	45.0	45.0
02:13:10 - 02:13:15	45.0	45.0	45.0
02:13:15 - 02:13:20	45.0	45.0	45.0
02:13:20 - 02:13:25	45.0	45.0	45.0
02:13:25 - 02:13:30	45.0	45.0	45.0
02:13:30 - 02:13:35	45.0	45.0	45.0
02:13:35 - 02:13:40	45.0	45.0	45.0
02:13:40 - 02:13:45	45.0	45.0	45.0
02:13:45 - 02:13:50	45.0	45.0	45.0
02:13:50 - 02:13:55	45.0	45.0	45.0
02:13:55 - 02:14:00	45.0	45.0	45.0
02:14:00 - 02:14:05	45.0	45.0	45.0
02:14:05 - 02:14:10	45.0	45.0	45.0
02:14:10 - 02:14:15	45.0	45.0	45.0
02:14:15 - 02:14:20	45.0	45.0	45.0
02:14:20 - 02:14:25	45.0	45.0	45.0
02:14:25 - 02:14:30	45.0	45.0	45.0
02:14:30 - 02:14:35	45.0	45.0	45.0
02:14:35 - 02:14:40	45.0	45.0	45.0
02:14:40 - 02:14:45	45.0	45.0	45.0
02:14:45 - 02:14:50	45.0	45.0	45.0
02:14:50 - 02:14:55	45.0	45.0	45.0
02:14:55 - 02:15:00	45.0	45.0	45.0
02:15:00 - 02:15:05	45.0	45.0	45.0
02:15:05 - 02:15:10	45.0	45.0	45.0
02:15:10 - 02:15:15	45.0	45.0	45.0
02:15:15 - 02:15:20	45.0	45.0	45.0
02:15:20 - 02:15:25	45.0	45.0	45.0
02:15:25 - 02:15:30	45.0	45.0	45.0
02:15:30 - 02:15:35	45.0	45.0	45.0
02:15:35 - 02:15:40	45.0	45.0	45.0
02:15:40 - 02:15:45	45.0	45.0	45.0
02:15:45 - 02:15:50	45.0	45.0	45.0
02:15:50 - 02:15:55	45.0	45.0	45.0
02:15:55 - 02:16:00	45.0	45.0	45.0
02:16:00 - 02:16:05	45.0	45.0	45.0
02:16:05 - 02:16:10	45.0	45.0	45.0
02:16:10 - 02:16:15	45.0	45.0	45.0
02:16:15 - 02:16:20	45.0	45.0	45.0
02:16:20 - 02:16:25	45.0	45.0	45.0
02:16:25 - 02:16:30	45.0	45.0	45.0
02:16:30 - 02:16:35	45.0	45.0	45.0
02:16:35 - 02:16:40	45.0	45.0	45.0
02:16:40 - 02:16:45	45.0	45.0	45.0
02:16:45 - 02:16:50	45.0	45.0	45.0
02:16:50 - 02:16:55	45.0	45.0	45.0
02:16:55 - 02:17:00	45.0	45.0	45.0
02:17:00 - 02:17:05	45.0	45.0	45.0
02:17:05 - 02:17:10	45.0	45.0	45.0
02:17:10 - 02:17:15	45.0	45.0	45.0
02:17:15 - 02:17:20	45.0	45.0	45.0
02:17:20 - 02:17:25	45.0	45.0	45.0
02:17:25 - 02:17:30	45.0	45.0	45.0
02:17:30 - 02:17:35	45.0	45.0	45.0
02:17:35 - 02:17:40	45.0	45.0	45.0
02:17:40 - 02:17:45	45.0	45.0	45.0
02:17:45 - 02:17:50	45.0	45.0	45.0
02:17:50 - 02:17:55	45.0	45.0	45.0
02:17:55 - 02:18:00	45.0	45.0	45.0
02:18:00 - 02:18:05	45.0	45.0	45.0
02:18:05 - 02:18:10	45.0	45.0	45.0
02:18:10 - 02:18:15	45.0	45.0	45.0

ภาคผนวก ค-7

ผลการตรวจวิเคราะห์คุณภาพน้ำผิวดิน



Analysis / Test Report

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :



TESTING
No.0009

Lot ID: 2321482
Date Received : May 05, 2023
Date Reported : May 12, 2023
Report Number : 2578665-1

Page 1 of 12

Sample Number 2321482-1
Sampled Date May 05, 2023 11:40 AM
Sample Description Surface Water
Location อำเภอเมือง จังหวัดอุบลราชธานี ระยะทางประมาณ 1,000 เมตร
Date Analysis Commenced May 05, 2023
Condition of Sample Contained in two BOD bottles, two glass vials and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.003	≤0.01	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Calcium	mg/L	0.03	0.05	9.07	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Lead	mg/L	0.0003	0.0005	0.002	≤0.05	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Magnesium	mg/L	0.03	0.05	3.27	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Manganese	mg/L	0.0003	0.0005	0.47	≤1	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	In-house method : STM 05-007 based on United States Environmental Protection Agency, 2002, EPA Method 1631, Revision E	Bangkok
SAR *			0.10	0.46	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok

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1025-23/ENH

S:\Reports_ML\GL\ref (6-8899)



Analysis / Test Report

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :



TESTING
No.0009

Lot ID: 2321482
Date Received : May 05, 2023
Date Reported : May 12, 2023
Report Number : 2578665-1

Page 2 of 12

Sample Number 2321482-1
Sampled Date May 05, 2023 11:40 AM
Sample Description Surface Water
Location อำเภอเมือง จังหวัดอุบลราชธานี ระยะทางประมาณ 1,000 เมตร
Date Analysis Commenced May 05, 2023
Condition of Sample Contained in two BOD bottles, two glass vials and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Sodium	mg/L	0.03	0.05	6.42	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	-	0.06	<0.06	≤0.5	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (B, F)	Bangkok
BOD (5 days at 20 degree C) *	mg/L	-	2.0	2.9	≤4	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O C	Bangkok
Chloride as Cl *	mg/L	0.06	0.2	12.7	No Standard	In-house method : STM 04-004 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4110 B	Bangkok
Conductivity at 25 degree C *	micromhos/cm	-	0.5	132	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Bangkok
Dissolved Oxygen *	mg/L	-	0.1	6.7	≥2	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Bangkok
Nitrate as N	mg/L	0.06	0.2	Not Detected	≤5	In-house method : STM 04-004 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4110 B	Bangkok
pH at 25 degree C	-	-	-	6.4	5.0-9.0	In-house method : STM 04-003 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Bangkok

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S:\Reports_ML\GL\ref (6-8899)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.

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

P/O :

Project Name : Factory License No.10410000125343_EIA Monitoring

Project Location:



TESTING
No.0009

Lot ID: 2321482

Date Received : May 05, 2023

Date Reported : May 12, 2023

Report Number : 2578665-1

Page 3 of 12

Sample Number	2321482-1
Sampled Date	May 05, 2023 11:40 AM
Sample Description	Surface Water
Location	ลำห้วยคลองสี บริเวณจุดรับน้ำของโครงการ 1,000 เมตร
Date Analysis Commenced	May 05, 2023
Condition of Sample	Contained in two BOD bottles, two glass vials and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Temperature *	Degree C	-	-	34.8	n ¹	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Bangkok
Total Dissolved solids Dried at 180 degree C *	mg/L	-	≤	72	No Standard	In-house method : STM 04-011 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Bangkok

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

n¹: Change from Natural condition not more than 3 degree C

Sampling By : Adisak Phomphai

Remark :

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

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S:\Reports\AL_SG_01 (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 : Factory License No.10410000125343_EIA Monitoring

Project Location:



TESTING
No.0009

Lot ID: 2321482

Date Received : May 05, 2023

Date Reported : May 12, 2023

Report Number : 2578665-1

Page 4 of 12

Sample Number	2321482-2
Sampled Date	May 05, 2023 10:30 AM
Sample Description	Surface Water
Location	ลำห้วยคลองสี บริเวณจุดรับน้ำของโครงการ
Date Analysis Commenced	May 05, 2023
Condition of Sample	Contained in two BOD bottles, two glass vials and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.005	≤0.01	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Calcium	mg/L	0.03	0.05	20.9	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Lead	mg/L	0.0003	0.0005	0.006	≤0.05	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Magnesium	mg/L	0.03	0.05	3.63	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Manganese	mg/L	0.0003	0.0005	2.09	≤1	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	In-house method : STM 05-007 based on United States Environmental Protection Agency, 2002, EPA Method 1631, Revision E	Bangkok
SAR *	-	-	0.10	0.88	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok

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Analysis / Test Report

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :



TESTING
No.0009

Lot ID: 2321482
Date Received : May 06, 2023
Date Reported : May 12, 2023
Report Number: 2578665-1

Page 5 of 12

Sample Number 2321482-2
Sampled Date May 05, 2023 10:30 AM
Sample Description Surface Water
Location อำเภอภักดีชุมพล จังหวัดอุดรธานี
Date Analysis Commenced May 06, 2023
Condition of Sample Contained in two BOD bottles, two glass vials and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Sodium	mg/L	0.03	0.05	16.6	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	—	0.06	<0.06	≤0.5	Based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (B, F)	Bangkok
BOD (5 days at 20 degree C) *	mg/L	—	2.0	3.4	≤4	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O C	Bangkok
Chloride as Cl *	mg/L	0.06	0.2	31.0	No Standard	In-house method : STM 04-004 based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4110 B	Bangkok
Conductivity at 25 degree C *	micromhos/cm	—	0.5	254	No Standard	Based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Bangkok
Dissolved Oxygen *	mg/L	—	0.1	4.0	≥2	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Bangkok
Nitrate as N	mg/L	0.06	0.2	<0.2	≤5	In-house method : STM 04-004 based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4110 B	Bangkok
pH at 25 degree C	—	—	—	6.7	5.0-9.0	In-house method : STM 04-003 based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Bangkok

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13025-20 EN08



Analysis / Test Report

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :



TESTING
No.0009

Lot ID: 2321482
Date Received : May 06, 2023
Date Reported : May 12, 2023
Report Number: 2578665-1

Page 6 of 12

Sample Number 2321482-2
Sampled Date May 05, 2023 10:30 AM
Sample Description Surface Water
Location อำเภอภักดีชุมพล จังหวัดอุดรธานี
Date Analysis Commenced May 06, 2023
Condition of Sample Contained in two BOD bottles, two glass vials and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Temperature *	Degree C	—	—	31.8	18	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Bangkok
Total Dissolved solids Dried at 180 degree C *	mg/L	—	5	216	No Standard	In-house method : STM 04-011 based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Bangkok

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

Sampling 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.

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13025-20 EN08



Analysis / Test Report

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :



TESTING
No.0009

Lot ID: 2321482
Date Received : May 06, 2023
Date Reported : May 12, 2023
Report Number : 2578665-1

Page 7 of 12

Sample Number 2321482-3
Sampled Date May 05, 2023 11:00 AM
Sample Description Surface Water
Location ลำน้ำคลองสีห์ หมู่ 9 ตำบลบ้านดง อำเภอกมลาไสย จ.กาฬสินธุ์ 1,000 เมตร
Date Analysis Commenced May 06, 2023
Condition of Sample Contained in two BOD bottles, two glass vials and three plastic bottles; sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.002	≤0.01	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Calcium	mg/L	0.03	0.05	36.6	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Lead	mg/L	0.0003	0.0005	Not Detected	≤0.05	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Magnesium	mg/L	0.03	0.05	6.75	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Manganese	mg/L	0.0003	0.0005	1.43	≤1	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	In-house method : STM 05-007 based on United States Environmental Protection Agency, 2002, EPA Method 1631, Revision E	Bangkok
SAR *	-	-	0.10	1.75	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok

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14025-29/2023



Analysis / Test Report

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :



TESTING
No.0009

Lot ID: 2321482
Date Received : May 06, 2023
Date Reported : May 12, 2023
Report Number : 2578665-1

Page 8 of 12

Sample Number 2321482-3
Sampled Date May 05, 2023 11:00 AM
Sample Description Surface Water
Location ลำน้ำคลองสีห์ หมู่ 9 ตำบลบ้านดง อำเภอกมลาไสย จ.กาฬสินธุ์ 1,000 เมตร
Date Analysis Commenced May 06, 2023
Condition of Sample Contained in two BOD bottles, two glass vials and three plastic bottles; sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Sodium	mg/L	0.03	0.05	43.8	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	-	0.06	<0.06	≤0.5	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (B, F)	Bangkok
BOD (5 days at 20 degree C) *	mg/L	-	2.0	5.0	≤4	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O C	Bangkok
Chloride as Cl *	mg/L	0.06	0.2	74.1	No Standard	In-house method : STM 04-004 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4110 B	Bangkok
Conductivity at 25 degree C *	micromhos/cm	-	0.5	480	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Bangkok
Dissolved Oxygen *	mg/L	-	0.1	2.0	≥2	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Bangkok
Nitrate as N	mg/L	0.06	0.2	Not Detected	≤5	In-house method : STM 04-004 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4110 B	Bangkok
pH at 25 degree C	-	-	-	6.9	5.0-9.0	In-house method : STM 04-003 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Bangkok

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14025-29/2023



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :



TESTING
No.0009

Lot ID: 2321482
Date Received : May 06, 2023
Date Reported : May 12, 2023
Report Number : 2578665-1

Page 9 of 12

Sample Number : 2321482-3
Sampled Date : May 05, 2023 11:00 AM
Sample Description : Surface Water
Location : ลำพูนถนอมสินธุ์ หมู่ 9 ตำบลหนองทรายสุวรรณ 1,000 เมตร
Date Analysis Commenced : May 06, 2023
Condition of Sample : Contained in two BOD bottles, two glass vials and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Temperature *	Degree C	-	-	30.5	n	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Bangkok
Total Dissolved solids Dried at 180 degree C *	mg/L	-	5	272	No Standard	In-house method : STM 04-011 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Bangkok

Guideline : Notification of the National Environmental Board, No. 8, B.E. 2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)
n: Change from Natural condition not more than 3 degree C
Sampling By : Adisak Phomphai

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

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Approved by

Chanatt L.

Chanattagarn Imchom
Supervisor

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HRD2322-ENR

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Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :



TESTING
No.0009

Lot ID: 2321482
Date Received : May 06, 2023
Date Reported : May 12, 2023
Report Number : 2578665-1

Page 10 of 12

Sample Number : 2321482-4
Sampled Date : May 05, 2023 1:40 PM
Sample Description : Surface Water
Location : ลำพูนถนอมสินธุ์ หมู่ 9 ตำบลหนองทรายสุวรรณ 1,000 เมตร
Date Analysis Commenced : May 06, 2023
Condition of Sample : Contained in two BOD bottles, two glass vials and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.001	≤0.01	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Calcium	mg/L	0.03	0.05	14.3	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Lead	mg/L	0.0003	0.0005	0.0007	≤0.05	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Magnesium	mg/L	0.03	0.05	2.98	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Manganese	mg/L	0.0003	0.0005	0.40	≤1	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.002	In-house method : STM 05-007 based on United States Environmental Protection Agency, 2002, EPA Method 1631, Revision E	Bangkok
SAR *	-	-	0.10	0.51	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok

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Approved by

Chanatt L.

Chanattagarn Imchom
Supervisor

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HRD2322-ENR

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Analysis / Test Report

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

P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :



TESTING
No.0009

Lot ID: 2321482
Date Received : May 06, 2023
Date Reported : May 12, 2023
Report Number : 2578665-1

Page 11 of 12

Sample Number : 2321482-4
Sampled Date : May 05, 2023 1:40 PM
Sample Description : Surface Water
Location : ลำน้ำป่าหว บึงหลวงคุดคุดของสำนักงานชลประทาน
Date Analysis Commenced : May 06, 2023
Condition of Sample : Contained in two BOD bottles, two glass vials and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Sodium	mg/L	0.03	0.05	8.18	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	-	0.06	<0.06	≤0.5	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (B, F)	Bangkok
BOD (5 days at 20 degree C) *	mg/L	-	2.0	2.2	≤4	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O C	Bangkok
Chloride as Cl *	mg/L	0.06	0.2	13.6	No Standard	In-house method : STM 04-004 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4110 B	Bangkok
Conductivity at 25 degree C *	micromhos/cm	-	0.5	159	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Bangkok
Dissolved Oxygen *	mg/L	-	0.1	5.5	≥2	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-O (C)	Bangkok
Nitrate as N	mg/L	0.06	0.2	Not Detected	≤5	In-house method : STM 04-004 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4110 B	Bangkok
pH at 25 degree C	-	-	-	6.9	5.0-9.0	In-house method : STM 04-003 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Bangkok

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Approved by

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Chanattagarn Inmchom
Supervisor

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14025/23/046



Analysis / Test Report

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

P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :



TESTING
No.0009

Lot ID: 2321482
Date Received : May 06, 2023
Date Reported : May 12, 2023
Report Number : 2578665-1

Page 12 of 12

Sample Number : 2321482-4
Sampled Date : May 05, 2023 1:40 PM
Sample Description : Surface Water
Location : ลำน้ำป่าหว บึงหลวงคุดคุดของสำนักงานชลประทาน
Date Analysis Commenced : May 06, 2023
Condition of Sample : Contained in two BOD bottles, two glass vials and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Temperature *	Degree C	-	-	33.3	n ^o	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Bangkok
Total Dissolved solids Dried at 180 degree C *	mg/L	-	5	84	No Standard	In-house method : STM 04-011 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Bangkok

Guideline : Notification of the National Environmental Board, No. 8, B.E.2537 issued under the Enhancement and Conservation of National Environmental Quality Act, B.E.2535, published in the Royal Government Gazette, Vol. 111, Part 16, Dated February 24, B.E. 2537 (Class 4)
n^o: Change from Natural condition not more than 3 degree C

Sampling 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.
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14025/23/046

ภาคผนวก ค-8

ผลการตรวจวิเคราะห์คุณภาพน้ำทิ้ง



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 :

Lot ID: 235207
Date Received : Jan 21, 2023
Date Reported : Feb 24, 2023
Report Number : 255494-1

Page 1 of 1

Sample Number : 235207-1
Sample Date : Jan 20, 2023 11:00 AM
Sample Description : Wastewater
Location : อ่างเก็บน้ำ : อ่างเก็บน้ำ (Inspection Tank) EQ LOW BOD (ใบรับ/รับ)
Date Analysis Commenced : Jan 21, 2023
Condition of Sample : Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
pH at 25 degree C				8.9	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Bangkok
Temperature	Degree C			23.0	≤40	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2530 B	Bangkok

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

Sampling By : Adisak Phomphol wudonawit 1-204-4-4720
Remarks :
- LOD : Limit of Detection
- LOQ : Lower Limit LOQ (Limit of Quantitation) / LOB (Limit of Reporting)

Technical Management

Siriluk P.

Siriluk Pungpung
Supervisor
wudonawit 1-204-4-4720

Approved by

Kanokkorn Anok

Kanokkorn Anok
Senior Manager
wudonawit 1-204-4-6111

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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 :

Lot ID: 235207
Date Received : Jan 21, 2023
Date Reported : Feb 24, 2023
Report Number : 255494-2

Page 2 of 1

Sample Number : 235207-1
Sample Date : Jan 20, 2023 11:00 AM
Sample Description : Wastewater
Location : อ่างเก็บน้ำ : อ่างเก็บน้ำ (Inspection Tank) EQ LOW BOD (ใบรับ/รับ)
Date Analysis Commenced : Jan 21, 2023
Condition of Sample : Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Conductivity at 25 degree C	microhm/cm		0.5	2359	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2530 B	Bangkok

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

Sampling By : Adisak Phomphol

Remarks :
- LOD : Limit of Detection
- LOQ : Lower Limit LOQ (Limit of Quantitation) / LOB (Limit of Reporting)

Approved by

Siriluk P.

Siriluk Pungpung
Supervisor

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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 :

Lot ID: 235207
Date Received : Jan 21, 2023
Date Reported : Jan 27, 2023
Report Number : 255494-1

Page 1 of 2

Sample Number : 235207-2
Sample Date : Jan 20, 2023 12:20 PM
Sample Description : Wastewater
Location : Retention Pond
Date Analysis Commenced : Jan 21, 2023
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 (LOB)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Acetic	mg/L	0.0003	0.0005	0.002	≤0.25	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3120 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3120 B, 3030 F	Bangkok
Chromium	mg/L	0.0003	0.0005	0.003	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3120 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.002	≤0.2	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3120 B, 3030 F	Bangkok
Mercury	mg/L	0.0003	0.0005	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3120 B, 3030 F	Bangkok
Water Testing							
BOD (5 days at 20 degree C)	mg/L		2.0	26.6	≤20	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, 5210 C	Bangkok
COD	mg/L		25	129	≤120	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Bangkok
pH at 25 degree C				8.1	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Bangkok

Technical Management

Savitree N.

Savitree Nontanjan
Manager
wudonawit 1-204-4-4720

Approved by

Kanokkorn Anok

Kanokkorn Anok
Senior Manager
wudonawit 1-204-4-6111

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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 :

Lot ID: 235207
Date Received : Jan 21, 2023
Date Reported : Jan 27, 2023
Report Number : 255494-1

Page 2 of 3

Sample Number : 235207-2
Sample Date : Jan 20, 2023 12:20 PM
Sample Description : Wastewater
Location : Retention Pond
Date Analysis Commenced : Jan 21, 2023
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 (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Sulfide *	mg/L		0.5	<0.5	≤1.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-52 (C, F)	Bangkok
Temperature *	Degree C			25.7	≤40	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2530 B	Bangkok
Total Dissolved Solids Dried at 180 Degree C	mg/L		5	1488	≤3000	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Bangkok
Total Kjeldahl Nitrogen as N *	mg/L	0.13	1.0	9.6	≤100	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-45 (C)	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L		5	33	≤50	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 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).

Sampling By : Adisak Phomphol wudonawit 1-204-4-4720

Remarks :
- LOD : Limit of Detection
- LOQ : Lower Limit LOQ (Limit of Quantitation) / LOB (Limit of Reporting)
- Analytical method * : Same as indicated in scope of Accreditation (ISO/IEC 17025)
- The laboratory has been accredited as an accredited laboratory complying with the (ISO/IEC 17025)

Technical Management

Savitree N.

Savitree Nontanjan
Manager
wudonawit 1-204-4-4720

Approved by

Kanokkorn Anok

Kanokkorn Anok
Senior Manager
wudonawit 1-204-4-6111

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Analysis / Test Report



TESTING
No.0009

Client : Kasol Prol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphavapi, Udon Thani Thailand 41370
P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 235207
Date Received : Jan 21, 2023
Date Reported : Jan 27, 2023
Report Number : 2554495-2

Page 1 of 1

Sample Number : 235207-2
Sample Date : Jan 20, 2023 12:20 PM
Sample Description : Wastewater
Location : รวบรวมน้ำในบ่อรวมน้ำทิ้ง : รวบรวมน้ำทิ้ง (Equalization Pond)
Date Analysis Commenced : Jan 23, 2023
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	92.0	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Magnesium	mg/L	0.03	0.05	20.8	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
SAR *			0.10	9.35	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Sodium	mg/L	0.03	0.05	38.1	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	-	0.06	4.50	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (B, F)	Bangkok
Conductivity at 25 degree C *	microhm/cm	-	0.5	2935	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Bangkok
Nitrate as N *	mg/L	0.06	0.2	Not Detected	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 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).
Sampling By : Adisak Phomphai

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

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Approved By

Savitree N.
Savitree Nitsangjan
Manager

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Analysis / Test Report



TESTING
No.0009

Client : Kasol Prol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphavapi, Udon Thani Thailand 41370
P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 235207
Date Received : Jan 21, 2023
Date Reported : Jan 27, 2023
Report Number : 2554495-1

Page 1 of 1

Sample Number : 235207-3
Sample Date : Jan 20, 2023 10:40 AM
Sample Description : Wastewater
Location : รวบรวมน้ำในบ่อรวมน้ำทิ้ง : รวบรวมน้ำทิ้ง (Equalization Pond)
Date Analysis Commenced : Jan 23, 2023
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	0.003	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Chromium	mg/L	0.0003	0.0005	0.005	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Lead	mg/L	0.0003	0.0005	0.60	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing						
BOD (5 days at 20 degree C)	mg/L	-	2.0	848	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O C	Bangkok
COD	mg/L	-	25	1914	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Bangkok
pH at 25 degree C *		-	-	5.9	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (8)	Bangkok
Sulfate *	mg/L	-	0.5	<0.5	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-S2 (C, F)	Bangkok
Temperature *	Degree C	-	-	26.9	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Bangkok
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	1032	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Bangkok
Total Kjeldahl Nitrogen as N *	mg/L	0.15	1.0	19.1	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 E	Bangkok

Technical Management

Savitree N.
Savitree Nitsangjan
Manager

Approved By

Kasol Prol
Kasol Prol
Senior Manager

The above results are valid only for the analyte(s) listed as indicated in the report. No part of the report or certificate may be reproduced or transmitted in any form without written approval from the Laboratory. All Laboratory Group (Thailand) strongly recommend that the report is not reproduced except in full.

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ALS LABORATORY GROUP (THAILAND) CO., LTD. An ALS Limited Company

10023121 (Rev.0)

RIGHT SOLUTIONS

5 Vachara, 41, NAC, 10 (B-001)



Analysis / Test Report



TESTING
No.0009

Client : Kasol Prol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphavapi, Udon Thani Thailand 41370
P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 235207
Date Received : Jan 21, 2023
Date Reported : Jan 27, 2023
Report Number : 2554495-1

Page 2 of 2

Sample Number : 235207-3
Sample Date : Jan 20, 2023 10:40 AM
Sample Description : Wastewater
Location : รวบรวมน้ำในบ่อรวมน้ำทิ้ง : รวบรวมน้ำทิ้ง (Equalization Pond)
Date Analysis Commenced : Jan 23, 2023
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
Water Testing						
Total Suspended Solids Dried at 103-105 degree C *	mg/L	-	5	289	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Bangkok

Sampling By : Adisak Phomphai

Remark :
- LOD : Limit of Detection
- "C" : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
- Analyte(s) marked * : value 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 Nitsangjan
Manager

Approved By

Kasol Prol
Kasol Prol
Senior Manager

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RIGHT SOLUTIONS

5 Vachara, 41, NAC, 10 (B-001)



Analysis / Test Report



TESTING
No.0009

Client : Kasol Prol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphavapi, Udon Thani Thailand 41370
P/O :
Project Name : EIA Monitoring
Project Location :

Lot ID: 235207
Date Received : Jan 21, 2023
Date Reported : Jan 27, 2023
Report Number : 2554495-2

Page 1 of 1

Sample Number : 235207-3
Sample Date : Jan 20, 2023 10:40 AM
Sample Description : Wastewater
Location : รวบรวมน้ำในบ่อรวมน้ำทิ้ง : รวบรวมน้ำทิ้ง (Equalization Pond)
Date Analysis Commenced : Jan 23, 2023
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	180	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Magnesium	mg/L	0.03	0.05	26.3	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
SAR *		-	0.10	4.38	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Sodium	mg/L	0.03	0.05	257	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Water Testing						
Ammonia Nitrogen *	mg/L	-	0.06	0.07	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (B, F)	Bangkok
Conductivity at 25 degree C *	microhm/cm	-	0.5	2463	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Bangkok
Nitrate as N *	mg/L	0.06	0.2	Not Detected	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO3 E	Bangkok

Sampling By : Adisak Phomphai

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

Approved By

Savitree N.
Savitree Nitsangjan
Manager

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RIGHT SOLUTIONS

5 Vachara, 41, NAC, 10 (B-001)



Analysis / Test Report

Client : Kasol 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: 235207
Date Received : Jan 21, 2023
Date Reported : Feb 24, 2023
Report Number : 255497-1

Page 1 of 2

Sample Number : 235207-4
Sampled Date : Jan 20, 2023 10:20 AM
Sample Description : Wastewater
Location : โรงบำบัดน้ำเสีย (Inspection Tank) RW2 (น้ำใส)
Date Analysis Commenced : Jan 21, 2023
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 (LOD)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Asenic	mg/L	0.0003	0.0005	0.002	≤0.25	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3123 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Chromium	mg/L	0.0003	0.0005	0.003	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Lead	mg/L	0.0003	0.0005	0.0008	≤0.2	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3123 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3132	Bangkok
Water Testing							
BOD (5 days at 20 degree C)	mg/L	-	2.0	105	≤20	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O C	Bangkok
COD	mg/L	-	25	244	≤120	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Bangkok
pH at 25 degree C *	-	-	-	7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Bangkok

Technical Management

Sasitree N.
Sasitree Nongman
Manager
มือถือ 09-204-4-4709

Approved by

Kasokorn Anok
Kasokorn Anok
Senior Manager
มือถือ 09-204-4-6111

The client must be asked for the analytical method to be used in this report. No part of this report can be used without the client's written consent. ALS Laboratory Group (Thailand) Co., Ltd. is not responsible for the results of any test performed without the client's written consent.

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RIGHT SOLUTIONS

ISO 9001:2015

ISO 17025:2017



Analysis / Test Report

Client : Kasol 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: 235207
Date Received : Jan 21, 2023
Date Reported : Feb 24, 2023
Report Number : 255497-1

Page 2 of 2

Sample Number : 235207-4
Sampled Date : Jan 20, 2023 10:20 AM
Sample Description : Wastewater
Location : โรงบำบัดน้ำเสีย (Inspection Tank) RW2 (น้ำใส)
Date Analysis Commenced : Jan 21, 2023
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 (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Surfactant *	mg/L	-	0.5	<0.5	≤1.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - C (C)	Bangkok
Temperature *	Degree C	-	-	23.2	≤40	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Bangkok
Total Dissolved Solids (TDS) at 180 degree C	mg/L	-	5	163	≤1000	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Bangkok
Total Kjeldahl Nitrogen (TKN) *	mg/L	0.15	1.0	0.8	≤100	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (C)	Bangkok
Total Suspended Solids (TSS) at 100-180 degree C	mg/L	-	5	66	≤50	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 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.2550 (2017).

Sampling By : Adnak Phomphai Wudhawan 09-204-4-6005

Remarks :
- LOD : Limit of Detection
- "C" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
Analytical method : All tests are 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

Sasitree N.
Sasitree Nongman
Manager
มือถือ 09-204-4-4709

Approved by

Kasokorn Anok
Kasokorn Anok
Senior Manager
มือถือ 09-204-4-6111

The client must be asked for the analytical method to be used in this report. No part of this report can be used without the client's written consent. ALS Laboratory Group (Thailand) Co., Ltd. is not responsible for the results of any test performed without the client's written consent.

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RIGHT SOLUTIONS

ISO 9001:2015

ISO 17025:2017



Analysis / Test Report

Client : Kasol 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: 235207
Date Received : Jan 21, 2023
Date Reported : Feb 24, 2023
Report Number : 255497-2

Page 1 of 1

Sample Number : 235207-4
Sampled Date : Jan 20, 2023 10:20 AM
Sample Description : Wastewater
Location : โรงบำบัดน้ำเสีย (Inspection Tank) RW2 (น้ำใส)
Date Analysis Commenced : Jan 21, 2023
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 (LOD)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Calcium	mg/L	0.03	0.05	104	No Standard	In-house method : STN 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Magnesium	mg/L	0.03	0.05	20.4	No Standard	In-house method : STN 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
SAR *	-	-	0.10	9.18	No Standard	In-house method : STN 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Sodium	mg/L	0.03	0.05	899	No Standard	In-house method : STN 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	-	0.05	1.44	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - NH3 (B, F)	Bangkok
Conductivity at 25 degree C *	microsiemens/cm	-	0.5	2499	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Bangkok
Fluoride as F *	mg/L	0.05	0.2	Not Detected	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 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.2550 (2017).

Sampling By : Adnak Phomphai

Remarks :
- LOD : Limit of Detection
- "C" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
Analytical method : All tests are 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

Sasitree N.
Sasitree Nongman
Manager

The client must be asked for the analytical method to be used in this report. No part of this report can be used without the client's written consent. ALS Laboratory Group (Thailand) Co., Ltd. is not responsible for the results of any test performed without the client's written consent.

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RIGHT SOLUTIONS

ISO 9001:2015

ISO 17025:2017



Analysis / Test Report

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

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

Lot ID: 236842

Date Received : Feb 04, 2023
Date Reported : Feb 24, 2023
Report Number : 2566307-1

Page 1 of 1

Sample Number : 236842-1
Sampled Date : Feb 03, 2023 10:50 AM
Sample Description : Wastewater
Location : โรงบำบัดน้ำเสีย (Inspection Tank)
Date Analysis Commenced : Feb 06, 2023
Condition of Sample : Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
pH at 25 degree C *	-	-	-	7.3	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Bangkok
Temperature	Degree C	-	-	23.5	≤40	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	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.2550 (2017).

Sampling By : Adnak Phomphai Wudhawan 09-204-4-6005

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

Technical Management

Siriluk P.
Siriluk Phomphai
Signature
มือถือ 09-204-4-6750

Approved by

Kasokorn Anok
Kasokorn Anok
Senior Manager
มือถือ 09-204-4-6111

The client must be asked for the analytical method to be used in this report. No part of this report can be used without the client's written consent. ALS Laboratory Group (Thailand) Co., Ltd. is not responsible for the results of any test performed without the client's written consent.

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ISO 9001:2015

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Analysis / Test Report

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

Lot ID: 236842
Date Received : Feb 04, 2023
Date Reported : Feb 24, 2023
Report Number : 2566307-2

Page 1 of 2

Sample Number : 236842-1
Sample Date : Feb 03, 2023 10:50 AM
Sample Description : Wastewater
Location : อ่างเก็บน้ำ (Retention Pond)
Date Analysis Commenced : Feb 07, 2023
Condition of Sample : Contained in one glass bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOQ)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Conductivity at 25 degree C	microhm/cm	-	0.5	2258	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Bangkok

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

Sampling By : Adisak Phumtham
Remarks :
- LOD : Limit of Detection
- "L" : Lower than LOQ (Limit of Quantitation) / LOB (Limit of Reporting)

Approved by

Sinluk P.
Sinluk Bunsongkiet
Supervisor

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RIGHT SOLUTIONS

5 (Report), 41 (Lab) / 7 (HSE)



Analysis / Test Report

Client : Kasol 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: 236842
Date Received : Feb 04, 2023
Date Reported : Feb 10, 2023
Report Number : 2566308-1

Page 2 of 2

Sample Number : 236842-2
Sample Date : Feb 03, 2023 10:40 AM
Sample Description : Wastewater
Location : Retention Pond
Date Analysis Commenced : Feb 04, 2023
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 (LOQ)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.002	≤0.25	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3123 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3123 B, 3030 F	Bangkok
Chromium	mg/L	0.0003	0.0005	0.001	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3123 B, 3030 F	Bangkok
Lead	mg/L	0.0003	0.0005	0.003	≤0.3	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3123 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Water Testing							
BOD (5 days at 20 degree C)	mg/L	-	2.0	74.4	≤20	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O C	Bangkok
COD	mg/L	-	25	184	≤120	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Bangkok
pH at 25 degree C *				7.8	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Bangkok

Technical Management

Sasitree N.
Sasitree Nongkham
Manager
TEL: +66 0 2760 3000

Approved by

Kanokorn A.
Kanokorn Anok
Senior Manager
TEL: +66 0 2760 3111

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RIGHT SOLUTIONS

5 (Report), 41 (Lab) / 7 (HSE)



Analysis / Test Report

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

Lot ID: 236842
Date Received : Feb 04, 2023
Date Reported : Feb 10, 2023
Report Number : 2566308-2

Page 2 of 2

Sample Number : 236842-2
Sample Date : Feb 03, 2023 10:40 AM
Sample Description : Wastewater
Location : Retention Pond
Date Analysis Commenced : Feb 04, 2023
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 (LOQ)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Sulfide *	mg/L	-	0.5	<0.5	≤1.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-S2 (C, F)	Bangkok
Temperature *	Degree C	-	-	23.6	≤40	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2510 C	Bangkok
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	1480	≤3000	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2510 C	Bangkok
Total Kjeldahl Nitrogen as N *	mg/L	0.13	3.0	7.9	≤100	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C)	Bangkok
Total Suspended Solids Dried at 105-105 degree C	mg/L	-	5	66	≤50	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 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).

Sampling By : Adisak Phumtham
Remarks :
- LOD : Limit of Detection
- "L" : Lower than LOQ (Limit of Quantitation) / LOB (Limit of Reporting)
- Analyte(s) marked * were not included in scope of Accreditation (ISO/IEC 17025)
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025

Technical Management

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RIGHT SOLUTIONS

5 (Report), 41 (Lab) / 7 (HSE)



Analysis / Test Report

Client : Kasol 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: 236842
Date Received : Feb 04, 2023
Date Reported : Feb 10, 2023
Report Number : 2566308-2

Page 1 of 1

Sample Number : 236842-2
Sample Date : Feb 03, 2023 10:40 AM
Sample Description : Wastewater
Location : Retention Pond
Date Analysis Commenced : Feb 06, 2023
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 (LOQ)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Calcium	mg/L	0.03	0.05	119	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Magnesium	mg/L	0.03	0.05	23.7	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
SAR *		-	0.16	8.81	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Sodium	mg/L	0.03	0.05	401	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	-	0.06	7.48	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (B, F)	Bangkok
Conductivity at 25 degree C *	microhm/cm	-	0.5	2682	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Bangkok
Nitrate as N *	mg/L	0.06	0.2	Not Detected	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 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).

Sampling By : Adisak Phumtham
Remarks :
- LOD : Limit of Detection
- "L" : Lower than LOQ (Limit of Quantitation) / LOB (Limit of Reporting)
- Analyte(s) marked * were not included in scope of Accreditation (ISO/IEC 17025)
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025

Technical Management

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RIGHT SOLUTIONS

5 (Report), 41 (Lab) / 7 (HSE)



Analysis / Test Report



TESTING

No.0009

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

Lot ID: 2321481
Date Received : Mar 02, 2023
Date Reported : Mar 16, 2023
Report Number : 2588918-1

Page 1 of 2

Sample Number : 2321481-2
Sampled Date : Mar 01, 2023 12:00 PM
Sample Description : Wastewater
Location : Retention Pond
Date Analysis Commenced : Mar 03, 2023
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 (LOB)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.002	≤0.25	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.01	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Chromium	mg/L	0.0003	0.0005	0.003	No Standard	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Lead	mg/L	0.0003	0.0005	Not Detected	≤0.2	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	Not Detected	≤0.003	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3122	Bangkok
Water Testing							
BOD (5 days at 20 degree C)	mg/L		2.0	26.1	≤20	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O - C	Bangkok
COD	mg/L		25	177	≤120	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, 3030 F	Bangkok
pH at 25 degree C *				8.2	5.5-8.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Bangkok

Technical Management

SUNIMON C.

Savimon Chansangrunt

Scientist (2)

มือถือ 09-204-95417

Approved by

Kasikorn Anuk

Senior Manager

มือถือ 09-204-6111

The above results are valid only for the analyzed samples as indicated in this report. No part of the report or certificate may be reproduced or used for any other purpose without the express written consent of ALS.

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Analysis / Test Report



TESTING

No.0009

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

Lot ID: 2321481
Date Received : Mar 02, 2023
Date Reported : Mar 16, 2023
Report Number : 2588918-1

Page 2 of 2

Sample Number : 2321481-2
Sampled Date : Mar 01, 2023 12:00 PM
Sample Description : Wastewater
Location : Retention Pond
Date Analysis Commenced : Mar 03, 2023
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 (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Sulfate *	mg/L		0.5	<0.5	≤1.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500-52 (C, F)	Bangkok
Temperature *	Degree C			30.4	≤40	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Bangkok
Total Dissolved Solids Dried at 180 degree C	mg/L		5	1536	≤7000	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Bangkok
Total Kjeldahl Nitrogen as N *	mg/L	0.15	1.0	9.2	≤100	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Horg (C)	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L		5	50	≤250	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 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).

Sampling By : Adisak Phomphai

Remark :
* LOD : Limit of Detection
* LOQ : Lower than LOQ (Limit of Quantitation) / LOB (Limit of Reporting)
* Analyte(s) marked * value 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

SUNIMON C.

Savimon Chansangrunt

Scientist (2)

มือถือ 09-204-95417

Approved by

Kasikorn Anuk

Senior Manager

มือถือ 09-204-6111

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Analysis / Test Report



TESTING

No.0009

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

Lot ID: 2321481
Date Received : Mar 02, 2023
Date Reported : Mar 16, 2023
Report Number : 2588918-2

Page 1 of 1

Sample Number : 2321481-3
Sampled Date : Mar 01, 2023 10:40 AM
Sample Description : Wastewater
Location : อ่างเก็บน้ำน้ำประปา (Equalization Ponds)
Date Analysis Commenced : Mar 03, 2023
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 (LOB)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Calcium	mg/L	0.03	0.05	149	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Magnesium	mg/L	0.03	0.05	15.1	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
SAR: h			0.10	6.84	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Sodium	mg/L	0.03	0.05	144	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L		0.06	6.65	No Standard	Based on Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (E, F)	Bangkok
Conductivity at 25 degree C *	microhm/cm		0.5	2762	No Standard	Based on Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Bangkok
Nitrate as N *	mg/L	0.06	0.2	Not Detected	No Standard	Based on Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 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).

Sampling By : Adisak Phomphai

Remark :
* LOD : Limit of Detection
* LOQ : Lower than LOQ (Limit of Quantitation) / LOB (Limit of Reporting)
* Analyte(s) marked * value 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

SUNIMON C.

Savimon Chansangrunt

Scientist (2)

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Analysis / Test Report



TESTING

No.0009

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

Lot ID: 2321481
Date Received : Mar 02, 2023
Date Reported : Mar 16, 2023
Report Number : 2588918-1

Page 2 of 2

Sample Number : 2321481-3
Sampled Date : Mar 01, 2023 10:40 AM
Sample Description : Wastewater
Location : อ่างเก็บน้ำน้ำประปา (Equalization Ponds)
Date Analysis Commenced : Mar 03, 2023
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 (LOB)	Result	Method	Testing Location
Metals Testing						
Arsenic	mg/L	0.0003	0.0005	0.002	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Chromium	mg/L	0.0003	0.0005	0.006	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Lead	mg/L	0.0003	0.0005	0.23	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	Not Detected	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3122	Bangkok
Water Testing						
BOD (5 days at 20 degree C)	mg/L		2.0	18.13	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O - C	Bangkok
COD	mg/L		25	1798	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, 3030 F	Bangkok
pH at 25 degree C *				5.1	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Bangkok
Sulfate *	mg/L		0.5	0.6	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500-52 (C, F)	Bangkok
Temperature *	Degree C			27.2	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Bangkok
Total Dissolved Solids Dried at 180 degree C	mg/L		5	9712	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Bangkok
Total Kjeldahl Nitrogen as N *	mg/L	0.15	1.0	20.7	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Horg (C)	Bangkok

Technical Management

SUNIMON C.

Savimon Chansangrunt

Scientist (2)

มือถือ 09-204-95417

Approved by

Kasikorn Anuk

Senior Manager

มือถือ 09-204-6111

The above results are valid only for the analyzed samples as indicated in this report. No part of the report or certificate may be reproduced or used for any other purpose without the express written consent of ALS.

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TESTING
No. 0009

Lot ID: 2321481
Date Received : Mar 02, 2023
Date Reported : Mar 16, 2023
Report Number : 2588919-1

Table 2 (continued)

Sampling By : Adisak Phomphai nistina@sf 1-204-w-8605

• LOD₁ - Limit of Detection
 • "c" - Lower than: LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
 • Analyte(s) marked * are not included in scope of Accreditation ISO/IEC 17025
 The laboratory has been accredited as an accredited laboratory compliance with the ISO/IEC 17025



TESTING
No.0009

Lot ID: 2321481
Date Received : Mar 02, 2023
Date Reported : Mar 16, 2023
Report Number: 2588919-2

Page 2 of 2

Magnesium	mg/l	0.03	0.05	18.4	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
SAR *	-	-	0.10	8.59	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Sodium	mg/l	0.03	0.05	274	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Water Testing						
Ammonia Nitrogen *	mg/l	-	0.06	<0.05	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO ₃ (8. F)	Bangkok
Conductivity at 25 degree C *	microsiemens/cm	-	0.5	2071	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Bangkok
Nitrate as N *	mg/l	0.06	0.2	Not Detected	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO ₃ (8. F)	Bangkok

Sampling By: Adult Phosphor

Remark:

- LOD: Limit of Detection
- \leq : Lower than: LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analytes marked * were not included in scope of Accreditation (ISO/IEC 17025)
- The laboratory has been accredited as an accredited laboratory complying with the ISO/IEC 17025

Approved by Suwimon C.
Suwimon Chaiwangnunt
Scientist (2)

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TESTING
No. 0008

Lot ID: 2321481
Date Received : Mar 02, 2023
Date Reported : Mar 16, 2023
Report Number : 2588920-1

Page 1 of 2

					23rd ed., 2017, part 3123 B, 2030 F	
Cadmium	mg/L	0.0003	0.0005	Not Detected	<0.03	Bangkok
					Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3123 B, 2030 F	
Chromium	mg/L	0.0003	0.0005	0.004	No Standard	Bangkok
					Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3123 B, 2030 F	
Lead	mg/L	0.0003	0.0005	0.003	<0.2	Bangkok
					Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3123 B, 2030 F	
Mercury *	mg/L	0.0001	0.0005	Not Detected	<0.005	Bangkok
					Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3123 B, 2030 F	

Water Testing		23rd ed., 2017, part 312			
BOD (5 days at 20 degree C)	mg/L	2.0	275	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 5120 - O-C	Bangkok
COD	mg/L	25	660	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Bangkok
pH at 25 degree C	-	-	7.9	Standard Methods for the	Bangkok

Technical Management: Sushimon C
Slovenia (Thailand) (C)
Slovenia (C)

Approved by: Kanok Anek
Kanokorn Anek
Senior Manager

วิทยาลัยการอาชีพบ้านนาโพธิ์ 7206-2-5417
 วิทยาลัยการอาชีพบ้านนาโพธิ์ 7206-2-6111

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TESTING
No. 0009

Lot ID: 2321481
Date Received : Mar 02, 2023
Date Reported : Mar 16, 2023
Report Number : 2588920-1

Page 2 of 2

Temperature *	Degree C	24.7	540	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5500-52 (C-19)	Banladesh
Total Dissolved solids Dried at 180 Degree C	mg/L	5	1776	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Banladesh
Total Kjeldahl Nitrogen as N *	mg/L	0.12	10.8	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Banladesh
Total Suspended Solids Dried at 103-105 degree C	mg/L	5	96	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2550 D	Banladesh

Guideline: Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and

Sampling By: Adisak Phomphai โทรสาร ๖-204-๖8605

Remarks:

- LOD (Limit of Detection)
- "n" (Lower than 10Q (Limit of Quantitation) / LOD (Limit of Reporting))
- Analyte(s) marked * were not included in score of Accreditation ISO/IEC 17025.
- The laboratory has been accepted as an accredited laboratory complying with the ISO/IEC 17025

Technical Management Sunimon C
Savarnan Chandrahasan
Scientist (2)

Approved by Kanakkum Anek
Kanakkum Anek
Senior Manager

เลขที่เอกสาร: 7204-6-5417
 เลขที่เอกสาร: 7-204-6-1313

The above results are valid only for the unadorned protein(s) as indicated in the report. In part if the report is pertained to be maximum in any firm without protein content from the laboratory. All laboratory data (including) reports (including) the report a not standard report as a result.

ADDRES: 104 Phranhangan Rd., Khwaeng Phranhangan, Khet Suan Luang, Bangkok 10250 Thailand PHONE: +66 0 2760 3000 FAX: +66 0 2760 3197
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Analysis / Test Report

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



TESTING

Lot ID: 2321481
Date Received : Mar 02, 2023
Date Reported : Mar 16, 2023
Report Number : 2321481-2

Page 1 of 1

Sample Number : 2321481-4
Sample Date : Mar 02, 2023 10:30 AM
Sample Description : Wastewater
Location : อ่างเก็บน้ำฝายพญานาคอง (Inspection Tank)
Date Analysis Commenced : Mar 03, 2023
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 (LOB)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Calcium	mg/L	0.03	0.03	206	No Standard	In-house method : STN 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Magnesium	mg/L	0.03	0.05	17.9	No Standard	In-house method : STN 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Sal *			0.10	5.05	No Standard	In-house method : STN 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Sodium	mg/L	0.03	0.05	282	No Standard	In-house method : STN 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	-	0.06	7.41	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (B, F)	Bangkok
Conductivity at 25 degree C *	microhm/cm	-	0.5	2475	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Bangkok
Nitrate as N *	mg/L	0.06	0.2	No Detected	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 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).

Sampling By : Adisak Phonphai

Remark :
- LOD : Limit of Detection
- * : Lower than LOD (Limit of Quantitation) / LOB (Limit of Reporting)
Analysis method * 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

Surimon C
Surimon Chamuangwee
Scientist (3)

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www.alsglobal.com

14020201002

RIGHT SOLUTIONS

3 (Specimen), 30 (Specimen)



Analysis / Test Report

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

Lot ID: 2333032
Date Received : Apr 07, 2023
Date Reported : Apr 12, 2023
Report Number : 2623329-1

Page 1 of 1

Sample Number : 2333032-1
Sample Date : Apr 06, 2023 11:15 AM
Sample Description : Wastewater
Location : อ่างเก็บน้ำฝายพญานาคอง (Inspection Tank)
Date Analysis Commenced : Apr 08, 2023
Condition of Sample : Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
pH at 25 degree C		-	-	7.0	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500- H (B)	Bangkok
Temperature	Degree C	-	-	31.1	≤40	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Bangkok

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

Sampling By : Adisak Phonphai vtn204-n-6111

Remark :
- LOD : Limit of Detection
- * : Lower than LOD (Limit of Quantitation) / LOB (Limit of Reporting)

Technical Management

Nant Somb
Nanthavorn Somborn
Scientist 3
โทรศัพท์ : 02-091-4716

Approved by

Kanokorn Anok
Kanokorn Anok
Senior Manager
โทรศัพท์ : 02-091-6111

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RIGHT SOLUTIONS

3 (Specimen), 30 (Specimen)



Analysis / Test Report

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

Lot ID: 2333032
Date Received : Apr 07, 2023
Date Reported : Apr 12, 2023
Report Number : 2623329-2

Page 1 of 1

Sample Number : 2333032-1
Sample Date : Apr 06, 2023 11:15 AM
Sample Description : Wastewater
Location : อ่างเก็บน้ำฝายพญานาคอง (Inspection Tank)
Date Analysis Commenced : Apr 10, 2023
Condition of Sample : Contained in five plastic bottles and two glass vials, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Conductivity at 25 degree C	microhm/cm	-	0.5	1521	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Bangkok

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

Sampling By : Adisak Phonphai

Remark :
- LOD : Limit of Detection
- * : Lower than LOD (Limit of Quantitation) / LOB (Limit of Reporting)

Approved by

Nant Somb
Nanthavorn Somborn
Scientist 3

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RIGHT SOLUTIONS

3 (Specimen), 30 (Specimen)



Analysis / Test Report

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

Lot ID: 2333032
Date Received : Apr 07, 2023
Date Reported : Apr 12, 2023
Report Number : 2623329-1

Page 1 of 1

Sample Number : 2333032-2
Sample Date : Apr 06, 2023 11:00 AM
Sample Description : Wastewater
Location : Retention Pond
Date Analysis Commenced : Apr 07, 2023
Condition of Sample : Contained in five plastic bottles and two glass vials, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.007	10.25	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	10.02	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Chromium	mg/L	0.0003	0.0005	0.002	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.0005	10.2	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing							
BOD (5 days at 20 degree C)	mg/L	-	0.0	71.2	≤20	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 5200 C	Bangkok
COD	mg/L	-	25	255	≤120	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 5200 C	Bangkok
pH at 25 degree C *		-	-	7.5	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500- H (B)	Bangkok

Technical Management

Sauwath N
Sauwath N
Manager
โทรศัพท์ : 02-091-4709

Approved by

Kanokorn Anok
Kanokorn Anok
Senior Manager
โทรศัพท์ : 02-091-6111

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RIGHT SOLUTIONS

3 (Specimen), 30 (Specimen)



Analysis / Test Report

TESTING
No.0009Client : Kasol Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphavapi, Udon Thani Thailand 41370P/O :
Project Name : EIA Monitoring
Project Location :Lot ID: 2333032
Date Received : Apr 07, 2023
Date Reported : Apr 12, 2023
Report Number : 2623330-1

Page 2 of 2

Sample Number	2333032-2						
Sampled Date	Apr 06, 2023 11:00 AM						
Sample Description	Wastewater						
Location	Retention Pond						
Date Analysis Commenced	Apr 07, 2023						
Condition of Sample	Contained in five plastic bottles and two glass vials, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Sulfide *	mg/L	-	0.5	<0.5	≤1.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5500-52 (C, F)	Bangkok
Temperature *	Degree C	-	-	30.1	≤40	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Bangkok
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	1520	≤3000	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Bangkok
Total Kjeldahl Nitrogen as N *	mg/L	0.15	1.0	0.0	≤100	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Nitro (C)	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	97	≤50	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 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).

Sampling By : Aekak Phomphai wcdawar@v204-a-8605

Remarks :
- LOD : Limit of Detection
- * : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
- Analyte(s) method * value 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 Nongsangam
Manager
wcdawar@v204-a-4709

Approved by

Kankorn Anik

Kankorn Anik
Senior Manager
wcdawar@v204-a-6111

The above results are valid only for the pre-specified sample(s) as stated in this report. In part of the report or certificate may be requested in any form without written consent from the laboratory. All laboratory data (results) are generated from the report and are not included in the report.

1004333 104 Phrasarakon Rd. Phrasarakon Rd. Khwaeng Phrasarakon, Khet Sam Luang, Bangkok 10250 Thailand. Phone: +66 2 2760 3000. Fax: +66 2 2760 3147. E-mail: info@alsglobal.com. www.alsglobal.com

RIGHT SOLUTIONS

S (Phrasak), AL (S), AL (S) (S)



Analysis / Test Report

TESTING
No.0009Client : Kasol Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphavapi, Udon Thani Thailand 41370P/O :
Project Name : EIA Monitoring
Project Location :Lot ID: 2333032
Date Received : Apr 07, 2023
Date Reported : Apr 12, 2023
Report Number : 2623330-2

Page 1 of 1

Sample Number	2333032-2						
Sampled Date	Apr 06, 2023 11:00 AM						
Sample Description	Wastewater						
Location	Retention Pond						
Date Analysis Commenced	Apr 06, 2023						
Condition of Sample	Contained in five plastic bottles and two glass vials, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Calcium	mg/L	0.03	0.05	81.3	No Standard	In-house method : STH US-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Magnesium	mg/L	0.03	0.05	31.4	No Standard	In-house method : STH US-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
SAR *	-	-	0.10	9.76	No Standard	In-house method : STH US-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Sodium	mg/L	0.03	0.05	469	No Standard	In-house method : STH US-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	-	0.06	<0.06	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (B, F)	Bangkok
Conductivity at 25 degree C *	microhm/cm	-	0.5	2869	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Bangkok
Nitrate as N *	mg/L	0.06	0.2	Not Detected	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 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).

Sampling By : Aekak Phomphai

Remarks :
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- * : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
- Analyte(s) method * value not included in scope of Accreditation ISO/IEC 17025
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RIGHT SOLUTIONS

S (Phrasak), AL (S), AL (S) (S)



Analysis / Test Report

TESTING
No.0009Client : Kasol Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphavapi, Udon Thani Thailand 41370P/O :
Project Name : EIA Monitoring
Project Location :Lot ID: 2333032
Date Received : Apr 07, 2023
Date Reported : Apr 12, 2023
Report Number : 2623331-1

Page 2 of 2

Sample Number	2333032-1					
Sampled Date	Apr 06, 2023 11:45 AM					
Sample Description	Wastewater					
Location	บึงชะลอน้ำบริเวณถนนสุขุมวิท : ฝั่งใต้(บึงจันทน์) (Equalization Pond)					
Date Analysis Commenced	Apr 07, 2023					
Condition of Sample	Contained in five plastic bottles and two glass vials, sample containers comply to pretreatment - preservation standards (APHA, USEPA)					
Analyte	Unit	LOD	LOQ (LOD)	Result	Method	Testing Location
Metals Testing						
Arsenic	mg/L	0.0003	0.0005	0.002	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3020 F	Bangkok
Calcium	mg/L	0.0003	0.0005	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3020 F	Bangkok
Chromium	mg/L	0.0003	0.0005	0.008	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3020 F	Bangkok
Lead	mg/L	0.0003	0.0005	0.05	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3020 F	Bangkok
Mercury	mg/L	0.0001	0.0005	<0.0005	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3020 F	Bangkok
Water Testing						
BOD (5 days at 20 degree C)	mg/L	-	3.0	2892	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - D-C	Bangkok
COD	mg/L	-	25	12024	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Bangkok
pH at 25 degree C *	-	-	-	8.8	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Bangkok
Sulfide *	mg/L	-	0.5	<0.5	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-52 (C, F)	Bangkok
Temperature *	Degree C	-	-	34.9	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Bangkok
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	6606	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Bangkok
Total Kjeldahl Nitrogen as N *	mg/L	0.15	1.0	5.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Nitro (C)	Bangkok

Technical Management

Savitree N.

Savitree Nongsangam
Manager
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Approved by

Kankorn Anik

Kankorn Anik
Senior Manager
wcdawar@v204-a-6111

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RIGHT SOLUTIONS

S (Phrasak), AL (S), AL (S) (S)



Analysis / Test Report

TESTING
No.0009Client : Kasol Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphavapi, Udon Thani Thailand 41370P/O :
Project Name : EIA Monitoring
Project Location :Lot ID: 2333032
Date Received : Apr 07, 2023
Date Reported : Apr 12, 2023
Report Number : 2623331-2

Page 2 of 2

Sample Number	2331032-1					
Sampled Date	Apr 06, 2023 11:45 AM					
Sample Description	Wastewater					
Location	รวมน้ำเสียจากโรงงาน : เขตสวนหลวง (Exfiltration Pond)					
Date Analysis Commenced	Apr 07, 2023					
Condition of Sample	Contained in five plastic bottles and two glass vials, sample containers comply to pretreatment - preservation standards (APHA, USEPA)					
Analyte	Unit	LOD	LOQ (LOD)	Result	Method	Testing Location
Water Testing						
Total Suspended Solids Dried at 103-105 degree C	mg/L		5	127	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Bangkok

Sampling By : Aekak Phomphai wcdawar@v204-a-8605

Remarks :
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- * : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
- Analyte(s) method * value 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 Nongsangam
Manager
wcdawar@v204-a-4709

Approved by

Kankorn Anik

Kankorn Anik
Senior Manager
wcdawar@v204-a-6111

The above results are valid only for the pre-specified sample(s) as stated in this report. In part of the report or certificate may be requested in any form without written consent from the laboratory. All laboratory data (results) are generated from the report and are not included in the report.

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RIGHT SOLUTIONS

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Analysis / Test Report

TESTING
No.0009

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

Lot ID: 2333032
Date Received : Apr 07, 2023
Date Reported : Apr 12, 2023
Report Number : 2623332-2

Page 1 of 1

Sample Number	2333032-3					Page 1 of 7
Sample Date	Apr 06, 2023 11:45 AM					
Sample Description	Wastewater					
Location	โรงงานน้ำตาลทรายขาวสะอาด : สุทธิธรรม (Equalization Pond)					
Date Analysis Commenced	Apr 08, 2023					
Condition of Sample	Contained in five plastic bottles and two glass vials, sample containers comply to pretreatment- preservation standards (APHA, USEPA)					
Analyte	Unit	LOD	LOQ (LOD)	Result	Method	Testing Location
Metals Testing						
Cadmium	mg/L	0.03	0.05	214	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Magnesium	mg/L	0.01	0.05	16.2	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
SAR *			0.10	6.38	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Sodium	mg/L	0.01	0.05	140	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Water Testing						
Ammonia Nitrogen *	mg/L		0.06	<0.06	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (B, F)	Bangkok
Conductivity at 25 degree C *	microhm/cm		0.5	2006	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Bangkok
Nitrate as N *	mg/L	0.06	0.2	Not Detected	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO3 E	Bangkok

Sampling By : Adisak Phomphai

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

Approved by *Savitree N.*
Savitree Nonsingam
Manager

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ALS LABORATORY (THAILAND) CO., LTD. An ALS Limited Company

RIGHT SOLUTIONS



Analysis / Test Report

TESTING
No.0009

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

Lot ID: 2333032
Date Received : Apr 07, 2023
Date Reported : Apr 12, 2023
Report Number : 2623332-1

Page 1 of 2

Sample Number	2333032-4						
Sample Date	Apr 06, 2023 11:30 AM						
Sample Description	Wastewater						
Location	โรงงานน้ำตาลทรายขาวสะอาด : สุทธิธรรม (Inspection Tank) : F02						
Date Analysis Commenced	Apr 07, 2023						
Condition of Sample	Contained in five plastic bottles and two glass vials, sample containers comply to pretreatment / preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0001	0.0005	0.001	10.25	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0008	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Chromium	mg/L	0.0001	0.0005	6.002	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Lead	mg/L	0.0003	0.0005	0.0005	≤0.3	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Water Testing							
BOD (5 days at 20 degree C)	mg/L	-	3.0	18.2	≤20	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 5200 C	Bangkok
COD	mg/L	-	25	117	≤200	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Bangkok
pH at 25 degree C *		-	-	7.3	5.5-8.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Bangkok

Technical Management

Savitree N.
Savitree Nonsingam
Manager

Approved by *Kanokorn Anok*
Kanokorn Anok
Senior Manager

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RIGHT SOLUTIONS



Analysis / Test Report

TESTING
No.0009

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

Lot ID: 2333032
Date Received : Apr 07, 2023
Date Reported : Apr 12, 2023
Report Number : 2623332-1

Page 2 of 2

Sample Number	2333032-4							Page 8/10
Sample Date	Apr 06, 2023 11:30 AM							
Sample Description	Wastewater							
Location	โรงงานน้ำตาลทรายขาวสะอาด : สุทธิธรรม (Inspection Tank) : F02							
Date Analysis Commenced	Apr 07, 2023							
Condition of Sample	Contained in five plastic bottles and two glass vials, sample containers comply to pretreatment - preservation standards (APHA, USEPA)							
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location	
Water Testing								
Sulfide *	mg/L	-	0.5	<0.5	≤1.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-S2 (C, F)	Bangkok	
Temperature *	Degree C	-	-	31.4	140	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Bangkok	
Total Dissolved Solids Dried at 180 degree C	mg/L	-	8	1348	≤3000	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Bangkok	
Total Kjeldahl Nitrogen as N *	mg/L	0.15	1.0	8.1	≤100	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (C)	Bangkok	
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	31	≤50	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 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 01, B.E.2560 (2017).

Sampling By : Adisak Phomphai

Remarks :
LOD : Limit of Detection
"C" : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
Analyte(s) marked * value 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 *Kanokorn Anok*
Kanokorn Anok
Senior Manager

Technical Management *Savitree N.*
Savitree Nonsingam
Manager

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Analysis / Test Report

TESTING
No.0009

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

Lot ID: 2333032
Date Received : Apr 07, 2023
Date Reported : Apr 12, 2023
Report Number : 2623332-2

Page 1 of 1

Sample Number	2333032-4							Page 3 of 6
Sample Date	Apr 06, 2023 11:30 AM							
Sample Description	Wastewater							
Location	โรงงานน้ำตาลทรายขาวสะอาด : สุทธิธรรม (Inspection Tank) : F02							
Date Analysis Commenced	Apr 08, 2023							
Condition of Sample	Contained in five plastic bottles and two glass vials, sample containers comply to pretreatment - preservation standards (APHA, USEPA)							
Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location	
Metals Testing								
Calcium	mg/L	0.03	0.05	102	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok	
Magnesium	mg/L	0.03	0.05	30.2	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok	
SAR *			0.10	6.93	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok	
Sodium	mg/L	0.03	0.05	261	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok	
Water Testing								
Ammonia Nitrogen *	mg/L		0.06	1.98	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (B, F)	Bangkok	
Conductivity at 23 degree C *	microhm/cm		0.5	2160	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Bangkok	
Nitrate as N *	mg/L	0.06	0.2	Not Detected	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 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 01, B.E.2560 (2017).

Sampling By : Adisak Phomphai

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

Approved by *Savitree N.*
Savitree Nonsingam
Manager

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Analysis / Test Report

Client : Kasat 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: 2346448
Date Received : May 04, 2023
Date Reported : May 16, 2023
Report Number : 2646201-1

Page 1 of 1

Sample Number	2346448-1						
Sample Date	May 03, 2023 1:50 PM						
Sample Description	Wastewater						
Location	น้ำทิ้งจากบ่อเก็บน้ำ (Retention Tank) EQ เขตอุตสาหกรรม						
Date Analysis Commenced	May 04, 2023						
Condition of Sample	Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
pH at 25 degree C				8.3	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Bangkok
Temperature *	Degree C			37.2	≤40	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).
Sampling By : Adhak Phomphai ๖๒๐๔๖๖๖ ๖-๒๐๔-๖๖๐๖

Remark :
- LOD : Limit of Detection
- "L" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analytical method * value 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 Pongpang
Supervisor
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Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager
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Analysis / Test Report

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

Lot ID: 2346448
Date Received : May 04, 2023
Date Reported : May 16, 2023
Report Number : 2646201-2

Page 1 of 1

Sample Number	2346448-1						
Sample Date	May 03, 2023 1:50 PM						
Sample Description	Wastewater						
Location	น้ำทิ้งจากบ่อเก็บน้ำ (Retention Tank) EQ เขตอุตสาหกรรม						
Date Analysis Commenced	May 04, 2023						
Condition of Sample	Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)						
Analyte	Unit	LOD	LOQ (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Conductivity at 25 degree C	microsiemens/cm	-	0.5	1625	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Bangkok

Guideline : Effluent standard for factories, industrial estate and industrial park set by Notification of the Ministry of Natural Resource and Environment and effluent standard for factories and industrial park set by Notification of The Ministry of Industry dated June 07, B.E.2560 (2017).
Sampling By : Adhak Phomphai ๖๒๐๔๖๖๖ ๖-๒๐๔-๖๖๐๖

Remark :
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- "L" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

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Approved by

Siriluk P.

Siriluk Pongpang
Supervisor
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Analysis / Test Report

Client : Kasat 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: 2346448
Date Received : May 04, 2023
Date Reported : May 16, 2023
Report Number : 2646201-3

Page 1 of 1

Sample Number	2346448-2						
Sample Date	May 03, 2023 2:25 PM						
Sample Description	Wastewater						
Location	Retention Pond						
Date Analysis Commenced	May 04, 2023						
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 (LOB)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.001	≤0.25	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Chromium	mg/L	0.0001	0.0005	0.002	No Standard	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Lead	mg/L	0.0003	0.0005	0.001	≤0.2	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing							
BOD (5 days at 20 degree C)	mg/L	-	2.0	21.8	≤20	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5200 B, part 4500 - O C	Bangkok
COD	mg/L	-	25	182	≤120	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5200 D	Bangkok
pH at 25 degree C *		-	-	8.3	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Bangkok

Technical Management

Savitree N.

Savitree Nongniam
Manager
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Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager
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Analysis / Test Report

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

Lot ID: 2346448
Date Received : May 04, 2023
Date Reported : May 16, 2023
Report Number : 2646201-4

Page 1 of 1

Sample Number	2346448-2						
Sample Date	May 03, 2023 2:25 PM						
Sample Description	Wastewater						
Location	Retention Pond						
Date Analysis Commenced	May 04, 2023						
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 (LOB)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Sulfide *	mg/L	-	0.5	<0.3	≤1.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-52 (C, F)	Bangkok
Temperature *	Degree C	-	-	33.8	≤40	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Bangkok
Total Dissolved Solids Dried at 180 degree C	mg/L		3	1350	≤3000	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Bangkok
Total Kjeldahl Nitrogen as N *	mg/L	0.15	1.0	3.2	≤100	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C)	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L		5	61	≤50	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 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).
Sampling By : Adhak Phomphai ๖๒๐๔๖๖๖ ๖-๒๐๔-๖๖๐๖

Remark :
- LOD : Limit of Detection
- "L" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)
- Analytical method * value 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 Nongniam
Manager
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Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager
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Analysis / Test Report

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

Lot ID: 2346448
Date Received : May 04, 2023
Date Reported : May 16, 2023
Report Number : 2648202-2

Page 1 of 1

Sample Number : 2346448-2
Sampled Date : May 03, 2023 2:25 PM
Sample Description : Wastewater
Location : Retention Pond
Date Analysis Commenced : May 05, 2023
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 (LOD)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Calcium	mg/L	0.03	0.05	67.5	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Magnesium	mg/L	0.03	0.05	24.0	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
SAR	-	-	0.10	9.49	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Sodium	mg/L	0.03	0.05	350	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Water Testing							
Ammonia Nitrogen	mg/L	-	0.06	0.10	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (B, F)	Bangkok
Conductivity at 25 degree C	microhm/cm	-	0.5	2398	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Bangkok
Nitrate as N	mg/L	0.06	0.2	Not Detected	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 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).

Sampling By : Adisak Phomphai
LOD : Limit of Detection
"N" : Lower than LOQ (Limit of Quantitation) / LOD (Limit of Reporting)

The above results are valid only for the stated conditions (sample) as provided in the report. No part of this report or methods may be reproduced or any form without written consent from the laboratory. All laboratory data (chemical) through the network that this report is not intended to be used.

Approved by

Savitree N.
Savitree Nissangam
Manager

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Analysis / Test Report

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

Lot ID: 2346448
Date Received : May 04, 2023
Date Reported : May 16, 2023
Report Number : 2648202-1

Page 2 of 2

Sample Number : 2346448-3
Sampled Date : May 03, 2023 2:10 PM
Sample Description : Wastewater
Location : บึงน้ำรอการบำบัดน้ำเสีย (Equalization Pond)
Date Analysis Commenced : May 04, 2023
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 (LOD)	Result	Method	Testing Location
Metals Testing						
Arsenic	mg/L	0.0003	0.0005	0.003	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 G, 3020 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 G, 3020 F	Bangkok
Chromium	mg/L	0.0003	0.0005	<0.006	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 G, 3020 F	Bangkok
Lead	mg/L	0.0003	0.0005	0.002	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 G, 3020 F	Bangkok
Mercury	mg/L	0.0001	0.0005	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 G, 3020 F	Bangkok

Water Testing						
BOD (5 days at 20 degree C)	mg/L	-	1.0	108	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O C	Bangkok
COD	mg/L	-	25	862	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Bangkok
pH at 25 degree C	-	-	-	6.6	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Bangkok
Sulfate *	mg/L	-	0.5	<0.5	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - S (C, F)	Bangkok
Temperature *	Degree C	-	-	31.9	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Bangkok
Total Dissolved Solids (Dried at 180 degree C)	mg/L	-	5	2028	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Bangkok
Total Kjeldahl Nitrogen as N *	mg/L	0.15	1.0	6.6	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (C)	Bangkok

Technical Management

Savitree N.
Savitree Nissangam
Manager
โทรศัพท์ 02-2760-3000

Approved by

Kasikorn Anuk
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Analysis / Test Report

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

Lot ID: 2346448
Date Received : May 04, 2023
Date Reported : May 16, 2023
Report Number : 2648202-1

Page 1 of 1

Sample Number : 2346448-1
Sampled Date : May 03, 2023 2:10 PM
Sample Description : Wastewater
Location : บึงน้ำรอการบำบัดน้ำเสีย (Equalization Pond)
Date Analysis Commenced : May 04, 2023
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 (LOD)	Result	Method	Testing Location
Water Testing						
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	30	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Bangkok

Sampling By : Adisak Phomphai โทรศัพท์ 02-2760-3000
LOD : Limit of Detection
"N" : Lower than LOQ (Limit of Quantitation) / LOD (Limit of Reporting)
Analytical method * have not included in scope of Accreditation ISO/IEC 17025
The laboratory has been accredited as an accredited laboratory complying with the ISO/IEC 17025

Technical Management

Savitree N.
Savitree Nissangam
Manager
โทรศัพท์ 02-2760-3000

Approved by

Kasikorn Anuk
Kasikorn Anuk
Senior Manager
โทรศัพท์ 02-2760-3111

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Analysis / Test Report

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

Lot ID: 2346448
Date Received : May 04, 2023
Date Reported : May 16, 2023
Report Number : 2648202-2

Page 1 of 1

Sample Number : 2346448-3
Sampled Date : May 03, 2023 2:10 PM
Sample Description : Wastewater
Location : บึงน้ำรอการบำบัดน้ำเสีย (Equalization Pond)
Date Analysis Commenced : May 05, 2023
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 (LOD)	Result	Method	Testing Location
Metals Testing						
Calcium	mg/L	0.03	0.05	117	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Magnesium	mg/L	0.03	0.05	41.5	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
SAR	-	-	0.10	9.32	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Sodium	mg/L	0.03	0.05	412	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Water Testing						
Ammonia Nitrogen	mg/L	-	0.06	<0.06	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (B, F)	Bangkok
Conductivity at 25 degree C	microhm/cm	-	0.5	3226	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Bangkok
Nitrate as N	mg/L	0.06	0.2	Not Detected	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO3 E	Bangkok

Sampling By : Adisak Phomphai

LOD : Limit of Detection
"N" : Lower than LOQ (Limit of Quantitation) / LOD (Limit of Reporting)

Approved by

Savitree N.
Savitree Nissangam
Manager
โทรศัพท์ 02-2760-3000

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Analysis / Test Report

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

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

Sample Number : 2346448-4
Sampled Date : May 03, 2023 2:00 PM
Sample Description : Wastewater
Location : อ่างเก็บน้ำในสวนสาธารณะ : อ่างเก็บน้ำ (Inspection Tank) : PP2
Date Analysis Commenced : May 04, 2023
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 (LOD)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.002	≤0.25	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Chromium	mg/L	0.0003	0.0005	0.002	No Standard	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Lead	mg/L	0.0003	0.0005	Not Detected	≤0.2	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury	mg/L	0.0001	0.0005	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing							
BOD (5 days at 20 degree C)	mg/L	-	2.0	22.7	≤50	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O C	Bangkok
COD	mg/L	-	25	157	≤120	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Bangkok
pH at 25 degree C *	-	-	-	8.2	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Bangkok

Technical Management

Savitree N.
Savitree Nongniam
Manager
โทรศัพท์ 09-204-64709

Approved by

Kanokorn Anek
Kanokorn Anek
Senior Manager
โทรศัพท์ 09-204-64111

The above results are valid only for the unaltered sample(s) as indicated in this report. In part of the report or certificate may be reproduced in any form without written consent from the laboratory. All samples must be stored properly and the report is not valid unless the report is not reproduced in any form.

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S (Report) AT 0.00 (2.00PM)



Analysis / Test Report

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

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

Sample Number : 2346448-4
Sampled Date : May 03, 2023 2:00 PM
Sample Description : Wastewater
Location : อ่างเก็บน้ำในสวนสาธารณะ : อ่างเก็บน้ำ (Inspection Tank) : PP2
Date Analysis Commenced : May 04, 2023
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 (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Sulfate *	mg/L	-	6.5	<0.5	≤1.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500-52 (C, F)	Bangkok
Temperature *	Degree C	-	-	36.1	≤40	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Bangkok
Total Dissolved Solids Dried at 180 Degree C	mg/L	-	A	1492	≤3000	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Bangkok
Total Kjeldahl Nitrogen as N *	mg/L	0.15	3.0	10.4	≤100	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Hang (C)	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	-	36	≤50	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 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).

Sampling By : Aisak Phomphai โทรศัพท์ 09-204-64605

Remark :
- LOD : Limit of Detection
- "L" : Lower than LOQ (Limit of Quantitation) / LOQ (Limit of Reporting)
- Analytical method * value 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 Nongniam
Manager
โทรศัพท์ 09-204-64709

Approved by

Kanokorn Anek
Kanokorn Anek
Senior Manager
โทรศัพท์ 09-204-64111

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S (Report) AT 0.00 (2.00PM)



Analysis / Test Report

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

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

Sample Number : 2346448-4
Sampled Date : May 03, 2023 2:00 PM
Sample Description : Wastewater
Location : อ่างเก็บน้ำในสวนสาธารณะ : อ่างเก็บน้ำ (Inspection Tank) : PP2
Date Analysis Commenced : May 05, 2023
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 (LOD)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Calcium	mg/L	0.03	0.05	127	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Magnesium	mg/L	0.03	0.05	24.3	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
SAR	-	-	0.10	7.75	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Sodium	mg/L	9.85	0.05	16.8	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Water Testing							
Ammonia Nitrogen	mg/L	-	0.06	8.47	No Standard	Based on Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (B, F)	Bangkok
Conductivity at 25 degree C	microsiemens/cm	-	0.5	1706	No Standard	Based on Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Bangkok
Nitrate as N	mg/L	0.06	0.2	Not Detected	No Standard	Based on Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 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).

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

Approved by

Savitree N.
Savitree Nongniam
Manager
โทรศัพท์ 09-204-64709

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S (Report) AT 0.00 (2.00PM)



Analysis / Test Report

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

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

Sample Number : 2360173-1
Sampled Date : Jun 21, 2023 10:40 AM
Sample Description : Wastewater
Location : อ่างเก็บน้ำในสวนสาธารณะ : อ่างเก็บน้ำ (Inspection Tank) : PP2
Date Analysis Commenced : Jun 23, 2023
Condition of Sample : Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOD)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
pH at 25 degree C	-	-	-	7.9	5.5-9.0	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Bangkok
Temperature	Degree C	-	-	33.6	≤40	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	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).

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

Technical Management

Savitree N.
Savitree Nongniam
Manager
โทรศัพท์ 09-204-64709

Approved by

Kanokorn Anek
Kanokorn Anek
Senior Manager
โทรศัพท์ 09-204-64111

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S (Report) AT 0.00 (2.00PM)



Analysis / Test Report

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

Lot ID: 2360173
Date Received : Jun 22, 2023
Date Reported : Jun 28, 2023
Report Number : 2699945-2

Page 1 of 1

Sample Number : 2360173-1
Sampled Date : Jun 21, 2023 10:40 AM
Sample Description : Wastewater
Location : บึงน้ำธรรมชาติ (Inspection Tank)
Date Analysis Commenced : Jun 26, 2023
Condition of Sample : Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Conductivity at 25 degree C	microhm/cm	-	0.5	2677	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	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).

Remark :
LOD : Limit of Detection
"L" : Lower than LOD (Limit of Quantitation) / LOQ (Limit of Reporting)

The above results are valid only for the stated method(s) as indicated in this report. In part of this report, if applicable, may be indicated in any form without sample consent from the Laboratory. All laboratory fees (charges) strongly recommended that the report is not reproduced without in full.

Approved by

Suwimon C
Suwimon Chaiwongkiet
Scientist (3)

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RIGHT SOLUTIONS

1 (Version: 01) Date: 12/09/2019



Analysis / Test Report

Client : Kasol 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: 2360173
Date Received : Jun 22, 2023
Date Reported : Jun 28, 2023
Report Number : 2699945-1

Page 1 of 2

Sample Number : 2360173-2
Sampled Date : Jun 21, 2023 11:00 AM
Sample Description : Wastewater
Location : Retention Pond
Date Analysis Commenced : Jun 23, 2023
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	0.001	≤0.25	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Chromium	mg/L	0.0003	0.0005	0.002	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Lead	mg/L	0.0003	0.0005	Not Detected	≤0.2	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0002	0.0005	Not Detected	≤0.005	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3117	Bangkok
Water Testing							
BOD (5 days at 20 degree C)	mg/L	-	7.8	24.7	120	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Bangkok
COD	mg/L	-	25	171	≤120	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Bangkok
pH at 25 degree C *	-	-	-	8.2	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (E)	Bangkok

Technical Management

Sasitree N.
Sasitree Nongkham
Manager
โทร: 09-2494-4709

Approved by

Law Anu
Kanyokorn Anuk
Senior Manager
โทร: 09-2494-6111

The above results are valid only for the stated method(s) as indicated in this report. In part of this report, if applicable, may be indicated in any form without sample consent from the Laboratory. All laboratory fees (charges) strongly recommended that the report is not reproduced without in full.

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RIGHT SOLUTIONS

1 (Version: 01) Date: 12/09/2019



Analysis / Test Report

Client : Kasol 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: 2360173
Date Received : Jun 22, 2023
Date Reported : Jun 28, 2023
Report Number : 2699945-1

Page 2 of 2

Sample Number : 2360173-2
Sampled Date : Jun 21, 2023 11:00 AM
Sample Description : Wastewater
Location : Retention Pond
Date Analysis Commenced : Jun 23, 2023
Condition of Sample : Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Sulfide *	mg/L	-	0.5	<0.5	≤1.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-52 (C, F)	Bangkok
Temperature *	Degree C	-	-	33.9	≤40	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Bangkok
Total Dissolved Solids (TDS) at 180 degree C	mg/L	-	5	1476	≤3000	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Bangkok
Total Kjeldahl Nitrogen as N *	mg/L	0.15	1.0	6.4	≤100	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH4 (C)	Bangkok
Total Suspended Solids (TSS) at 103-105 degree C	mg/L	-	5	56	≤50	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 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).

Sampling By : Adulak Phomphai โทร: 09-2494-6605

Remark :
LOD : Limit of Detection
"L" : Lower than LOD (Limit of Quantitation) / LOQ (Limit of Reporting)
Analyte(s) marked * : value 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

Sasitree N.
Sasitree Nongkham
Manager
โทร: 09-2494-4709

Approved by

Law Anu
Kanyokorn Anuk
Senior Manager
โทร: 09-2494-6111

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RIGHT SOLUTIONS

1 (Version: 01) Date: 12/09/2019



Analysis / Test Report

Client : Kasol 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: 2360173
Date Received : Jun 22, 2023
Date Reported : Jun 28, 2023
Report Number : 2699945-2

Page 1 of 1

Sample Number : 2360173-2
Sampled Date : Jun 21, 2023 11:00 AM
Sample Description : Wastewater
Location : Retention Pond
Date Analysis Commenced : Jun 23, 2023
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	35.6	No Standard	In-house method : STH 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Magnesium	mg/L	0.03	0.05	24.8	No Standard	In-house method : STH 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
SAR *	-	-	0.10	9.61	No Standard	In-house method : STH 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Sodium	mg/L	0.01	0.05	391	No Standard	In-house method : STH 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	-	0.06	<0.06	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH4 (B, F)	Bangkok
Conductivity at 25 degree C *	microhm/cm	-	0.5	2655	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Bangkok
Nitrate as N *	mg/L	0.06	0.2	Not Detected	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NO3 (B, F)	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).

Remark :
LOD : Limit of Detection
"L" : Lower than LOD (Limit of Quantitation) / LOQ (Limit of Reporting)
Analyte(s) marked * : value 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


Sasitree N.
Sasitree Nongkham
Manager

4000130-104 Phranthasiang 40, Phranthasiang Rd., Klongkum Phranthasiang, Klongkum District, Bangkok 10250 Thailand. Phone: +66 2 2760 3000 Fax: +66 2 2760 3191
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1 (Version: 01) Date: 12/09/2019



UNIVERSITY ACCREDITED
EA-001

Analysis / Test Report


TESTING
No.0009

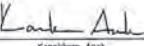
Client : Kasol Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : EIA Monitoring
Project Location :
Page 1 of 2

Lot ID: 2360173
Date Received : Jun 22, 2023
Date Reported : Jun 28, 2023
Report Number : 2699946-1

Sample Number : 2360173-3
Sampled Date : Jun 21, 2023 10:30 AM
Sample Description : Wastewater
Location : หนองน้ำสาธารณะ / หนองน้ำ (Equalization Pond)
Date Analysis Commenced : Jun 23, 2023
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 (LOB)	Result	Method	Testing Location
Metals Testing						
Arsenic	mg/L	0.0003	0.0005	0.002	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3123 & 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3123 & 3030 F	Bangkok
Chromium	mg/L	0.0001	0.0005	0.009	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3123 & 3030 F	Bangkok
Lead	mg/L	0.0003	0.0005	0.009	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3123 & 3030 F	Bangkok
Mercury	mg/L	0.0001	0.0005	<0.0005	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Water Testing						
BOD (5 days at 20 degree C)	mg/l	-	2.0	244	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Bangkok
COD	mg/l	-	25	598	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Bangkok
pH at 25 degree C *	-	-	-	6.8	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (F)	Bangkok
Sulfate *	mg/L	-	0.5	<0.5	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-52 (C, F)	Bangkok
Temperature *	Degree C	-	-	30.1	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2550 B	Bangkok
Total Dissolved Solids Titrated at 180 degree C	mg/L	-	5	1300	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Bangkok
Total Kjeldahl Nitrogen as N *	mg/L	0.10	1.0	6.3	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Nitrogen (C)	Bangkok

Technical Management : 
Sawitree Nissangam
Manager
โทรศัพท์ 09-2044-4709

Approved by : 
Kankorn Anuk
Senior Manager
โทรศัพท์ 09-2044-6111


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EA-001

Analysis / Test Report


TESTING
No.0009


Client : Kasol Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : EIA Monitoring
Project Location :
Page 2 of 2

Lot ID: 2360173
Date Received : Jun 22, 2023
Date Reported : Jun 28, 2023
Report Number : 2699946-1

Sample Number : 2360173-3
Sampled Date : Jun 21, 2023 10:30 AM
Sample Description : Wastewater
Location : หนองน้ำสาธารณะ / หนองน้ำ (Equalization Pond)
Date Analysis Commenced : Jun 23, 2023
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 (LOB)	Result	Method	Testing Location
Water Testing						
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	94	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Bangkok

Technical Management : 
Sawitree Nissangam
Manager
โทรศัพท์ 09-2044-4709

Approved by : 
Kankorn Anuk
Senior Manager
โทรศัพท์ 09-2044-6111


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Analysis / Test Report


TESTING
No.0009


Client : Kasol 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 2

Lot ID: 2360173
Date Received : Jun 22, 2023
Date Reported : Jun 28, 2023
Report Number : 2699946-2

Sample Number : 2360173-4
Sampled Date : Jun 21, 2023 10:30 AM
Sample Description : Wastewater
Location : หนองน้ำสาธารณะ / หนองน้ำ (Inspection TANK) - FF2
Date Analysis Commenced : Jun 23, 2023
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 (LOB)	Result	Method	Testing Location
Metals Testing						
Cadmium	mg/L	0.003	0.05	112	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Magnesium	mg/L	0.03	0.05	25.5	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
SAR *	-	-	0.10	0.09	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Sodium	mg/L	0.03	0.05	274	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Water Testing						
Ammonia Nitrogen *	mg/L	-	0.06	<0.06	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (B, F)	Bangkok
Conductivity at 25 degree C *	microhm/cm	-	0.5	2115	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Bangkok
Fluoride as F *	mg/L	0.06	0.2	Not Detected	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Fluoride E	Bangkok

Technical Management : 
Sawitree Nissangam
Manager
โทรศัพท์ 09-2044-4709

Approved by : 
Kankorn Anuk
Senior Manager
โทรศัพท์ 09-2044-6111


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Analysis / Test Report


TESTING
No.0009

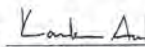
Client : Kasol Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : EIA Monitoring
Project Location :
Page 2 of 2

Lot ID: 2360173
Date Received : Jun 22, 2023
Date Reported : Jun 28, 2023
Report Number : 2699946-1

Sample Number : 2360173-4
Sampled Date : Jun 21, 2023 10:30 AM
Sample Description : Wastewater
Location : หนองน้ำสาธารณะ / หนองน้ำ (Inspection TANK) - FF2
Date Analysis Commenced : Jun 23, 2023
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 (LOB)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Arsenic	mg/L	0.0003	0.0005	0.002	≤0.25	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3123 & 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	≤0.03	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3123 & 3030 F	Bangkok
Chromium	mg/L	0.0003	0.0005	0.004	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3123 & 3030 F	Bangkok
Lead	mg/L	0.0003	0.0005	0.002	≤0.2	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3123 & 3030 F	Bangkok
Mercury	mg/L	0.0001	0.0005	<0.0005	≤0.005	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Water Testing							
BOD (5 days at 20 degree C)	mg/L	-	2.0	192	≤20	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Bangkok
COD	mg/L	-	25	628	≤120	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5220 D	Bangkok
pH at 25 degree C *	-	-	-	7.4	5.5-9.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (F)	Bangkok

Technical Management : 
Sawitree Nissangam
Manager
โทรศัพท์ 09-2044-4709

Approved by : 
Kankorn Anuk
Senior Manager
โทรศัพท์ 09-2044-6111

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ภาคผนวก ค-9

ผลการตรวจวิเคราะห์คุณภาพน้ำใต้ดิน



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :



TESTING
No.0009
Lot ID: 2332344
Date Received : Apr 20, 2023
Date Reported : Apr 26, 2023
Report Number : 2633530-1

Page 1 of 2

Sample Number 2332344-1
Sample Date Apr 19, 2023 2:00 PM
Sample Description บ่อเก็บน้ำทิ้ง
Location บริเวณพื้นที่ทางท้ายน้ำของโครงการโรงงานน้ำตาลพิษณุโลก 1 (GPS 48Q 278056, 1889065)
Date Analysis Commenced Apr 20, 2023
Condition of Sample Contained in five plastic bottles and two glass vials, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Aluminum	mg/L	0.003	0.005	0.19	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Arsenic	mg/L	0.0003	0.0005	0.004	0.1	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	2.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Chromium	mg/L	0.0003	0.0005	0.0007	6.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Copper	mg/L	0.0003	0.0005	0.0005	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Lead	mg/L	0.0003	0.0005	0.03	4.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Manganese	mg/L	0.0003	0.0005	3.80	33	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury	mg/L	0.0001	0.0005	Not Detected	0.7	In-house method : STM 05-007 based on United States Environmental Protection Agency, 2002, EPA Method 1631, Revision E	Bangkok

Technical Management

Chanatt L.

Chanattagarn Imchom
Supervisor
โทร: 09-4710-4710

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager
โทร: 09-4710-6111

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5/Report_ALS-QS-01 (8.13.2019)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :



TESTING
No.0009
Lot ID: 2332344
Date Received : Apr 20, 2023
Date Reported : Apr 26, 2023
Report Number : 2633530-1

Page 2 of 2

Sample Number 2332344-1
Sample Date Apr 19, 2023 2:00 PM
Sample Description บ่อเก็บน้ำทิ้ง
Location บริเวณพื้นที่ทางท้ายน้ำของโครงการโรงงานน้ำตาลพิษณุโลก 1 (GPS 48Q 278056, 1889065)
Date Analysis Commenced Apr 20, 2023
Condition of Sample Contained in five plastic bottles and two glass vials, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Nickel	mg/L	0.0003	0.0005	0.005	5.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Selenium	mg/L	0.0003	0.0005	Not Detected	12	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Zinc	mg/L	0.003	0.005	0.007	10	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing							
BOD (5 days at 20 degree C) *	mg/L	-	2.0	4.7	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O C	Bangkok
pH at 25 degree C *	-	-	-	7.6	6.5-9.2 (I)	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Bangkok

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

(I): ในกรณีที่มีการปนเปื้อนของโลหะหนักในดินปนเปื้อนโดยมีค่าสูงกว่าค่ามาตรฐานที่กำหนดไว้ในตารางค่ามาตรฐานการปนเปื้อนในดินตามมาตรฐานการปนเปื้อนในดินของกรมส่งเสริมการค้าระหว่างประเทศ (I): In case of heavy metal contamination in soil, the value is higher than the standard value specified in the table of soil contamination standards according to the standards of the Ministry of Commerce and Industry of Thailand

Sampling By : Adisak Phomphai โทร: 09-4710-6605

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
โทร: 09-4710-4710

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager
โทร: 09-4710-6111

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5/Report_ALS-QS-01 (8.13.2019)



Analysis / Test Report

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :



TESTING
No.0009
Lot ID: 2332344
Date Received : Apr 20, 2023
Date Reported : Apr 26, 2023
Report Number : 2633530-2

Page 1 of 3

Sample Number 2332344-1
Sampled Date Apr 19, 2023 2:00 PM
Sample Description บ่อบำบัดน้ำเสีย
Location บริเวณพื้นที่ทางฟาร์มของโรงงานน้ำตาลโคกขี้เหล็ก 1 (GPS 48Q 278056, 1889065)
Date Analysis Commenced Apr 20, 2023
Condition of Sample Contained in five plastic bottles and two glass vials, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Calcium	mg/L	0.03	0.05	99.7	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Iron	mg/L	0.003	0.005	2.53	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Magnesium	mg/L	0.03	0.05	30.5	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
SAR *	-	-	0.10	11.8	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Sodium	mg/L	0.03	0.05	525	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Microbiological Testing							
Fecal Coliform	MPN/100mL	-	-	<1.8	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B, E	Bangkok
Total Coliform	MPN/100mL	-	-	2.0	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	-	0.06	1.52	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (B, F)	Bangkok

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Approved by

Chanatt L.
Chanattagarn Imchom
Supervisor

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3/5/2023/ALS_GL.pdf (1/13/2023)



Analysis / Test Report

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :



TESTING
No.0009
Lot ID: 2332344
Date Received : Apr 20, 2023
Date Reported : Apr 26, 2023
Report Number : 2633530-2

Page 2 of 3

Sample Number 2332344-1
Sampled Date Apr 19, 2023 2:00 PM
Sample Description บ่อบำบัดน้ำเสีย
Location บริเวณพื้นที่ทางฟาร์มของโรงงานน้ำตาลโคกขี้เหล็ก 1 (GPS 48Q 278056, 1889065)
Date Analysis Commenced Apr 20, 2023
Condition of Sample Contained in five plastic bottles and two glass vials, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Chloride as Cl *	mg/L	0.06	0.2	739	No Standard	In-house method : STM 04-004 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4110 B	Bangkok
Conductivity at 25 degree C *	micromhos/cm	-	0.5	2753	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Bangkok
Nitrate as N	mg/L	0.06	0.2	Not Detected	No Standard	In-house method : STM 04-004 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4110 B	Bangkok
Sulfate *	mg/L	0.15	0.5	3.8	No Standard	In-house method : STM 04-004 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4110 B	Bangkok
Total Dissolved solids Dried at 180 degree C *	mg/L	-	5	1552	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Bangkok
Total Hardness as CaCO3 *	mg/L	-	1	379	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2340 C, 2340 D	Bangkok
Total Solids Dried at 103-105 degree C *	mg/L	-	5	1570	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 B	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	15	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Bangkok

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Approved by

Chanatt L.
Chanattagarn Imchom
Supervisor

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19025-23/THAIL

3/5/2023/ALS_GL.pdf (1/13/2023)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :



TESTING
No.0009
Lot ID: 2332344
Date Received : Apr 20, 2023
Date Reported : Apr 26, 2023
Report Number : 2633534-1

Page 2 of 2

Sample Number 2332344-5
Sampled Date Apr 19, 2023 1:20 PM
Sample Description บึงสีตมการกรร
Location บริเวณพื้นที่ทางเหนือของโครงการโหล่งน้ำดี (GPS 48Q 278631, 1889008)
Date Analysis Commenced Apr 20, 2023
Condition of Sample Contained in five plastic bottles and two glass vials, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Sodium	mg/L	0.03	0.05	212	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Zinc	mg/L	0.003	0.005	0.007	10	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Water Testing							
BOD (5 days at 20 degree C) *	mg/L	-	2.0	<2.0	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O C	Bangkok
pH at 25 degree C *	-	-	-	7.3	6.5-9.2 (I)	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Bangkok

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

(I): ในกรณีที่ผลการวิเคราะห์ของดินหรือน้ำใต้ดินพบเกินค่ามาตรฐานที่กำหนดไว้จากผลการวิเคราะห์ตัวอย่างน้ำที่ใช้ในการศึกษาผลกระทบจากการปนเปื้อนของน้ำใต้ดินจากโรงงานดังกล่าวไปยังบึงสีตมการกรร โดยค่าที่วิเคราะห์ได้เกินค่ามาตรฐานที่กำหนดไว้หรือไม่ และ/หรือไม่เกินค่าที่กำหนดไว้หรือไม่

Sampling By : Adisak Phomphai ทนายความ 2-204-2-8605

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

โทรศัพท์ 2-204-2-4710

Approved by

Kanokorn Anek

Kanokorn Anek
Senior Manager

โทรศัพท์ 2-204-2-6111

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14005-01/THAILAND

S:\Reports\AL_GLP\1 (B.1499)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :



TESTING
No.0009
Lot ID: 2332344
Date Received : Apr 20, 2023
Date Reported : Apr 26, 2023
Report Number : 2633534-2

Page 1 of 2

Sample Number 2332344-5
Sampled Date Apr 19, 2023 1:20 PM
Sample Description บึงสีตมการกรร
Location บริเวณพื้นที่ทางเหนือของโครงการโหล่งน้ำดี (GPS 48Q 278631, 1889008)
Date Analysis Commenced Apr 20, 2023
Condition of Sample Contained in five plastic bottles and two glass vials, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Iron	mg/L	0.003	0.005	2.75	No Standard	Based on US EPA, Method 200.7, Revision 4.4	Bangkok
Microbiological Testing							
Fecal Coliform	MPN/100mL	-	-	<1.8	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B, E	Bangkok
Total Coliform	MPN/100mL	-	-	<1.8	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
Water Testing							
Ammonia Nitrogen *	mg/L	-	0.06	0.07	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (B, F)	Bangkok
Chloride as Cl *	mg/L	0.06	0.2	158	No Standard	In-house method : STM 04-004 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4110 B	Bangkok
Conductivity at 25 degree C *	micromhos/cm	-	0.5	1274	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Bangkok
Nitrate as N	mg/L	0.06	0.2	Not Detected	No Standard	In-house method : STM 04-004 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4110 B	Bangkok
Sulfate *	mg/L	0.15	0.5	34.9	No Standard	In-house method : STM 04-004 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4110 B	Bangkok

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Approved by

Chanatt L.

Chanattagarn Imchom
Supervisor

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Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :



TESTING
No.0009
Lot ID: 2332344
Date Received : Apr 20, 2023
Date Reported : Apr 26, 2023
Report Number : 2633534-2

Page 2 of 2

Sample Number 2332344-5
Sampled Date Apr 19, 2023 1:20 PM
Sample Description บิลล์น้ำตกการณ
Location บริเวณพื้นที่ทางเหนือของโครงการโกลบอลไฮโดร (GPS 48Q 278631, 1889008)
Date Analysis Commenced Apr 20, 2023
Condition of Sample Contained in five plastic bottles and two glass vials, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Total Dissolved solids Dried at 180 degree C	mg/L	-	5	692	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Bangkok
Total Hardness as CaCO ₃ *	mg/L	-	1	262	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2340 C, 2340 C	Bangkok
Total Solids Dried at 103-105 degree C *	mg/L	-	5	738	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 B	Bangkok
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	43	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Bangkok

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

Sampling By : Adisek 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

Chamatt L.

Chaiattagarn Inmchom
Supervisor

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S1899601_AL_GL-01 (1/24/23)



Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :



TESTING
No.0009
Lot ID: 2371204
Date Received : Jul 01, 2023
Date Reported : Jul 07, 2023
Report Number : 2710635-1

Page 1 of 2

Sample Number 2371204-1
Sampled Date Jun 30, 2023 11:00 AM
Sample Description บิลล์น้ำตกการณ
Location บริเวณพื้นที่ทางเหนือของโครงการโกลบอลไฮโดร 2
Date Analysis Commenced Jul 03, 2023
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							
Aluminum	mg/L	0.003	0.005	1.44	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Arsenic	mg/L	0.0003	0.0005	0.004	0.1	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	2.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Chromium	mg/L	0.0003	0.0005	0.002	6.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Lead	mg/L	0.0003	0.0005	0.02	4.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Manganese	mg/L	0.0003	0.0005	0.22	33	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury *	mg/L	0.0001	0.0005	Not Detected	0.7	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Nickel	mg/L	0.0003	0.0005	0.003	5.0	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok

Technical Management

Savitree N.

Savitree Nisangiam
Manager
โทร 09-00000000 1-204-4-4709

Approved by

Kanokkorn Anek

Kanokkorn Anek
Senior Manager
โทร 09-00000000 1-204-n-6111

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S1899601_AL_GL-01 (1/24/23)



TESTING
No.0009

Lot ID: 2371204
Date Received : Jul 01, 2023
Date Reported : Jul 07, 2023
Report Number : 2710635-1

Page 2 of 2

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Selenium	mg/L	0.0003	0.0005	Not Detected	12	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Zinc	mg/L	0.003	0.005	0.04	10	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Water Testing							
pH at 25 degree C *	-	-	-	8.1	6.5-9.2 (I)	Standard Methods for the Examination of Water and Wastewater: APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Bangkok

(1) : โดยทั่วไปมีการประเมินของกรรพท่อน้ำให้เป็นเทียบแบบอิสระค่าที่อาจจะจากจุดเก็บตัวอย่างน้ำที่ใช้ในการทดสอบตรวจสอบการเปลี่ยนแปลงแล้ววิเคราะห์จากจุดเก็บตัวอย่างน้ำเพื่อเป็นข้อมูลอ้างอิงระดับการวางการไหลของน้ำใต้ดินในพื้นที่ โดยค่าที่ได้อาจเปลี่ยนแปลงจะคงไม่กับพื้นที่รวม แต่ได้ข้อมูลจากภาคทฤษฎีของสูตรของทางราชการจากภาคทฤษฎีของค่าที่ได้อีก 6.9-9.2

Remark:

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

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

Sawitree N.
Sawitree Notsangiam
Manager
๖๖๖๖๖๖๖ ๖-๖๖๖-๖๖๖๖

Kanok Korn Anek
Senior Manager
โทรศัพท์ 2-204-8-6111

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TESTING
No.0009

Lot ID: 2371204
Date Received : Jul 01, 2023
Date Reported : Jul 07, 2023
Report Number : 2710635-2

Page 1 of 3

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Metals Testing							
Calcium	mg/L	0.03	0.05	32.7	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Copper	mg/L	0.0003	0.0005	0.003	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Iron	mg/L	0.003	0.005	1.34	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Magnesium	mg/L	0.03	0.05	3.97	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
SAR *		-	0.10	12.8	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Sodium	mg/L	0.03	0.05	292	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Microbiological Testing							
Fecal Coliform	MPN/100mL	-	-	4.5	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B, E	Bangkok
Total Coliform	MPN/100mL	-	-	490.0	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
Water Testing							

Water Testing


Tuanjai Thangklang
Manager

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Analysis / Test Report

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :



TESTING
No.0009
Lot ID: 2371204
Date Received : Jul 01, 2023
Date Reported : Jul 07, 2023
Report Number : 2710635-2

Page 2 of 3

Sample Number 2371204-1
Sampled Date Jun 30, 2023 11:00 AM
Sample Description บ่อสังกะการณ
Location บริเวณพื้นที่ทางท้ายน้ำของโครงการนิคมอุตสาหกรรม 2
Date Analysis Commenced Jul 01, 2023
Condition of Sample Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Ammonia Nitrogen *	mg/L	-	0.06	0.14	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (B, F)	Bangkok
BOD (5 days at 20 degree C) *	mg/L	-	2.0	<2.0	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Bangkok
Chloride as Cl *	mg/L	0.06	0.2	231	No Standard	In - house method : STM 04-004 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4110 B	Bangkok
Conductivity at 25 degree C *	micromhos/cm	-	0.5	1356	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Bangkok
Nitrate as N	mg/L	0.06	0.2	Not Detected	No Standard	In - house method : STM 04-004 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4110 B	Bangkok
Sulfate *	mg/L	0.15	0.5	6.2	No Standard	In - house method : STM 04-004 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4110 B	Bangkok
Total Dissolved solids Dried at 180 degree C *	mg/L	-	5	718	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Bangkok
Total Hardness as CaCO3 *	mg/L	-	1	91	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2340 C, 2340 C	Bangkok

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Approved by

Tuanjai Thangkiang
Manager

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14025-2371204

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Analysis / Test Report

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :



TESTING
No.0009
Lot ID: 2371204
Date Received : Jul 01, 2023
Date Reported : Jul 07, 2023
Report Number : 2710635-2

Page 3 of 3

Sample Number 2371204-1
Sampled Date Jun 30, 2023 11:00 AM
Sample Description บ่อสังกะการณ
Location บริเวณพื้นที่ทางท้ายน้ำของโครงการนิคมอุตสาหกรรม 2
Date Analysis Commenced Jul 01, 2023
Condition of Sample Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Total Solids Dried at 103-105 degree C *	mg/L	-	5	834	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 B	Bangkok
Total Suspended Solids Dried at 103-105 degree C *	mg/L	-	5	115	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Bangkok

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

(1): ในกรณีที่มีการเปลี่ยนแปลงของผลหรือค่าใด ๆ ให้เขียนเพิ่มเติมในตารางที่แนบมาพร้อมกับตัวอย่างของข้อมูลที่ได้รับการพิจารณาตรวจสอบการเปลี่ยนแปลงหรือการหักล้างกับตัวอย่างเดิมหรือค่าใด ๆ ที่เป็นค่าเฉลี่ยของค่าที่ต่ำกว่าค่าที่กำหนดไว้ได้หรือไม่ (2) ข้อควรระวังในการนำข้อมูลไปใช้โดยไม่ผ่านการตรวจสอบและยืนยันโดยผู้เกี่ยวข้อง

Sampling By : Adisak Phomphai

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantization) / 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

Tuanjai Thangkiang
Manager

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TESTING
No.0009

Lot ID: 2371204
Date Received : Jul 01, 2023
Date Reported : Jul 07, 2023
Report Number : 2710636-1

Page 1 of 2

Sample Number	2371204-2
Sampled Date	Jun 30, 2023 11:30 AM
Sample Description	บ่อสีเบญจกาศ
Location	บริเวณที่ทำการท่าอากาศยานขอนแก่นเข้าใต้สะพานที่ 3
Date Analysis Commenced	Jul 03, 2023
Condition of Sample	Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA).



TESTING
No.0009

Lot ID: 2371204
Date Received : Jul 01, 2023
Date Reported : Jul 07, 2023
Report Number : 2710636-1

Page 2 of 2

Sample Number	2371204-2
Sampled Date	Jun 30, 2023 11:30 AM
Sample Description	บ่อฝังกลบการถลุง
Location	บริเวณพื้นที่ทางท้ายบ่อกองการไหลของน้ำในดินจุดที่ 3
Date Analysis Commenced	Jul 03, 2023
Condition of Sample	Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

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

(1) ในการดำเนินการประเมินของกรรมาธิการเพื่อเปรียบเทียบผลวิเคราะห์ค่าตัวเลขจากจุดเดิมแล้วขยับออกมาที่ใช้ในการติดตามตรวจสอบการเปลี่ยนแปลงผลวิเคราะห์จากจุดเดิม ตัวอักษรและเครื่องหมายที่ใช้เป็นสัญลักษณ์ของทางรายการให้ลงอย่างใดก็ได้ในขั้นนี้ โดยค่าที่เอ่อที่เปลี่ยนแล้วจะต้องไม่เกินหนึ่งปี และไม่ต้องลงตรงกลางของบรรทัดแต่ให้วางไว้ทางด้านซ้ายของบรรทัด

Sampling By : Adisak Phomphai ya.0904571 2-204-8-8605

Remarks:

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

Samitree N

Sawitree Noisangiam
Manager
noisangiam@3-204-3-4709

Leah Anne

Kamokkorn Anek
Senior Manager
เบอร์โทรศัพท์ 7-204-6111

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Sikaroodi A, Gholami J. 2007.



Analysis / Test Report

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :



TESTING
No.0009
Lot ID: 2371204
Date Received : Jul 01, 2023
Date Reported : Jul 07, 2023
Report Number : 2710636-2

Page 1 of 3

Sample Number 2371204-2
Sampled Date Jun 30, 2023 11:30 AM
Sample Description บ่อน้ำดิบตกการณ
Location บริเวณที่ทำการขุดบ่อน้ำดิบของโรงงานน้ำตาล 3
Date Analysis Commenced Jul 01, 2023
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	142	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Copper	mg/L	0.0003	0.0005	0.0007	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Iron	mg/L	0.003	0.005	19.9	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Magnesium	mg/L	0.03	0.05	25.6	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
SAR *	-	-	0.10	2.39	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Sodium	mg/L	0.03	0.05	118	No Standard	In-house method : STM 05-014 based on United States Environmental Protection Agency, 1994, EPA Method 200.7	Bangkok
Microbiological Testing							
Fecal Coliform	MPN/100mL	-	-	79.0	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B, E	Bangkok
Total Coliform	MPN/100mL	-	-	330.0	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 9221 B	Bangkok
Water Testing							

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Approved by

Tuanjai Thangklang
Manager

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Analysis / Test Report

Client : Kasat Phol Sugar Co., Ltd.
9 Moo 9, Pa Kho, Kumphawapi, Udon Thani Thailand 41370
P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :



TESTING
No.0009
Lot ID: 2371204
Date Received : Jul 01, 2023
Date Reported : Jul 07, 2023
Report Number : 2710636-2

Page 2 of 3

Sample Number 2371204-2
Sampled Date Jun 30, 2023 11:30 AM
Sample Description บ่อน้ำดิบตกการณ
Location บริเวณที่ทำการขุดบ่อน้ำดิบของโรงงานน้ำตาล 3
Date Analysis Commenced Jul 01, 2023
Condition of Sample Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Ammonia Nitrogen *	mg/L	-	0.06	2.41	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (B, F)	Bangkok
BOD (5 days at 20 degree C) *	mg/L	-	2.0	2.2	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 5210 B, part 4500 - O G	Bangkok
Chloride as Cl *	mg/L	0.06	0.2	243	No Standard	In - house method : STM 04-004 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4110 B	Bangkok
Conductivity at 25 degree C *	micromhos/cm	-	0.5	1443	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Bangkok
Nitrate as N	mg/L	0.06	0.2	Not Detected	No Standard	In - house method : STM 04-004 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4110 B	Bangkok
Sulfate *	mg/L	0.15	0.5	1.1	No Standard	In - house method : STM 04-004 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4110 B	Bangkok
Total Dissolved solids Dried at 180 degree C *	mg/L	-	5	822	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 C	Bangkok
Total Hardness as CaCO3 *	mg/L	-	1	481	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2340 C, 2340 C	Bangkok

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Approved by

Tuanjai Thangklang
Manager

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Analysis / Test Report

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

P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :

TESTING
No.0009
Lot ID: 2371204
Date Received : Jul 01, 2023
Date Reported : Jul 07, 2023
Report Number : 2710636-2

Page 3 of 3

Sample Number : 2371204-2
Sample Date : Jun 30, 2023 11:30 AM
Sample Description : ปดส่งผลการ
Location : บริเวณพื้นที่ทางท้ายรั้วของทางน้ำของน้ำใต้ดินจุดที่ 3
Date Analysis Commenced : Jul 01, 2023
Condition of Sample : Contained in two glass vials and five plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Water Testing							
Total Solids Dried at 103-105 degree C *	mg/L	-	5	885	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 B	Bangkok
Total Suspended Solids Dried at 103-105 degree C *	mg/L	-	5	63	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2540 D	Bangkok

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

(1): ในกรณีที่ผลการประเมินของผลตรวจวิเคราะห์พบเกินขีดมาตรฐานที่กำหนดไว้ในการศึกษาผลกระทบสิ่งแวดล้อมการปนเปื้อนของน้ำใต้ดินจากกิจกรรมต่างๆของโรงงานอุตสาหกรรม การปนเปื้อนของน้ำใต้ดินอาจส่งผลกระทบต่อสุขภาพของประชาชนได้ โดยหากพบการปนเปื้อนเกินขีดมาตรฐานที่กำหนดไว้ในการศึกษาผลกระทบสิ่งแวดล้อมการปนเปื้อนของน้ำใต้ดินจากกิจกรรมต่างๆของโรงงานอุตสาหกรรม การปนเปื้อนของน้ำใต้ดินอาจส่งผลกระทบต่อสุขภาพของประชาชนได้

Sampling By : Adsak 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.

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ภาคผนวก ค-10

ผลการตรวจวิเคราะห์คุณภาพดินบริเวณพื้นที่ที่นำ
กากตะกอนหม้อกรองและนำไปใช้ประโยชน์



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 :

Lot ID: 22117587

Date Received : Dec 05, 2022

Date Reported : Jan 25, 2023

Report Number : 2443748-1

Page 1 of 8

Sample Number : 22117587-1
Sample Date : Dec 04, 2022 11:30 AM
Sample Description : Soil
Location : แปลงนา 1 (GPS 48Q 278650.11, 1889026.04)
Date Analysis Commenced : Dec 06, 2022
Condition of Sample : Packed in one porosity tube, four plastic bag and two glass bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Chemical Testing							
Carbon/Nitrogen	%	-	-	8.10	No Standard	Base on US EPA, Calculated	Bangkok
Conductivity aqueous phase 20% (w/v)	micromhos/cm	-	-	70.2	No Standard	Soil Chemical Methods - Australasia (2011)	Bangkok
Nitrate as N	mg/kg	-	1.0	7.8	No Standard	Soil Chemical Methods - Australasia (2011)	Bangkok
Organic matter	%	-	0.05	0.18	No Standard	Soil Chemical Methods - Australasia (2011)	Bangkok
Metals Testing							
Arsenic	mg/kg	-	0.50	<0.50	≤25	US EPA, Method 3050B and 6010D	Bangkok
Cadmium	mg/kg	-	0.50	<0.50	≤762	US EPA, Method 3050B and 6010D	Bangkok
Chromium	mg/kg	-	1.00	11.5	No Standard	US EPA, Method 3050B and 6010D	Bangkok
Lead	mg/kg	-	1.00	11.7	≤800	US EPA, Method 3050B and 6010D	Bangkok
Manganese	mg/kg	-	1.00	209	≤19640	US EPA, Method 3050B and 6010D	Bangkok
Mercury	mg/kg	-	0.10	<0.10	≤263	US EPA (2007), Method 7473	Bangkok
Physical Parameters							
Moisture	%	-	0.1	11.7	No Standard	Based on APHA (2017), 2540 G	Bangkok
Soil particle density	g/cm ³	-	-	2.69	No Standard	Method of Soil Analysis	Bangkok
Soil Testing							
Bulk Density	g/cm ³	-	-	1.70	No Standard	Method of Soil Analysis part I, Core Method	Bangkok
pH aqueous phase 50% (w/v)		-	-	8.0	No Standard	Based on US EPA, Method 9045D	Bangkok
Porosity	%	-	-	36.95	No Standard	Method of Soil Analysis part I, Physical and Mineralogical Methods Second Edition, SSSA	Bangkok

Guideline : Notification of National Environmental Board B.E. 2564 (2021), published in the Royal Government Gazette No. 138 Special Part 54 D dated March 11, B.E.2564

Class 2: Soil usage for commercial, agricultural and others.

Note : Analysis Results expressed on dry basis.

Approved by

Siriluk P.

Siriluk Puangpang
Supervisor

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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 :

Lot ID: 22117587

Date Received : Dec 05, 2022

Date Reported : Jan 25, 2023

Report Number : 2443748-1

Page 2 of 8

Sampling By :

Remark :

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

Approved by

Siriluk P.

Siriluk Puangpang
Supervisor

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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 :

Lot ID: 22117587
Date Received : Dec 05, 2022
Date Reported : Jan 25, 2023
Report Number : 2443748-1

Page 3 of 5

Sample Number : 22117587-2
Sampled Date : Dec 04, 2022 1:40 PM
Sample Description : Soil
Location : แปลงนาสวน 1 (GPS 48Q 278587.73, 1888767.66)
Date Analysis Commenced : Dec 05, 2022
Condition of Sample : Packed in one porosity tube, four plastic bag and two glass bottles; sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Chemical Testing							
Carbon/Nitrogen	%	-	-	9.20	No Standard	Base on US EPA, Calculated	Bangkok
Conductivity aqueous phase 20% (w/v)	micromhos/cm	-	-	50.6	No Standard	Soil Chemical Methods - Australasia (2011)	Bangkok
Nitrate as N	mg/kg	-	1.0	2.8	No Standard	Soil Chemical Methods - Australasia (2011)	Bangkok
Organic matter	%	-	0.05	0.18	No Standard	Soil Chemical Methods - Australasia (2011)	Bangkok
Metals Testing							
Arsenic	mg/kg	-	0.50	<0.50	≤25	US EPA, Method 3050B and 6010D	Bangkok
Cadmium	mg/kg	-	0.50	<0.50	≤762	US EPA, Method 3050B and 6010D	Bangkok
Chromium	mg/kg	-	1.00	20.5	No Standard	US EPA, Method 3050B and 6010D	Bangkok
Lead	mg/kg	-	1.00	10.7	≤800	US EPA, Method 3050B and 6010D	Bangkok
Manganese	mg/kg	-	1.00	313	≤19640	US EPA, Method 3050B and 6010D	Bangkok
Mercury	mg/kg	-	0.10	<0.10	≤263	US EPA (2007), Method 7473	Bangkok
Physical Parameters							
Moisture	%	-	0.1	20.0	No Standard	Based on APHA (2017), 2540 G	Bangkok
Soil particle density	g/cm3	-	-	2.71	No Standard	Method of Soil Analysis	Bangkok
Soil Testing							
Bulk Density	g/cm3	-	-	1.61	No Standard	Method of Soil Analysis part I, Core Method	Bangkok
pH aqueous phase 50% (w/v)	-	-	-	8.2	No Standard	Based on US EPA, Method 9045D	Bangkok
Porosity	%	-	-	40.74	No Standard	Method of Soil Analysis part I, Physical and Mineralogical Methods Second Edition, SSSA	Bangkok

Guideline : Notification of National Environmental Board B.E. 2564 (2021), published in the Royal Government Gazette No. 138 Special Part 54 D dated March 11, B.E.2564

Class 2: Soil usage for commercial, agricultural and others.

Note : Analysis Results expressed on dry basis.

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Approved by

Siriluk P.
Siriluk Puengprang
Supervisor

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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 :

Lot ID: 22117587
Date Received : Dec 05, 2022
Date Reported : Jan 25, 2023
Report Number : 2443748-1

Page 4 of 5

Sampling By :

Remark :

LOD : Limit of Detection

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

Approved by

Siriluk P.
Siriluk Puengprang
Supervisor

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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: 22117587

Date Received : Dec 05, 2022

Date Reported : Jan 25, 2023

Report Number : 2443748-1

Page 5 of 8

Sample Number : 22117587-3
Sampled Date : Dec 04, 2022 10:10 AM
Sample Description : Soil
Location : แปลงนา 1 (GPS 48Q 277671.61, 1889997.59)
Date Analysis Commenced : Dec 06, 2022
Condition of Sample : Packed in one porosity tube, four plastic bag and two glass bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Chemical Testing							
Carbon/Nitrogen	%	-	-	9.20	No Standard	Base on US EPA, Calculated	Bangkok
Conductivity aqueous phase 20% (w/v)	micromhos/cm	-	-	24.8	No Standard	Soil Chemical Methods - Australasia (2011)	Bangkok
Nitrate as N	mg/kg	-	1.0	2.7	No Standard	Soil Chemical Methods - Australasia (2011)	Bangkok
Organic matter	%	-	0.05	0.62	No Standard	Soil Chemical Methods - Australasia (2011)	Bangkok
Metals Testing							
Arsenic	mg/kg	-	0.50	<0.50	≤25	US EPA, Method 3050B and 6010D	Bangkok
Cadmium	mg/kg	-	0.50	<0.50	≤762	US EPA, Method 3050B and 6010D	Bangkok
Chromium	mg/kg	-	1.00	4.32	No Standard	US EPA, Method 3050B and 6010D	Bangkok
Lead	mg/kg	-	1.00	9.71	≤800	US EPA, Method 3050B and 6010D	Bangkok
Manganese	mg/kg	-	1.00	66.7	≤19640	US EPA, Method 3050B and 6010D	Bangkok
Mercury	mg/kg	-	0.10	<0.10	≤263	US EPA (2007), Method 7473	Bangkok
Physical Parameters							
Moisture	%	-	0.1	7.6	No Standard	Based on APHA (2017), 2540 G	Bangkok
Soil particle density	g/cm3	-	-	2.73	No Standard	Method of Soil Analysis	Bangkok
Soil Testing							
Bulk Density	g/cm3	-	-	1.46	No Standard	Method of Soil Analysis part 1, Core Method	Bangkok
pH aqueous phase 50% (w/v)	-	-	-	7.1	No Standard	Based on US EPA, Method 9045D	Bangkok
Porosity	%	-	-	46.47	No Standard	Method of Soil Analysis part 1, Physical and Mineralogical Methods Second Edition, SSSA	Bangkok

Guideline : Notification of National Environmental Board B.E. 2564 (2021), published in the Royal Government Gazette No. 138 Special Part 54 D dated March 11, B.E.2564

Class 2: Soil usage for commercial, agricultural and others.

Note : Analysis Results expressed on dry basis.

Approved by

Siriluk P.

Siriluk Puengpang
Supervisor

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1/25/23 09:41



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: 22117587

Date Received : Dec 05, 2022

Date Reported : Jan 25, 2023

Report Number : 2443748-1

Page 6 of 8

Sampling By :

Remark :

LOD : Limit of Detection

<LOQ : Lower than LOQ (Limit of Quantization) / LOR (Limit of Reporting)

Approved by

Siriluk P.

Siriluk Puengpang
Supervisor

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1/25/23 09:42



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: 22117587
Date Received : Dec 05, 2022
Date Reported : Jan 25, 2023
Report Number : 2443748-1

Page 7 of 8

Sample Number : 22117587-4
Sampled Date : Dec 04, 2022 10:50 AM
Sample Description : Soil
Location : บ้านหนองนา 1 (GPS 48Q 277748.65, 1890103.48)
Date Analysis Commenced : Dec 06, 2022
Condition of Sample : Packed in one porosity tube, four plastic bag and two glass bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline / Specification	Method	Testing Location
Chemical Testing							
Carbon/Nitrogen	%	-	-	8.70	No Standard	Base on US EPA, Calculated	Bangkok
Conductivity aqueous phase 20% (w/v)	micromhos/cm	-	-	7.6	No Standard	Soil Chemical Methods - Australasia (2011)	Bangkok
Nitrate as N	mg/kg	-	1.0	5.1	No Standard	Soil Chemical Methods - Australasia (2011)	Bangkok
Organic matter	%	-	0.05	0.13	No Standard	Soil Chemical Methods - Australasia (2011)	Bangkok
Metals Testing							
Arsenic	mg/kg	-	0.50	<0.50	≤25	US EPA, Method 3050B and 6010D	Bangkok
Cadmium	mg/kg	-	0.50	<0.50	≤762	US EPA, Method 3050B and 6010D	Bangkok
Chromium	mg/kg	-	1.00	4.87	No Standard	US EPA, Method 3050B and 6010D	Bangkok
Lead	mg/kg	-	1.00	44.7	≤800	US EPA, Method 3050B and 6010D	Bangkok
Manganese	mg/kg	-	1.00	6.15	≤19640	US EPA, Method 3050B and 6010D	Bangkok
Mercury	mg/kg	-	0.10	<0.10	≤263	US EPA (2007), Method 7473	Bangkok
Physical Parameters							
Moisture	%	-	0.1	11.5	No Standard	Based on APHA (2017), 2540 G	Bangkok
Soil particle density	g/cm ³	-	-	2.71	No Standard	Method of Soil Analysis	Bangkok
Soil Testing							
Bulk Density	g/cm ³	-	-	1.63	No Standard	Method of Soil Analysis part I, Core Method	Bangkok
pH aqueous phase 50% (w/v)	-	-	-	5.6	No Standard	Based on US EPA, Method 9045D	Bangkok
Porosity	%	-	-	39.88	No Standard	Method of Soil Analysis part I, Physical and Mineralogical Methods Second Edition, SSSA	Bangkok

Guideline : Notification of National Environmental Board B.E. 2564 (2021), published in the Royal Government Gazette No. 138 Special Part 54 D dated March 11, B.E.2564

Class 2: Soil usage for commercial, agricultural and others.

Note : Analysis Results expressed on dry basis.

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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: 22117587
Date Received : Dec 05, 2022
Date Reported : Jan 25, 2023
Report Number : 2443748-1

Page 8 of 8

Sampling By :

Remark :

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

Approved by

Siriluk P.
Siriluk Puengpang
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ภาคผนวก ค-11

ผลการตรวจวิเคราะห์คุณภาพน้ำใต้ดินบริเวณพื้นที่ที่นำ
กากตะกอนหม้อกรองและนำไปใช้ประโยชน์



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: 22102057

Date Received : Dec 29, 2022

Date Reported : Jan 04, 2023

Report Number : 2528588-1

Page 1 of 8

Sample Number : 22102057-1
Sampled Date : Dec 28, 2022 11:00 AM
Sample Description : Underground Water
Location : แปลงที่ดินบริเวณใกล้เคียงพื้นที่ป่าอนุรักษ์ในเขตจากบ้านและภาคเกษตรกรรมของไร่ (แปลงบาง 1)
Date Analysis Commenced : Dec 30, 2022
Condition of Sample : Contained in two glass vials and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Metals Testing								
Arsenic	mg/L	0.0003	0.0005	0.002	Not Detected	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	Not Detected	≤0.01	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Chromium	mg/L	0.0003	0.0005	0.0009	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Lead	mg/L	0.0003	0.0005	0.004	Not Detected	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury	mg/L	0.0001	0.0005	Not Detected	Not Detected	≤0.001	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Water Testing								
Ammonia Nitrogen *	mg/L	-	0.06	1.36	No Standard	No Standard	Based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (B, F)	Bangkok
Conductivity at 25 degree C *	micromhos/cm	-	0.5	2247	No Standard	No Standard	Based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Bangkok
Nitrate as NO3	mg/L	0.3	1	<1	≤45	≤45	In-house method : STM 04-004 based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4110 B	Bangkok

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Siriluk Puengpang
Supervisor

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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: 22102057

Date Received : Dec 29, 2022

Date Reported : Jan 04, 2023

Report Number : 2528588-1

Page 2 of 8

Sample Number : 22102057-1
Sampled Date : Dec 28, 2022 11:00 AM
Sample Description : Underground Water
Location : แปลงที่ดินบริเวณใกล้เคียงพื้นที่ป่าอนุรักษ์ในเขตจากบ้านและภาคเกษตรกรรมของไร่ (แปลงบาง 1)
Date Analysis Commenced : Dec 30, 2022
Condition of Sample : Contained in two glass vials and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Water Testing								
pH at 25 degree C	-	-	-	8.2	7.0-8.5	6.5-9.2	In-house method : STM 04-003 based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Bangkok
Total Kjeldahl Nitrogen as N *	mg/L	0.15	1.0	4.8	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C)	Bangkok

Guideline : Notification of the Ministry of Natural Resource and Environment, dated March 24, B.E.2551 (2008), published in the Royal Government Gazette, Vol. 125, Part 85 D, dated May 21, B.E.2551 (2008).
(1) Suitable Allowance, (2) Maximum allowable.

Sampling By : Adisak Phomphai โทร 09-204-4-8605

Remark :

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

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Siriluk Puengpang
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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: 22102057
Date Received : Dec 29, 2022
Date Reported : Jan 04, 2023
Report Number : 2528588-1

Page 3 of 5

Sample Number 22102057-2
Sampled Date Dec 28, 2022 11:10 AM
Sample Description Underground Water
Location บ่อน้ำใต้ดินบริเวณใกล้สิ่งก่อสร้างที่ 1 (บ่อน้ำดิบ)
Date Analysis Commenced Dec 30, 2022
Condition of Sample Contained in two glass vials and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Metals Testing								
Arsenic	mg/L	0.0003	0.0005	0.002	Not Detected	≤0.05	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	Not Detected	≤0.01	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Chromium	mg/L	0.0003	0.0005	<0.0005	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Lead	mg/L	0.0003	0.0005	<0.0005	Not Detected	≤0.05	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury	mg/L	0.0001	0.0005	Not Detected	Not Detected	≤0.001	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Water Testing								
Ammonia Nitrogen *	mg/L	-	0.06	0.68	No Standard	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (B, F)	Bangkok
Conductivity at 25 degree C *	micromhos/cm	-	0.5	2052	No Standard	No Standard	Based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Bangkok
Nitrate as NO3	mg/L	0.3	1	<1	≤45	≤45	In-house method : STM 04-004 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4110 B	Bangkok

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Siriluk Puengang
Supervisor

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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: 22102057
Date Received : Dec 29, 2022
Date Reported : Jan 04, 2023
Report Number : 2528588-1

Page 4 of 5

Sample Number 22102057-2
Sampled Date Dec 28, 2022 11:10 AM
Sample Description Underground Water
Location บ่อน้ำใต้ดินบริเวณใกล้สิ่งก่อสร้างที่ 1 (บ่อน้ำดิบ)
Date Analysis Commenced Dec 30, 2022
Condition of Sample Contained in two glass vials and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Water Testing								
pH at 25 degree C	-	-	-	8.5	7.0-8.5	6.5-9.2	In-house method : STM 04-003 based on Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Bangkok
Total Kjeldahl Nitrogen as N *	mg/L	0.15	1.0	3.9	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater, APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C)	Bangkok

Guideline : Notification of the Ministry of Natural Resource and Environment, dated March 24, B.E.2551 (2008), published in the Royal Government Gazette, Vol. 125, Part 85 D, dated May 21, B.E.2551 (2008).
(1) Suitable Allowance, (2) Maximum allowable.

Sampling By : Arisak Piromphai โทร 09-2424-8605

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 Puengang
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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: 22102057

Date Received : Dec 29, 2022

Date Reported : Jan 04, 2023

Report Number : 2528588-1

Page 5 of 8

Sample Number 22102057-3
Sampled Date Dec 28, 2022 10:50 AM
Sample Description Uderground Water
Location บ่อน้ำใต้ดินบริเวณโคกหินโงมพื้นที่ทำนุบำรุงพันธุกรรมของกรมชลประทาน (บ่อน้ำยาง 3)
Date Analysis Commenced Dec 30, 2022
Condition of Sample Contained in two glass vials and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Metals Testing								
Arsenic	mg/L	0.0003	0.0005	0.002	Not Detected	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	Not Detected	≤0.01	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Chromium	mg/L	0.0003	0.0005	0.0007	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Lead	mg/L	0.0003	0.0005	0.001	Not Detected	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury	mg/L	0.0001	0.0005	Not Detected	Not Detected	≤0.001	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Water Testing								
Ammonia Nitrogen *	mg/L	-	0.06	0.54	No Standard	No Standard	Based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (B, F)	Bangkok
Conductivity at 25 degree C *	micromhos/cm	-	0.5	2005	No Standard	No Standard	Based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Bangkok
Nitrate as NO3	mg/L	0.3	1	Not Detected	≤45	≤45	In-house method : STM 04-001 based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4110 B	Bangkok

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Approved by

Siriluk P.

Siriluk Puangpang
Supervisor

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S:\Report\AL_2023\22102057-3



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: 22102057

Date Received : Dec 29, 2022

Date Reported : Jan 04, 2023

Report Number : 2528588-1

Page 6 of 8

Sample Number 22102057-3
Sampled Date Dec 28, 2022 10:50 AM
Sample Description Uderground Water
Location บ่อน้ำใต้ดินบริเวณโคกหินโงมพื้นที่ทำนุบำรุงพันธุกรรมของกรมชลประทาน (บ่อน้ำยาง 3)
Date Analysis Commenced Dec 30, 2022
Condition of Sample Contained in two glass vials and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Water Testing								
pH at 25 degree C	-	-	-	8.2	7.0-8.5	6.5-9.2	In-house method : STM 04-003 based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Bangkok
Total Kjeldahl Nitrogen as N *	mg/L	0.15	1.0	3.1	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C)	Bangkok

Guideline : Notification of the Ministry of Natural Resource and Environment, dated March 24, B.E.2551 (2008), published in the Royal Government Gazette, Vol. 125, Part 85 D, dated May 21, B.E.2551 (2008), (1) Suitable Allowance, (2) Maximum allowable.

Sampling By : Adisak Phomphal อนุมัติผล 1-204-3-8605

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantization) / 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.

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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: 22102057
Date Received : Dec 29, 2022
Date Reported : Jan 04, 2023
Report Number : 2528588-1

Page 7 of 8

Sample Number 22102057-4
Sampled Date Dec 28, 2022 10:40 AM
Sample Description Underground Water
Location ป่าสนบ้านวังหลวงโคกเคียนพื้นที่ทำปฏิตกพื้นที่เดิมจากเขื่อนและภาคเอกชนโครงการโรงไฟฟ้า (ป่าชายเขา 4)
Date Analysis Commenced Dec 30, 2022
Condition of Sample Contained in two glass vials and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Metals Testing								
Arsenic	mg/L	0.0003	0.0005	0.002	Not Detected	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Cadmium	mg/L	0.0003	0.0005	Not Detected	Not Detected	≤0.01	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Chromium	mg/L	0.0003	0.0005	Not Detected	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Lead	mg/L	0.0003	0.0005	Not Detected	Not Detected	≤0.05	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3125 B, 3030 F	Bangkok
Mercury	mg/L	0.0001	0.0005	Not Detected	Not Detected	≤0.001	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 3112	Bangkok
Water Testing								
Ammonia Nitrogen *	mg/L	-	0.05	0.38	No Standard	No Standard	Based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-NH3 (B, F)	Bangkok
Conductivity at 25 degree C *	micromhos/cm	-	0.5	1819	No Standard	No Standard	Based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 2510 B	Bangkok
Nitrate as NO3	mg/L	0.3	1	Not Detected	≤45	≤45	In-house method : STM 04-004 based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4110 B	Bangkok

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.

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1805 33/09/22



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: 22102057
Date Received : Dec 29, 2022
Date Reported : Jan 04, 2023
Report Number : 2528588-1

Page 8 of 8

Sample Number 22102057-4
Sampled Date Dec 28, 2022 10:40 AM
Sample Description Underground Water
Location ป่าสนบ้านวังหลวงโคกเคียนพื้นที่ทำปฏิตกพื้นที่เดิมจากเขื่อนและภาคเอกชนโครงการโรงไฟฟ้า (ป่าชายเขา 4)
Date Analysis Commenced Dec 30, 2022
Condition of Sample Contained in two glass vials and three plastic bottles, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Water Testing								
pH at 25 degree C		-	-	8.2	7.0-8.5	6.5-9.2	In-house method : STM 04-003 based on Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500 - H (B)	Bangkok
Total Kjeldahl Nitrogen as N *	mg/L	0.15	1.0	2.7	No Standard	No Standard	Standard Methods for the Examination of Water and Wastewater. APHA, AWWA & WEF, 23rd ed., 2017, part 4500-Norg (C)	Bangkok

Guideline : Notification of the Ministry of Natural Resource and Environment, dated March 24, B.E.2551 (2008), published in the Royal Government Gazette, Vol. 125, Part 85 D, dated May 21, B.E.2551 (2008).
(1) Suitable Allowance, (2) Maximum allowable.

Sampling By : Adisak Phomphai พรหมไพณกุล 1-204-a-8605

Remark :

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

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1805 33/09/22

ภาคผนวก ค-12

ผลการตรวจวัดทรัพยากรชีวภาพในน้ำ



สถานีวิจัยประมงศรีราชา

101/12 หมู่ 9 ต. บางพระ

อ. ศรีราชา จ. ชลบุรี 20110

โทร./โทรสาร. (038) 311379

Client : Kaset Phol Sugar Co., Ltd.

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

Project Name : Factory License No. 10410000125343_EIA Monitoring

รายงานผลการวิเคราะห์แหล่งกักต่อน้ำ

ตาราง ผลการวิเคราะห์แหล่งกักต่อน้ำ (เก็บตัวอย่างวันที่ 5 พฤษภาคม 2566)

ชนิดแหล่งกักต่อน้ำ	ปริมาณแหล่งกักต่อน้ำ (หน่วยต่อลูกบาศก์เมตร)			
	2321833-1	2321833-2	2321833-3	2321833-4
Division Cyanophyta				
Class Cyanophyceae				
Order Chroococcales				
Family Chroococcaceae				
1. <i>Merismopedia</i> sp.	-	16,000	53,000	-
Order Nostocales				
Family Oscillatoriaceae				
2. <i>Lyngbya</i> sp.	-	-	-	17,000
3. <i>Oscillatoria princeps</i>	18,000	-	280,000	-
4. <i>Oscillatoria</i> sp.	221,000	-	1,138,000	297,000
5. <i>Oscillatoria tenuis</i>	129,000	-	175,000	83,000
6. <i>Spirulina platensis</i>	9,000	-	-	-
Family Nostocaceae				
7. <i>Anabaena azollae</i>	46,000	-	-	-
8. <i>Cylindrospermum majus</i>	-	-	-	1,155,000

ตาราง ผลการวิเคราะห์แหล่งกักต่อน้ำ (เก็บตัวอย่างวันที่ 5 พฤษภาคม 2566)

(ต่อ)

ชนิดแหล่งกักต่อน้ำ	ปริมาณแหล่งกักต่อน้ำ (หน่วยต่อลูกบาศก์เมตร)			
	2321833-1	2321833-2	2321833-3	2321833-4
Division Chlorophyta				
Class Chlorophyceae				
Order Volvocales				
Family Volvocaceae				
9. <i>Eudorina elegans</i>	110,000	138,000	26,000	-
10. <i>Gonium pectorale</i>	28,000	-	-	-
11. <i>Pandorina morum</i>	2,570,000	1,215,000	26,000	-
Order Tetrasporales				
Family Palmellaceae				
12. <i>Sphaerocystis shroeteri</i>	-	49,000	-	115,500,000
Order Chlorococcales				
Family Hydrodictyaceae				
13. <i>Pediastrum duplex</i>	74,000	-	210,000	33,000
Family Coelastraceae				
14. <i>Coelastrum microporum</i>	-	16,000	-	58,000
15. <i>Coelastrum</i> sp.	129,000	-	-	-
Family Oocystaceae				
16. <i>Dictyosphaerium pulchellum</i>	2,392,000	32,000	-	-
17. <i>Kirchneriella subsolitaria</i>	18,000	-	-	-
18. <i>Selenastrum gracile</i>	55,000	-	-	-
19. <i>Tetraedron gracile</i>	18,000	259,000	18,000	-
20. <i>Tetraedron</i> sp.	-	-	-	124,000
21. <i>Tetraedron trigonum</i>	64,000	122,000	-	-
Family Scenedesmaceae				
22. <i>Actinastrum gracillimum</i>	-	-	700,000	-
23. <i>Actinastrum hantzschii</i>	55,000	-	-	-
24. <i>Crucigenia apiculata</i>	184,000	-	-	132,000

ตาราง ผลการวิเคราะห์แฟลกellate (เก็บตัวอย่างวันที่ 5 พฤษภาคม 2566)

(ต่อ)

ชนิดแฟลกellate	ปริมาณแฟลกellate (หน่วยต่อลูกบาศก์เมตร)			
	2321833-1	2321833-2	2321833-3	2321833-4
25. <i>Scenedesmus armatus</i>	9,000	-	-	-
26. <i>Scenedesmus dimorphus</i>	-	16,000	-	-
27. <i>Scenedesmus</i> sp.	28,000	-	-	-
Order Ulotrichales				
Family Ulotrichaceae				
28. <i>Geminella</i> sp.	-	-	-	17,000
Order Zygnematales				
Family Zygnemataceae				
29. <i>Spirogyra</i> sp.	37,000	32,000	18,000	74,000
30. <i>Spirogyra weberi</i>	-	-	-	413,000
Family Desmidiaceae				
31. <i>Closterium</i> sp.	-	486,000	-	-
32. <i>Cosmarium</i> sp.	-	-	201,000	-
33. <i>Penium cucurbitinum</i>	-	-	-	8,000
34. <i>Pleurotaenium</i> sp.	-	-	-	83,000
35. <i>Sphaerosasma grandatum</i>	18,000	-	-	-
36. <i>Staurastrum</i> sp.	-	73,000	-	50,000
Class Euglenophyceae				
Order Euglenales				
Family Euglenaceae				
37. <i>Euglena acus</i>	800,000	6,642,000	875,000	8,000
38. <i>Euglena oxyuris</i>	37,000	3,402,000	53,000	91,000
39. <i>Euglena</i> sp.	-	130,000	-	-
40. <i>Euglena splendens</i>	138,000	1,620,000	44,000	-
41. <i>Euglena viridis</i>	828,000	405,000	96,000	-
42. <i>Lepocinclis ovum</i>	460,000	16,686,000	123,000	660,000
43. <i>Phacus angulatus</i>	120,000	3,078,000	788,000	41,000

ตาราง ผลการวิเคราะห์แฟลกellate (เก็บตัวอย่างวันที่ 5 พฤษภาคม 2566)

(ต่อ)

ชนิดแฟลกellate	ปริมาณแฟลกellate (หน่วยต่อลูกบาศก์เมตร)			
	2321833-1	2321833-2	2321833-3	2321833-4
44. <i>Phacus hamatus</i>	37,000	1,102,000	61,000	58,000
45. <i>Phacus helikoides</i>	-	-	963,000	-
46. <i>Phacus longicauda</i>	-	154,000	26,000	-
47. <i>Phacus myersi</i>	-	-	9,000	-
48. <i>Phacus platylea</i>	-	57,000	61,000	33,000
49. <i>Phacus pleuronectes</i>	-	162,000	131,000	25,000
50. <i>Phacus ranula</i>	-	1,053,000	35,000	-
51. <i>Phacus</i> sp.	-	-	613,000	-
52. <i>Phacus torta</i>	120,000	146,000	1,400,000	66,000
53. <i>Strombomonas australica</i>	9,000	1,175,000	-	-
54. <i>Strombomonas fluvialis</i>	-	65,000	-	25,000
55. <i>Strombomonas gibberosa</i>	147,000	1,783,000	-	41,000
56. <i>Strombomonas girardiana</i>	644,000	729,000	-	-
57. <i>Strombomonas</i> sp.	-	-	-	25,000
58. <i>Trachelomonas crebea</i>	1,196,000	6,318,000	-	578,000
59. <i>Trachelomonas daugerdiana</i>	28,000	648,000	-	8,000
60. <i>Trachelomonas hispida</i>	2,346,000	9,882,000	1,181,000	3,300,000
61. <i>Trachelomonas mirabilis</i>	-	1,134,000	64,000	41,000
62. <i>Trachelomonas superba</i>	-	2,754,000	-	2,475,000
63. <i>Trachelomonas volzii</i>	166,000	6,804,000	140,000	437,000
Division Chromophyta				
Class Bacillariophyceae				
Order Bacillariales				
Suborder Fragilariineae				
Family Fragilariaceae				
64. <i>Fragilaria capucina</i>	-	-	-	99,000
65. <i>Synedra uba</i>	18,000	-	-	-

ตาราง ผลการวิเคราะห์แพลงก์ตอนพืช (เก็บตัวอย่างวันที่ 5 พฤษภาคม 2566)

(ต่อ)

ชนิดแพลงก์ตอนพืช	ปริมาณแพลงก์ตอนพืช (หน่วยต่อลูกบาศก์เมตร)			
	2321833-1	2321833-2	2321833-3	2321833-4
Suborder Bacillariineae				
Family Eunotiaceae				
66. <i>Eunotia pectinalis</i>	-	-	26,000	-
Family Cymbellaceae				
67. <i>Cymbella</i> sp.	-	-	-	8,000
68. <i>Gomphonema parvulum</i>	9,000	-	-	99,000
Family Naviculaceae				
69. <i>Craticula cuspidata</i>	-	-	9,000	33,000
70. <i>Gyrosigma attenuatum</i>	-	-	-	17,000
71. <i>Navicula</i> sp.	-	-	105,000	25,000
72. <i>Pinnularia acrospira</i>	-	-	-	8,000
73. <i>Pinnularia braunii</i>	-	-	114,000	-
74. <i>Pinnularia gibba</i>	-	-	44,000	-
Family Bacillariaceae				
75. <i>Nitzschia</i> sp.	-	-	35,000	-
Family Surirellaceae				
76. <i>Surirella ovata</i>	-	-	-	8,000
Class Dinophyceae				
Order Gonyaulacalea				
Family Ceratiaceae				
77. <i>Ceratium hirundinella</i>	-	-	-	25,000
Order Peridinales				
Family Peridiniaceae				
78. <i>Peridinium gatunense</i>	138,000	-	54,250,000	990,000
79. <i>Peridinium</i> sp.	3,312,000	97,000	-	-

ตาราง ผลการวิเคราะห์แพลงก์ตอนพืช (เก็บตัวอย่างวันที่ 5 พฤษภาคม 2566)

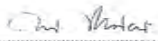
(ต่อ)


ชนิดแพลงก์ตอนพืช	ปริมาณแพลงก์ตอนพืช (หน่วยต่อลูกบาศก์เมตร)			
	2321833-1	2321833-2	2321833-3	2321833-4
ชนิดแพลงก์ตอนพืช	40	36	36	42
ปริมาณแพลงก์ตอนพืช	16,765,000	68,480,000	64,091,000	127,268,000
ดัชนีความหลากหลายแพลงก์ตอนพืช	2.5426	2.5433	0.8555	0.5318
ดัชนีความสม่ำเสมอแพลงก์ตอนพืช	0.6893	0.7097	0.2387	0.1423

Sample Location :

- สถานี 2321833-1 : ลำห้วยกองสี ก่อนจุดผันน้ำของโครงการประมาณ 1,000 เมตร
- สถานี 2321833-2 : ลำห้วยกองสี บริเวณจุดผันน้ำของโครงการ
- สถานี 2321833-3 : ลำห้วยกองสี หลังจุดผันน้ำของโครงการประมาณ 1,000 เมตร
- สถานี 2321833-4 : ลำน้ำปาว บริเวณจุดตัดของลำน้ำก่อนไหลลงสู่หนองหาร

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


(นางสาวกนกวรรณ ขาวค้อน)
ผู้วิเคราะห์


(นางของกนก อินทรชาติ)
หัวหน้าสถานีวิจัยประมงศรีราชา



สถานีวิทยุประสมศรีราชา

101/12 หมู่ 9 ต. บางพระ

อ. ศรีราชา จ. ชลบุรี 20110

โทร./โทรสาร. (038) 311379

Client : Kaset Phol Sugar Co., Ltd.

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

Project Name : Factory License No. 10410000125343_EIA Monitoring

รายงานผลการวิเคราะห์แหล่งกักต่อนสัตว์

ตาราง ผลการวิเคราะห์แหล่งกักต่อนสัตว์ (เก็บตัวอย่างวันที่ 5 พฤษภาคม 2566)

ชนิดแหล่งกักต่อนสัตว์	ปริมาณแหล่งกักต่อนสัตว์ (หน่วยต่อลูกบาศก์เมตร)			
	2321833-1	2321833-2	2321833-3	2321833-4
Phylum Protozoa				
Subphylum Plasmodroma				
Class Sarcodina				
Subclass Rhizopoda				
Order Testacida				
Family Arcellidae				
1. <i>Arcella vulgaris</i>	9,000	16,000	79,000	-
Family Diffugiidae				
2. <i>Diffugia lobostoma</i>	9,000	-	18,000	-
Family Euglyphidae				
3. <i>Euglypha</i> sp.	-	-	18,000	-

ตาราง ผลการวิเคราะห์แหล่งกักต่อนสัตว์ (เก็บตัวอย่างวันที่ 5 พฤษภาคม 2566)

(ต่อ)

ชนิดแหล่งกักต่อนสัตว์	ปริมาณแหล่งกักต่อนสัตว์ (หน่วยต่อลูกบาศก์เมตร)			
	2321833-1	2321833-2	2321833-3	2321833-4
Subphylum Ciliophora				
Class Ciliata				
Subclass Holotricha				
Order Gymnostomatida				
4. <i>Coleps</i> sp.	18,000	-	10,325,000	-
5. <i>Didinium</i> sp.	-	-	44,000	-
Order Hymenostomatida				
6. <i>Paramecium</i> sp.	-	-	9,000	-
Subclass Spirotricha				
Order Tintinnida				
Family Codonellidae				
7. <i>Tintinnopsis</i> sp.	-	-	9,000	-
Order Hypotrichida				
8. <i>Euplotes</i> sp.	-	-	9,000	-
Subclass Peritricha				
Order Peritrichida				
9. <i>Vorticella</i> sp.	37,000	-	9,000	8,000
Phylum Rotifera				
Class Monogononta				
Order Ploima				
Family Brachionidae				
10. <i>Amraeopsis coelata</i>	18,000	-	-	-
11. <i>Amraeopsis fissa</i>	166,000	-	-	-
12. <i>Brachionus angularis</i>	28,000	-	-	-
13. <i>Brachionus caudatus</i>	340,000	-	-	-
14. <i>Brachionus falcatus</i>	64,000	-	-	-
15. <i>Brachionus forficula</i>	147,000	-	-	-

ตาราง ผลการวิเคราะห์แหล่งกักต่อนสัตว์ (เก็บตัวอย่างวันที่ 5 พฤษภาคม 2566)

(ต่อ)

ชนิดแหล่งกักต่อนสัตว์	ปริมาณแหล่งกักต่อนสัตว์ (หน่วยต่อลูกบาศก์เมตร)			
	2321833-1	2321833-2	2321833-3	2321833-4
16. <i>Brachionus plicatilis</i>	46,000	-	53,000	66,000
17. <i>Coturella obtusa</i>	-	-	350,000	-
18. <i>Epiphanes</i> sp.	-	-	-	8,000
19. <i>Keratella cochlearis</i>	-	-	-	17,000
20. <i>Lepadella acuminata</i>	18,000	-	79,000	25,000
Family Lecanidae				
21. <i>Lecane bulla</i>	9,000	-	88,000	-
22. <i>Lecane closterocerca</i>	-	-	44,000	-
23. <i>Lecane decipiens</i>	9,000	-	35,000	-
24. <i>Lecane inopinata</i>	-	-	9,000	8,000
25. <i>Lecane luna</i>	-	-	-	8,000
26. <i>Lecane papuana</i>	18,000	-	-	-
27. <i>Lecane pygmaea</i>	-	8,000	9,000	-
Family Notommatidae				
28. <i>Cephalodella gibba</i>	-	24,000	123,000	33,000
29. <i>Monommata longisetia</i>	-	-	9,000	-
30. <i>Scaridium</i> sp.	-	-	9,000	-
Family Tricocercidae				
31. <i>Trichocerca capucina</i>	28,000	49,000	18,000	-
32. <i>Trichocerca pusilla</i>	55,000	16,000	-	-
33. <i>Trichocerca similis</i>	-	-	-	41,000
Family Asplanchnidae				
34. <i>Asplanchna priodonta</i>	55,000	16,000	88,000	33,000
Family Synchaetidae				
35. <i>Polyarthra dolichoptera</i>	74,000	57,000	166,000	-
36. <i>Polyarthra vulgaris</i>	175,000	324,000	385,000	8,000

ตาราง ผลการวิเคราะห์แหล่งกักต่อนสัตว์ (เก็บตัวอย่างวันที่ 5 พฤษภาคม 2566)

(ต่อ)

ชนิดแหล่งกักต่อนสัตว์	ปริมาณแหล่งกักต่อนสัตว์ (หน่วยต่อลูกบาศก์เมตร)			
	2321833-1	2321833-2	2321833-3	2321833-4
Order Flosculariacea				
Family Testudinellidae				
37. <i>Filinia terminalis</i>	37,000	-	-	-
38. <i>Testudinella patina</i>	-	-	9,000	-
Family Hexarthridae				
39. <i>Hexarthra mira</i>	221,000	16,000	-	-
Family Flosculariidae				
40. <i>Sinanthrerina spinosa</i>	-	-	219,000	-
Class Digononta				
Family Philodinidae				
41. <i>Philodina</i> sp.	-	-	9,000	-
42. <i>Rotaria rotatoria</i>	-	-	44,000	-
Phylum Arthropoda				
Class Crustacea				
Subclass Branchiopoda				
Order Diplostraca				
Suborder Cladocera				
Family Bosminidae				
43. <i>Bosminopsis deitersi</i>	-	227,000	-	-
Family Chydoridae				
44. <i>Alona</i> sp.	9,000	-	-	-
Family Daphnidae				
45. <i>Daphnia</i> sp.	-	-	-	41,000
Family Moinidae				
46. <i>Moina macrocopa</i>	9,000	-	-	-
Subclass Copepoda				
47. Copepod nauplius	46,000	583,000	210,000	58,000

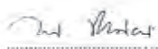
ตาราง ผลการวิเคราะห์แพลงก์ตอนสัตว์ (เก็บตัวอย่างวันที่ 5 พฤษภาคม 2566)


(ต่อ)

ชนิดแพลงก์ตอนสัตว์	ปริมาณแพลงก์ตอนสัตว์ (หน่วยต่อลูกบาศก์เมตร)			
	2321833-1	2321833-2	2321833-3	2321833-4
Order Cyclopoida				
48. Cyclopod copepod	-	8,000	-	17,000
ชนิดแพลงก์ตอนสัตว์	25	12	29	14
ปริมาณแพลงก์ตอนสัตว์	1,645,000	1,344,000	12,476,000	371,000
ดัชนีความหลากหลายแพลงก์ตอนสัตว์	2.6522	1.6043	0.9209	2.3925
ดัชนีความสม่ำเสมอแพลงก์ตอนสัตว์	0.8240	0.6456	0.2735	0.9066

Sample Location : 1. สถานี 2321833-1 : ลำห้วยกองสี ก่อนจุดต้นน้ำของโครงการประมาณ 1,000 เมตร
 2. สถานี 2321833-2 : ลำห้วยกองสี บริเวณจุดต้นน้ำของโครงการ
 3. สถานี 2321833-3 : ลำห้วยกองสี หลังจุดต้นน้ำของโครงการประมาณ 1,000 เมตร
 4. สถานี 2321833-4 : ลำน้ำป่า บริเวณจุดตัดของลำน้ำก่อนไหลลงสู่หนองหาร

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


 (นางสาวกวนกรรณ ขาวก้อน)
 ผู้วิเคราะห์


 (นายอลงกต อินทรชาติ)
 หัวหน้าสถานีวิจัยประมงศรีราชา



สถานีวิจัยประมงศรีราชา

101/12 หมู่ 9 ต. บางพระ อ. ศรีราชา จ. ชลบุรี 20110

โทร./โทรสาร. (038) 311379

Client : Kasert Phol Sugar Co., Ltd.

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

Project Name : Factory License No.10410000125343_EIA Monitoring

รายงานผลการวิเคราะห์พืชน้ำ

ตาราง ผลการวิเคราะห์พืชน้ำ (เก็บตัวอย่างวันที่ 5 พฤษภาคม 2566)

วงศ์	ชื่อวิทยาศาสตร์	ชื่อภาษาไทย	บริเวณที่ทำการสำรวจ			
			2321833-1	2321833-2	2321833-3	2321833-4
พืชลอยน้ำ						
Azollaceae	<i>Azolla caroliniana</i>	แหนบแดง	-	-	+	-
Convolvulaceae	<i>Ipomoea aquatica</i>	ผักบุ้ง	++	+	-	++
Mimosaaceae	<i>Neptunia oleracea</i>	ผักกระเฉด	-	+	-	-
Proteaceae	<i>Eichhornia crassipes</i>	ผักตบชวา	+	+	-	++

ตารางที่ 1 ผลการวิเคราะห์พืชน้ำ (เก็บตัวอย่างวันที่ 5 พฤษภาคม 2566) (ต่อ)

วงศ์	ชื่อวิทยาศาสตร์	ชื่อภาษาไทย	บริเวณที่ทำการสำรวจ			
			2321833-1	2321833-2	2321833-3	2321833-4
พืชบกน้ำ						
Amaranthaceae	<i>Amaranthus spinosus</i>	ผักเบี้ยไทย	+	++	---	+
Asteraceae	<i>Eclipta prostrata</i>	กระเจี๊ยบ	+	+	+	+
	<i>Gnaphalium polyanthum</i>	พญาบุคลี	+	+	-	---
	<i>Tridax procumbens</i>	ตีนตุ๊กแก	+	-	+	-
Commelinaceae	<i>Commelina diffusa</i>	ผักปาดใบแคบ	++	+	+	+
Cyperaceae	<i>Cyperus difformis</i>	กกขนนก	+	+	---	---
	<i>Cyperus odoratus</i>	กกพราหมณ์	+	-	-	-
	<i>Cyperus pinnatus</i>	กกขี้เหล็ก	+	+	-	---
	<i>Cyperus polyanthos</i>	กกสามเหลี่ยม	+	+	-	---
	<i>Fimbristylis dichotoma</i>	หญ้าหนวดกุ้ง	+	+	---	---
	<i>Fimbristylis dipetala</i>	หญ้าหนวดกุ้ง	++	++	---	---
Mimosaceae	<i>Mimosa pudica</i>	ไม้มอธ	-	-	---	+
Oxtracaceae	<i>Oxtracaceae</i>	เทียนนา	+	+	---	---
Poaceae	<i>Brachiaria mutica</i>	หญ้าขน	+++	+++	+++	+++
	<i>Brachiaria rufipennis</i>	หญ้าขนเล็ก	+	+	-	---

ตารางที่ 2 ผลการวิเคราะห์พืชน้ำ (เก็บตัวอย่างวันที่ 5 พฤษภาคม 2566) (ต่อ)

วงศ์	ชื่อวิทยาศาสตร์	ชื่อภาษาไทย	บริเวณที่ทำการสำรวจ			
			2321833-1	2321833-2	2321833-3	2321833-4
	<i>Leptochloa chinensis</i>	หญ้านวลน้อย	+++	++	++	++
	<i>Sorghum halepense</i>	พง	+	++	+	+
	<i>Phragmites karka</i>	แขม	+	+	+	+
Polygonaceae	<i>Polygonum glabrum</i>	ผักโขม	+	-	-	+
	<i>Polygonum heterophyllum</i>	ผักโขม	+	-	+	+
รวมจำนวนชนิดพืชที่พบทั้งหมด			20	17	9	12

- Sample Location : - ไม่พบ + น้อย ++ ปานกลาง +++ มาก
- สถานี 2321833-1 : ลำน้ำคลองที่ 1 ก่อนจุดต้นน้ำของโครงการประมาณ 1,000 เมตร
 - สถานี 2321833-2 : ลำน้ำคลองที่ 2 บริเวณจุดต้นน้ำของโครงการ
 - สถานี 2321833-3 : ลำน้ำคลองที่ 3 หลังจุดต้นน้ำของโครงการประมาณ 1,000 เมตร
 - สถานี 2321833-4 : ลำน้ำป่า บริเวณจุดต้นน้ำก่อนไหลลงสู่หนองหาร

Condition of Sample : Data sheet

(นายอรรถวุฒิ กันทะวงค์)
ผู้วิเคราะห์

(นายอภิสส อิ่มพราหมณ์)
หัวหน้าสถานีวิจัยประมงศรีราชา



สถานีวิจัยประมงศรีราชา

101/12 หมู่ 9 ต. บางพระ อ. ศรีราชา จ. ชลบุรี 20110

โทร./โทรสาร. (038) 311379

Client : Kasat Phol Sugar Co., Ltd.

Address : 9 Moo 9 Pa Kho, Kumhawaipi, Udon Thani, Thailand, 41370

Project Name : Factory License No. 10410000125343_EIA Monitoring

รายงานผลการวิเคราะห์สัตว์น้ำ

ก.15.13 ผลการวิเคราะห์สัตว์น้ำ (Aquatic animal) (เก็บตัวอย่างเมื่อวันที่ 5 พฤษภาคม 2566)

ชนิดสัตว์น้ำ	ปริมาณสัตว์น้ำ (ตัวต่อตารางเมตร)				ช่วงขนาด (ซม.)	น้ำหนักรวม (กรัม)
	2321833-1	2321833-2	2321833-3	2321833-4		
Phylum Chordata						
Class Actinopterygii						
Order Anabantoformes						
Family Osphronemidae						
<i>Trichopodus trichopterus</i> (ปลากัดหัวหน้)	5	5	-	4	7.30-10.40	141.00

ถ.13.13 ผลการวิเคราะห์สัตว์น้ำ (Aquatic animal) (เก็บตัวอย่างเมื่อวันที่ 5 พฤษภาคม 2566) (ต่อ)

ชนิดสัตว์น้ำ	ปริมาณสัตว์น้ำ (ตัวต่อตารางเมตร)				ช่วงขนาด (ซม.)	น้ำหนักรวม (กรัม)
	2321833-1	2321833-2	2321833-3	2321833-4		
Order Belontiiformes						
Family Belontiidae						
<i>Xenentodon caudata</i> (ปลาก้นแม่น้ำ)	-	-	1	-	17.70	12.00
Order Cypriniformes						
Family Cyprinidae						
<i>Cylocheilichthys apogon</i> (ปลากัดสีเงินหาง)	2	3	-	4	6.70-9.70	51.00
<i>Gymnocheilus siamensis</i> (ปลาสีทองขาว)	5	4	-	1	13.40-15.50	398.00
<i>Puntius brevis</i> (ปลากะเขนงหาง)	1	-	-	-	6.40	4.00
Order Gobiiformes						
Family Gobiidae						
<i>Oxyeleotris smaragdina</i> (ปลากะพงขาว)	1	-	-	-	13.30	23.00
Order Perciformes						
Family Ambassisidae						
<i>Puntius siamensis</i> (ปลากะพงขาว)	2	4	2	3	4.80-7.30	28.00

ถ.13.13 ผลการวิเคราะห์สัตว์น้ำ (Aquatic animal) (เก็บตัวอย่างเมื่อวันที่ 5 พฤษภาคม 2566) (ต่อ)

ชนิดสัตว์น้ำ	ปริมาณสัตว์น้ำ (ตัวต่อตารางเมตร)				ช่วงขนาด (ซม.)	น้ำหนักรวม (กรัม)
	2321833-1	2321833-2	2321833-3	2321833-4		
Order Synbranchiformes						
Family Mastacembelidae						
<i>Macrognathus siamensis</i> (ปลาสลิด)	-	1	-	-	15.80	13.00
ชนิดสัตว์น้ำ	6	5	2	4	4.80-17.70	670.00
ปริมาณสัตว์น้ำ	16	17	3	14		
ค่าความหลากหลายสัตว์น้ำ	1.5934	1.5136	0.6365	1.2721		

- Sample Location :
- สถานี 2321833-1 : ลำห้วยทองใต้ ก่อนจุดคั่นน้ำของโครงการประมาณ 1,000 เมตร
 - สถานี 2321833-2 : ลำห้วยทองใต้ บริเวณจุดคั่นน้ำของโครงการ
 - สถานี 2321833-3 : ลำห้วยทองใต้ หลังจุดคั่นน้ำของโครงการประมาณ 1,000 เมตร
 - สถานี 2321833-4 : ลำน้ำป่า บริเวณจุดคั่นน้ำก่อนไหลลงสู่หนองหาร

Condition of Sample : fishing gear


(นายทาวโรจน์ วรณัตว์)
ผู้วิเคราะห์


(นายทาวโรจน์ วรณัตว์)
หัวหน้าสถานีวิจัยประมงสัตว์น้ำ



สถานีวิจัยประมงศรีราชา

101/12 หมู่ 9 ต. บางพระ

อ. ศรีราชา จ. ชลบุรี 20110

โทร./โทรสาร. (038) 311379

Client : Kaset Phol Sugar Co., Ltd.

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

Project Name : Factory License No. 10410000125343_EIA Monitoring

รายงานผลการวิเคราะห์สัตว์หน้าดิน

ตาราง ผลการวิเคราะห์สัตว์หน้าดิน (เก็บตัวอย่างวันที่ 5 พฤษภาคม 2566)

ชนิดสัตว์หน้าดิน	ปริมาณสัตว์หน้าดิน (ตัวต่อตารางเมตร)			
	2321834-1	2321834-2	2321834-3	2321834-4
Phylum Arthropoda				
Class Insecta				
Order Diptera				
Family Chironomidae				
Chironomus sp. (หนอนแดง)	504	697	326	163
Family Limoniidae				
Antocha sp. (ตัวอ่อนแมลงวันแมงมุม)	-	-	15	-
Order Coleoptera				
Family Hydrophilidae				
Tropisternus sp. (ตัวอ่อนด้วงน้ำ)	-	-	15	-
Order Odonata				
Family Gomphidae				
Progomphus sp. (แมลงปอ)	-	15	-	-

ตาราง ผลการวิเคราะห์สัตว์หน้าดิน (เก็บตัวอย่างวันที่ 5 พฤษภาคม 2566) (ต่อ)

ชนิดสัตว์หน้าดิน	ปริมาณสัตว์หน้าดิน (ตัวต่อตารางเมตร)			
	2321834-1	2321834-2	2321834-3	2321834-4
Class Malacostraca				
Order Decapoda				
Family Gecarcinucidae				
Sayamia sp. (ปูนา)	-	15	-	-
Phylum Mollusca				
Class Gastropoda				
Order Architenioglossa				
Family Bithyniidae				
Bithynia sp. (หอยไซ)	-	-	30	-
Family Thiariidae				
Melanoides sp. (หอยเชอรี่)	-	15	-	-
Family Viviparidae				
Filopaludina sp. (หอยขม)	60	-	45	30
Trochotaia sp. (หอยเวียน)	30	-	45	15
Order Sigmurethra				
Family Lymnaeidae				
Lymnaea sp. (หอยคัน)	-	-	60	-
Class Bivalvia				
Order Unionida				
Family Unionidae				
Pilsbryoconcha sp. (หอยกาบ)	-	15	-	-
Scabius sp. (หอยกาบลาย)	-	60	-	-
Order Venerida				
Family Cyrenidae				
Corbicula sp. (หอยทราย)	-	30	-	-
ชนิดสัตว์หน้าดิน	3	7	7	3
ปริมาณสัตว์หน้าดิน	594	847	536	208
ค่าดัชนีความหลากหลายสัตว์หน้าดิน	0.5218	0.7520	1.3251	0.6600

Sample Location : 1. สถานี 2321834-1 : ลำห้วยกองสี ก่อนจุดผันน้ำของโครงการประมาณ 1,000 เมตร
2. สถานี 2321834-2 : ลำห้วยกองสี บริเวณจุดผันน้ำของโครงการ
3. สถานี 2321834-3 : ลำห้วยกองสี หลังจุดผันน้ำของโครงการประมาณ 1,000 เมตร
4. สถานี 2321834-4 : ลำน้ำปาว บริเวณจุดตัดของลำน้ำก่อนไหลลงสู่หนองหาร

Condition of Sample : contained in one plastic zip bag


นายอรณัฐ กัณฑ์วงศ์

(นายอรณัฐ กัณฑ์วงศ์)

ผู้วิเคราะห์


นายอองกต อินทรชาติ

(นายอองกต อินทรชาติ)

หัวหน้าสถานีวิจัยประมงศรีราชา

ภาคผนวก ค-13

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: 2315657
Date Received : Mar 14, 2023
Date Reported : Mar 30, 2023
Report Number : 2564833-1 Rev. No.2

Page 1 of 5

Sample Number : 2315657-1
Sampled Date : Mar 12, 2023
Sample Description : Noise Dose
Location : บ้านสวนเกษตรอินทรีย์
Personal Sampling : หักสุ่มตรวจวัด
Date Analysis Commenced : Mar 15, 2023

Analyte	Sampled Date/Time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Noise Dose (8 hrs.)	11:30 AM - 07:30 PM	%	-	1	112	No Standard	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Bangkok
TWA (8 hrs.)	11:30 AM - 07:30 PM	dB(A)	-	-	85.5	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)

Note : 1. LCpeak = 130.2 dB (C)
2. This Analysis test report is issued to supersede report No. 2564833-1 Rev No.1 Date Reported : Mar 28, 2023 due to revise analytical information.

Sampled By : Jessadin Kongsukdithai

Remark :

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

Approved by

Wichan Choonharat

Wichan Choonharat
Assistant Manager

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RIGHT SOLUTIONS

1402537/0902



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: 2315657
Date Received : Mar 14, 2023
Date Reported : Mar 30, 2023
Report Number : 2564833-1 Rev. No.2

Page 2 of 5

Sample Number : 2315657-2
Sampled Date : Mar 12, 2023
Sample Description : Noise Dose
Location : บ้านสวนเกษตรอินทรีย์
Personal Sampling : หักสุ่มตรวจวัด
Date Analysis Commenced : Mar 15, 2023

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	107	No Standard	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Bangkok
TWA (8 hrs.)	09:00 AM - 05:00 PM	dB(A)	-	-	85.3	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)

Note : 1. LCpeak = 129.8 dB (C)
2. This Analysis test report is issued to supersede report No. 2564833-1 Rev No.1 Date Reported : Mar 28, 2023 due to revise analytical information.

Sampled By : Jessadin Kongsukdithai

Remark :

- LOD : Limit of Detection
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Approved by

Wichan Choonharat

Wichan Choonharat
Assistant Manager

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1402537/0902



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 :

Lot ID: 2315657
Date Received : Mar 14, 2023
Date Reported : Mar 30, 2023
Report Number : 2564833-1 Rev. No.2

Page 3 of 5

Sample Number	2315657-3								
Sampled Date	Mar 12, 2023								
Sample Description	Noise Dose								
Location	บริเวณอาคารโรงโม่หินและโรงปั้น								
Personal Sampling	จุดตรวจวัด 15 นาที								
Date Analysis Commenced	Mar 15, 2023								
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	141	No Standard	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Bangkok
TWA (8 hrs.)	09:00 AM - 05:00 PM	dB(A)	-	-	86.5	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)

Note : 1. LCpeak = 129.8 dB (C)
2. This Analysis test report is issued to supersede report No. 2564833-1 Rev No.1 Date Reported : Mar 28, 2023 due to revise analytical information.

Sampled By : Jessadin Kongsukdithai

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ALS-23-0948



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 :

Lot ID: 2315657
Date Received : Mar 14, 2023
Date Reported : Mar 30, 2023
Report Number : 2564833-1 Rev. No.2

Page 4 of 5

Sample Number	2315657-4								
Sampled Date	Mar 12, 2023								
Sample Description	Noise Dose								
Location	บริเวณอาคารโรงโม่หิน								
Personal Sampling	จุดตรวจวัด 15 นาที								
Date Analysis Commenced	Mar 15, 2023								
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	21.9	No Standard	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Bangkok
TWA (8 hrs.)	09:00 AM - 05:00 PM	dB(A)	-	-	78.4	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)

Note : 1. LCpeak = 131.1 dB (C)
2. This Analysis test report is issued to supersede report No. 2564833-1 Rev No.1 Date Reported : Mar 28, 2023 due to revise analytical information.

Sampled By : Jessadin Kongsukdithai

Remark :

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

Approved by

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ALS-23-0948



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: 2315657
Date Received : Mar 14, 2023
Date Reported : Mar 30, 2023
Report Number : 2564833-1 Rev. No.2

Page 5 of 5

Sample Number : 2315657-5
Sampled Date : Mar 12, 2023
Sample Description : Noise Dose
Location : บริเวณศาลาการฝึกอบรมนิคมไฟฟ้า
Personal Sampling : ฤกษ์ระพีพร ใจนัส
Date Analysis Commenced : Mar 15, 2023

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	%	-	I	35.5	No Standard	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Bangkok
TWA (8 hrs.)	09:00 AM - 05:00 PM	dB(A)	-	-	80.5	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)

Note : 1. LCpeak = 129.9 dB (C)
2. This Analysis test report is issued to supersede report No. 2564833-1 Rev No.1 Date Reported : Mar 28, 2023 due to revise analytical information.

Sampled By : Jessadin Kongsukthitai

Remark :

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Approved by

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Assistant Manager

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ภาคผนวก ค-14

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: 2315657

Date Received : Mar 14, 2023
Date Reported : Mar 30, 2023
Report Number : 2564833-1 Rev. No.2

Page 1 of 5

Sample Number : 2315657-1
Sampled Date : Mar 12, 2023
Sample Description : Noise Dose
Location : บริเวณจุดปลูก
Personal Sampling : กลุ่มเกษตรกร วนเกษตร
Date Analysis Commenced : Mar 15, 2023

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Noise Dose (8 hrs.)	11:30 AM - 07:30 PM	%	-	1	112	No Standard	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Bangkok
TWA (8 hrs.)	11:30 AM - 07:30 PM	dB(A)	-	-	85.5	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)

Note : 1. LCpeak = 130.2 dB (C)
2. This Analysis test report is reissued to supersede report No. 2564833-1 Rev No.1 Date Reported : Mar 28, 2023 due to revise analytical information.

Sampled By : Jessadin Kongsukdithai

Remark :

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

Approved by

Wichan Choonharat

Wichan Choonharat
Assistant Manager

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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: 2315657

Date Received : Mar 14, 2023
Date Reported : Mar 30, 2023
Report Number : 2564833-1 Rev. No.2

Page 2 of 5

Sample Number : 2315657-2
Sampled Date : Mar 12, 2023
Sample Description : Noise Dose
Location : บริเวณจุดปลูก
Personal Sampling : กลุ่มเกษตรกร วนเกษตร
Date Analysis Commenced : Mar 15, 2023

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	107	No Standard	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Bangkok
TWA (8 hrs.)	09:00 AM - 05:00 PM	dB(A)	-	-	85.3	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)

Note : 1. LCpeak = 129.8 dB (C)
2. This Analysis test report is reissued to supersede report No. 2564833-1 Rev No.1 Date Reported : Mar 28, 2023 due to revise analytical information.

Sampled By : Jessadin Kongsukdithai

Remark :

- LOD : Limit of Detection
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Approved by

Wichan Choonharat

Wichan Choonharat
Assistant Manager

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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: 2315657
Date Received : Mar 14, 2023
Date Reported : Mar 30, 2023
Report Number : 2564833-1 Rev. No.2

Page 3 of 5

Sample Number : 2315657-3
Sampled Date : Mar 12, 2023
Sample Description : Noise Dose
Location : บริเวณอาคารโรงโม่หิน
Personal Sampling : คุณสุพจน์ ธีคำ
Date Analysis Commenced : Mar 15, 2023

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	141	No Standard	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Bangkok
TWA (8 hrs.)	09:00 AM - 05:00 PM	dB(A)	-	-	86.5	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)

Note : 1. LCpeak = 129.8 dB (C)
2. This Analysis test report is reissued to supersede report No. 2564833-1 Rev No.1 Date Reported : Mar 28, 2023 due to revise analytical information.

Sampled By : Jessadin Kongsukdithai

Remark :

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- "e" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Approved by

Wichan Choonharat

Wichan Choonharat
Assistant Manager

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3/16/23-13/04/23



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: 2315657
Date Received : Mar 14, 2023
Date Reported : Mar 30, 2023
Report Number : 2564833-1 Rev. No.2

Page 4 of 5

Sample Number : 2315657-4
Sampled Date : Mar 12, 2023
Sample Description : Noise Dose
Location : บริเวณอาคารโรงโม่หิน
Personal Sampling : คุณสุพจน์ ธีคำ
Date Analysis Commenced : Mar 15, 2023

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	21.9	No Standard	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Bangkok
TWA (8 hrs.)	09:00 AM - 05:00 PM	dB(A)	-	-	78.4	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)

Note : 1. LCpeak = 131.1 dB (C)
2. This Analysis test report is reissued to supersede report No. 2564833-1 Rev No.1 Date Reported : Mar 28, 2023 due to revise analytical information.

Sampled By : Jessadin Kongsukdithai

Remark :

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Analysis / Test Report

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

Lot ID: 2315657

Date Received : Mar 14, 2023

Date Reported : Mar 30, 2023

Report Number : 2564833-1 Rev. No.2

P/O :

Project Name : EIA Monitoring

Project Location :

Page 5 of 5

Sample Number : 2315657-5
Sampled Date : Mar 12, 2023
Sample Description : Noise Dose
Location : บริเวณอาคารเครื่องปั้นดินเผา
Personal Sampling : ผู้ตรวจวัด : จิตนภัส
Date Analysis Commenced : Mar 15, 2023

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	35.5	No Standard	MOL, Department Labour Protection and Welfare (B.E.2561)	MOL	Bangkok
TWA (8 hrs.)	09:00 AM - 05:00 PM	dB(A)	-	-	80.5	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)

Note : 1. LCpeak = 129.9 dB (C)
2. This Analysis test report is reissued to supersede report No. 2564833-1 Rev No.1 Date Reported : Mar 28, 2023 due to revise analytical information.

Sampled By : Jessadin Kongsukdithai

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Approved by

Wichan Choonharat

Wichan Choonharat
Assistant Manager

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HR00230 EMBL

ภาคผนวก ค-15

ผลการตรวจวัดฝุ่นละอองรวมในพื้นที่ทำงาน



TESTING
No.0009

Analysis / Test Report

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

Lot ID: 2315667

Date Received : Mar 14, 2023

Date Reported : Mar 21, 2023

Report Number : 2564957-1

P/O :

Project Name : EIA Monitoring

Project Location :

Page 1 of 4

Sample Number : 2315667-1
Sampled Date : Mar 12, 2023
Sample Description : Air Quality
Location : อวนคอกน้ำตาลอวนคอกน้ำตาล
Date Analysis Commenced : Mar 16, 2023
Condition of Sample : Drawn into two filter papers placed in each cassette.
Barometric Pressure : 745 mmHg
Atmospheric Temperature : 30.0 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Respirable Dust	10:00 AM - 12:00 PM	mg/m3	-	0.15	0.28	5	Based on NIOSH (1998), 0600	OSHA	Bangkok
Total dust	10:00 AM - 12:00 PM	mg/m3	-	0.15	0.74	15	Based on NIOSH (1994), 0501	OSHA	Bangkok

Guideline :

OSHA : Occupational Safety and Health Administration

Sampled By : Anukun Wilasong

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

Orawan R.

Orawan Rakying
Scientist (3)

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ALS-23-0000



TESTING
No.0009

Analysis / Test Report

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

Lot ID: 2315667

Date Received : Mar 14, 2023

Date Reported : Mar 21, 2023

Report Number : 2564957-1

P/O :

Project Name : EIA Monitoring

Project Location :

Page 2 of 4

Sample Number : 2315667-2
Sampled Date : Mar 12, 2023
Sample Description : Air Quality
Location : อวนคอกน้ำตาลอวนคอกน้ำตาล
Date Analysis Commenced : Mar 16, 2023
Condition of Sample : Drawn into two filter papers placed in each cassette.
Barometric Pressure : 745 mmHg
Atmospheric Temperature : 30.0 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Respirable Dust	11:00 AM - 01:00 PM	mg/m3	-	0.15	<0.15	5	Based on NIOSH (1998), 0600	OSHA	Bangkok
Total dust	11:00 AM - 01:00 PM	mg/m3	-	0.15	0.17	15	Based on NIOSH (1994), 0501	OSHA	Bangkok

Guideline :

OSHA : Occupational Safety and Health Administration

Sampled By : Anukun Wilasong

Remark :

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ALS-23-0000



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: 2315667
Date Received : Mar 14, 2023
Date Reported : Mar 21, 2023
Report Number : 2564957-1

TESTING
No.0009

Page 3 of 4

Sample Number : 2315667-3
Sampled Date : Mar 12, 2023
Sample Description : Air Quality
Location : บริเวณจุดปล่อยฝุ่น
Personal Sampling : บุคลากรในโรงงาน (Respirable dust)
Date Analysis Commenced : Mar 16, 2023
Condition of Sample : Drawn into two filter papers placed in each cassette
Barometric Pressure : 745 mmHg
Atmospheric Temperature : 30.0 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Respirable Dust	01:00 PM - 03:00 PM	mg/m ³	-	0.15	<0.15	5	Based on NIOSH (1998), OSHA 0600	OSHA	Bangkok
Total dust	01:00 PM - 03:00 PM	mg/m ³	-	0.15	0.52	15	Based on NIOSH (1994), OSHA 0501	OSHA	Bangkok

Guideline :
OSHA : Occupational Safety and Health Administration
Sampled By : Anukun Wilsang

Remark :

- LOD : Limit of Detection
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Approved by

Orawan R.

Orawan Rakjong
Scientist (3)

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14025-23/0945



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: 2315667
Date Received : Mar 14, 2023
Date Reported : Mar 21, 2023
Report Number : 2564957-1

TESTING
No.0009

Page 4 of 4

Sample Number : 2315667-4
Sampled Date : Mar 12, 2023
Sample Description : Air Quality
Location : บริเวณจุดปล่อยฝุ่น
Personal Sampling : บุคลากรในโรงงาน (Respirable dust)
Date Analysis Commenced : Mar 16, 2023
Condition of Sample : Drawn into two filter papers placed in each cassette
Barometric Pressure : 745 mmHg
Atmospheric Temperature : 30.0 °C

Analyte	Sampled Date/time	Unit	LOD	LOQ (LOR)	Result	Guideline Limit	Method	Guideline	Testing Location
Air Testing									
Respirable Dust	10:00 AM - 12:00 PM	mg/m ³	-	0.15	0.17	5	Based on NIOSH (1998), OSHA 0600	OSHA	Bangkok
Total dust	10:00 AM - 12:00 PM	mg/m ³	-	0.15	0.39	15	Based on NIOSH (1994), OSHA 0501	OSHA	Bangkok

Guideline :
OSHA : Occupational Safety and Health Administration
Sampled By : Anukun Wilsang

Remark :

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

Orawan Rakjong
Scientist (3)

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14025-23/0946

ภาคผนวก ค-16

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: 2315671

Date Received : Mar 15, 2023

Date Reported : Mar 17, 2023

Report Number: 2565046-1

Page 1 of 2

Sample Number : 2315671-1
Parameter : Heat Stress (Sampling Time : 01.30 PM - 03.30 PM)
Measurement Date : Mar 12, 2023
Measurement by : Jessadin Kongsukdithai
Location : ปฏบัติงาน 1 พื้นที่ (ข้อ-งานสฤค สุ่มปฏบัติงาน :- แทน :-)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณเขตที่ดิน	120	28.4	26.6	32.7	32.5
Average (WBGT)		28.4			
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 S.

Supot Salamteh
Section Head

Approved by

Wichan Ch.

Wichan Choonharat
Assistant Manager

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14025-23 / EMAIL

S Report_Air Heat ref (3 1878)



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: 2315671

Date Received : Mar 15, 2023

Date Reported : Mar 17, 2023

Report Number: 2565046-1

Page 2 of 2

Sample Number : 2315671-2
Parameter : Heat Stress (Sampling Time : 01.30 PM - 03.30 PM)
Measurement Date : Mar 12, 2023
Measurement by : Jessadin Kongsukdithai
Location : ปฏบัติงาน 1 พื้นที่ (ข้อ-งานสฤค สุ่มปฏบัติงาน :- แทน :-)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณเขตที่ดิน	120	27.2	23.5	35.8	35.3
Average (WBGT)		27.2			
Guideline WBGT (°C)		34.0			

Reference Method : Wet Bulb Globe Temperature

Guideline:

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

Technical Management

Supot S.

Supot Salamteh
Section Head

Approved by

Wichan Ch.

Wichan Choonharat
Assistant Manager

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14025-23 / EMAIL

S Report_Air Heat ref (3 1878)



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: 2315672

Date Received : Mar 15, 2023

Date Reported : Mar 17, 2023

Report Number: 2565053:1

Page 1 of 1

Sample Number : 2315672-1

Parameter : Heat Stress (Sampling Time : 01.30 PM - 03.00 PM)

Measurement Date : Mar 12, 2023

Measurement by : Jessadin Kongsukdithai

Location : ปฏิบัติงาน 1 พื้นที่ (ข้อ-นางสาวกุล ปฏิบัติงาน : - แทน : -)

Location	Duration (min)	WBGT (°C)	NWB (°C)	GT (°C)	DB (°C)
บริเวณอาคารพื้ของสวนผลไม้	120	26.4	23.1	34.1	34.1
Average (WBGT)		26.4			
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

Supt S

Supot Samiteth
Section Head

Approved by

Wichan Choonharat

Wichan Choonharat
Assistant Manager

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ภาคผนวก ค-17

ผลการตรวจวัดความเข้มของแสงสว่างในบริเวณการทำงาน



Analysis / Test Report

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

P/O :

Project Name : Factory License No.10410000125343_EIA Monitoring

Project Location :

Lot ID: 2315673

Date Received : Mar 20, 2023

Date Reported : Mar 24, 2023

Report Number : 2598874-1

Page 1 of 1

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux) Spot Average	Guideline Limit Spot/Min Average	Comment
Spot - อาคารโรงสี : 1st Floor : ห้องขนาน : จุดขนาน							
1	2315673-1	14 Mar 2023	Day time	1	546	400-500	Pass
1	2315673-2	12 Mar 2023	Night time	1	523	400-500	Pass
Spot - อาคารโรงสี : 1st Floor : ห้อง QC : จุดขนาน							
2	2315673-3	14 Mar 2023	Day time	1	1,107	400-500	Pass
2	2315673-4	14 Mar 2023	Day time	2	1,110	300	
2	2315673-5	14 Mar 2023	Day time	3	1,113	200	
2	2315673-6	12 Mar 2023	Night time	1	1,104	400-500	Pass
2	2315673-7	12 Mar 2023	Night time	2	1,108	300	
2	2315673-8	12 Mar 2023	Night time	3	1,201	200	
Spot - อาคารโรงสี : 1st Floor : ห้องเตรียมสารเคมี : หน้า Hood							
3	2315673-9	14 Mar 2023	Day time	1	691	400-500	Pass
3	2315673-10	12 Mar 2023	Night time	1	661	400-500	Pass
Spot - อาคารโรงสี : 1st Floor : ห้องวิเคราะห์ผลปลูกผล (แบบ QA) : งานเอกสาร							
4	2315673-11	14 Mar 2023	Day time	1	644	400-500	Pass
4	2315673-12	12 Mar 2023	Night time	1	628	400-500	Pass
Spot - อาคารโรงสี : 1st Floor : ห้อง QC : ห้อง POL Analysis : จุดวิเคราะห์ผลปลูก							
5	2315673-13	14 Mar 2023	Day time	1	495	400-500	Pass
5	2315673-14	12 Mar 2023	Night time	1	472	400-500	Pass
Spot - อาคารโรงสี : 1st Floor : ห้องงาน : โต๊ะจุดตรวจ (QA)							
6	2315673-15	14 Mar 2023	Day time	1	576	400-500	Pass
6	2315673-16	12 Mar 2023	Night time	1	563	400-500	Pass
Spot - อาคารโรงสี : 1st Floor : ห้องงาน : โต๊ะจุดตรวจ							
7	2315673-17	14 Mar 2023	Day time	1	607	400-500	Pass
7	2315673-18	12 Mar 2023	Night time	1	527	400-500	Pass
Spot - อาคารโรงสี : 1st Floor : ห้อง Safety : โต๊ะจุดตรวจ							
8	2315673-19	14 Mar 2023	Day time	1	634	400-500	Pass
8	2315673-20	12 Mar 2023	Night time	1	552	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), 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

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5 Reports 1 Page

2025-23/ENR



Analysis / Test Report

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

P/O :

Project Name : Factory License No.10410000125343_EIA Monitoring

Project Location :

Lot ID: 2315684

Date Received : Mar 20, 2023

Date Reported : Mar 24, 2023

Report Number : 2598875-1

Page 1 of 1

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux) Spot Average	Guideline Limit Spot/Min Average	Comment
Area - อาคารโรงสี : 2nd Floor : Meeting Room 1							
1.1	2315684-1	12 Mar 2023	Day time	1	388	567.3 150 300	Pass
1.2	2315684-2	12 Mar 2023	Day time	2	448		
1.3	2315684-3	12 Mar 2023	Day time	3	486		
1.4	2315684-4	12 Mar 2023	Day time	4	452		
1.5	2315684-5	12 Mar 2023	Day time	5	418		
1.6	2315684-6	12 Mar 2023	Day time	6	448		
1.7	2315684-7	12 Mar 2023	Day time	7	655		
1.8	2315684-8	12 Mar 2023	Day time	8	659		
1.9	2315684-9	12 Mar 2023	Day time	9	689		
1.10	2315684-10	12 Mar 2023	Day time	10	680		
1.11	2315684-11	12 Mar 2023	Day time	11	650		
1.12	2315684-12	12 Mar 2023	Day time	12	641		
1.13	2315684-13	12 Mar 2023	Day time	13	606		
1.14	2315684-14	12 Mar 2023	Day time	14	618		
1.15	2315684-15	12 Mar 2023	Day time	15	509		
1.16	2315684-16	12 Mar 2023	Day time	16	546		
1.17	2315684-17	12 Mar 2023	Day time	17	575		
1.18	2315684-18	12 Mar 2023	Day time	18	548		
Spot - อาคารโรงสี : 2nd Floor : Factory Room : โต๊ะจุดตรวจ							
2	2315684-19	14 Mar 2023	Day time	1	440	400-500	Pass
Spot - อาคารโรงสี : 2nd Floor : Factory Room : โต๊ะจุดตรวจ							
3	2315684-20	14 Mar 2023	Day time	1	503	400-500	Pass
Spot - อาคารโรงสี : 2nd Floor : Factory Room : โต๊ะจุดตรวจ							
4	2315684-21	14 Mar 2023	Day time	1	488	400-500	Pass
Spot - อาคารโรงสี : 2nd Floor : Factory Room : โต๊ะจุดตรวจ							
5	2315684-22	14 Mar 2023	Day time	1	568	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), 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

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Assistant Manager

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5 Reports 23/ENR

5 Reports 1 Page



Analysis / Test Report

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

P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :

Lot ID: 2315685

Date Received : Mar 20, 2023
Date Reported : Mar 24, 2023
Report Number : 2598878-1

Page 1 of 1

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot / Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
1	Spot - อาคารสำนักงาน : 1st Floor : แยก HR : โต๊ะคุณผู้ชม โทรทัศน์	2315685-1	14 Mar 2023	Day time	1	580	-	400-500	Pass
2	Spot - อาคารสำนักงาน : 1st Floor : แยก HR : โต๊ะคุณผู้ชม โทรทัศน์	2315685-2	14 Mar 2023	Day time	1	658	-	400-500	Pass
3	Spot - อาคารสำนักงาน : 1st Floor : แยก HR : โต๊ะคุณผู้ชม โทรทัศน์	2315685-3	14 Mar 2023	Day time	1	753	-	400-500	Pass
4	Spot - อาคารสำนักงาน : 1st Floor : แยก HR : โต๊ะคุณผู้ชม โทรทัศน์	2315685-4	14 Mar 2023	Day time	1	806	-	400-500	Pass
5	Spot - อาคารสำนักงาน : 1st Floor : แยก Admin : โต๊ะคุณผู้ชม โทรทัศน์	2315685-5	14 Mar 2023	Day time	1	510	-	400-500	Pass
6	Spot - อาคารสำนักงาน : 1st Floor : แยก Admin : โต๊ะคุณผู้ชม โทรทัศน์	2315685-6	14 Mar 2023	Day time	1	407	-	400-500	Pass
7	Spot - อาคารสำนักงาน : 1st Floor : แยก Admin : โต๊ะคุณผู้ชม โทรทัศน์	2315685-7	14 Mar 2023	Day time	1	577	-	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

Supt S
Supot Salamteh
Section Head

Approved by

Wichan Choonharat
Wichan Choonharat
Assistant Manager

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5/10/2023/14035



Analysis / Test Report

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

P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :

Lot ID: 2315686

Date Received : Mar 20, 2023
Date Reported : Mar 24, 2023
Report Number : 2598880-1

Page 1 of 1

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot / Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
1	Spot - อาคารสำนักงาน : 2nd Floor : แยก IT : โต๊ะคุณผู้ชม โทรทัศน์	2315686-1	12 Mar 2023	Day time	1	651	-	400-500	Pass
1	Spot - อาคารสำนักงาน : 2nd Floor : แยก IT : โต๊ะคุณผู้ชม โทรทัศน์	2315686-2	13 Mar 2023	Night time	1	510	-	400-500	Pass
2	Spot - อาคารสำนักงาน : 2nd Floor : แยก IT : โต๊ะคุณผู้ชม โทรทัศน์	2315686-3	12 Mar 2023	Day time	1	850	-	400-500	Pass
2	Spot - อาคารสำนักงาน : 2nd Floor : แยก IT : โต๊ะคุณผู้ชม โทรทัศน์	2315686-4	13 Mar 2023	Night time	1	428	-	400-500	Pass
3	Spot - อาคารสำนักงาน : 2nd Floor : แยก CP : โต๊ะคุณผู้ชม โทรทัศน์	2315686-5	12 Mar 2023	Day time	1	691	-	400-500	Pass
4	Spot - อาคารสำนักงาน : 2nd Floor : แยก CP : โต๊ะคุณผู้ชม โทรทัศน์	2315686-6	12 Mar 2023	Day time	1	639	-	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

Supt S
Supot Salamteh
Section Head

Approved by

Wichan Choonharat
Wichan Choonharat
Assistant Manager

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14035-23/03/2023

5/10/2023/14035



Analysis / Test Report

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

P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring

Project Location :

Lot ID: 2315687

Date Received : Mar 20, 2023

Date Reported : Mar 24, 2023

Report Number : 2598881-1

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	
2	Spot - อาคาร Warehouse : 1st Floor : Office : โต๊ะทำงาน โรงงาน								
	2315687-1	12 Mar 2023	Day time	1	792	-	400-500	-	Pass
3	Spot - อาคาร Warehouse : 1st Floor : Office : โต๊ะทำงาน โรงงาน								
	2315687-2	12 Mar 2023	Day time	1	499	-	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), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

Supt S

Supt Salameh
Section Head

Approved by

Wichan Choonharat

Wichan Choonharat
Assistant Manager

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1803-2315687



Analysis / Test Report

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

P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring

Project Location :

Lot ID: 2315688

Date Received : Mar 20, 2023

Date Reported : Mar 24, 2023

Report Number : 2598884-1

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 - อาคารชั้นผลิตภัณฑ : 1st Floor : อาคารชั้นผลิตภัณฑ : ห้องขึ้นสินค้า : โต๊ะขึ้นน้ำหนัก									
1	2315688-1	14 Mar 2023	Day time	1	449	-	400-500	-	Pass
1	2315688-2	14 Mar 2023	Night time	1	408	-	400-500	-	Pass
Spot - อาคารชั้นผลิตภัณฑ : 1st Floor : อาคารชั้นผลิตภัณฑ : ห้องขึ้นสินค้า : โต๊ะยกขึ้นน้ำหนั (ตอน 2)									
2	2315688-3	14 Mar 2023	Day time	1	414	-	400-500	-	Pass
2	2315688-4	14 Mar 2023	Night time	1	404	-	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), and published in the Royal Government Gazette, Vol.135, Part 39D dated February 21 B.E.2561 (2018)

Technical Management

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1803-2315688



Analysis / Test Report

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

P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :

Lot ID: 2315689

Date Received : Mar 20, 2023
Date Reported : Mar 24, 2023
Report Number : 2598885-1

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 - Mill 3 : 3rd Floor : Control Room #1									
1.1	2315689-1	12 Mar 2023	Day time	1	540	504.2	100	200	Pass
1.2	2315689-2	12 Mar 2023	Day time	2	590				
1.3	2315689-3	12 Mar 2023	Day time	3	538				
1.4	2315689-4	12 Mar 2023	Day time	4	429				
1.5	2315689-5	12 Mar 2023	Day time	5	479				
1.6	2315689-6	12 Mar 2023	Day time	6	449				
1.1	2315689-7	12 Mar 2023	Night time	1	418	438.0	100	200	Pass
1.2	2315689-8	12 Mar 2023	Night time	2	453				
1.3	2315689-9	12 Mar 2023	Night time	3	448				
1.4	2315689-10	12 Mar 2023	Night time	4	495				
1.5	2315689-11	12 Mar 2023	Night time	5	440				
1.6	2315689-12	12 Mar 2023	Night time	6	374				

Technical Management

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Analysis / Test Report

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

P/O :
Project Name : Factory License No.10410000125343_EIA Monitoring
Project Location :

Lot ID: 2315689

Date Received : Mar 20, 2023
Date Reported : Mar 24, 2023
Report Number : 2598885-1

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 - Mill 3 : 3rd Floor : Control Room #2									
2.1	2315689-13	12 Mar 2023	Day time	1	370	606.9	100	200	Pass
2.2	2315689-14	12 Mar 2023	Day time	2	1,209				
2.3	2315689-15	12 Mar 2023	Day time	3	357				
2.4	2315689-16	12 Mar 2023	Day time	4	638				
2.5	2315689-17	12 Mar 2023	Day time	5	629				
2.6	2315689-18	12 Mar 2023	Day time	6	997				
2.7	2315689-19	12 Mar 2023	Day time	7	354				
2.8	2315689-20	12 Mar 2023	Day time	8	287				
2.9	2315689-21	12 Mar 2023	Day time	9	730				
2.10	2315689-22	12 Mar 2023	Day time	10	984				
2.1	2315689-23	12 Mar 2023	Night time	1	345	377.7	100	200	Pass
2.2	2315689-24	12 Mar 2023	Night time	2	456				
2.3	2315689-25	12 Mar 2023	Night time	3	312				
2.4	2315689-26	12 Mar 2023	Night time	4	369				
2.5	2315689-27	12 Mar 2023	Night time	5	407				
2.6	2315689-28	12 Mar 2023	Night time	6	232				
2.7	2315689-29	12 Mar 2023	Night time	7	310				
2.8	2315689-30	12 Mar 2023	Night time	8	268				
2.9	2315689-31	12 Mar 2023	Night time	9	417				
2.10	2315689-32	12 Mar 2023	Night time	10	398				

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 390 dated February 21 B.E.2561 (2018)

Technical Management

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Analysis / Test Report

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

P/O :

Project Name : Factory License No.10410000125343_EIA Monitoring

Project Location :

Lot ID: 2315690

Date Received : Mar 20, 2023

Date Reported : Mar 24, 2023

Report Number : 2598888-1

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	2315690-1	12 Mar 2023	Day time	1	377	360.7	150	300	Pass
1.2	2315690-2	12 Mar 2023	Day time	2	296				
1.3	2315690-3	12 Mar 2023	Day time	3	614				
1.4	2315690-4	12 Mar 2023	Day time	4	260				
1.5	2315690-5	12 Mar 2023	Day time	5	242				
1.6	2315690-6	12 Mar 2023	Day time	6	526				
1.7	2315690-7	12 Mar 2023	Day time	7	324				
1.8	2315690-8	12 Mar 2023	Day time	8	349				
1.9	2315690-9	12 Mar 2023	Day time	9	390				
1.10	2315690-10	12 Mar 2023	Day time	10	519				
1.11	2315690-11	12 Mar 2023	Day time	11	276				
1.12	2315690-12	12 Mar 2023	Day time	12	268				
1.13	2315690-13	12 Mar 2023	Day time	13	258				
1.14	2315690-14	12 Mar 2023	Day time	14	319				
1.15	2315690-15	12 Mar 2023	Day time	15	544				
1.16	2315690-16	12 Mar 2023	Day time	16	209				
1.1	2315690-17	12 Mar 2023	Night time	1	343	304.3	150	300	Pass
1.2	2315690-18	12 Mar 2023	Night time	2	280				
1.3	2315690-19	12 Mar 2023	Night time	3	381				
1.4	2315690-20	12 Mar 2023	Night time	4	218				
1.5	2315690-21	12 Mar 2023	Night time	5	316				
1.6	2315690-22	12 Mar 2023	Night time	6	342				
1.7	2315690-23	12 Mar 2023	Night time	7	235				
1.8	2315690-24	12 Mar 2023	Night time	8	310				
1.9	2315690-25	12 Mar 2023	Night time	9	273				
1.10	2315690-26	12 Mar 2023	Night time	10	397				
1.11	2315690-27	12 Mar 2023	Night time	11	310				
1.12	2315690-28	12 Mar 2023	Night time	12	340				
1.13	2315690-29	12 Mar 2023	Night time	13	235				
1.14	2315690-30	12 Mar 2023	Night time	14	285				
1.15	2315690-31	12 Mar 2023	Night time	15	395				
1.16	2315690-32	12 Mar 2023	Night time	16	208				

Technical Management

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Section Head

Approved by

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Wichan Choonharat
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Analysis / Test Report

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

P/O :

Project Name : Factory License No.10410000125343_EIA Monitoring

Project Location :

Lot ID: 2315690

Date Received : Mar 20, 2023

Date Reported : Mar 24, 2023

Report Number : 2598888-1

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	2315690-33	12 Mar 2023	Day time	1	350	264.9	100	200	Pass
2.2	2315690-34	12 Mar 2023	Day time	2	348				
2.3	2315690-35	12 Mar 2023	Day time	3	281				
2.4	2315690-36	12 Mar 2023	Day time	4	333				
2.5	2315690-37	12 Mar 2023	Day time	5	150				
2.6	2315690-38	12 Mar 2023	Day time	6	175				
2.7	2315690-39	12 Mar 2023	Day time	7	212				
2.8	2315690-40	12 Mar 2023	Day time	8	226				
2.9	2315690-41	12 Mar 2023	Day time	9	338				
2.10	2315690-42	12 Mar 2023	Day time	10	358				
2.11	2315690-43	12 Mar 2023	Day time	11	238				
2.12	2315690-44	12 Mar 2023	Day time	12	170				
2.1	2315690-45	12 Mar 2023	Night time	1	367	265.1	100	200	Pass
2.2	2315690-46	12 Mar 2023	Night time	2	292				
2.3	2315690-47	12 Mar 2023	Night time	3	259				
2.4	2315690-48	12 Mar 2023	Night time	4	326				
2.5	2315690-49	12 Mar 2023	Night time	5	126				
2.6	2315690-50	12 Mar 2023	Night time	6	165				
2.7	2315690-51	12 Mar 2023	Night time	7	199				
2.8	2315690-52	12 Mar 2023	Night time	8	213				
2.9	2315690-53	12 Mar 2023	Night time	9	413				
2.10	2315690-54	12 Mar 2023	Night time	10	377				
2.11	2315690-55	12 Mar 2023	Night time	11	292				
2.12	2315690-56	12 Mar 2023	Night time	12	152				

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 Salameh

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Wichan Choonharat
Assistant Manager

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5/16/2023/Right



Analysis / Test Report

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

P/O :

Project Name : Factory License No.10410000125343_EIA Monitoring

Project Location :

Lot ID: 2315691

Date Received : Mar 20, 2023

Date Reported : Mar 24, 2023

Report Number : 2598890-1

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	2315691-1	12 Mar 2023	Day time	1	351	454.7	150	300	Pass
1.2	2315691-2	12 Mar 2023	Day time	2	345				
1.3	2315691-3	12 Mar 2023	Day time	3	478				
1.4	2315691-4	12 Mar 2023	Day time	4	465				
1.5	2315691-5	12 Mar 2023	Day time	5	449				
1.6	2315691-6	12 Mar 2023	Day time	6	472				
1.7	2315691-7	12 Mar 2023	Day time	7	501				
1.8	2315691-8	12 Mar 2023	Day time	8	524				
1.9	2315691-9	12 Mar 2023	Day time	9	519				
1.10	2315691-10	12 Mar 2023	Day time	10	443				
1.1	2315691-11	12 Mar 2023	Night time	1	352	443.6	150	300	Pass
1.2	2315691-12	12 Mar 2023	Night time	2	343				
1.3	2315691-13	12 Mar 2023	Night time	3	399				
1.4	2315691-14	12 Mar 2023	Night time	4	403				
1.5	2315691-15	12 Mar 2023	Night time	5	348				
1.6	2315691-16	12 Mar 2023	Night time	6	510				
1.7	2315691-17	12 Mar 2023	Night time	7	497				
1.8	2315691-18	12 Mar 2023	Night time	8	513				
1.9	2315691-19	12 Mar 2023	Night time	9	528				
1.10	2315691-20	12 Mar 2023	Night time	10	543				

Technical Management

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Wichan Choonharat
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14025-23/ENAL



Analysis / Test Report

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

P/O :

Project Name : Factory License No.10410000125343_EIA Monitoring

Project Location :

Lot ID: 2315691

Date Received : Mar 20, 2023

Date Reported : Mar 24, 2023

Report Number : 2598890-1

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	2315691-21	12 Mar 2023	Day time	1	480	455.3	100	200	Pass
2.2	2315691-22	12 Mar 2023	Day time	2	499				
2.3	2315691-23	12 Mar 2023	Day time	3	467				
2.4	2315691-24	12 Mar 2023	Day time	4	509				
2.5	2315691-25	12 Mar 2023	Day time	5	379				
2.6	2315691-26	12 Mar 2023	Day time	6	418				
2.7	2315691-27	12 Mar 2023	Day time	7	456				
2.8	2315691-28	12 Mar 2023	Day time	8	434				
2.1	2315691-29	12 Mar 2023	Night time	1	407	394.5	100	200	Pass
2.2	2315691-30	12 Mar 2023	Night time	2	390				
2.3	2315691-31	12 Mar 2023	Night time	3	405				
2.4	2315691-32	12 Mar 2023	Night time	4	421				
2.5	2315691-33	12 Mar 2023	Night time	5	321				
2.6	2315691-34	12 Mar 2023	Night time	6	400				
2.7	2315691-35	12 Mar 2023	Night time	7	426				
2.8	2315691-36	12 Mar 2023	Night time	8	386				

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 390 dated February 21 B.E.2561 (2018)

Technical Management

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Supot Salamtehi
Section Head

Approved by

Wichan Choonharat
Wichan Choonharat
Assistant Manager

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14025-23/ENAL



Analysis / Test Report

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

P/O :

Project Name : Factory License No.10410000125343_EIA Monitoring

Project Location :

Lot ID: 2315692

Date Received : Mar 20, 2023

Date Reported : Mar 24, 2023

Report Number : 2598893-1

Page 1 of 4

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - โรงกลั่น Refinery : 5th Floor : Control Room									
1.1	2315692-1	12 Mar 2023	Day time	1	470	338.1	150	300	Pass
1.2	2315692-2	12 Mar 2023	Day time	2	293				
1.3	2315692-3	12 Mar 2023	Day time	3	264				
1.4	2315692-4	12 Mar 2023	Day time	4	378				
1.5	2315692-5	12 Mar 2023	Day time	5	343				
1.6	2315692-6	12 Mar 2023	Day time	6	239				
1.7	2315692-7	12 Mar 2023	Day time	7	330				
1.8	2315692-8	12 Mar 2023	Day time	8	335				
1.9	2315692-9	12 Mar 2023	Day time	9	329				
1.10	2315692-10	12 Mar 2023	Day time	10	338				
1.11	2315692-11	12 Mar 2023	Day time	11	252				
1.12	2315692-12	12 Mar 2023	Day time	12	427				
1.13	2315692-13	12 Mar 2023	Day time	13	277				
1.14	2315692-14	12 Mar 2023	Day time	14	410				
1.15	2315692-15	12 Mar 2023	Day time	15	412				
1.16	2315692-16	12 Mar 2023	Day time	16	337				
1.17	2315692-17	12 Mar 2023	Day time	17	315				
1.18	2315692-18	12 Mar 2023	Day time	18	336				
1.1	2315692-19	12 Mar 2023	Night time	1	422	319.2	150	300	Pass
1.2	2315692-20	12 Mar 2023	Night time	2	210				
1.3	2315692-21	12 Mar 2023	Night time	3	250				
1.4	2315692-22	12 Mar 2023	Night time	4	384				
1.5	2315692-23	12 Mar 2023	Night time	5	289				
1.6	2315692-24	12 Mar 2023	Night time	6	331				
1.7	2315692-25	12 Mar 2023	Night time	7	410				
1.8	2315692-26	12 Mar 2023	Night time	8	308				
1.9	2315692-27	12 Mar 2023	Night time	9	324				
1.10	2315692-28	12 Mar 2023	Night time	10	306				
1.11	2315692-29	12 Mar 2023	Night time	11	226				
1.12	2315692-30	12 Mar 2023	Night time	12	416				
1.13	2315692-31	12 Mar 2023	Night time	13	219				
1.14	2315692-32	12 Mar 2023	Night time	14	330				

Technical Management

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14025-23/EN003

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Analysis / Test Report

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

P/O :

Project Name : Factory License No.10410000125343_EIA Monitoring

Project Location :

Lot ID: 2315692

Date Received : Mar 20, 2023

Date Reported : Mar 24, 2023

Report Number : 2598893-1

Page 2 of 4

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - โรงกลั่น Refinery : 5th Floor : Control Room									
1.15	2315692-33	12 Mar 2023	Night time	15	410				
1.16	2315692-34	12 Mar 2023	Night time	16	302				
1.17	2315692-35	12 Mar 2023	Night time	17	281				
1.18	2315692-36	12 Mar 2023	Night time	18	328				

Technical Management

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Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.

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

P/O :

Project Name : Factory License No.10410000125343_EIA Monitoring

Project Location :

Lot ID: 2315692

Date Received : Mar 20, 2023

Date Reported : Mar 24, 2023

Report Number : 2598893-1

Page 3 of 4

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - โรงหีบ Refinery : 5th Floor : MDB Room									
2.1	2315692-37	12 Mar 2023	Day time	1	313	310.9	100	200	Pass
2.2	2315692-38	12 Mar 2023	Day time	2	533				
2.3	2315692-39	12 Mar 2023	Day time	3	210				
2.4	2315692-40	12 Mar 2023	Day time	4	255				
2.5	2315692-41	12 Mar 2023	Day time	5	485				
2.6	2315692-42	12 Mar 2023	Day time	6	273				
2.7	2315692-43	12 Mar 2023	Day time	7	193				
2.8	2315692-44	12 Mar 2023	Day time	8	187				
2.9	2315692-45	12 Mar 2023	Day time	9	162				
2.10	2315692-46	12 Mar 2023	Day time	10	279				
2.11	2315692-47	12 Mar 2023	Day time	11	286				
2.12	2315692-48	12 Mar 2023	Day time	12	287				
2.13	2315692-49	12 Mar 2023	Day time	13	193				
2.14	2315692-50	12 Mar 2023	Day time	14	313				
2.15	2315692-51	12 Mar 2023	Day time	15	350				
2.16	2315692-52	12 Mar 2023	Day time	16	539				
2.17	2315692-53	12 Mar 2023	Day time	17	279				
2.18	2315692-54	12 Mar 2023	Day time	18	459				
2.1	2315692-55	12 Mar 2023	Night time	1	209	280.7	100	200	Pass
2.2	2315692-56	12 Mar 2023	Night time	2	523				
2.3	2315692-57	12 Mar 2023	Night time	3	186				
2.4	2315692-58	12 Mar 2023	Night time	4	213				
2.5	2315692-59	12 Mar 2023	Night time	5	390				
2.6	2315692-60	12 Mar 2023	Night time	6	263				
2.7	2315692-61	12 Mar 2023	Night time	7	132				
2.8	2315692-62	12 Mar 2023	Night time	8	172				
2.9	2315692-63	12 Mar 2023	Night time	9	182				
2.10	2315692-64	12 Mar 2023	Night time	10	243				
2.11	2315692-65	12 Mar 2023	Night time	11	296				
2.12	2315692-66	12 Mar 2023	Night time	12	284				
2.13	2315692-67	12 Mar 2023	Night time	13	162				
2.14	2315692-68	12 Mar 2023	Night time	14	304				

Technical Management

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Analysis / Test Report

Client : Kaset Phol Sugar Co., Ltd.

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

P/O :

Project Name : Factory License No.10410000125343_EIA Monitoring

Project Location :

Lot ID: 2315692

Date Received : Mar 20, 2023

Date Reported : Mar 24, 2023

Report Number : 2598893-1

Page 4 of 4

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
Area - โรงหีบ Refinery : 5th Floor : MDB Room									
2.15	2315692-69	12 Mar 2023	Night time	15	332				
2.16	2315692-70	12 Mar 2023	Night time	16	482				
2.17	2315692-71	12 Mar 2023	Night time	17	243				
2.18	2315692-72	12 Mar 2023	Night time	18	437				

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 390 dated February 21 B.E.2561 (2018)

Technical Management

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Analysis / Test Report

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

P/O :

Project Name : Factory License No.10+10000125343_EIA Monitoring

Project Location :

Lot ID: 2315693

Date Received : Mar 20, 2023

Date Reported : Mar 24, 2023

Report Number : Z598894-1

Page 1 of 1

Lay out No.	Reference Number	Measurement Date	Measurement Time	Spot /Area No.	Illuminance (Lux)		Guideline Limit		Comment
					Spot	Average	Spot/Min	Average	
1	Spot - อาคารผลิต : 1st Floor : โต๊ะทำงาน (โต๊ะข้างขวา) 2315693-1	14 Mar 2023	Day time	1	542	-	400-500	-	Pass
2	Spot - อาคารผลิต : 1st Floor : โต๊ะผูกพันปลา 2315693-2	14 Mar 2023	Day time	1	377	-	400-500	-	Fail
3	Spot - อาคารผลิต : 1st Floor : โต๊ะผูกมัดรถยก 2315693-3	14 Mar 2023	Day time	1	291	-	400-500	-	Fail
4	Spot - อาคารผลิต : 1st Floor : โต๊ะผูกมัดรถ 2315693-4	14 Mar 2023	Day time	1	477	-	400-500	-	Pass
5	Spot - อาคารผลิต : 1st Floor : ส่วนประกอบ : โต๊ะผูกมัดรถ 2315693-5	14 Mar 2023	Day time	1	402	-	400-500	-	Pass
6	Spot - อาคารผลิต : 1st Floor : ส่วนประกอบ : โต๊ะผูกมัดรถ 2315693-6	14 Mar 2023	Day time	1	404	-	400-500	-	Pass

Measurement by : Jessadin Kongsukvitthai 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)

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