

ภาคผนวก ค
ใบรายงานผลการวิเคราะห์

ปริมาณของสารเจือปนในอากาศที่ระบายออกจากโรงงาน

ANALYSIS REPORT

CUSTOMER NAME : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
ADDRESS : 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140
CONTACT INFORMATION : TEL : 06 1079 7060 e-mail : oranee.moo@trrgroup.com
SAMPLING SOURCE : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
SAMPLE TYPE : STACK
SAMPLING DATE : FEBRUARY 13, 2024
SAMPLING TIME : 09:20-09:56 HOUR
SAMPLING BY : MR PONGTHEP LAOKAJORN จ-145-จ-0025
ANALYZED BY : MISS SUWAN KONGTHONG จ-145-ค-0025

RECEIVED DATE : FEBRUARY 19, 2024
ANALYTICAL DATE : FEBRUARY 19-23, 2024
ISSUE DATE : FEBRUARY 29, 2024
REPORT NO. : 2024-U016559
WORK NO. : 2023-008134
ANALYSIS NO. : T24AD359-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	
			BOILER 60 TONS (NORMAL OPERATION) T24AD359-0001	
			ACTUAL OXYGEN	7% OXYGEN
TOTAL SUSPENDED PARTICULATE	mg/m ³	ISOKINETIC, GRAVIMETRIC METHOD (US EPA METHOD 5)	6.46	9.76
SAMPLE CONDITION			COMPLETE	

REMARK

RESULT : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE AND DRY BASIS.

LABORATORY SUPERVISOR
จ-145-ค-0011
FEBRUARY 29, 2024



ANALYSIS REPORT

CUSTOMER NAME : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
ADDRESS : 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140
CONTACT INFORMATION : TEL : 06 1079 7060 e-mail : oranee.moo@trrgroup.com
MEASURING SOURCE : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
MEASURING TYPE : STACK
RECEIVED DATE : FEBRUARY 13, 2024
MEASURING DATE : FEBRUARY 13, 2024
ANALYTICAL DATE : FEBRUARY 13, 2024
MEASURING TIME : 09:25-09:35 HOUR
ISSUE DATE : FEBRUARY 29, 2024
MEASURING METHOD : U.S. EPA METHOD 6C, 7E
REPORT NO. : 2024-U016560
MEASURED BY : MR PONGTHEP LAOKAJORN จ-145-จ-0025
WORK NO. : 2023-008134
ANALYSIS NO. : T24AD359-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	
			BOILER 60 TONS (NORMAL OPERATION) T24AD359-0001	
			ACTUAL OXYGEN	7% OXYGEN
SULPHUR DIOXIDE	ppm	PORTABLE ANALYZER, ELECTROCHEMICAL METHOD AT SITE (US EPA METHOD 6C)	2	3
OXIDES OF NITROGEN AS NITROGEN DIOXIDE	ppm	PORTABLE ANALYZER, ELECTROCHEMICAL METHOD AT SITE (US EPA METHOD 7E)	78	118
SAMPLE CONDITION			COMPLETE	

REMARK

RESULT : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE AND DRY BASIS.

LABORATORY SUPERVISOR
จ-145-จ-0021
FEBRUARY 29, 2024



ANALYSIS REPORT

CUSTOMER NAME : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
ADDRESS : 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140
CONTACT INFORMATION : TEL : 06 1079 7060 e-mail : oranee.moo@trrgroup.com
MEASURING SOURCE : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
MEASURING TYPE : STACK
MEASURING DATE : FEBRUARY 13, 2024
MEASURING TIME : 09:40-09:55 HOUR
MEASURING METHOD : RINGELMANN'S METHOD
MEASURED BY : MR PONGTHEP LAOKAJORN ๖-145-๖-0025
MR WATCHARIN SAN-NGAM ๖-145-๖-0099

RECEIVED DATE : FEBRUARY 13, 2024
ANALYTICAL DATE : FEBRUARY 13, 2024
ISSUE DATE : FEBRUARY 29, 2024
REPORT NO. : 2024-U016561
WORK NO. : 2023-008134
ANALYSIS NO. : T24AD359-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT
			BOILER 60 TONS (NORMAL OPERATION) T24AD359-0001
OPACITY	%	RINGELMANN 'S METHOD	6

FEBRUARY 29, 2024



ANALYSIS REPORT

CUSTOMER NAME : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
ADDRESS : 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140
CONTACT INFORMATION : TEL : 06 1079 7060 e-mail : oranee.moo@trrgroup.com
SAMPLING SOURCE : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
SAMPLE TYPE : STACK
SAMPLING DATE : FEBRUARY 13, 2024
SAMPLING TIME : 11:45-12:21 HOUR
SAMPLING BY : MR PONGTHEP LAOKAJORN จ-145-จ-0025
ANALYZED BY : MISS SUWAN KONGTHONG จ-145-ค-0025
RECEIVED DATE : FEBRUARY 19, 2024
ANALYTICAL DATE : FEBRUARY 19-23, 2024
ISSUE DATE : FEBRUARY 29, 2024
REPORT NO. : 2024-U016562
WORK NO. : 2023-008134
ANALYSIS NO. : T24AD359-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	
			BOILER 60 TONS (SOOT BLOW) T24AD359-0002	
			ACTUAL OXYGEN	7% OXYGEN
TOTAL SUSPENDED PARTICULATE	mg/m ³	ISOKINETIC, GRAVIMETRIC METHOD (US EPA METHOD 5)	4.55	6.69
SAMPLE CONDITION			COMPLETE	

REMARK

RESULT : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE AND DRY BASIS.

จ-145-ค-0011
FEBRUARY 29, 2024



ANALYSIS REPORT

CUSTOMER NAME : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
ADDRESS : 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140
CONTACT INFORMATION : TEL : 06 1079 7060 e-mail : oranee.moo@trrgroup.com
MEASURING SOURCE : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
MEASURING TYPE : STACK
MEASURING DATE : FEBRUARY 13, 2024
MEASURING TIME : 11:50-12:00 HOUR
MEASURING METHOD : U.S. EPA METHOD 6C, 7E
MEASURED BY : MR PONGTHEP LAOKAJORN จ-145-จ-0025

RECEIVED DATE : FEBRUARY 13, 2024
ANALYTICAL DATE : FEBRUARY 13, 2024
ISSUE DATE : FEBRUARY 29, 2024
REPORT NO. : 2024-U016563
WORK NO. : 2023-008134
ANALYSIS NO. : T24AD359-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	
			BOILER 60 TONS (SOOT BLOW) T24AD359-0002	
			ACTUAL OXYGEN	7% OXYGEN
SULPHUR DIOXIDE	ppm	PORTABLE ANALYZER, ELECTROCHEMICAL METHOD AT SITE (US EPA METHOD 6C)	2	3
OXIDES OF NITROGEN AS NITROGEN DIOXIDE	ppm	PORTABLE ANALYZER, ELECTROCHEMICAL METHOD AT SITE (US EPA METHOD 7E)	84	123
SAMPLE CONDITION			COMPLETE	

REMARK

RESULT : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE AND DRY BASIS.

LABORATORY SUPERVISOR
จ-145-จ-0021
FEBRUARY 29, 2024



ANALYSIS REPORT

CUSTOMER NAME : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
ADDRESS : 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140
CONTACT INFORMATION : TEL : 06 1079 7060 e-mail : oranee.moo@trrgroup.com
SAMPLING SOURCE : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
SAMPLE TYPE : STACK
SAMPLING DATE : FEBRUARY 13, 2024
SAMPLING TIME : 10:10-10:58 HOUR
SAMPLING BY : MR PONGTHEP LAOKAJORN
ANALYZED BY : MISS SUWAN KONGTHONG

RECEIVED DATE : FEBRUARY 19, 2024
ANALYTICAL DATE : FEBRUARY 19-23, 2024
ISSUE DATE : FEBRUARY 29, 2024
REPORT NO. : 2024-U016589
WORK NO. : 2023-009316
ANALYSIS NO. : T24AD361-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	
			BOILER 60 TONS T24AD361-0001	
			ACTUAL OXYGEN	7% OXYGEN
PARTICULATE MATTER (PM2.5)	mg/m ³	GRAVIMETRIC METHOD (US EPA METHOD 201A)	0.61	0.92
SAMPLE CONDITION			COMPLETE	

REMARK

RESULT : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE AND DRY BASIS.

LABORATORY SUPERVISOR

FEBRUARY 29, 2024



คุณภาพอากาศในบรรยากาศโดยทั่วไป

ANALYSIS REPORT

CUSTOMER NAME : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
ADDRESS : 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140
CONTACT INFORMATION : TEL : 09 5992 6395 e-mail : Safetytherasak@hotmail.com
SAMPLING SOURCE : บ้านศิลาทอง
SAMPLE TYPE : AMBIENT
SAMPLING DATE : * ** ***
SAMPLING TIME : * ** ***
SAMPLING BY : MR SIRAPAT JONGPHADUNGKIET
ANALYZED BY : MISS JETJARIN TUMSA-AT
RECEIVED DATE : FEBRUARY 22, 2024
ANALYTICAL DATE : FEBRUARY 22-27, 2024
ISSUE DATE : MARCH 4, 2024
REPORT NO. : 2024-U017956
WORK NO. : 2023-010435
ANALYSIS NO. : T24AD725-0015 - T24AD725-0017

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		
			บ้านศิลาทอง		
			* T24AD725-0015	** T24AD725-0016	*** T24AD725-0017
TOTAL SUSPENDED PARTICULATE MATTER	mg/m ³	GRAVIMETRIC (HIGH VOLUME METHOD)	0.100	0.105	0.131
PARTICULATE MATTER (≤ 10 µm)	mg/m ³	GRAVIMETRIC (HIGH VOLUME METHOD)	0.074	0.081	0.066
FINE PARTICULATE MATTER as PM2.5 (≤ 2.5 µm)	µg/m ³	US EPA, CODE OF FEDERAL REGULATION, 40 CFR CHAPTER I-PART 50, APPENDIX L, REFERENCE METHOD FOR THE DETERMINATION OF FINE PARTICULATE MATTER AS PM2.5 IN THE ATMOSPHERE, 2021	18.1	17.6	19.3
SAMPLE CONDITION			COMPLETE	COMPLETE	COMPLETE

REMARK
TSP, PM10 : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE.
PM2.5 : REPORTED AS PER ACTUAL FIELD CONDITIONS DURING SAMPLING.
TSP : US EPA, CODE OF FEDERAL REGULATIONS, 40 CFR CHAPTER I-PART 50 APPENDIX B, REFERENCE METHOD FOR THE DETERMINATION OF SUSPENDED PARTICULATE MATTER IN THE ATMOSPHERE (HIGH-VOLUME METHOD) REVISED AS OF JULY 1, 2021.
PM10 : US EPA, CODE OF FEDERAL REGULATIONS, 40 CFR CHAPTER I-PART 50 APPENDIX J, REFERENCE METHOD FOR THE DETERMINATION OF PARTICULATE MATTER AS PM10 IN THE ATMOSPHERE (HIGH-VOLUME METHOD) REVISED AS OF JULY 1, 2021.
* : SAMPLING FROM 08:30 HOUR ON FEBRUARY 12, 2024 TO 08:30 HOUR ON FEBRUARY 13, 2024.
** : SAMPLING FROM 08:30 HOUR ON FEBRUARY 13, 2024 TO 08:30 HOUR ON FEBRUARY 14, 2024.
*** : SAMPLING FROM 08:30 HOUR ON FEBRUARY 14, 2024 TO 08:30 HOUR ON FEBRUARY 15, 2024.

(MISS BOBSARORN LERDTHAKOLN)
LABORATORY SUPERVISOR

MARCH 4, 2024



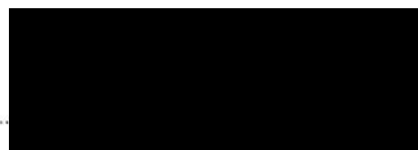
ANALYSIS REPORT

CUSTOMER NAME : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
ADDRESS : 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140
CONTACT INFORMATION : TEL : 09 5992 6395 e-mail : Safetytherasak@hotmail.com
SAMPLING SOURCE : บ้านศิลาทอง
SAMPLE TYPE : AMBIENT
SAMPLING DATE : * ** *** ****
SAMPLING TIME : * ** *** ****
SAMPLING BY : MR SIRAPAT JONGPHADUNGKIET
ANALYZED BY : MISS JETJARIN TUMSA-AT
RECEIVED DATE : FEBRUARY 22, 2024
ANALYTICAL DATE : FEBRUARY 22-27, 2024
ISSUE DATE : MARCH 4, 2024
REPORT NO. : 2024-U017957
WORK NO. : 2023-010435
ANALYSIS NO. : T24AD725-0018 - T24AD725-0021

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT			
			บ้านศิลาทอง			
			*	**	***	****
			T24AD725-0018	T24AD725-0019	T24AD725-0020	T24AD725-0021
TOTAL SUSPENDED PARTICULATE MATTER	mg/m ³	GRAVIMETRIC (HIGH VOLUME METHOD)	0.113	0.110	0.089	0.093
PARTICULATE MATTER (≤ 10 µm)	mg/m ³	GRAVIMETRIC (HIGH VOLUME METHOD)	0.070	0.074	0.047	0.044
FINE PARTICULATE MATTER as PM2.5 (≤ 2.5 µm)	µg/m ³	US EPA, CODE OF FEDERAL REGULATION, 40 CFR CHAPTER I-PART 50, APPENDIX L, REFERENCE METHOD FOR THE DETERMINATION OF FINE PARTICULATE MATTER AS PM2.5 IN THE ATMOSPHERE, 2021	20.0	22.1	20.4	23.2
SAMPLE CONDITION			COMPLETE	COMPLETE	COMPLETE	COMPLETE

REMARK

TSP, PM10 : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE.
PM2.5 : REPORTED AS PER ACTUAL FIELD CONDITIONS DURING SAMPLING.
TSP : US EPA, CODE OF FEDERAL REGULATIONS, 40 CFR CHAPTER I-PART 50 APPENDIX B, REFERENCE METHOD FOR THE DETERMINATION OF SUSPENDED PARTICULATE MATTER IN THE ATMOSPHERE (HIGH-VOLUME METHOD) REVISED AS OF JULY 1, 2021.
PM10 : US EPA, CODE OF FEDERAL REGULATIONS, 40 CFR CHAPTER I-PART 50 APPENDIX J, REFERENCE METHOD FOR THE DETERMINATION OF PARTICULATE MATTER AS PM10 IN THE ATMOSPHERE (HIGH-VOLUME METHOD) REVISED AS OF JULY 1, 2021.
* : SAMPLING FROM 08:30 HOUR ON FEBRUARY 15, 2024 TO 08:30 HOUR ON FEBRUARY 16, 2024.
** : SAMPLING FROM 08:30 HOUR ON FEBRUARY 16, 2024 TO 08:30 HOUR ON FEBRUARY 17, 2024.
*** : SAMPLING FROM 08:30 HOUR ON FEBRUARY 17, 2024 TO 08:30 HOUR ON FEBRUARY 18, 2024.
**** : SAMPLING FROM 08:30 HOUR ON FEBRUARY 18, 2024 TO 08:30 HOUR ON FEBRUARY 19, 2024.



LABORATORY SUPERVISOR

MARCH 4, 2024




ANALYSIS REPORT

CUSTOMER NAME : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
ADDRESS : 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140
CONTACT INFORMATION : TEL : 09 5992 6395 e-mail : Safetytherasak@hotmail.com
SAMPLING SOURCE : โรงเรียนวัดห้วยหมื่น
SAMPLE TYPE : AMBIENT
SAMPLING DATE : *, **, ***
SAMPLING TIME : *, **, ***
SAMPLING BY : MR SIRAPAT JONGPHADUNGKIET
ANALYZED BY : MISS JETJARIN TUMSA-AT
RECEIVED DATE : FEBRUARY 22, 2024
ANALYTICAL DATE : FEBRUARY 22-27, 2024
ISSUE DATE : MARCH 4, 2024
REPORT NO. : 2024-U017958
WORK NO. : 2023-010435
ANALYSIS NO. : T24AD725-0022 - T24AD725-0024

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		
			โรงเรียนวัดห้วยหมื่น		
			* T24AD725-0022	** T24AD725-0023	*** T24AD725-0024
TOTAL SUSPENDED PARTICULATE MATTER	mg/m ³	GRAVIMETRIC (HIGH VOLUME METHOD)	0.181	0.146	0.147
PARTICULATE MATTER (≤ 10 µm)	mg/m ³	GRAVIMETRIC (HIGH VOLUME METHOD)	0.088	0.086	0.061
FINE PARTICULATE MATTER as PM2.5 (≤ 2.5 µm)	µg/m ³	US EPA, CODE OF FEDERAL REGULATION, 40 CFR CHAPTER I-PART 50, APPENDIX L, REFERENCE METHOD FOR THE DETERMINATION OF FINE PARTICULATE MATTER AS PM2.5 IN THE ATMOSPHERE, 2021	20.5	19.0	22.4
SAMPLE CONDITION			COMPLETE	COMPLETE	COMPLETE

REMARK
TSP, PM10 : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE.
PM2.5 : REPORTED AS PER ACTUAL FIELD CONDITIONS DURING SAMPLING.
TSP : US EPA, CODE OF FEDERAL REGULATIONS, 40 CFR CHAPTER I-PART 50 APPENDIX B, REFERENCE METHOD FOR THE DETERMINATION OF SUSPENDED PARTICULATE MATTER IN THE ATMOSPHERE (HIGH-VOLUME METHOD) REVISED AS OF JULY 1, 2021.
PM10 : US EPA, CODE OF FEDERAL REGULATIONS, 40 CFR CHAPTER I-PART 50 APPENDIX J, REFERENCE METHOD FOR THE DETERMINATION OF PARTICULATE MATTER AS PM10 IN THE ATMOSPHERE (HIGH-VOLUME METHOD) REVISED AS OF JULY 1, 2021.
* : SAMPLING FROM 09:00 HOUR ON FEBRUARY 12, 2024 TO 09:00 HOUR ON FEBRUARY 13, 2024.
** : SAMPLING FROM 09:00 HOUR ON FEBRUARY 13, 2024 TO 09:00 HOUR ON FEBRUARY 14, 2024.
*** : SAMPLING FROM 09:00 HOUR ON FEBRUARY 14, 2024 TO 09:00 HOUR ON FEBRUARY 15, 2024.


(MISS BOBSARORN LEEDTANONGMAJ)
LABORATORY SUPERVISOR

MARCH 4, 2024



ANALYSIS REPORT

CUSTOMER NAME : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
ADDRESS : 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140
CONTACT INFORMATION : TEL : 09 5992 6395 e-mail : Safetytherasak@hotmail.com
SAMPLING SOURCE : โรงเรียนวัดทัพพนม
SAMPLE TYPE : AMBIENT
SAMPLING DATE : *, **, ***, ****
SAMPLING TIME : *, **, ***, ****
SAMPLING BY : MR SIRAPAT JONGPHADUNGKIET
ANALYZED BY : MISS JETJARIN TUMSA-AT
RECEIVED DATE : FEBRUARY 22, 2024
ANALYTICAL DATE : FEBRUARY 22-27, 2024
ISSUE DATE : MARCH 4, 2024
REPORT NO. : 2024-U017959
WORK NO. : 2023-010435
ANALYSIS NO. : T24AD725-0025 - T24AD725-0028

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT			
			โรงเรียนวัดทัพพนม			
			*	**	***	****
			T24AD725-0025	T24AD725-0026	T24AD725-0027	T24AD725-0028
TOTAL SUSPENDED PARTICULATE MATTER	mg/m ³	GRAVIMETRIC (HIGH VOLUME METHOD)	0.196	0.138	0.078	0.054
PARTICULATE MATTER (≤ 10 µm)	mg/m ³	GRAVIMETRIC (HIGH VOLUME METHOD)	0.079	0.072	0.042	0.036
FINE PARTICULATE MATTER as PM2.5 (≤ 2.5 µm)	µg/m ³	US EPA, CODE OF FEDERAL REGULATION, 40 CFR CHAPTER I-PART 50, APPENDIX L, REFERENCE METHOD FOR THE DETERMINATION OF FINE PARTICULATE MATTER AS PM2.5 IN THE ATMOSPHERE, 2021	23.7	29.4	19.3	20.6
SAMPLE CONDITION			COMPLETE	COMPLETE	COMPLETE	COMPLETE

REMARK

TSP, PM10 : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE.
PM2.5 : REPORTED AS PER ACTUAL FIELD CONDITIONS DURING SAMPLING.
TSP : US EPA, CODE OF FEDERAL REGULATIONS, 40 CFR CHAPTER I-PART 50 APPENDIX B, REFERENCE METHOD FOR THE DETERMINATION OF SUSPENDED PARTICULATE MATTER IN THE ATMOSPHERE (HIGH-VOLUME METHOD) REVISED AS OF JULY 1, 2021.
PM10 : US EPA, CODE OF FEDERAL REGULATIONS, 40 CFR CHAPTER I-PART 50 APPENDIX J, REFERENCE METHOD FOR THE DETERMINATION OF PARTICULATE MATTER AS PM10 IN THE ATMOSPHERE (HIGH-VOLUME METHOD) REVISED AS OF JULY 1, 2021.
* : SAMPLING FROM 09:00 HOUR ON FEBRUARY 15, 2024 TO 09:00 HOUR ON FEBRUARY 16, 2024.
** : SAMPLING FROM 09:00 HOUR ON FEBRUARY 16, 2024 TO 09:00 HOUR ON FEBRUARY 17, 2024.
*** : SAMPLING FROM 09:00 HOUR ON FEBRUARY 17, 2024 TO 09:00 HOUR ON FEBRUARY 18, 2024.
**** : SAMPLING FROM 09:00 HOUR ON FEBRUARY 18, 2024 TO 09:00 HOUR ON FEBRUARY 19, 2024.

(MISS BUDSAKORN LERDPANUMAS)
LABORATORY SUPERVISOR

MARCH 4, 2024



ANALYSIS REPORT

CUSTOMER NAME : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
ADDRESS : 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140
CONTACT INFORMATION : TEL : 09 5992 6395 e-mail : Safetytherasak@hotmail.com
SAMPLING SOURCE : บริเวณลานกองเชื้อเพลิงกลางแจ้ง ด้านนอกตาข่ายป้องกันฝุ่น ด้านเหนือลม
SAMPLE TYPE : AMBIENT
SAMPLING DATE : *, **, ***
SAMPLING TIME : *, **, ***
SAMPLING BY : MR SIRAPAT JONGPHADUNGKIET
ANALYZED BY : MISS JETJARIN TUMSA-AT
RECEIVED DATE : FEBRUARY 22, 2024
ANALYTICAL DATE : FEBRUARY 22-27, 2024
ISSUE DATE : MARCH 4, 2024
REPORT NO. : 2024-U017952
WORK NO. : 2023-010435
ANALYSIS NO. : T24AD725-0001 - T24AD725-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		
			บริเวณลานกองเชื้อเพลิงกลางแจ้ง ด้านนอกตาข่ายป้องกันฝุ่น ด้านเหนือลม		
			* T24AD725-0001	** T24AD725-0002	*** T24AD725-0003
TOTAL SUSPENDED PARTICULATE MATTER	mg/m ³	GRAVIMETRIC (HIGH VOLUME METHOD)	0.206	0.202	0.188
PARTICULATE MATTER (≤ 10 µm)	mg/m ³	GRAVIMETRIC (HIGH VOLUME METHOD)	0.080	0.084	0.082
SAMPLE CONDITION			COMPLETE	COMPLETE	COMPLETE

REMARK
TSP, PM10 : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE.
TSP : US EPA, CODE OF FEDERAL REGULATIONS, 40 CFR CHAPTER I-PART 50 APPENDIX B, REFERENCE METHOD FOR THE DETERMINATION OF SUSPENDED PARTICULATE MATTER IN THE ATMOSPHERE (HIGH-VOLUME METHOD) REVISED AS OF JULY 1, 2021.
PM10 : US EPA, CODE OF FEDERAL REGULATIONS, 40 CFR CHAPTER I-PART 50 APPENDIX J, REFERENCE METHOD FOR THE DETERMINATION OF PARTICULATE MATTER AS PM10 IN THE ATMOSPHERE (HIGH-VOLUME METHOD) REVISED AS OF JULY 1, 2021.
* : SAMPLING FROM 10:00 HOUR ON FEBRUARY 12, 2024 TO 10:00 HOUR ON FEBRUARY 13, 2024.
** : SAMPLING FROM 10:00 HOUR ON FEBRUARY 13, 2024 TO 10:00 HOUR ON FEBRUARY 14, 2024.
*** : SAMPLING FROM 10:00 HOUR ON FEBRUARY 14, 2024 TO 10:00 HOUR ON FEBRUARY 15, 2024.

LABORATORY SUPERVISOR

MARCH 4, 2024



ANALYSIS REPORT

CUSTOMER NAME : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
ADDRESS : 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140
CONTACT INFORMATION : TEL : 09 5992 6395 e-mail : Safetytherasak@hotmail.com
SAMPLING SOURCE : บริเวณลานกองเชื้อเพลิงกลางแจ้ง ด้านนอกตาข่ายป้องกันฝุ่น ด้านเหนือลม
SAMPLE TYPE : AMBIENT **RECEIVED DATE** : FEBRUARY 22, 2024
SAMPLING DATE : *, **, ***, **** **ANALYTICAL DATE** : FEBRUARY 22-27, 2024
SAMPLING TIME : *, **, ***, **** **ISSUE DATE** : MARCH 4, 2024
SAMPLING BY : MR SIRAPAT JONGPHADUNGKIET **REPORT NO.** : 2024-U017953
ANALYZED BY : MISS JETJARIN TUMSA-AT **WORK NO.** : 2023-010435
ANALYSIS NO. : T24AD725-0004 - T24AD725-0007

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT			
			บริเวณลานกองเชื้อเพลิงกลางแจ้ง ด้านนอกตาข่ายป้องกันฝุ่น ด้านเหนือลม			
			*	**	***	****
			T24AD725-0004	T24AD725-0005	T24AD725-0006	T24AD725-0007
TOTAL SUSPENDED PARTICULATE MATTER	mg/m ³	GRAVIMETRIC (HIGH VOLUME METHOD)	0.172	0.180	0.158	0.184
PARTICULATE MATTER (≤ 10 µm)	mg/m ³	GRAVIMETRIC (HIGH VOLUME METHOD)	0.072	0.070	0.073	0.075
SAMPLE CONDITION			COMPLETE	COMPLETE	COMPLETE	COMPLETE

REMARK

TSP, PM10 : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE.
TSP : US EPA, CODE OF FEDERAL REGULATIONS, 40 CFR CHAPTER I-PART 50 APPENDIX B, REFERENCE METHOD FOR THE DETERMINATION OF SUSPENDED PARTICULATE MATTER IN THE ATMOSPHERE (HIGH-VOLUME METHOD) REVISED AS OF JULY 1, 2021.
PM10 : US EPA, CODE OF FEDERAL REGULATIONS, 40 CFR CHAPTER I-PART 50 APPENDIX J, REFERENCE METHOD FOR THE DETERMINATION OF PARTICULATE MATTER AS PM10 IN THE ATMOSPHERE (HIGH-VOLUME METHOD) REVISED AS OF JULY 1, 2021.
* : SAMPLING FROM 10:00 HOUR ON FEBRUARY 15, 2024 TO 10:00 HOUR ON FEBRUARY 16, 2024.
** : SAMPLING FROM 10:00 HOUR ON FEBRUARY 16, 2024 TO 10:00 HOUR ON FEBRUARY 17, 2024.
*** : SAMPLING FROM 10:00 HOUR ON FEBRUARY 17, 2024 TO 10:00 HOUR ON FEBRUARY 18, 2024.
**** : SAMPLING FROM 10:00 HOUR ON FEBRUARY 18, 2024 TO 10:00 HOUR ON FEBRUARY 19, 2024.

LABORATORY SUPERVISOR

MARCH 4, 2024



ANALYSIS REPORT

CUSTOMER NAME : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
ADDRESS : 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140
CONTACT INFORMATION : TEL : 09 5992 6395 e-mail : Safetytherasak@hotmail.com
SAMPLING SOURCE : บริเวณลานกองเชื้อเพลิงกลางแจ้ง ด้านนอกดาข่ายป้องกันฝุ่น ด้านใต้ลม
SAMPLE TYPE : AMBIENT
SAMPLING DATE : *, **, ***
SAMPLING TIME : *, **, ***
SAMPLING BY : MR SIRAPAT JONGPHADUNGKIET
ANALYZED BY : MISS JETJARIN TUMSA-AT
RECEIVED DATE : FEBRUARY 22, 2024
ANALYTICAL DATE : FEBRUARY 22-27, 2024
ISSUE DATE : MARCH 4, 2024
REPORT NO. : 2024-U017954
WORK NO. : 2023-010435
ANALYSIS NO. : T24AD725-0008 - T24AD725-0010

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT		
			บริเวณลานกองเชื้อเพลิงกลางแจ้ง ด้านนอกดาข่ายป้องกันฝุ่น ด้านใต้ลม		
			* T24AD725-0008	** T24AD725-0009	*** T24AD725-0010
TOTAL SUSPENDED PARTICULATE MATTER	mg/m ³	GRAVIMETRIC (HIGH VOLUME METHOD)	0.224	0.225	0.172
PARTICULATE MATTER (≤ 10 µm)	mg/m ³	GRAVIMETRIC (HIGH VOLUME METHOD)	0.089	0.077	0.080
SAMPLE CONDITION			COMPLETE	COMPLETE	COMPLETE

REMARK
TSP, PM10 : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE.
TSP : US EPA, CODE OF FEDERAL REGULATIONS, 40 CFR CHAPTER I-PART 50 APPENDIX B, REFERENCE METHOD FOR THE DETERMINATION OF SUSPENDED PARTICULATE MATTER IN THE ATMOSPHERE (HIGH-VOLUME METHOD) REVISED AS OF JULY 1, 2021.
PM10 : US EPA, CODE OF FEDERAL REGULATIONS, 40 CFR CHAPTER I-PART 50 APPENDIX J, REFERENCE METHOD FOR THE DETERMINATION OF PARTICULATE MATTER AS PM10 IN THE ATMOSPHERE (HIGH-VOLUME METHOD) REVISED AS OF JULY 1, 2021.
* : SAMPLING FROM 10:30 HOUR ON FEBRUARY 12, 2024 TO 10:30 HOUR ON FEBRUARY 13, 2024.
** : SAMPLING FROM 10:30 HOUR ON FEBRUARY 13, 2024 TO 10:30 HOUR ON FEBRUARY 14, 2024.
*** : SAMPLING FROM 10:30 HOUR ON FEBRUARY 14, 2024 TO 10:30 HOUR ON FEBRUARY 15, 2024.

LABORATORY SUPERVISOR

MARCH 4, 2024



ANALYSIS REPORT

CUSTOMER NAME : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
ADDRESS : 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140
CONTACT INFORMATION : TEL : 09 5992 6395 e-mail : Safetytherasak@hotmail.com
MEASURING PLACE : สถานีบริเวณด้านเหนือลม (บ้านศิลาทอง)
MEASURING TYPE : AMBIENT (AIR) **RECEIVED DATE** : FEBRUARY 12-19, 2024
MEASURING DATE : FEBRUARY 12-19, 2024 **ANALYTICAL DATE** : FEBRUARY 12-19, 2024
MEASURING TIME : * **ISSUE DATE** : FEBRUARY 29, 2024
MEASURING METHOD : CHEMILUMINESCENCE **REPORT NO.** : 2024-U016950
MEASURED BY : MR SIRAPAT JONGPHADUNGKIET **WORK NO.** : 2023-010435
ANALYSIS NO. : T24AD725-0015 - T24AD725-0021

TIME *	RESULT (ppm)		
	NITROGEN DIOXIDE		
	สถานีบริเวณด้านเหนือลม (บ้านศิลาทอง)		
	FEBRUARY 12-13, 2024 T24AD725-0015	FEBRUARY 13-14, 2024 T24AD725-0016	FEBRUARY 14-15, 2024 T24AD725-0017
07:00-08:00 HOUR	0.0178	0.0183	0.0176
08:00-09:00 HOUR	0.0169	0.0173	0.0183
09:00-10:00 HOUR	0.0187	0.0179	0.0181
10:00-11:00 HOUR	0.0176	0.0176	0.0181
11:00-12:00 HOUR	0.0177	0.0169	0.0173
12:00-13:00 HOUR	0.0171	0.0188	0.0179
13:00-14:00 HOUR	0.0176	0.0180	0.0182
14:00-15:00 HOUR	0.0176	0.0176	0.0189
15:00-16:00 HOUR	0.0177	0.0185	0.0170
16:00-17:00 HOUR	0.0179	0.0174	0.0177
17:00-18:00 HOUR	0.0181	0.0182	0.0174
18:00-19:00 HOUR	0.0181	0.0182	0.0171
19:00-20:00 HOUR	0.0185	0.0180	0.0183
20:00-21:00 HOUR	0.0169	0.0183	0.0180
21:00-22:00 HOUR	0.0172	0.0172	0.0180
22:00-23:00 HOUR	0.0163	0.0167	0.0170
23:00-00:00 HOUR	0.0159	0.0170	0.0162
00:00-01:00 HOUR	0.0163	0.0173	0.0168
01:00-02:00 HOUR	0.0167	0.0169	0.0160
02:00-03:00 HOUR	0.0176	0.0161	0.0162
03:00-04:00 HOUR	0.0171	0.0159	0.0165
04:00-05:00 HOUR	0.0163	0.0170	0.0169
05:00-06:00 HOUR	0.0168	0.0167	0.0164
06:00-07:00 HOUR	0.0176	0.0179	0.0179



TIME *	RESULT (ppm)			
	NITROGEN DIOXIDE			
	สถานีบริเวณด้านเหนือลม (บ้านศิลาทอง)			
	FEBRUARY 15-16, 2024 T24AD725-0018	FEBRUARY 16-17, 2024 T24AD725-0019	FEBRUARY 17-18, 2024 T24AD725-0020	FEBRUARY 18-19, 2024 T24AD725-0021
07:00-08:00 HOUR	0.0187	0.0179	0.0177	0.0171
08:00-09:00 HOUR	0.0176	0.0186	0.0181	0.0182
09:00-10:00 HOUR	0.0191	0.0191	0.0181	0.0177
10:00-11:00 HOUR	0.0180	0.0185	0.0178	0.0172
11:00-12:00 HOUR	0.0182	0.0178	0.0191	0.0181
12:00-13:00 HOUR	0.0170	0.0172	0.0174	0.0174
13:00-14:00 HOUR	0.0180	0.0180	0.0176	0.0185
14:00-15:00 HOUR	0.0176	0.0175	0.0184	0.0173
15:00-16:00 HOUR	0.0182	0.0180	0.0184	0.0175
16:00-17:00 HOUR	0.0181	0.0180	0.0176	0.0185
17:00-18:00 HOUR	0.0176	0.0179	0.0179	0.0184
18:00-19:00 HOUR	0.0184	0.0188	0.0183	0.0175
19:00-20:00 HOUR	0.0180	0.0180	0.0177	0.0166
20:00-21:00 HOUR	0.0183	0.0169	0.0183	0.0172
21:00-22:00 HOUR	0.0171	0.0169	0.0175	0.0167
22:00-23:00 HOUR	0.0168	0.0168	0.0170	0.0161
23:00-00:00 HOUR	0.0165	0.0168	0.0159	0.0166
00:00-01:00 HOUR	0.0174	0.0169	0.0164	0.0163
01:00-02:00 HOUR	0.0170	0.0171	0.0161	0.0164
02:00-03:00 HOUR	0.0158	0.0164	0.0164	0.0161
03:00-04:00 HOUR	0.0162	0.0165	0.0166	0.0168
04:00-05:00 HOUR	0.0169	0.0169	0.0160	0.0174
05:00-06:00 HOUR	0.0185	0.0163	0.0175	0.0179
06:00-07:00 HOUR	0.0173	0.0169	0.0172	0.0180

LABORATORY SUPERVISOR

FEBRUARY 29, 2024

ANALYSIS REPORT

CUSTOMER NAME : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
ADDRESS : 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140
CONTACT INFORMATION : TEL : 09 5992 6395 e-mail : Safetytherasak@hotmail.com
MEASURING PLACE : สถานีบริเวณด้านใต้ลม (โรงเรียนวัดทัพพมณ) **RECEIVED DATE** : FEBRUARY 12-19, 2024
MEASURING TYPE : AMBIENT (AIR) **ANALYTICAL DATE** : FEBRUARY 12-19, 2024
MEASURING DATE : FEBRUARY 12-19, 2024 **ISSUE DATE** : FEBRUARY 29, 2024
MEASURING TIME : * **REPORT NO.** : 2024-U016953
MEASURING METHOD : CHEMILUMINESCENCE **WORK NO.** : 2023-010435
MEASURED BY : MR SIRAPAT JONGPHADUNGKIET **ANALYSIS NO.** : T24AD725-0022 - T24AD725-0028

TIME *	RESULT (ppm)		
	NITROGEN DIOXIDE		
	สถานีบริเวณด้านใต้ลม (โรงเรียนวัดทัพพมณ)		
	FEBRUARY 12-13, 2024 T24AD725-0022	FEBRUARY 13-14, 2024 T24AD725-0023	FEBRUARY 14-15, 2024 T24AD725-0024
07:00-08:00 HOUR	0.0168	0.0169	0.0168
08:00-09:00 HOUR	0.0171	0.0169	0.0169
09:00-10:00 HOUR	0.0167	0.0168	0.0171
10:00-11:00 HOUR	0.0167	0.0168	0.0170
11:00-12:00 HOUR	0.0165	0.0169	0.0170
12:00-13:00 HOUR	0.0170	0.0170	0.0169
13:00-14:00 HOUR	0.0172	0.0166	0.0174
14:00-15:00 HOUR	0.0167	0.0167	0.0170
15:00-16:00 HOUR	0.0173	0.0172	0.0169
16:00-17:00 HOUR	0.0171	0.0172	0.0168
17:00-18:00 HOUR	0.0174	0.0164	0.0174
18:00-19:00 HOUR	0.0163	0.0171	0.0160
19:00-20:00 HOUR	0.0163	0.0176	0.0174
20:00-21:00 HOUR	0.0160	0.0166	0.0168
21:00-22:00 HOUR	0.0155	0.0165	0.0177
22:00-23:00 HOUR	0.0155	0.0161	0.0175
23:00-00:00 HOUR	0.0160	0.0164	0.0170
00:00-01:00 HOUR	0.0167	0.0158	0.0159
01:00-02:00 HOUR	0.0159	0.0165	0.0163
02:00-03:00 HOUR	0.0153	0.0166	0.0157
03:00-04:00 HOUR	0.0158	0.0156	0.0155
04:00-05:00 HOUR	0.0169	0.0167	0.0166
05:00-06:00 HOUR	0.0172	0.0156	0.0159
06:00-07:00 HOUR	0.0166	0.0159	0.0164



TIME *	RESULT (ppm)			
	NITROGEN DIOXIDE			
	สถานีบริเวณด้านใต้ลม (โรงเรียนวัดทัพพมณ)			
	FEBRUARY 15-16, 2024 T24AD725-0025	FEBRUARY 16-17, 2024 T24AD725-0026	FEBRUARY 17-18, 2024 T24AD725-0027	FEBRUARY 18-19, 2024 T24AD725-0028
07:00-08:00 HOUR	0.0163	0.0174	0.0170	0.0171
08:00-09:00 HOUR	0.0168	0.0172	0.0165	0.0166
09:00-10:00 HOUR	0.0165	0.0163	0.0172	0.0168
10:00-11:00 HOUR	0.0174	0.0168	0.0165	0.0169
11:00-12:00 HOUR	0.0167	0.0173	0.0172	0.0174
12:00-13:00 HOUR	0.0169	0.0170	0.0168	0.0169
13:00-14:00 HOUR	0.0173	0.0167	0.0160	0.0167
14:00-15:00 HOUR	0.0170	0.0165	0.0167	0.0174
15:00-16:00 HOUR	0.0164	0.0173	0.0166	0.0166
16:00-17:00 HOUR	0.0165	0.0166	0.0168	0.0170
17:00-18:00 HOUR	0.0168	0.0168	0.0174	0.0164
18:00-19:00 HOUR	0.0161	0.0174	0.0174	0.0162
19:00-20:00 HOUR	0.0165	0.0178	0.0161	0.0166
20:00-21:00 HOUR	0.0169	0.0174	0.0168	0.0173
21:00-22:00 HOUR	0.0167	0.0175	0.0177	0.0177
22:00-23:00 HOUR	0.0172	0.0172	0.0177	0.0169
23:00-00:00 HOUR	0.0165	0.0171	0.0174	0.0176
00:00-01:00 HOUR	0.0170	0.0165	0.0172	0.0168
01:00-02:00 HOUR	0.0169	0.0166	0.0169	0.0160
02:00-03:00 HOUR	0.0160	0.0167	0.0164	0.0162
03:00-04:00 HOUR	0.0172	0.0171	0.0174	0.0175
04:00-05:00 HOUR	0.0168	0.0167	0.0176	0.0168
05:00-06:00 HOUR	0.0174	0.0170	0.0169	0.0164
06:00-07:00 HOUR	0.0174	0.0175	0.0166	0.0160

.....
[Redacted Signature]
.....

LABORATORY SUPERVISOR

FEBRUARY 29, 2024

ANALYSIS REPORT

CUSTOMER NAME : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
ADDRESS : 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140
CONTACT INFORMATION : TEL : 09 5992 6395 e-mail : Safetytherasak@hotmail.com
MEASURING PLACE : สถานีบริเวณด้านเหนือลม (บ้านศิลาทอง)
MEASURING TYPE : AMBIENT (AIR)
MEASURING DATE : FEBRUARY 12-19, 2024
MEASURING TIME : *
MEASURING METHOD : UV FLUORESCENCE
MEASURED BY : MR SIRAPAT JONGPHADUNGKIET

RECEIVED DATE : FEBRUARY 12-19, 2024
ANALYTICAL DATE : FEBRUARY 12-19, 2024
ISSUE DATE : FEBRUARY 29, 2024
REPORT NO. : 2024-U016956
WORK NO. : 2023-010435
ANALYSIS NO. : T24AD725-0015 - T24AD725-0021

เวลา *	RESULT (ppm)		
	SULPHUR DIOXIDE		
	สถานีบริเวณด้านเหนือลม (บ้านศิลาทอง)		
	FEBRUARY 12-13, 2024 T24AD725-0015	FEBRUARY 13-14, 2024 T24AD725-0016	FEBRUARY 14-15, 2024 T24AD725-0017
07:00-08:00 HOUR	0.0033	0.0031	0.0031
08:00-09:00 HOUR	0.0032	0.0034	0.0035
09:00-10:00 HOUR	0.0033	0.0034	0.0031
10:00-11:00 HOUR	0.0032	0.0034	0.0035
11:00-12:00 HOUR	0.0032	0.0034	0.0033
12:00-13:00 HOUR	0.0032	0.0035	0.0033
13:00-14:00 HOUR	0.0031	0.0034	0.0033
14:00-15:00 HOUR	0.0032	0.0032	0.0035
15:00-16:00 HOUR	0.0033	0.0032	0.0031
16:00-17:00 HOUR	0.0031	0.0031	0.0031
17:00-18:00 HOUR	0.0034	0.0031	0.0033
18:00-19:00 HOUR	0.0033	0.0030	0.0033
19:00-20:00 HOUR	0.0031	0.0028	0.0032
20:00-21:00 HOUR	0.0031	0.0029	0.0035
21:00-22:00 HOUR	0.0028	0.0031	0.0033
22:00-23:00 HOUR	0.0030	0.0030	0.0031
23:00-00:00 HOUR	0.0027	0.0028	0.0031
00:00-01:00 HOUR	0.0031	0.0028	0.0030
01:00-02:00 HOUR	0.0031	0.0030	0.0028
02:00-03:00 HOUR	0.0030	0.0027	0.0031
03:00-04:00 HOUR	0.0028	0.0028	0.0031
04:00-05:00 HOUR	0.0029	0.0029	0.0028
05:00-06:00 HOUR	0.0028	0.0031	0.0031
06:00-07:00 HOUR	0.0030	0.0034	0.0030
AVERAGE 24 HOUR	0.0031	0.0031	0.0032



เวลา *	RESULT (ppm)			
	SULPHUR DIOXIDE			
	สถานีบริเวณด้านเหนือลม (บ้านคิลาทอง)			
	FEBRUARY 15-16, 2024 T24AD725-0018	FEBRUARY 16-17, 2024 T24AD725-0019	FEBRUARY 17-18, 2024 T24AD725-0020	FEBRUARY 18-19, 2024 T24AD725-0021
07:00-08:00 HOUR	0.0027	0.0031	0.0032	0.0027
08:00-09:00 HOUR	0.0029	0.0035	0.0031	0.0027
09:00-10:00 HOUR	0.0031	0.0034	0.0034	0.0030
10:00-11:00 HOUR	0.0032	0.0033	0.0035	0.0031
11:00-12:00 HOUR	0.0035	0.0031	0.0035	0.0035
12:00-13:00 HOUR	0.0035	0.0034	0.0031	0.0031
13:00-14:00 HOUR	0.0031	0.0034	0.0035	0.0034
14:00-15:00 HOUR	0.0033	0.0035	0.0035	0.0032
15:00-16:00 HOUR	0.0034	0.0031	0.0031	0.0032
16:00-17:00 HOUR	0.0033	0.0035	0.0031	0.0034
17:00-18:00 HOUR	0.0031	0.0034	0.0035	0.0031
18:00-19:00 HOUR	0.0032	0.0035	0.0035	0.0032
19:00-20:00 HOUR	0.0030	0.0034	0.0033	0.0034
20:00-21:00 HOUR	0.0029	0.0031	0.0034	0.0033
21:00-22:00 HOUR	0.0028	0.0029	0.0034	0.0032
22:00-23:00 HOUR	0.0030	0.0028	0.0033	0.0031
23:00-00:00 HOUR	0.0031	0.0030	0.0032	0.0028
00:00-01:00 HOUR	0.0029	0.0028	0.0031	0.0027
01:00-02:00 HOUR	0.0029	0.0029	0.0030	0.0027
02:00-03:00 HOUR	0.0027	0.0028	0.0029	0.0028
03:00-04:00 HOUR	0.0029	0.0030	0.0030	0.0030
04:00-05:00 HOUR	0.0030	0.0028	0.0029	0.0027
05:00-06:00 HOUR	0.0031	0.0028	0.0030	0.0031
06:00-07:00 HOUR	0.0032	0.0031	0.0029	0.0032
AVERAGE 24 HOUR	0.0031	0.0032	0.0032	0.0031

LABORATORY SUPERVISOR

FEBRUARY 29, 2024

ANALYSIS REPORT

CUSTOMER NAME	: THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED	RECEIVED DATE	: FEBRUARY 12-19, 2024
ADDRESS	: 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140	ANALYTICAL DATE	: FEBRUARY 12-19, 2024
CONTACT INFORMATION	: TEL : 09 5992 6395 e-mail : Safetytherasak@hotmail.com	ISSUE DATE	: FEBRUARY 29, 2024
MEASURING PLACE	: สถานีบริเวณด้านใต้ลม (โรงเรียนวัดทัพพมณ)	REPORT NO.	: 2024-U016959
MEASURING TYPE	: AMBIENT (AIR)	WORK NO.	: 2023-010435
MEASURING DATE	: FEBRUARY 12-19, 2024	ANALYSIS NO.	: T24AD725-0022 - T24AD725-0028
MEASURING TIME	: *		
MEASURING METHOD	: UV FLUORESCENCE		
MEASURED BY	: MR SIRAPAT JONGPHADUNGKIET		

เวลา *	RESULT (ppm)		
	SULPHUR DIOXIDE		
	สถานีบริเวณด้านใต้ลม (โรงเรียนวัดทัพพมณ)		
	FEBRUARY 12-13, 2024 T24AD725-0022	FEBRUARY 13-14, 2024 T24AD725-0023	FEBRUARY 14-15, 2024 T24AD725-0024
07:00-08:00 HOUR	0.0034	0.0034	0.0033
08:00-09:00 HOUR	0.0035	0.0033	0.0037
09:00-10:00 HOUR	0.0035	0.0035	0.0034
10:00-11:00 HOUR	0.0034	0.0034	0.0035
11:00-12:00 HOUR	0.0033	0.0037	0.0037
12:00-13:00 HOUR	0.0033	0.0033	0.0036
13:00-14:00 HOUR	0.0035	0.0034	0.0033
14:00-15:00 HOUR	0.0035	0.0036	0.0033
15:00-16:00 HOUR	0.0034	0.0037	0.0036
16:00-17:00 HOUR	0.0035	0.0037	0.0034
17:00-18:00 HOUR	0.0034	0.0034	0.0033
18:00-19:00 HOUR	0.0033	0.0030	0.0035
19:00-20:00 HOUR	0.0031	0.0031	0.0033
20:00-21:00 HOUR	0.0030	0.0033	0.0033
21:00-22:00 HOUR	0.0032	0.0029	0.0033
22:00-23:00 HOUR	0.0030	0.0033	0.0030
23:00-00:00 HOUR	0.0029	0.0031	0.0031
00:00-01:00 HOUR	0.0032	0.0029	0.0032
01:00-02:00 HOUR	0.0033	0.0033	0.0029
02:00-03:00 HOUR	0.0032	0.0029	0.0030
03:00-04:00 HOUR	0.0031	0.0029	0.0032
04:00-05:00 HOUR	0.0032	0.0032	0.0032
05:00-06:00 HOUR	0.0031	0.0031	0.0033
06:00-07:00 HOUR	0.0033	0.0032	0.0032
AVERAGE 24 HOUR	0.0033	0.0033	0.0033



เวลา *	RESULT (ppm)			
	SULPHUR DIOXIDE			
	สถานีบริเวณถนนไคลม (โรงเรียนวัดทัพพนรัตน์)			
	FEBRUARY 15-16, 2024 T24AD725-0025	FEBRUARY 16-17, 2024 T24AD725-0026	FEBRUARY 17-18, 2024 T24AD725-0027	FEBRUARY 18-19, 2024 T24AD725-0028
07:00-08:00 HOUR	0.0034	0.0037	0.0032	0.0031
08:00-09:00 HOUR	0.0033	0.0034	0.0034	0.0033
09:00-10:00 HOUR	0.0035	0.0035	0.0036	0.0034
10:00-11:00 HOUR	0.0037	0.0034	0.0034	0.0036
11:00-12:00 HOUR	0.0036	0.0035	0.0033	0.0037
12:00-13:00 HOUR	0.0035	0.0034	0.0033	0.0035
13:00-14:00 HOUR	0.0034	0.0033	0.0037	0.0037
14:00-15:00 HOUR	0.0037	0.0036	0.0035	0.0037
15:00-16:00 HOUR	0.0033	0.0033	0.0036	0.0037
16:00-17:00 HOUR	0.0036	0.0035	0.0036	0.0033
17:00-18:00 HOUR	0.0036	0.0035	0.0037	0.0037
18:00-19:00 HOUR	0.0035	0.0034	0.0035	0.0037
19:00-20:00 HOUR	0.0035	0.0035	0.0034	0.0035
20:00-21:00 HOUR	0.0033	0.0035	0.0034	0.0036
21:00-22:00 HOUR	0.0031	0.0034	0.0035	0.0036
22:00-23:00 HOUR	0.0029	0.0033	0.0033	0.0034
23:00-00:00 HOUR	0.0032	0.0029	0.0031	0.0033
00:00-01:00 HOUR	0.0029	0.0029	0.0031	0.0032
01:00-02:00 HOUR	0.0033	0.0029	0.0032	0.0031
02:00-03:00 HOUR	0.0031	0.0032	0.0030	0.0032
03:00-04:00 HOUR	0.0030	0.0032	0.0029	0.0033
04:00-05:00 HOUR	0.0032	0.0031	0.0033	0.0032
05:00-06:00 HOUR	0.0033	0.0032	0.0030	0.0029
06:00-07:00 HOUR	0.0033	0.0030	0.0031	0.0029
AVERAGE 24 HOUR	0.0033	0.0033	0.0033	0.0034

LABORATORY SUPERVISOR

FEBRUARY 29, 2024

ANALYSIS REPORT

CUSTOMER NAME : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
ADDRESS : 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140
CONTACT INFORMATION : TEL : 09 5992 6395 e-mail : Safetytherasak@hotmail.com
SAMPLING SOURCE : บริเวณลานกองเชื้อเพลิงกลางแจ้ง ด้านนอกดาชายป้องกันฝุ่น ด้านใต้ลม
SAMPLE TYPE : AMBIENT **RECEIVED DATE** : FEBRUARY 22, 2024
SAMPLING DATE : * ** *** **** **ANALYTICAL DATE** : FEBRUARY 22-27, 2024
SAMPLING TIME : * ** *** **** **ISSUE DATE** : MARCH 4, 2024
SAMPLING BY : MR SIRAPAT JONGPHADUNGKIET **REPORT NO.** : 2024-U017955
ANALYZED BY : MISS JETJARIN TUMSA-AT **WORK NO.** : 2023-010435
ANALYSIS NO. : T24AD725-0011 - T24AD725-0014

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT			
			บริเวณลานกองเชื้อเพลิงกลางแจ้ง ด้านนอกดาชายป้องกันฝุ่น ด้านใต้ลม			
			*	**	***	****
			T24AD725-0011	T24AD725-0012	T24AD725-0013	T24AD725-0014
TOTAL SUSPENDED PARTICULATE MATTER	mg/m ³	GRAVIMETRIC (HIGH VOLUME METHOD)	0.219	0.229	0.193	0.214
PARTICULATE MATTER (≤ 10 µm)	mg/m ³	GRAVIMETRIC (HIGH VOLUME METHOD)	0.089	0.084	0.076	0.078
SAMPLE CONDITION			COMPLETE	COMPLETE	COMPLETE	COMPLETE

REMARK

TSP, PM10 : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE.
TSP : US EPA, CODE OF FEDERAL REGULATIONS, 40 CFR CHAPTER I-PART 50 APPENDIX B, REFERENCE METHOD FOR THE DETERMINATION OF SUSPENDED PARTICULATE MATTER IN THE ATMOSPHERE (HIGH-VOLUME METHOD) REVISED AS OF JULY 1, 2021.
PM10 : US EPA, CODE OF FEDERAL REGULATIONS, 40 CFR CHAPTER I-PART 50 APPENDIX J, REFERENCE METHOD FOR THE DETERMINATION OF PARTICULATE MATTER AS PM10 IN THE ATMOSPHERE (HIGH-VOLUME METHOD) REVISED AS OF JULY 1, 2021.
* : SAMPLING FROM 10:30 HOUR ON FEBRUARY 15, 2024 TO 10:30 HOUR ON FEBRUARY 16, 2024.
** : SAMPLING FROM 10:30 HOUR ON FEBRUARY 16, 2024 TO 10:30 HOUR ON FEBRUARY 17, 2024.
*** : SAMPLING FROM 10:30 HOUR ON FEBRUARY 17, 2024 TO 10:30 HOUR ON FEBRUARY 18, 2024.
**** : SAMPLING FROM 10:30 HOUR ON FEBRUARY 18, 2024 TO 10:30 HOUR ON FEBRUARY 19, 2024.

(MISS BUDSAKORN LERDPANUMAS)
LABORATORY SUPERVISOR

MARCH 4, 2024



ANALYSIS REPORT

CUSTOMER NAME	: THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED	RECEIVED DATE	: FEBRUARY 12-19, 2024
ADDRESS	: 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140	ANALYTICAL DATE	: FEBRUARY 12-19, 2024
CONTACT INFORMATION	: TEL : 09 5992 6395 e-mail : Safetytherasak@hotmail.com	ISSUE DATE	: FEBRUARY 29, 2024
MEASURING PLACE	: สถานีบริเวณด้านเหนือลม (บ้านศิลาทอง)	REPORT NO.	: 2024-U016962
MEASURING TYPE	: AMBIENT (AIR)	WORK NO.	: 2023-010435
MEASURING DATE	: FEBRUARY 12-19, 2024	ANALYSIS NO.	: T24AD725-0015 - T24AD725-0021
MEASURING TIME	: *		
MEASURING METHOD	: WIND SPEED & WIND DIRECTION EQUIPMENT		
MEASURED BY	: MR SIRAPAT JONGPHADUNGKIET		

TIME *	RESULT (m/s)					
	สถานีบริเวณด้านเหนือลม (บ้านศิลาทอง)					
	FEBRUARY 12-13, 2024 T24AD725-0015		FEBRUARY 13-14, 2024 T24AD725-0016		FEBRUARY 14-15, 2024 T24AD725-0017	
	WIND SPEED	WIND DIRECTION	WIND SPEED	WIND DIRECTION	WIND SPEED	WIND DIRECTION
07:00-08:00 HOUR	2.1	NNE	2.0	SE	2.8	ESE
08:00-09:00 HOUR	1.8	NE	2.9	SSE	1.3	SSW
09:00-10:00 HOUR	2.8	NNE	1.0	SE	2.2	S
10:00-11:00 HOUR	1.9	NE	0.5	SSW	1.5	SE
11:00-12:00 HOUR	1.9	ENE	2.7	SSE	0.7	SSE
12:00-13:00 HOUR	3.3	N	2.3	ESE	3.3	ESE
13:00-14:00 HOUR	3.1	E	1.7	ESE	0.7	ESE
14:00-15:00 HOUR	1.6	NNE	1.0	ESE	3.3	SE
15:00-16:00 HOUR	2.1	NE	1.8	SSE	2.2	SE
16:00-17:00 HOUR	1.1	ENE	0.5	SE	1.0	SE
17:00-18:00 HOUR	2.8	N	0.7	SE	1.2	S
18:00-19:00 HOUR	3.0	NNE	2.5	S	2.5	SSW
19:00-20:00 HOUR	3.4	ENE	1.7	ESE	1.1	ESE
20:00-21:00 HOUR	0.7	E	1.6	SSE	0.8	S
21:00-22:00 HOUR	0.8	NNE	1.7	S	2.9	S
22:00-23:00 HOUR	2.3	NE	0.6	SSE	1.8	SSW
23:00-00:00 HOUR	2.0	NNE	1.7	SSE	0.7	ESE
00:00-01:00 HOUR	0.6	E	2.1	SSW	1.5	ESE
01:00-02:00 HOUR	3.1	ESE	0.6	ESE	1.9	S
02:00-03:00 HOUR	2.5	ESE	3.1	ESE	0.8	ESE
03:00-04:00 HOUR	0.7	ESE	1.9	S	2.0	ESE
04:00-05:00 HOUR	3.0	SSW	2.1	E	2.6	S
05:00-06:00 HOUR	2.7	SE	1.2	S	2.5	SSW
06:00-07:00 HOUR	0.6	SSE	2.6	S	0.9	SSW



TIME *	RESULT (m/s)							
	สถานีบริเวณด้านเหนือลม (บ้านศิลาทอง)							
	FEBRUARY 15-16, 2024		FEBRUARY 16-17, 2024		FEBRUARY 17-18, 2024		FEBRUARY 18-19, 2024	
	T24AD725-0018		T24AD725-0019		T24AD725-0020		T24AD725-0021	
	WIND SPEED	WIND DIRECTION	WIND SPEED	WIND DIRECTION	WIND SPEED	WIND DIRECTION	WIND SPEED	WIND DIRECTION
07:00-08:00 HOUR	3.2	SW	0.7	ESE	0.6	ESE	2.7	SSE
08:00-09:00 HOUR	2.6	SW	0.5	SE	1.6	SSE	2.0	SE
09:00-10:00 HOUR	2.2	WSW	0.5	SSE	2.8	SE	2.9	S
10:00-11:00 HOUR	2.7	W	0.5	SE	2.3	SSE	2.1	SE
11:00-12:00 HOUR	0.6	W	0.9	ESE	2.8	SSE	1.4	S
12:00-13:00 HOUR	1.2	WNW	2.5	S	1.5	ESE	1.9	SSE
13:00-14:00 HOUR	1.5	WNW	1.8	SE	1.5	SSE	1.8	SSE
14:00-15:00 HOUR	2.7	WNW	1.0	ESE	1.0	SE	0.6	SSE
15:00-16:00 HOUR	1.8	WSW	1.2	SSE	1.1	ESE	3.0	ESE
16:00-17:00 HOUR	1.1	WNW	0.8	SE	1.3	S	1.4	SE
17:00-18:00 HOUR	1.4	NW	1.1	SSE	1.6	ESE	1.0	ESE
18:00-19:00 HOUR	1.2	NW	1.5	ESE	2.4	SE	2.2	ESE
19:00-20:00 HOUR	3.1	NNW	1.5	S	3.2	ESE	3.4	SSE
20:00-21:00 HOUR	2.8	N	2.0	SSE	2.5	S	2.1	SSE
21:00-22:00 HOUR	1.6	NE	1.4	S	2.3	S	1.7	ESE
22:00-23:00 HOUR	1.4	NNE	1.1	S	0.5	SE	3.4	S
23:00-00:00 HOUR	3.0	ENE	2.8	ESE	2.9	SSE	2.1	SSE
00:00-01:00 HOUR	0.7	ENE	1.5	ESE	1.5	SE	2.0	SSE
01:00-02:00 HOUR	1.0	E	2.7	SE	1.2	ESE	2.5	SSE
02:00-03:00 HOUR	0.8	E	0.5	ESE	1.8	SSE	2.7	SE
03:00-04:00 HOUR	1.4	SSE	1.1	S	0.8	S	2.9	ESE
04:00-05:00 HOUR	2.6	S	3.1	SSE	2.6	SSE	1.4	SSE
05:00-06:00 HOUR	3.2	SSE	2.3	SE	3.3	SSE	0.5	SSE
06:00-07:00 HOUR	1.3	ESE	2.1	S	0.8	SSE	2.0	SSE

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LABORATORY SUPERVISOR

FEBRUARY 29, 2024

ANALYSIS REPORT

CUSTOMER NAME	: THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED	RECEIVED DATE	: FEBRUARY 12-19, 2024
ADDRESS	: 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140	ANALYTICAL DATE	: FEBRUARY 12-19, 2024
CONTACT INFORMATION	: TEL : 09 5992 6395 e-mail : Safetytherasak@hotmail.com	ISSUE DATE	: FEBRUARY 29, 2024
MEASURING PLACE	: สถานีบริเวณด้านใต้ลม (โรงเรียนวัดทัพพนัน)	REPORT NO.	: 2024-U016965
MEASURING TYPE	: AMBIENT (AIR)	WORK NO.	: 2023-010435
MEASURING DATE	: FEBRUARY 12-19, 2024	ANALYSIS NO.	: T24AD725-0022 - T24AD725-0028
MEASURING TIME	: *		
MEASURING METHOD	: WIND SPEED & WIND DIRECTION EQUIPMENT		
MEASURED BY	: MR SIRAPAT JONGPHADUNGKIET		

TIME *	RESULT (m/s)					
	สถานีบริเวณด้านใต้ลม (โรงเรียนวัดทัพพนัน)					
	FEBRUARY 12-13, 2024 T24AD725-0022		FEBRUARY 13-14, 2024 T24AD725-0023		FEBRUARY 14-15, 2024 T24AD725-0024	
	WIND SPEED	WIND DIRECTION	WIND SPEED	WIND DIRECTION	WIND SPEED	WIND DIRECTION
07:00-08:00 HOUR	3.0	N	3.1	NNE	2.1	SSE
08:00-09:00 HOUR	2.2	E	2.9	E	3.1	SE
09:00-10:00 HOUR	3.2	NE	3.2	ENE	2.7	SE
10:00-11:00 HOUR	2.8	NE	0.9	NNE	2.3	S
11:00-12:00 HOUR	1.9	NE	1.0	NE	1.9	S
12:00-13:00 HOUR	1.2	ENE	2.2	NNE	1.8	ESE
13:00-14:00 HOUR	1.1	N	2.5	NE	1.0	SSW
14:00-15:00 HOUR	1.8	ENE	2.7	ENE	1.9	S
15:00-16:00 HOUR	1.7	NNE	1.6	E	1.1	ESE
16:00-17:00 HOUR	0.7	NNE	1.3	ESE	1.7	S
17:00-18:00 HOUR	1.5	E	3.4	SE	2.7	SSW
18:00-19:00 HOUR	0.8	N	1.2	S	2.1	SSW
19:00-20:00 HOUR	2.6	WNW	1.2	S	3.1	ESE
20:00-21:00 HOUR	1.2	N	0.6	ESE	2.7	SE
21:00-22:00 HOUR	2.4	NNW	1.2	SE	2.2	E
22:00-23:00 HOUR	2.3	NNW	0.9	SSW	0.8	ESE
23:00-00:00 HOUR	3.0	NW	1.5	SSE	0.8	SSE
00:00-01:00 HOUR	1.6	NNW	1.5	E	2.1	S
01:00-02:00 HOUR	2.3	NNW	1.6	SSE	3.3	S
02:00-03:00 HOUR	2.1	NNW	2.7	SSW	1.6	S
03:00-04:00 HOUR	2.5	NNW	2.1	SE	2.0	SSW
04:00-05:00 HOUR	3.2	N	1.2	SE	2.9	ESE
05:00-06:00 HOUR	1.6	N	1.6	S	2.4	SE
06:00-07:00 HOUR	1.7	E	2.7	ESE	3.2	ESE



TIME *	RESULT (m/s)							
	สถานีบริเวณด้านใต้ลม (โรงเรียนวัดทัพพิน)							
	FEBRUARY 15-16, 2024		FEBRUARY 16-17, 2024		FEBRUARY 17-18, 2024		FEBRUARY 18-19, 2024	
	T24AD725-0025		T24AD725-0026		T24AD725-0027		T24AD725-0028	
	WIND SPEED	WIND DIRECTION	WIND SPEED	WIND DIRECTION	WIND SPEED	WIND DIRECTION	WIND SPEED	WIND DIRECTION
07:00-08:00 HOUR	2.0	S	2.3	SE	2.4	S	0.7	SSE
08:00-09:00 HOUR	1.3	SSW	1.4	S	3.4	S	1.6	SE
09:00-10:00 HOUR	0.8	S	1.4	S	0.6	SE	0.6	ESE
10:00-11:00 HOUR	1.4	ESE	3.3	SSW	0.8	SSE	1.7	SSE
11:00-12:00 HOUR	1.1	SSE	1.3	ESE	2.8	SE	1.9	SSE
12:00-13:00 HOUR	1.6	SE	0.6	SSE	3.1	SE	1.6	SE
13:00-14:00 HOUR	1.8	SE	2.7	S	1.0	S	2.5	SE
14:00-15:00 HOUR	2.9	SSE	3.2	SSE	1.7	SSW	1.3	SSE
15:00-16:00 HOUR	1.7	SE	2.3	SE	1.2	W	1.2	SE
16:00-17:00 HOUR	3.0	SSW	0.7	S	1.0	WSW	1.8	SSE
17:00-18:00 HOUR	2.9	SE	1.3	SE	2.6	SSW	2.9	SSE
18:00-19:00 HOUR	2.7	S	2.4	SE	1.5	SSW	2.4	SSE
19:00-20:00 HOUR	2.8	SSE	1.0	ESE	2.2	SW	3.3	S
20:00-21:00 HOUR	1.0	S	2.2	S	3.2	WNW	1.8	SE
21:00-22:00 HOUR	2.5	S	0.7	SE	3.3	SW	2.2	SE
22:00-23:00 HOUR	2.4	SE	2.1	SE	2.4	WSW	2.3	SSE
23:00-00:00 HOUR	1.4	S	3.3	SE	1.0	WSW	0.6	ESE
00:00-01:00 HOUR	1.6	SSE	2.7	SE	1.7	WNW	3.0	ESE
01:00-02:00 HOUR	3.3	SSE	2.4	SSW	2.6	SSW	3.4	SE
02:00-03:00 HOUR	1.4	S	3.1	ESE	3.1	S	1.5	ESE
03:00-04:00 HOUR	1.5	S	3.1	ESE	2.9	S	1.6	E
04:00-05:00 HOUR	1.7	SE	3.4	S	2.9	SE	3.0	SSW
05:00-06:00 HOUR	3.4	SE	1.4	ESE	2.6	SE	2.6	SE
06:00-07:00 HOUR	1.3	SSE	0.6	SSW	2.6	S	3.0	S

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LABORATORY SUPERVISOR

FEBRUARY 29, 2024

ระดับเสียงโดยทั่วไป

ANALYSIS REPORT

CUSTOMER NAME	: THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED	RECEIVED DATE	: FEBRUARY 12-19, 2024
ADDRESS	: 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140	ANALYTICAL DATE	: FEBRUARY 12-19, 2024
CONTACT INFORMATION	: TEL : 09 5992 6395 e-mail : Safetytherasak@hotmail.com	ISSUE DATE	: FEBRUARY 29, 2024
MEASURING SOURCE	: บ้านศิลาทอง	REPORT NO.	: 2024-U016967
MEASURING TYPE	: AMBIENT (NOISE)	WORK NO.	: 2023-010435
MEASURING DATE	: FEBRUARY 12-19, 2024	ANALYSIS NO.	: T24AD726-0001 - T24AD726-0007
MEASURING TIME	: *		
MEASURING METHOD	: INTEGRATED SOUND LEVEL METER		
MEASURED BY	: MR SIRAPAT JONGPHADUNGKIET		

TIME*	RESULT dB(A)		
	บ้านศิลาทอง		
	FEBRUARY 12-13, 2024		
	T24AD726-0001		
	LAeq 1 hour	LAmx 1 hour	LA90 1 hour
07:00-08:00 HOUR	50.0	54.1	48.1
08:00-09:00 HOUR	50.1	60.3	48.4
09:00-10:00 HOUR	54.6	68.9	49.6
10:00-11:00 HOUR	51.7	54.4	50.6
11:00-12:00 HOUR	50.8	54.2	49.0
12:00-13:00 HOUR	49.1	52.3	47.5
13:00-14:00 HOUR	49.8	53.2	47.7
14:00-15:00 HOUR	50.1	53.4	48.6
15:00-16:00 HOUR	50.8	54.3	49.3
16:00-17:00 HOUR	51.3	56.3	48.9
17:00-18:00 HOUR	49.9	54.1	48.4
18:00-19:00 HOUR	50.4	54.6	48.8
19:00-20:00 HOUR	51.0	54.2	49.5
20:00-21:00 HOUR	50.4	53.9	49.3
21:00-22:00 HOUR	48.5	51.9	46.8
22:00-23:00 HOUR	48.1	53.0	46.4
23:00-00:00 HOUR	47.3	52.8	44.9
00:00-01:00 HOUR	46.9	52.2	45.1
01:00-02:00 HOUR	47.5	51.7	45.3
02:00-03:00 HOUR	47.7	52.6	45.8
03:00-04:00 HOUR	46.1	50.3	44.7
04:00-05:00 HOUR	45.9	51.1	44.1
05:00-06:00 HOUR	48.5	51.4	47.0
06:00-07:00 HOUR	49.4	52.4	48.1
LAeq 24 hours		49.9	



TIME*	RESULT dB(A)		
	บ้านคิลาทอง		
	FEBRUARY 13-14, 2024		
	T24AD726-0002		
	L _{Aeq} 1 hour	L _{Amax} 1 hour	L _{A90} 1 hour
07:00-08:00 HOUR	50.9	55.3	49.4
08:00-09:00 HOUR	51.1	53.5	50.1
09:00-10:00 HOUR	51.1	55.1	49.9
10:00-11:00 HOUR	49.5	54.2	48.3
11:00-12:00 HOUR	51.2	55.6	48.6
12:00-13:00 HOUR	50.8	56.6	47.5
13:00-14:00 HOUR	49.6	63.0	48.0
14:00-15:00 HOUR	50.2	55.2	48.7
15:00-16:00 HOUR	52.2	54.9	50.8
16:00-17:00 HOUR	51.9	54.3	50.7
17:00-18:00 HOUR	51.2	54.4	49.8
18:00-19:00 HOUR	50.8	54.5	49.6
19:00-20:00 HOUR	47.6	60.3	45.2
20:00-21:00 HOUR	44.7	48.5	43.0
21:00-22:00 HOUR	41.9	51.6	37.6
22:00-23:00 HOUR	37.4	47.1	35.8
23:00-00:00 HOUR	37.3	48.3	35.0
00:00-01:00 HOUR	36.1	39.5	35.5
01:00-02:00 HOUR	37.0	39.6	36.1
02:00-03:00 HOUR	38.4	40.6	37.5
03:00-04:00 HOUR	38.5	41.5	37.0
04:00-05:00 HOUR	36.9	41.3	36.2
05:00-06:00 HOUR	39.2	44.6	37.7
06:00-07:00 HOUR	40.8	45.6	38.6
L _{Aeq} 24 hours		48.4	

TIME*	RESULT dB(A)		
	บ้านศิลาทอง		
	FEBRUARY 14-15, 2024		
	T24AD726-0003		
	L _{Aeq} 1 hour	L _{Amax} 1 hour	L _{A90} 1 hour
07:00-08:00 HOUR	40.5	51.1	38.0
08:00-09:00 HOUR	40.4	56.7	37.5
09:00-10:00 HOUR	41.5	58.4	37.5
10:00-11:00 HOUR	40.4	52.6	37.9
11:00-12:00 HOUR	38.9	53.2	37.1
12:00-13:00 HOUR	39.0	49.4	36.6
13:00-14:00 HOUR	38.9	50.6	36.4
14:00-15:00 HOUR	38.6	55.5	36.6
15:00-16:00 HOUR	38.9	49.8	36.5
16:00-17:00 HOUR	41.0	56.6	36.8
17:00-18:00 HOUR	41.6	58.2	37.4
18:00-19:00 HOUR	40.8	53.0	37.8
19:00-20:00 HOUR	42.8	62.6	38.4
20:00-21:00 HOUR	42.1	62.4	37.5
21:00-22:00 HOUR	47.4	67.6	37.8
22:00-23:00 HOUR	39.6	53.5	36.8
23:00-00:00 HOUR	41.9	57.3	37.3
00:00-01:00 HOUR	39.2	49.5	37.3
01:00-02:00 HOUR	39.6	51.7	36.7
02:00-03:00 HOUR	38.2	47.6	36.7
03:00-04:00 HOUR	38.5	47.4	36.3
04:00-05:00 HOUR	40.9	53.3	38.4
05:00-06:00 HOUR	42.2	51.4	39.2
06:00-07:00 HOUR	41.3	56.4	38.9
L _{Aeq} 24 hours		41.2	

TIME*	RESULT dB(A)		
	บ้านศิลาทอง		
	FEBRUARY 15-16, 2024		
	T24AD726-0004		
	LAeq 1 hour	LAmx 1 hour	LA90 1 hour
07:00-08:00 HOUR	41.3	52.9	38.7
08:00-09:00 HOUR	41.6	53.3	38.9
09:00-10:00 HOUR	40.9	52.9	38.8
10:00-11:00 HOUR	40.3	50.4	37.8
11:00-12:00 HOUR	42.1	54.6	39.4
12:00-13:00 HOUR	41.9	59.0	39.0
13:00-14:00 HOUR	44.5	58.2	39.2
14:00-15:00 HOUR	40.0	52.9	37.6
15:00-16:00 HOUR	45.9	67.4	40.3
16:00-17:00 HOUR	44.0	58.3	41.2
17:00-18:00 HOUR	43.5	52.5	42.0
18:00-19:00 HOUR	43.2	52.3	42.0
19:00-20:00 HOUR	43.1	62.2	41.0
20:00-21:00 HOUR	42.9	59.0	39.8
21:00-22:00 HOUR	42.8	51.5	40.8
22:00-23:00 HOUR	43.1	48.5	41.9
23:00-00:00 HOUR	45.0	56.2	44.1
00:00-01:00 HOUR	45.9	54.1	44.4
01:00-02:00 HOUR	48.7	57.2	47.7
02:00-03:00 HOUR	49.8	59.2	48.3
03:00-04:00 HOUR	49.6	56.9	48.6
04:00-05:00 HOUR	49.3	58.6	47.6
05:00-06:00 HOUR	49.7	62.6	48.4
06:00-07:00 HOUR	50.1	55.8	48.4
LAeq 24 hours		45.8	

TIME*	RESULT dB(A)		
	บ้านศิลาทอง		
	FEBRUARY 16-17, 2024		
	T24AD726-0005		
	L _{Aeq} 1 hour	L _{Amax} 1 hour	L _{A90} 1 hour
07:00-08:00 HOUR	49.6	59.9	47.8
08:00-09:00 HOUR	46.0	59.2	43.8
09:00-10:00 HOUR	45.3	52.9	43.7
10:00-11:00 HOUR	47.8	52.6	46.5
11:00-12:00 HOUR	46.3	51.0	45.0
12:00-13:00 HOUR	47.1	58.2	45.4
13:00-14:00 HOUR	46.4	51.2	45.1
14:00-15:00 HOUR	47.6	53.6	46.3
15:00-16:00 HOUR	46.4	53.7	45.1
16:00-17:00 HOUR	45.2	56.6	42.3
17:00-18:00 HOUR	46.5	62.3	44.9
18:00-19:00 HOUR	47.2	60.6	45.1
19:00-20:00 HOUR	51.1	55.2	50.1
20:00-21:00 HOUR	49.2	56.5	48.0
21:00-22:00 HOUR	50.8	56.6	49.8
22:00-23:00 HOUR	51.9	60.6	51.1
23:00-00:00 HOUR	49.2	57.2	47.8
00:00-01:00 HOUR	50.6	54.4	49.4
01:00-02:00 HOUR	49.9	54.6	48.1
02:00-03:00 HOUR	51.7	55.3	50.2
03:00-04:00 HOUR	50.7	55.2	49.8
04:00-05:00 HOUR	44.8	52.1	42.9
05:00-06:00 HOUR	44.6	58.2	42.9
06:00-07:00 HOUR	44.0	49.0	42.5
L _{Aeq} 24 hours		48.6	

TIME*	RESULT dB(A)		
	บ้านศิลาทอง		
	FEBRUARY 17-18, 2024		
	T24AD726-0006		
	L _{Aeq} 1 hour	L _{Amax} 1 hour	L _{A90} 1 hour
07:00-08:00 HOUR	46.3	53.5	45.3
08:00-09:00 HOUR	44.7	50.0	43.0
09:00-10:00 HOUR	42.8	50.6	41.5
10:00-11:00 HOUR	43.0	51.2	41.9
11:00-12:00 HOUR	42.6	47.2	41.4
12:00-13:00 HOUR	43.6	50.8	42.1
13:00-14:00 HOUR	43.7	53.3	42.6
14:00-15:00 HOUR	44.1	50.5	42.6
15:00-16:00 HOUR	45.7	60.8	43.5
16:00-17:00 HOUR	44.2	58.8	41.1
17:00-18:00 HOUR	44.0	60.8	41.2
18:00-19:00 HOUR	46.4	67.6	42.4
19:00-20:00 HOUR	45.7	68.1	42.0
20:00-21:00 HOUR	45.1	56.4	42.8
21:00-22:00 HOUR	42.6	53.1	40.2
22:00-23:00 HOUR	42.7	57.7	40.3
23:00-00:00 HOUR	41.7	56.0	40.1
00:00-01:00 HOUR	38.9	49.7	37.4
01:00-02:00 HOUR	42.6	64.4	40.8
02:00-03:00 HOUR	40.5	52.8	38.8
03:00-04:00 HOUR	39.7	54.2	36.5
04:00-05:00 HOUR	38.3	50.1	35.5
05:00-06:00 HOUR	40.3	61.5	37.9
06:00-07:00 HOUR	40.7	53.3	37.3
L _{Aeq} 24 hours		43.4	

TIME*	RESULT dB(A)		
	บ้านศิลาทอง		
	FEBRUARY 18-19, 2024		
	T24AD726-0007		
	L _{Aeq} 1 hour	L _{Amax} 1 hour	L _{A90} 1 hour
07:00-08:00 HOUR	39.9	53.0	36.3
08:00-09:00 HOUR	37.4	48.9	35.8
09:00-10:00 HOUR	38.5	52.3	36.2
10:00-11:00 HOUR	38.0	55.5	36.2
11:00-12:00 HOUR	40.6	49.9	37.7
12:00-13:00 HOUR	38.6	60.4	36.9
13:00-14:00 HOUR	38.9	50.4	36.9
14:00-15:00 HOUR	40.6	61.9	36.6
15:00-16:00 HOUR	38.3	47.4	36.9
16:00-17:00 HOUR	39.1	48.9	37.0
17:00-18:00 HOUR	40.4	60.3	36.8
18:00-19:00 HOUR	39.2	51.7	36.8
19:00-20:00 HOUR	40.0	49.4	37.2
20:00-21:00 HOUR	39.2	50.4	36.6
21:00-22:00 HOUR	41.9	51.9	38.7
22:00-23:00 HOUR	40.7	52.4	37.7
23:00-00:00 HOUR	40.4	54.6	38.0
00:00-01:00 HOUR	40.8	66.6	38.2
01:00-02:00 HOUR	38.9	56.6	36.6
02:00-03:00 HOUR	39.6	49.3	37.5
03:00-04:00 HOUR	40.8	57.0	38.5
04:00-05:00 HOUR	41.8	52.9	38.9
05:00-06:00 HOUR	39.4	48.0	37.0
06:00-07:00 HOUR	42.6	60.9	38.9
L _{Aeq} 24 hours		40.0	

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(MR SILA BANJONGJAIKUK)
LABORATORY SUPERVISOR

FEBRUARY 29, 2024

ANALYSIS REPORT

CUSTOMER NAME	: THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED	RECEIVED DATE	: FEBRUARY 12-19, 2024
ADDRESS	: 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140	ANALYTICAL DATE	: FEBRUARY 12-19, 2024
CONTACT INFORMATION	: TEL : 09 5992 6395 e-mail : Safetytherasak@hotmail.com	ISSUE DATE	: FEBRUARY 29, 2024
MEASURING SOURCE	: โรงเรียนวัดทัพพนัน	REPORT NO.	: 2024-U016969
MEASURING TYPE	: AMBIENT (NOISE)	WORK NO.	: 2023-010435
MEASURING DATE	: FEBRUARY 12-19, 2024	ANALYSIS NO.	: T24AD726-0008 - T24AD726-0014
MEASURING TIME	: *		
MEASURING METHOD	: INTEGRATED SOUND LEVEL METER		
MEASURED BY	: MR SIRAPAT JONGPHADUNGKIET		

TIME*	RESULT dB(A)		
	โรงเรียนวัดทัพพนัน		
	FEBRUARY 12-13, 2024		
	T24AD726-0008		
	L _{Aeq} 1 hour	L _{Amax} 1 hour	L _{A90} 1 hour
07:00-08:00 HOUR	55.2	60.9	53.9
08:00-09:00 HOUR	57.7	67.9	53.0
09:00-10:00 HOUR	55.0	58.0	52.2
10:00-11:00 HOUR	51.4	53.4	50.6
11:00-12:00 HOUR	51.2	53.2	50.2
12:00-13:00 HOUR	52.4	59.7	51.0
13:00-14:00 HOUR	52.8	57.2	51.1
14:00-15:00 HOUR	52.0	56.5	51.4
15:00-16:00 HOUR	52.4	57.8	51.1
16:00-17:00 HOUR	52.1	58.9	50.6
17:00-18:00 HOUR	50.9	54.0	50.1
18:00-19:00 HOUR	51.1	56.2	49.5
19:00-20:00 HOUR	51.6	57.7	50.1
20:00-21:00 HOUR	50.2	53.6	49.5
21:00-22:00 HOUR	49.6	51.6	49.1
22:00-23:00 HOUR	49.9	52.6	49.1
23:00-00:00 HOUR	50.2	54.3	48.9
00:00-01:00 HOUR	49.3	53.1	48.2
01:00-02:00 HOUR	49.0	54.4	48.1
02:00-03:00 HOUR	50.1	53.5	48.5
03:00-04:00 HOUR	51.0	55.2	49.2
04:00-05:00 HOUR	51.2	57.8	49.1
05:00-06:00 HOUR	49.3	53.7	48.3
06:00-07:00 HOUR	48.6	54.2	47.5
L_{Aeq} 24 hours	52.0		



TIME*	RESULT dB(A)		
	โรงเรียนวัดเทพนิมิต		
	FEBRUARY 13-14, 2024		
	T24AD726-0009		
	L _{Aeq} 1 hour	L _{Amax} 1 hour	L _{A90} 1 hour
07:00-08:00 HOUR	47.3	51.3	46.1
08:00-09:00 HOUR	48.9	51.5	47.1
09:00-10:00 HOUR	50.3	53.9	49.1
10:00-11:00 HOUR	50.8	54.5	49.8
11:00-12:00 HOUR	51.8	55.3	50.7
12:00-13:00 HOUR	52.7	61.1	51.1
13:00-14:00 HOUR	50.4	54.0	49.3
14:00-15:00 HOUR	50.3	56.4	49.5
15:00-16:00 HOUR	50.2	55.6	49.1
16:00-17:00 HOUR	49.1	54.0	48.2
17:00-18:00 HOUR	49.5	59.6	47.6
18:00-19:00 HOUR	48.5	51.7	47.8
19:00-20:00 HOUR	47.9	50.4	47.1
20:00-21:00 HOUR	48.3	50.7	47.6
21:00-22:00 HOUR	47.8	49.1	47.2
22:00-23:00 HOUR	47.7	49.6	47.1
23:00-00:00 HOUR	49.7	57.4	47.6
00:00-01:00 HOUR	48.0	51.5	47.1
01:00-02:00 HOUR	48.3	51.3	47.2
02:00-03:00 HOUR	50.5	57.7	48.2
03:00-04:00 HOUR	45.6	48.9	43.6
04:00-05:00 HOUR	45.3	49.8	43.5
05:00-06:00 HOUR	44.9	47.8	43.3
06:00-07:00 HOUR	41.6	45.4	39.9
L _{Aeq} 24 hours		49.1	

TIME*	RESULT dB(A)		
	โรงเรียนวัดทัพพนิมน์		
	FEBRUARY 14-15, 2024		
	T24AD726-0010		
	L _{Aeq} 1 hour	L _{Amax} 1 hour	L _{A90} 1 hour
07:00-08:00 HOUR	40.1	55.2	37.2
08:00-09:00 HOUR	39.7	45.3	38.1
09:00-10:00 HOUR	40.8	50.7	37.8
10:00-11:00 HOUR	42.0	50.3	39.4
11:00-12:00 HOUR	42.6	49.6	40.3
12:00-13:00 HOUR	45.9	55.3	43.8
13:00-14:00 HOUR	46.0	55.5	44.1
14:00-15:00 HOUR	48.2	64.9	46.5
15:00-16:00 HOUR	48.8	70.2	46.7
16:00-17:00 HOUR	48.6	56.7	47.6
17:00-18:00 HOUR	47.8	52.8	46.9
18:00-19:00 HOUR	48.6	54.6	47.5
19:00-20:00 HOUR	47.9	56.7	46.8
20:00-21:00 HOUR	48.7	64.4	47.9
21:00-22:00 HOUR	48.3	56.2	46.9
22:00-23:00 HOUR	48.5	57.5	47.3
23:00-00:00 HOUR	48.7	56.3	47.4
00:00-01:00 HOUR	49.1	63.5	47.8
01:00-02:00 HOUR	50.1	55.5	49.6
02:00-03:00 HOUR	51.1	55.9	50.4
03:00-04:00 HOUR	52.0	60.4	50.9
04:00-05:00 HOUR	51.6	56.8	50.1
05:00-06:00 HOUR	51.6	59.3	49.9
06:00-07:00 HOUR	51.6	55.9	51.0
L _{Aeq} 24 hours		48.6	

TIME*	RESULT dB(A)		
	โรงเรียนวัดทัพพนิมิต		
	FEBRUARY 15-16, 2024		
	T24AD726-0011		
	L _{Aeq} 1 hour	L _{Amax} 1 hour	L _{A90} 1 hour
07:00-08:00 HOUR	48.3	51.8	47.2
08:00-09:00 HOUR	47.1	53.8	45.7
09:00-10:00 HOUR	46.2	59.8	45.1
10:00-11:00 HOUR	46.1	53.2	44.6
11:00-12:00 HOUR	47.2	63.4	46.0
12:00-13:00 HOUR	46.6	57.0	45.2
13:00-14:00 HOUR	47.4	54.6	46.0
14:00-15:00 HOUR	44.6	51.1	43.5
15:00-16:00 HOUR	44.0	58.4	42.9
16:00-17:00 HOUR	46.2	62.9	43.5
17:00-18:00 HOUR	45.9	51.7	45.1
18:00-19:00 HOUR	45.1	54.6	44.0
19:00-20:00 HOUR	45.8	52.0	44.5
20:00-21:00 HOUR	45.0	51.4	43.6
21:00-22:00 HOUR	44.1	52.1	42.6
22:00-23:00 HOUR	44.1	58.0	41.8
23:00-00:00 HOUR	42.7	50.8	41.5
00:00-01:00 HOUR	42.6	52.3	40.8
01:00-02:00 HOUR	41.2	51.3	39.4
02:00-03:00 HOUR	44.3	58.8	43.1
03:00-04:00 HOUR	43.5	52.2	42.3
04:00-05:00 HOUR	44.2	51.9	43.2
05:00-06:00 HOUR	43.5	55.3	42.2
06:00-07:00 HOUR	45.0	56.8	43.0
L _{Aeq} 24 hours	45.3		

TIME*	RESULT dB(A)		
	โรงเรียนวัดทัพพมณ		
	FEBRUARY 16-17, 2024		
	T24AD726-0012		
	L _{Aeq} 1 hour	L _{Amax} 1 hour	L _{A90} 1 hour
07:00-08:00 HOUR	44.3	51.6	42.9
08:00-09:00 HOUR	46.0	56.1	44.7
09:00-10:00 HOUR	44.1	53.0	42.5
10:00-11:00 HOUR	44.0	55.6	42.6
11:00-12:00 HOUR	43.9	57.6	42.0
12:00-13:00 HOUR	44.4	60.5	42.3
13:00-14:00 HOUR	44.3	50.5	42.5
14:00-15:00 HOUR	42.3	55.7	41.1
15:00-16:00 HOUR	39.6	54.2	38.2
16:00-17:00 HOUR	41.5	49.9	40.3
17:00-18:00 HOUR	45.5	60.3	39.9
18:00-19:00 HOUR	41.9	55.5	38.9
19:00-20:00 HOUR	39.4	47.7	37.7
20:00-21:00 HOUR	40.5	47.4	39.0
21:00-22:00 HOUR	42.3	53.1	40.4
22:00-23:00 HOUR	41.3	48.0	39.8
23:00-00:00 HOUR	41.4	52.9	38.6
00:00-01:00 HOUR	44.0	52.7	42.5
01:00-02:00 HOUR	44.8	52.2	43.4
02:00-03:00 HOUR	44.4	51.2	42.7
03:00-04:00 HOUR	43.0	51.5	41.2
04:00-05:00 HOUR	42.9	52.6	40.5
05:00-06:00 HOUR	42.6	50.5	40.3
06:00-07:00 HOUR	44.0	53.1	40.6
L _{Aeq} 24 hours		43.3	

TIME*	RESULT dB(A)		
	โรงเรียนวัดทัพพนมัน		
	FEBRUARY 17-18, 2024		
	T24AD726-0013		
	L _{Aeq} 1 hour	L _{Amax} 1 hour	L _{A90} 1 hour
07:00-08:00 HOUR	43.6	54.1	40.8
08:00-09:00 HOUR	43.5	53.1	41.0
09:00-10:00 HOUR	42.6	52.0	40.5
10:00-11:00 HOUR	45.3	59.0	41.2
11:00-12:00 HOUR	41.9	56.2	39.6
12:00-13:00 HOUR	41.1	64.4	38.7
13:00-14:00 HOUR	39.5	48.1	38.0
14:00-15:00 HOUR	43.1	64.1	37.8
15:00-16:00 HOUR	42.6	71.9	38.8
16:00-17:00 HOUR	38.3	48.5	35.7
17:00-18:00 HOUR	37.4	52.0	35.4
18:00-19:00 HOUR	38.3	57.3	35.1
19:00-20:00 HOUR	39.2	55.1	35.6
20:00-21:00 HOUR	36.6	47.8	34.3
21:00-22:00 HOUR	43.8	56.2	41.1
22:00-23:00 HOUR	38.2	45.6	36.4
23:00-00:00 HOUR	38.7	55.4	36.6
00:00-01:00 HOUR	37.7	64.9	35.6
01:00-02:00 HOUR	38.2	50.8	36.7
02:00-03:00 HOUR	38.4	51.2	37.0
03:00-04:00 HOUR	38.0	48.2	35.9
04:00-05:00 HOUR	38.0	44.7	36.9
05:00-06:00 HOUR	38.1	49.6	36.4
06:00-07:00 HOUR	41.0	66.4	36.2
L _{Aeq} 24 hours		40.9	

TIME*	RESULT dB(A)		
	โรงเรียนวัดทัพหมื่น		
	FEBRUARY 18-19, 2024		
	T24AD726-0014		
	L _{Aeq} 1 hour	L _{Amax} 1 hour	L _{A90} 1 hour
07:00-08:00 HOUR	39.7	53.0	37.4
08:00-09:00 HOUR	40.9	54.1	38.0
09:00-10:00 HOUR	39.3	50.0	36.9
10:00-11:00 HOUR	41.2	53.7	37.4
11:00-12:00 HOUR	41.1	52.4	36.4
12:00-13:00 HOUR	41.9	57.4	37.9
13:00-14:00 HOUR	39.6	48.6	37.9
14:00-15:00 HOUR	40.9	60.5	37.1
15:00-16:00 HOUR	40.6	62.0	37.9
16:00-17:00 HOUR	39.9	53.3	38.3
17:00-18:00 HOUR	41.4	58.4	38.9
18:00-19:00 HOUR	39.4	48.4	37.2
19:00-20:00 HOUR	39.2	48.1	37.5
20:00-21:00 HOUR	41.5	57.7	38.6
21:00-22:00 HOUR	41.1	51.1	39.8
22:00-23:00 HOUR	41.9	56.8	40.0
23:00-00:00 HOUR	41.3	55.0	39.6
00:00-01:00 HOUR	41.2	49.7	39.3
01:00-02:00 HOUR	39.3	48.9	37.8
02:00-03:00 HOUR	38.0	51.4	36.1
03:00-04:00 HOUR	39.7	51.2	38.1
04:00-05:00 HOUR	41.1	49.8	39.2
05:00-06:00 HOUR	42.1	52.1	39.3
06:00-07:00 HOUR	43.4	53.4	40.4
L _{Aeq} 24 hours		40.8	

LABORATORY SUPERVISOR

FEBRUARY 29, 2024

ANALYSIS REPORT

CUSTOMER NAME	: THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED	RECEIVED DATE	: FEBRUARY 12-19, 2024
ADDRESS	: 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140	ANALYTICAL DATE	: FEBRUARY 12-19, 2024
CONTACT INFORMATION	: TEL : 09 5992 6395 e-mail : Safetytherasak@hotmail.com	ISSUE DATE	: FEBRUARY 29, 2024
MEASURING SOURCE	: ร่มรั้วโครงการ	REPORT NO.	: 2024-U016971
MEASURING TYPE	: AMBIENT (NOISE)	WORK NO.	: 2023-010435
MEASURING DATE	: FEBRUARY 12-19, 2024	ANALYSIS NO.	: T24AD726-0015 - T24AD726-0021
MEASURING TIME	: *		
MEASURING METHOD	: INTEGRATED SOUND LEVEL METER		
MEASURED BY	: MR SIRAPAT JONGPHADUNGKIET		

TIME*	RESULT dB(A)		
	ร่มรั้วโครงการ		
	FEBRUARY 12-13, 2024		
	T24AD726-0015		
	L _{Aeq} 1 hour	L _{Amax} 1 hour	L _{A90} 1 hour
07:00-08:00 HOUR	52.2	64.6	47.2
08:00-09:00 HOUR	49.1	58.2	46.0
09:00-10:00 HOUR	51.0	58.3	48.0
10:00-11:00 HOUR	51.5	64.2	45.8
11:00-12:00 HOUR	52.2	63.4	46.0
12:00-13:00 HOUR	49.7	57.9	46.7
13:00-14:00 HOUR	50.3	62.3	45.9
14:00-15:00 HOUR	54.5	63.4	46.9
15:00-16:00 HOUR	60.1	75.2	52.5
16:00-17:00 HOUR	51.7	60.5	46.9
17:00-18:00 HOUR	57.2	69.9	49.6
18:00-19:00 HOUR	56.2	68.8	46.7
19:00-20:00 HOUR	53.4	62.4	46.5
20:00-21:00 HOUR	57.5	70.8	52.3
21:00-22:00 HOUR	58.5	69.7	52.8
22:00-23:00 HOUR	53.1	66.3	46.6
23:00-00:00 HOUR	51.9	62.7	46.0
00:00-01:00 HOUR	52.3	60.8	47.4
01:00-02:00 HOUR	51.2	60.8	45.8
02:00-03:00 HOUR	48.9	58.5	45.0
03:00-04:00 HOUR	50.3	58.8	46.3
04:00-05:00 HOUR	51.2	61.1	47.2
05:00-06:00 HOUR	49.6	57.4	46.6
06:00-07:00 HOUR	47.2	53.2	45.3
L_{Aeq} 24 hours	53.9		



TIME*	RESULT dB(A)		
	ริมรั้วโครงการ		
	FEBRUARY 13-14, 2024		
	T24AD726-0016		
	L _{Aeq} 1 hour	L _{Amax} 1 hour	L _{A90} 1 hour
07:00-08:00 HOUR	48.9	55.0	45.5
08:00-09:00 HOUR	53.9	72.7	47.8
09:00-10:00 HOUR	57.4	73.6	46.0
10:00-11:00 HOUR	55.1	71.7	44.9
11:00-12:00 HOUR	54.7	79.5	47.3
12:00-13:00 HOUR	54.9	79.5	46.9
13:00-14:00 HOUR	54.2	76.0	46.1
14:00-15:00 HOUR	51.6	63.5	47.5
15:00-16:00 HOUR	48.4	57.7	44.3
16:00-17:00 HOUR	47.0	52.5	45.1
17:00-18:00 HOUR	49.4	59.4	46.8
18:00-19:00 HOUR	48.1	55.6	46.0
19:00-20:00 HOUR	51.1	66.3	45.6
20:00-21:00 HOUR	49.2	61.5	45.1
21:00-22:00 HOUR	46.6	59.3	44.2
22:00-23:00 HOUR	46.5	51.7	44.6
23:00-00:00 HOUR	47.0	51.5	46.0
00:00-01:00 HOUR	48.1	57.7	45.3
01:00-02:00 HOUR	47.1	57.8	44.4
02:00-03:00 HOUR	47.4	55.4	44.5
03:00-04:00 HOUR	46.6	54.9	45.0
04:00-05:00 HOUR	47.4	53.8	45.7
05:00-06:00 HOUR	48.5	70.4	45.7
06:00-07:00 HOUR	47.4	59.1	45.9
L _{Aeq} 24 hours		51.3	

TIME*	RESULT dB(A)		
	ริมรั้วโครงการ		
	FEBRUARY 14-15, 2024		
	T24AD726-0017		
	L _{Aeq} 1 hour	L _{Amax} 1 hour	L _{A90} 1 hour
07:00-08:00 HOUR	47.0	56.7	45.0
08:00-09:00 HOUR	51.2	68.4	48.6
09:00-10:00 HOUR	52.3	73.5	48.5
10:00-11:00 HOUR	52.4	70.8	47.4
11:00-12:00 HOUR	54.1	67.3	48.3
12:00-13:00 HOUR	56.4	77.8	48.0
13:00-14:00 HOUR	57.5	80.7	48.6
14:00-15:00 HOUR	55.0	75.3	49.2
15:00-16:00 HOUR	51.3	65.9	48.2
16:00-17:00 HOUR	55.2	66.4	48.9
17:00-18:00 HOUR	50.3	62.0	48.3
18:00-19:00 HOUR	52.1	70.7	48.3
19:00-20:00 HOUR	49.0	59.1	47.6
20:00-21:00 HOUR	47.2	55.0	45.1
21:00-22:00 HOUR	47.5	57.2	44.9
22:00-23:00 HOUR	46.3	56.5	44.7
23:00-00:00 HOUR	46.1	51.4	44.9
00:00-01:00 HOUR	47.6	61.0	45.7
01:00-02:00 HOUR	48.4	57.4	46.5
02:00-03:00 HOUR	49.7	55.9	48.2
03:00-04:00 HOUR	49.5	54.2	48.4
04:00-05:00 HOUR	49.2	55.4	48.0
05:00-06:00 HOUR	50.3	61.6	48.6
06:00-07:00 HOUR	50.6	67.1	48.4
L _{Aeq} 24 hours	51.9		

TIME*	RESULT dB(A)		
	จิมรัฐโครงการ		
	FEBRUARY 15-16, 2024		
	T24AD726-0018		
	L _{Aeq} 1 hour	L _{Amax} 1 hour	L _{A90} 1 hour
07:00-08:00 HOUR	53.6	78.4	49.2
08:00-09:00 HOUR	51.9	75.3	48.7
09:00-10:00 HOUR	49.7	55.4	48.6
10:00-11:00 HOUR	50.7	56.8	49.1
11:00-12:00 HOUR	50.4	54.1	49.1
12:00-13:00 HOUR	50.4	58.6	49.2
13:00-14:00 HOUR	50.2	58.5	49.0
14:00-15:00 HOUR	49.6	54.1	48.4
15:00-16:00 HOUR	51.0	61.4	49.1
16:00-17:00 HOUR	50.9	58.7	48.8
17:00-18:00 HOUR	50.3	56.5	48.7
18:00-19:00 HOUR	50.9	70.6	48.9
19:00-20:00 HOUR	51.4	60.3	49.1
20:00-21:00 HOUR	50.6	58.7	49.3
21:00-22:00 HOUR	50.6	55.3	49.3
22:00-23:00 HOUR	51.5	60.2	49.6
23:00-00:00 HOUR	51.0	58.5	48.9
00:00-01:00 HOUR	48.3	51.6	46.9
01:00-02:00 HOUR	48.2	55.6	47.0
02:00-03:00 HOUR	48.7	53.5	47.0
03:00-04:00 HOUR	48.1	52.9	46.3
04:00-05:00 HOUR	48.5	56.3	46.8
05:00-06:00 HOUR	49.1	55.2	47.9
06:00-07:00 HOUR	47.5	58.5	45.7
L _{Aeq} 24 hours	50.4		

TIME*	RESULT dB(A)		
	ริมรั้วโครงการ		
	FEBRUARY 16-17, 2024		
	T24AD726-0019		
	L _{Aeq} 1 hour	L _{Amax} 1 hour	L _{A90} 1 hour
07:00-08:00 HOUR	47.0	59.1	45.9
08:00-09:00 HOUR	48.5	53.2	46.9
09:00-10:00 HOUR	49.0	55.8	47.5
10:00-11:00 HOUR	50.2	61.4	48.3
11:00-12:00 HOUR	58.9	79.6	48.6
12:00-13:00 HOUR	49.2	55.5	48.0
13:00-14:00 HOUR	53.7	71.8	48.4
14:00-15:00 HOUR	51.7	73.0	47.8
15:00-16:00 HOUR	52.3	72.5	49.0
16:00-17:00 HOUR	54.2	73.3	48.3
17:00-18:00 HOUR	52.3	73.0	48.0
18:00-19:00 HOUR	50.4	59.0	48.6
19:00-20:00 HOUR	49.0	67.6	45.8
20:00-21:00 HOUR	47.6	52.9	45.4
21:00-22:00 HOUR	46.6	53.4	44.7
22:00-23:00 HOUR	45.3	50.3	44.2
23:00-00:00 HOUR	46.6	52.2	45.4
00:00-01:00 HOUR	46.6	55.8	45.5
01:00-02:00 HOUR	47.2	52.5	46.1
02:00-03:00 HOUR	47.6	55.4	45.3
03:00-04:00 HOUR	46.0	49.6	44.3
04:00-05:00 HOUR	47.0	52.0	44.8
05:00-06:00 HOUR	47.6	54.8	44.7
06:00-07:00 HOUR	47.0	52.5	44.7
L _{Aeq} 24 hours		50.8	

TIME*	RESULT dB(A)		
	ริมรั้วโครงการ		
	FEBRUARY 17-18, 2024		
	T24AD726-0020		
	L _{Aeq} 1 hour	L _{Amax} 1 hour	L _{A90} 1 hour
07:00-08:00 HOUR	47.7	60.0	45.5
08:00-09:00 HOUR	47.8	56.0	45.1
09:00-10:00 HOUR	48.1	54.0	45.3
10:00-11:00 HOUR	49.8	54.6	48.6
11:00-12:00 HOUR	50.4	56.1	48.6
12:00-13:00 HOUR	50.5	59.6	49.0
13:00-14:00 HOUR	50.7	66.8	48.6
14:00-15:00 HOUR	56.6	72.5	50.7
15:00-16:00 HOUR	55.3	76.2	49.6
16:00-17:00 HOUR	51.2	55.7	49.4
17:00-18:00 HOUR	50.6	54.2	48.8
18:00-19:00 HOUR	51.1	60.6	46.9
19:00-20:00 HOUR	48.6	65.6	46.7
20:00-21:00 HOUR	46.8	51.5	45.2
21:00-22:00 HOUR	46.9	52.9	45.1
22:00-23:00 HOUR	47.0	55.1	45.5
23:00-00:00 HOUR	46.2	52.8	44.9
00:00-01:00 HOUR	45.8	49.2	44.8
01:00-02:00 HOUR	46.0	53.2	44.8
02:00-03:00 HOUR	46.1	50.5	44.9
03:00-04:00 HOUR	46.8	56.6	45.2
04:00-05:00 HOUR	45.7	49.2	44.9
05:00-06:00 HOUR	45.9	50.0	44.9
06:00-07:00 HOUR	45.3	49.2	44.5
L _{Aeq} 24 hours		49.9	

TIME*	RESULT dB(A)		
	ริมรั้วโครงการ		
	FEBRUARY 18-19, 2024		
	T24AD726-0021		
	LAeq 1 hour	LAmx 1 hour	LA90 1 hour
07:00-08:00 HOUR	47.2	56.6	44.7
08:00-09:00 HOUR	49.6	59.2	46.4
09:00-10:00 HOUR	52.6	66.7	46.4
10:00-11:00 HOUR	48.9	58.8	46.1
11:00-12:00 HOUR	50.0	61.6	45.9
12:00-13:00 HOUR	48.1	55.8	45.6
13:00-14:00 HOUR	50.1	62.8	46.5
14:00-15:00 HOUR	56.2	74.5	45.9
15:00-16:00 HOUR	53.9	71.8	46.7
16:00-17:00 HOUR	51.7	64.9	48.1
17:00-18:00 HOUR	53.8	68.5	47.5
18:00-19:00 HOUR	50.4	59.9	47.8
19:00-20:00 HOUR	49.3	63.9	47.4
20:00-21:00 HOUR	45.5	51.3	44.6
21:00-22:00 HOUR	45.0	48.0	44.3
22:00-23:00 HOUR	44.6	48.8	43.8
23:00-00:00 HOUR	46.6	53.9	44.4
00:00-01:00 HOUR	45.6	52.7	44.1
01:00-02:00 HOUR	46.6	57.4	44.1
02:00-03:00 HOUR	44.7	47.6	43.9
03:00-04:00 HOUR	45.0	53.0	43.7
04:00-05:00 HOUR	44.1	49.3	43.4
05:00-06:00 HOUR	45.1	51.9	43.8
06:00-07:00 HOUR	47.2	55.7	44.7
LAeq 24 hours		49.8	

(Signature)
LABORATORY SUPERVISOR

FEBRUARY 29, 2024

คุณภาพน้ำทิ้ง

ANALYSIS REPORT

CUSTOMER NAME	: THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED	RECEIVED DATE	: JANUARY 24, 2024
ADDRESS	: 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140	ANALYTICAL DATE	: JANUARY 24-30, 2024
CONTACT INFORMATION	: TEL : 09 5992 6395 e-mail : Safetytherasak@hotmail.com	REPORT NO.	: 2024-U008722
SAMPLING SOURCE	: น้ำตาลไทยรุ่งเรือง - อุตสาหกรรม น้ำตาลบ้านไร่	WORK NO.	: 2023-010435
SAMPLE TYPE	: WASTEWATER	ANALYSIS NO.	: T24AB491-0001
SAMPLING DATE	: JANUARY 23, 2024		
SAMPLING TIME	: 10:00 HOUR		
SAMPLING METHOD	: GRAB		
SAMPLING BY	: MR SUKSAN BOONLEANG		
ANALYZED BY	: MISS AKSARIN BUNKONG		

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			ป้อนำบัดน้ำเสีย บ่อสุดท้าย T24AB491-0001		
pH ^a	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	8.4 (27°C)	5.5-9.0	-
TEMPERATURE ^c	°C	LABORATORY AND FIELD METHODS (SM: PART 2550 B)	27	≤ 40	-
FLOW RATE ^c	m ³ /hr	CURRENT METER AND CALCULATION	0	-	-
DISSOLVED OXYGEN ^c	mg/L	MEMBRANE ELECTRODE METHOD AT SITE (SM: PART 4500-O G)	4.0	-	0.5
BIOCHEMICAL OXYGEN DEMAND ^a	mg/L	5-DAY BOD TEST, MEMBRANE ELECTRODE METHOD (SM: PART 5210 B AND PART 4500-O G)	3.6	≤ 20	2.0
CHEMICAL OXYGEN DEMAND ^a	mg/L	CLOSED REFLUX, COLOURIMETRIC METHOD (SM: PART 5220 D)	30.3	≤ 120	25.0
TOTAL SUSPENDED SOLIDS ^a	mg/L	DRIED AT 103-105 °C (SM: PART 2540 D)	18.5	≤ 50	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	DRIED AT 180 °C (SM: PART 2540 C)	978	≤ 3,000	25
FAT, OIL AND GREASE ^c	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)	ND	≤ 5	3
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID GREEN		

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

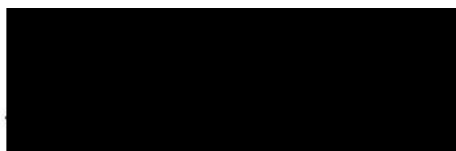
^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

REGULATORY STANDARD : INDUSTRIAL EFFLUENT STANDARDS, NOTIFICATION OF THE MINISTRY OF INDUSTRY, B.E. 2560,
PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL 134, PART 153 D, DATED JUNE 7, 2017.

ND : NON-DETECTABLE.



LABORATORY SUPERVISOR

FEBRUARY 1, 2024



ANALYSIS REPORT

CUSTOMER NAME	: THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED	RECEIVED DATE	: FEBRUARY 6, 2024
ADDRESS	: 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140	ANALYTICAL DATE	: FEBRUARY 6-12, 2024
CONTACT INFORMATION	: TEL : 09 5992 6395 e-mail : Safetytherasak@hotmail.com	ISSUE DATE	: FEBRUARY 16, 2024
SAMPLING SOURCE	: น้ำตาลไทยรุ่งเรือง - อุตสาหกรรม น้ำตาลบ้านไร่	REPORT NO.	: 2024-U013439
SAMPLE TYPE	: WASTEWATER	WORK NO.	: 2023-010435
SAMPLING DATE	: FEBRUARY 5, 2024	ANALYSIS NO.	: T24AC268-0001
SAMPLING TIME	: 15:10 HOUR		
SAMPLING METHOD	: GRAB		
SAMPLING BY	: MR SUKSAN BOONLEANG		
ANALYZED BY	: MISS AKSARIN BUNKONG		

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			บ่อบำบัดน้ำเสียบ่อสุดท้าย T24AC268-0001		
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B AND 1060 B	7.8 (30°C)	5.5-9.0	-
TEMPERATURE ^c	°C	THERMOMETER AT SITE (SM: PART 2550 B)	30	≤ 40	-
FLOW RATE ^c	m ³ /hr	CURRENT METER AND CALCULATION	0	-	-
DISSOLVED OXYGEN ^c	mg/L	MEMBRANE ELECTRODE METHOD AT SITE (SM: PART 4500-O G)	3.4	-	0.5
BIOCHEMICAL OXYGEN DEMAND ^a	mg/L	MEMBRANE ELECTRODE METHOD (SM: PART 5210 B AND PART 4500-O G)	6.3	≤ 20	2.0
CHEMICAL OXYGEN DEMAND ^a	mg/L	CLOSED REFLUX, COLOURIMETRIC METHOD (SM: PART 5220 D)	48.5	≤ 120	25.0
TOTAL SUSPENDED SOLIDS ^a	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	32.8	≤ 50	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	993	≤ 3,000	25
OIL AND GREASE ^c	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)	ND	≤ 5	3
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID GREEN		

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

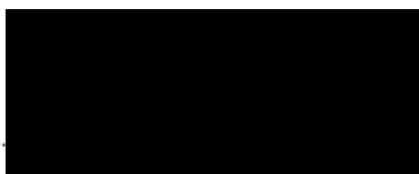
^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

REGULATORY STANDARD : INDUSTRIAL EFFLUENT STANDARDS, NOTIFICATION OF THE MINISTRY OF INDUSTRY, B.E. 2560,
PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL 134, PART 153 D, DATED JUNE 7, 2017.

ND : NON-DETECTABLE.



LABORATORY SUPERVISOR

FEBRUARY 19, 2024



ANALYSIS REPORT

CUSTOMER NAME : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
ADDRESS : 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140
CONTACT INFORMATION : TEL : 06 1079 7060 e-mail : oranee.moo@trrgroup.com
SAMPLING SOURCE : น้ำตาลไทยรุ่งเรือง - อุตสาหกรรม น้ำตาลบ้านไร่
SAMPLE TYPE : WASTEWATER
SAMPLING DATE : MARCH 5, 2024
SAMPLING TIME : 14:50 HOUR
SAMPLING METHOD : GRAB
SAMPLING BY : MR SUKSAN BOONLEANG
ANALYZED BY : MISS KALLAYA SOMPHONG
RECEIVED DATE : MARCH 6, 2024
ANALYTICAL DATE : MARCH 6-12, 2024
ISSUE DATE : MARCH 29, 2024
REPORT NO. : 2024-U026989
WORK NO. : 2023-010435
ANALYSIS NO. : T24AE577-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			บ่อน้ำบาดน้ำเสีย บ่อสุดท้าย T24AE577-0001		
pH ^a	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	8.5 (31°C)	5.5-9.0	-
TEMPERATURE ^c	°C	LABORATORY AND FIELD METHODS (SM: PART 2550 B)	31	≤ 40	-
FLOW RATE ^c	m ³ /hr	CURRENT METER AND CALCULATION	0	-	-
DISSOLVED OXYGEN ^c	mg/L	MEMBRANE ELECTRODE METHOD AT SITE (SM: PART 4500-O G)	4.1	-	0.5
BIOCHEMICAL OXYGEN DEMAND ^a	mg/L	5-DAY BOD TEST, MEMBRANE ELECTRODE METHOD (SM: PART 5210 B AND PART 4500-O G)	7.4	≤ 20	2.0
CHEMICAL OXYGEN DEMAND ^a	mg/L	CLOSED REFLUX, COLOURIMETRIC METHOD (SM: PART 5220 D)	55.0	≤ 120	25.0
TOTAL SUSPENDED SOLIDS ^a	mg/L	DRIED AT 103-105 °C (SM: PART 2540 D)	25.0	≤ 50	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	DRIED AT 180 °C (SM: PART 2540 C)	1,093	≤ 3,000	25
OIL AND GREASE ^c	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)	ND	≤ 5	3
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID GREEN		

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

REGULATORY STANDARD : INDUSTRIAL EFFLUENT STANDARDS, NOTIFICATION OF THE MINISTRY OF INDUSTRY, B.E. 2560,
PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL 134, PART 153 D, DATED JUNE 7, 2017.

ND : NON-DETECTABLE.



(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

APRIL 1, 2024



ANALYSIS REPORT

CUSTOMER NAME : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
ADDRESS : 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140
CONTACT INFORMATION : TEL : 06 1607 5422 e-mail : oranee.moo@trrgroup.com
SAMPLING SOURCE : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
SAMPLE TYPE : WASTEWATER
SAMPLING DATE : APRIL 2, 2024
SAMPLING TIME : 15:50 HOUR
SAMPLING METHOD : GRAB
SAMPLING BY : MR SUKSAN BOONLEANG
ANALYZED BY : MISS KALLAYA SOMPHONG
RECEIVED DATE : APRIL 3, 2024
ANALYTICAL DATE : APRIL 3-9, 2024
ISSUE DATE : APRIL 24, 2024
REPORT NO. : 2024-U032356
WORK NO. : 2023-010435
ANALYSIS NO. : T24AH073-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			บ่อน้ำบาดน้ำเสีย บ่อสุดท้าย T24AH073-0001		
pH ^a	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H ⁺ B)	8.7 (32°C)	5.5-9.0	-
TEMPERATURE ^c	°C	LABORATORY AND FIELD METHODS (SM: PART 2550 B)	32	≤ 40	-
FLOW RATE ^c	m ³ /hr	CURRENT METER AND CALCULATION	0	-	-
DISSOLVED OXYGEN ^c	mg/L	MEMBRANE ELECTRODE METHOD AT SITE (SM: PART 4500-O G)	4.7	-	0.5
BIOCHEMICAL OXYGEN DEMAND ^a	mg/L	5-DAY BOD TEST, MEMBRANE ELECTRODE METHOD (SM: PART 5210 B AND PART 4500-O G)	8.6	≤ 20	2.0
CHEMICAL OXYGEN DEMAND ^a	mg/L	CLOSED REFLUX, COLOURIMETRIC METHOD (SM: PART 5220 D)	40.9	≤ 120	25.0
TOTAL SUSPENDED SOLIDS ^a	mg/L	DRIED AT 103-105 °C (SM: PART 2540 D)	7.8	≤ 50	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	DRIED AT 180 °C (SM: PART 2540 C)	1,220	≤ 3,000	25
OIL AND GREASE ^c	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)	ND	≤ 5	3
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/CLEAR GREEN		

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

REGULATORY STANDARD : INDUSTRIAL EFFLUENT STANDARDS, NOTIFICATION OF THE MINISTRY OF INDUSTRY, B.E. 2560,
PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL 134, PART 153 D, DATED JUNE 7, 2017.

ND : NON-DETECTABLE.

LABORATORY SUPERVISOR

APRIL 25, 2024



ANALYSIS REPORT

CUSTOMER NAME : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
ADDRESS : 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140
CONTACT INFORMATION : TEL : 06 1607 5422 e-mail : oranee.moo@trrgroup.com
SAMPLING SOURCE : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
SAMPLE TYPE : WASTEWATER
SAMPLING DATE : MAY 9, 2024
SAMPLING TIME : 11:07 HOUR
SAMPLING METHOD : GRAB
SAMPLING BY : MR SUKSAN BOONLEANG
ANALYZED BY : MISS KALLAYA SOMPHONG
RECEIVED DATE : MAY 10, 2024
ANALYTICAL DATE : MAY 10-20, 2024
ISSUE DATE : JUNE 13, 2024
REPORT NO. : 2024-U049157
WORK NO. : 2023-010435
ANALYSIS NO. : T24AJ835-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			ป้อนำบัตน้ำเสียบ ป้อนสุดท้าย T24AJ835-0001		
pH	-	ELECTROMETRIC METHOD AT SITE (SM: PART 4500-H* B)	9.0 (33°C)	5.5-9.0	-
TEMPERATURE	°C	LABORATORY AND FIELD METHODS (SM: PART 2550 B)	33	≤ 40	-
FLOW RATE	m ³ /hr	CURRENT METER AND CALCULATION	0	-	-
DISSOLVED OXYGEN	mg/L	MEMBRANE ELECTRODE METHOD AT SITE (SM: PART 4500-O G)	5.6	-	0.5
BIOCHEMICAL OXYGEN DEMAND	mg/L	5-DAY BOD TEST, MEMBRANE ELECTRODE METHOD (SM: PART 5210 B AND PART 4500-O G)	13.0	≤ 20	2.0
CHEMICAL OXYGEN DEMAND	mg/L	CLOSED REFLUX, COLOURIMETRIC METHOD (SM: PART 5220 D)	58.4	≤ 120	25.0
TOTAL SUSPENDED SOLIDS	mg/L	DRIED AT 103-105 °C (SM: PART 2540 D)	15.1	≤ 50	5.0
TOTAL DISSOLVED SOLIDS	mg/L	DRIED AT 180 °C (SM: PART 2540 C)	1,316	≤ 3,000	25
OIL AND GREASE	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)	ND	≤ 5	3
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID GREEN		

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

REGULATORY STANDARD : INDUSTRIAL EFFLUENT STANDARDS, NOTIFICATION OF THE MINISTRY OF INDUSTRY, B.E. 2560,
PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL 134, PART 153 D, DATED JUNE 7, 2017.

ND : NON-DETECTABLE.

(MISS KALLAYA SOMPHONG)
LABORATORY SUPERVISOR



ANALYSIS REPORT

CUSTOMER NAME	: THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED	RECEIVED DATE	: JUNE 6, 2024
ADDRESS	: 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140	ANALYTICAL DATE	: JUNE 6-12, 2024
CONTACT INFORMATION	: TEL : 06 1607 5422 e-mail : oranee.moo@trrgroup.com	ISSUE DATE	: JULY 19, 2024
SAMPLING SOURCE	: THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED	REPORT NO.	: 2024-U065362
SAMPLE TYPE	: WASTEWATER	WORK NO.	: 2023-010435
SAMPLING DATE	: JUNE 4, 2024	ANALYSIS NO.	: T24AM226-0001
SAMPLING TIME	: 14:46 HOUR		
SAMPLING METHOD	: GRAB		
SAMPLING BY	: MR SUKSAN BOONLEANG		
ANALYZED BY	: MISS KALLAYA SOMPHONG		

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			นอบบัคน้ำเสียบ ปลอศุดห้าย T24AM226-0001		
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B AND 1060 B	9.0 (32°C)	5.5-9.0	-
FLOW RATE ^c	m ³ /hr	CURRENT METER AND CALCULATION	0	-	-
TEMPERATURE ^c	°C	LABORATORY AND FIELD METHODS (SM: PART 2550 B)	32	≤ 40	-
DISSOLVED OXYGEN ^c	mg/L	MEMBRANE ELECTRODE METHOD (AT SITE) SM: PART 4500-O G	6.6	-	0.5
BIOCHEMICAL OXYGEN DEMAND ^a ^a	mg/L	5-DAY BOD TEST, MEMBRANE ELECTRODE METHOD (SM: PART 5210 B AND PART 4500-O G)	< 2.0	≤ 20	2.0
CHEMICAL OXYGEN DEMAND ^a	mg/L	CLOSED REFLUX, COLOURIMETRIC METHOD (SM: PART 5220 D)	51.8	≤ 120	25.0
TOTAL SUSPENDED SOLIDS ^a	mg/L	DRIED FROM 103 TO 105 °C (SM: PART 2540 D)	17.5	≤ 50	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	DRIED AT 180 °C (SM: PART 2540 C)	1,374	≤ 3,000	25



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			บ่อน้ำบาดน้ำเสีย ปอดสุคห้าม T24AM226-0001		
OIL AND GREASE ^c	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)	ND	≤ 5	3
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			GREEN/TURBID GREEN		

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 24th EDITION, 2023.

REGULATORY STANDARD : INDUSTRIAL EFFLUENT STANDARDS, NOTIFICATION OF THE MINISTRY OF INDUSTRY, B.E. 2560,
PUBLISHED IN THE ROYAL GOVERNMENT GAZETTE, VOL 134, PART 153 D, DATED JUNE 7, 2017.

ND : NOT DETECTED.

^A : SAMPLING BY CUSTOMER AT 08:30 HOUR ON JUNE 27, 2024, ANALYSIS NO. T24AO403-0001
(ANALYTICAL DATE : JUNE 27 - JULY 3, 2024)

THE REASON FOR ISSUING THE NEW REPORT IS SUBSTITUTE RESULT.

SUBSTITUTED REPORT FOR REPORT NO. 2024-U058117, ISSUE DATE JUNE 27, 2024.

Piyapat S.

(MRS PIYAPAT SUTTAMANUTWONG)
LABORATORY SUPERVISOR

คุณภาพเก่า

ANALYSIS REPORT

CUSTOMER NAME : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
ADDRESS : 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140
CONTACT INFORMATION : TEL : 09 5992 6395 e-mail : Safetytherasak@hotmail.com
SAMPLING SOURCE : -
SAMPLE TYPE : ASH
SAMPLING DATE : FEBRUARY 5, 2024
SAMPLING TIME : 14:30 HOUR
SAMPLING METHOD : GRAB
SAMPLING BY : MR SUKSAN BOONLEANG
ANALYZED BY : MISS CHOMTHANAN APHIPATPAPHA

RECEIVED DATE : FEBRUARY 7, 2024
ANALYTICAL DATE : FEBRUARY 7-23, 2024
ISSUE DATE : FEBRUARY 23, 2024
REPORT NO. : 2024-U016054
WORK NO. : 2023-010435
ANALYSIS NO. : T24AC371-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			ชี้เภา (โครงการ 1) T24AC371-0001		
pH (1:1)	-	ELECTROMETRIC METHOD (US EPA 2004: 9045D)	9.2 (25°C)	-	-
ELECTRICAL CONDUCTIVITY (1:5)	dS/m	ELECTRICAL CONDUCTIVITY METHOD	0.81 (25°C)	-	-
MOISTURE	%	DRIED AT 105 °C	48.4	-	-
ORGANIC CARBON	% w/w	WALKLEY AND BLACK,1947 AND CACULATION METHOD	5.68	-	-
NITROGEN	% w/w	AOAC OFFICIAL METHOD 955.04	ND	-	0.05
TOTAL PHOSPHATE	% w/w P ₂ O ₅	AOAC OFFICIAL METHOD 958.01	0.18	-	0.01
POTASH	% w/w	AOAC OFFICIAL METHOD 971.01	0.326	-	0.001
TC/TN RATIO	-	CALCULATION	602:1	-	-
METALS					
ARSENIC (As)	mg/kg (wet weight)	ACID DIGESTION AND HYDRIDE GENERATION AAS METHOD (US EPA 1996: 3050B AND 1992: 7061A)	5.16	< 500	0.100
MERCURY (Hg)	mg/kg (wet weight)	ACID DIGESTION AND COLD VAPOUR AAS METHOD (US EPA 2007: 7471B)	ND	< 20	0.100
CADMIUM (Cd)	mg/kg (wet weight)	ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD (US EPA 1996: 3050B AND 2007: 7000B)	ND	< 100	0.300
LEAD (Pb)	mg/kg (wet weight)	ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD (US EPA 1996: 3050B AND 2007: 7000B)	7.18	< 1,000	1.55
SAMPLE CONDITION			BLACK ASH		

REGULATORY STANDARD : MANAGEMENT OF SOLID WASTE OR UNUSABLE MATERIAL, NOTIFICATION OF THE MINISTRY OF INDUSTRY (B.E.2566), APPENDIX 2, ITEM 5.1

ND : NON-DETECTABLE.



(MR BHUCHONK PANICHLERTUMPI)
LABORATORY SUPERVISOR

FEBRUARY 27, 2024



คุณภาพน้ำผิวดิน

ANALYSIS REPORT

CUSTOMER NAME : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
ADDRESS : 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140
CONTACT INFORMATION : TEL : 09 5992 6395 e-mail : Safetytherasak@hotmail.com
SAMPLING SOURCE : บริษัท บ้านไร่ผลิตไฟฟ้า จำกัด
SAMPLE TYPE : SURFACE WATER
SAMPLING DATE : JANUARY 23, 2024
SAMPLING TIME : 12:20 HOUR
SAMPLING METHOD : GRAB
SAMPLING BY : MR SUKSAN BOONLEANG
ANALYZED BY : MISS NAPAPORN KHUNNOKKHUM
RECEIVED DATE : JANUARY 24, 2024
ANALYTICAL DATE : JANUARY 24-31, 2024
ISSUE DATE : FEBRUARY 6, 2024
REPORT NO. : 2024-U009840
WORK NO. : 2023-010435
ANALYSIS NO. : T24AB492-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			บริเวณเหนือจุดสูบน้ำ ของโครงการ ประมาณ 500 เมตร T24AB492-0001		
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B AND 1060 B	7.8 (29°C)	5.0-9.0	-
TEMPERATURE ^c	°C	THERMOMETER AT SITE (SM: PART 2550 B)	29	n ⁱ	-
FLOW RATE ^c	m ³ /s	CURRENT METER AND CALCULATION	0.894	-	-
DISSOLVED OXYGEN ^c	mg/L	MEMBRANE ELECTRODE METHOD AT SITE (SM: PART 4500-O G)	5.2	-	0.5
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	2.8	≤ 2.0	1.0
CHEMICAL OXYGEN DEMAND ^c	mg/L	CLOSED REFLUX, COLOURIMETRIC METHOD (SM: PART 5220 D)	ND	-	25.0
TOTAL SUSPENDED SOLIDS ^a	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	14.3	-	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	452	-	25
AMMONIA-NITROGEN ^c	mg/L NH ₃ -N	DISTILLATION NESSLERIZATION METHOD	10.9	≤ 0.5	0.5
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: PART 4500-Cl ⁻ B)	22.7	-	2.0
NITRATE-NITROGEN ^c	mg/L NO ₃ ⁻ -N	CADMIUM REDUCTION METHOD (SM: PART 4500-NO ₃ ⁻ E)	2.73	≤ 5.0	0.02
FAT, OIL AND GREASE ^c	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)	ND	-	3



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			บริเวณเหนือจุดสูบน้ำ ของโครงการ ประมาณ 500 เมตร T24AB492-0001		
METALS					
MANGANESE ^c	mg/L Mn	IN-HOUSE METHOD: UAE.TP.SW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	0.421	≤ 1.0	0.002
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	20.3	-	0.005
SAMPLE CONDITION					
WATER'S COLOUR/TURBID			YELLOW/TURBID		
SEDIMENT			BROWN		

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

REGULATORY STANDARD : SURFACE WATER QUALITY STANDARDS CLASS 3, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD, NO.8, B.E. 2537 ISSUED UNDER THE ENCHANCEMENT 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 (1994).

CLASS 3 : MEDIUM CLEAN FRESH SURFACE WATER RESOURCES USED FOR

- (1) CONSUMPTION, BUT PASSING THROUGH ON ORDINARY TREATMENT PROCESS BEFORE USING
- (2) AGRICULTURE

n¹ : NATURALLY BUT CHANGING NOT MORE THAN 3°C

ND : NON-DETECTABLE.

FEBRUARY 7, 2024

ANALYSIS REPORT

CUSTOMER NAME : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
ADDRESS : 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140
CONTACT INFORMATION : TEL : 09 5992 6395 e-mail : Safetytherasak@hotmail.com
SAMPLING SOURCE : บริษัท บ้านไร่ผลิตไฟฟ้า จำกัด
SAMPLE TYPE : SURFACE WATER
SAMPLING DATE : JANUARY 23, 2024
SAMPLING TIME : 11:00 HOUR
SAMPLING METHOD : GRAB
SAMPLING BY : MR SUKSAN BOONLEANG
ANALYZED BY : MISS NAPAPORN KHUNNOKKHUM
RECEIVED DATE : JANUARY 24, 2024
ANALYTICAL DATE : JANUARY 24-31, 2024
ISSUE DATE : FEBRUARY 6, 2024
REPORT NO. : 2024-U009841
WORK NO. : 2023-010435
ANALYSIS NO. : T24AB492-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			บริเวณจุดสูบน้ำ ของโครงการ T24AB492-0002		
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B AND 1060 B	7.8 (25°C)	5.0-9.0	-
TEMPERATURE ^c	°C	THERMOMETER AT SITE (SM: PART 2550 B)	25	n ⁱ	-
FLOW RATE ^c	m ³ /s	CURRENT METER AND CALCULATION	0.862	-	-
DISSOLVED OXYGEN ^c	mg/L	MEMBRANE ELECTRODE METHOD AT SITE (SM: PART 4500-O G)	4.8	-	0.5
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	3.4	≤ 2.0	1.0
CHEMICAL OXYGEN DEMAND ^c	mg/L	CLOSED REFLUX, COLOURIMETRIC METHOD (SM: PART 5220 D)	ND	-	25.0
TOTAL SUSPENDED SOLIDS ^a	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	39.8	-	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	428	-	25
AMMONIA-NITROGEN ^c	mg/L NH ₃ -N	DISTILLATION NESSLERIZATION METHOD	11.0	≤ 0.5	0.5
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: PART 4500-Cl ⁻ B)	35.5	-	2.0
NITRATE-NITROGEN ^c	mg/L NO ₃ ⁻ -N	CADMIUM REDUCTION METHOD (SM: PART 4500-NO ₃ ⁻ E)	1.81	≤ 5.0	0.02
FAT, OIL AND GREASE ^c	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)	ND	-	3



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			บริเวณจุดสูบน้ำ ของโครงการ T24AB492-0002		
METALS					
MANGANESE ^c	mg/L Mn	IN-HOUSE METHOD: UAE.TP.SW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	0.755	≤ 1.0	0.002
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	27.2	-	0.005
SAMPLE CONDITION					
WATER'S COLOUR/TURBID			YELLOW/TURBID		
SEDIMENT			BROWN		

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

REGULATORY STANDARD : SURFACE WATER QUALITY STANDARDS CLASS 3, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD, NO.8, B.E. 2537 ISSUED UNDER THE ENCHANCEMENT 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 (1994).

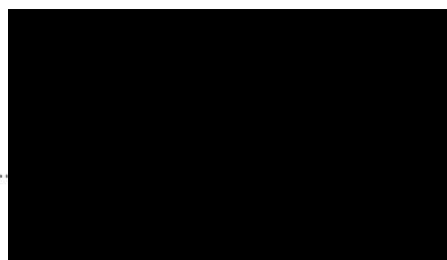
CLASS 3 : MEDIUM CLEAN FRESH SURFACE WATER RESOURCES USED FOR

(1) CONSUMPTION, BUT PASSING THROUGH ON ORDINARY TREATMENT PROCESS BEFORE USING

(2) AGRICULTURE

n' : NATURALLY BUT CHANGING NOT MORE THAN 3°C

ND : NON-DETECTABLE.



FEBRUARY 7, 2024

ANALYSIS REPORT

CUSTOMER NAME : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
ADDRESS : 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140
CONTACT INFORMATION : TEL : 09 5992 6395 e-mail : Safetytherasak@hotmail.com
SAMPLING SOURCE : บริษัท บ้านไร่ผลิตไฟฟ้า จำกัด
SAMPLE TYPE : SURFACE WATER
SAMPLING DATE : JANUARY 23, 2024
SAMPLING TIME : 14:00 HOUR
SAMPLING METHOD : GRAB
SAMPLING BY : MR SUKSAN BOONLEANG
ANALYZED BY : MISS NAPAPORN KHUNNOKKHUM

RECEIVED DATE : JANUARY 24, 2024
ANALYTICAL DATE : JANUARY 24-31, 2024
ISSUE DATE : FEBRUARY 12, 2024
REPORT NO. : 2024-U009842
WORK NO. : 2023-010435
ANALYSIS NO. : T24AB492-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			บริเวณท้ายจุดสูบน้ำ ของโครงการ ประมาณ 500 เมตร T24AB492-0003		
pH ^a	-	ELECTROMETRIC METHOD (AT SITE) SM: PART 4500-H ⁺ B AND 1060 B	8.2 (30°C)	5.0-9.0	-
TEMPERATURE ^c	°C	THERMOMETER AT SITE (SM: PART 2550 B)	30	n'	-
FLOW RATE ^c	m ³ /s	CURRENT METER AND CALCULATION	0.087	-	-
DISSOLVED OXYGEN ^c	mg/L	MEMBRANE ELECTRODE METHOD AT SITE (SM: PART 4500-O G)	4.9	-	0.5
BIOCHEMICAL OXYGEN DEMAND ^c	mg/L	AZIDE MODIFICATION METHOD (SM: PART 5210 B AND PART 4500-O C)	7.5	≤ 2.0	1.0
CHEMICAL OXYGEN DEMAND ^c	mg/L	CLOSED REFLUX, COLOURIMETRIC METHOD (SM: PART 5220 D)	28.3	-	25.0
TOTAL SUSPENDED SOLIDS ^a	mg/L	TOTAL SUSPENDED SOLIDS DRIED AT 103-105 °C (SM: PART 2540 D)	18.4	-	5.0
TOTAL DISSOLVED SOLIDS ^b	mg/L	TOTAL DISSOLVED SOLIDS DRIED AT 180 °C (SM: PART 2540 C)	558	-	25
AMMONIA-NITROGEN ^c	mg/L NH ₃ -N	DISTILLATION NESSLERIZATION METHOD	5.24	≤ 0.5	0.5
CHLORIDE ^a	mg/L Cl ⁻	ARGENTOMETRIC METHOD (SM: PART 4500-Cl ⁻ B)	106	-	2.0
NITRATE-NITROGEN ^c	mg/L NO ₃ ⁻ -N	CADMIUM REDUCTION METHOD (SM: PART 4500-NO ₃ ⁻ E)	1.14	≤ 5.0	0.02
FAT, OIL AND GREASE ^c	mg/L	LIQUID-LIQUID, PARTITION-GRAVIMETRIC METHOD (SM: PART 5520 B)	ND	-	3



PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT	REGULATORY STANDARD	DETECTION LIMIT
			บริเวณห้ามจุดสูบน้ำ ของโครงการ ประมาณ 500 เมตร T24AB492-0003		
METALS					
MANGANESE ^c	mg/L Mn	IN-HOUSE METHOD: UAE.TP.SW.01 (NITRIC ACID DIGESTION AND DIRECT AIR ACETYLENE FLAME METHOD); SM: PART 3030 E AND PART 3111 B	0.285	≤ 1.0	0.002
SODIUM ^c	mg/L Na	NITRIC ACID-HYDROCHLORIC ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA (ICP) METHOD (SM: PART 3030 F AND PART 3120 B)	57.8	-	0.005
SAMPLE CONDITION WATER'S COLOUR/TURBID SEDIMENT			YELLOW/TURBID GREEN		

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARDS INSTITUTE (TISI)

^b : ISO/IEC 17025 ACCREDITED BY DEPARTMENT OF SCIENCE SERVICE (DSS)

^c : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

IN-HOUSE : BASED ON STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

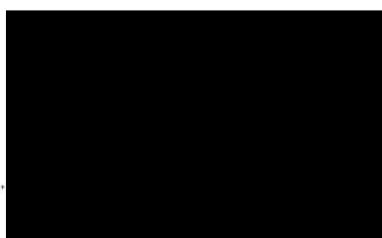
SM : STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, APHA, AWWA, WEF, 23rd EDITION, 2017.

REGULATORY STANDARD : SURFACE WATER QUALITY STANDARDS CLASS 3, NOTIFICATION OF THE NATIONAL ENVIRONMENT BOARD, NO.8, B.E. 2537 ISSUED UNDER THE ENCHANCEMENT AND CONSERVATION OF NATIONAL ENVIRONMENTAL QUALITY ACT, B.E. 2535, PUBLISHED IN THE ROYAL GOVERNMENT GAZZETTE, VOL. 111, PART 16, DATED FEBRUARY 24, B.E. 2537 (1994).

CLASS 3 : MEDIUM CLEAN FRESH SURFACE WATER RESOURCES USED FOR
(1) CONSUMPTION, BUT PASSING THROUGH ON ORDINARY TREATMENT PROCESS BEFORE USING
(2) AGRICULTURE

nⁱ : NATURALLY BUT CHANGING NOT MORE THAN 3°C

ND : NON-DETECTABLE.



FEBRUARY 13, 2024

คุณภาพอากาศในสถานประกอบการ

ANALYSIS REPORT

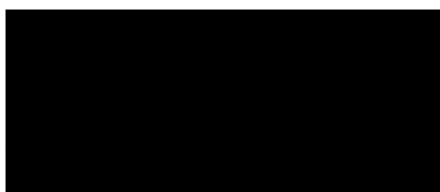
CUSTOMER NAME : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
ADDRESS : 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140
CONTACT INFORMATION : TEL : 09 5992 6395 e-mail : Safetytherasak@hotmail.com
SAMPLING SOURCE : พื้นที่โกดังกองเก็บเชื้อเพลิง
SAMPLE TYPE : WORKPLACE
SAMPLING DATE : FEBRUARY 14, 2024
SAMPLING TIME : 08:45-16:45 HOUR
SAMPLING BY : MISS CHAMANDA KIMAKOM
ANALYZED BY : MISS JETJARIN TUMSA-AT

RECEIVED DATE : FEBRUARY 16, 2024
ANALYTICAL DATE : FEBRUARY 16-23, 2024
ISSUE DATE : FEBRUARY 29, 2024
REPORT NO. : 2024-U016841
WORK NO. : 2023-010435
ANALYSIS NO. : T24AD318-0001

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT
			พื้นที่โกดังกองเก็บเชื้อเพลิง T24AD318-0001
TOTAL DUST	mg/m ³	GRAVIMETRIC METHOD (NIOSH METHOD 0500)	0.236
RESPIRABLE DUST	mg/m ³	GRAVIMETRIC METHOD (NIOSH METHOD 0600)	0.046
SAMPLE CONDITION			COMPLETE

REMARK

RESULT : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE.



FEBRUARY 29, 2024



ANALYSIS REPORT

CUSTOMER NAME : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
ADDRESS : 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140
CONTACT INFORMATION : TEL : 09 5992 6395 e-mail : Safetytherasak@hotmail.com
SAMPLING SOURCE : ระบบสายพานลำเลียงเชื้อเพลิง
SAMPLE TYPE : WORKPLACE
SAMPLING DATE : FEBRUARY 14, 2024
SAMPLING TIME : 08:50-16:50 HOUR
SAMPLING BY : MISS CHAMANDA KIMAKOM
ANALYZED BY : MISS JETJARIN TUMSA-AT

RECEIVED DATE : FEBRUARY 16, 2024
ANALYTICAL DATE : FEBRUARY 16-23, 2024
ISSUE DATE : FEBRUARY 29, 2024
REPORT NO. : 2024-U016842
WORK NO. : 2023-010435
ANALYSIS NO. : T24AD318-0002

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT
			ระบบสายพานลำเลียงเชื้อเพลิง T24AD318-0002
TOTAL DUST ^b	mg/m ³	GRAVIMETRIC METHOD (NIOSH METHOD 0500)	0.117
RESPIRABLE DUST ^a	mg/m ³	GRAVIMETRIC METHOD (NIOSH METHOD 0600)	0.026
SAMPLE CONDITION			COMPLETE

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARD INSTITUTE (TISI)
^b : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

REMARK
RESULT : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE.



LABORATORY SUPERVISOR

FEBRUARY 29, 2024



ANALYSIS REPORT

CUSTOMER NAME : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
ADDRESS : 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140
CONTACT INFORMATION : TEL : 09 5992 6395 e-mail : Safetytherasak@hotmail.com
SAMPLING SOURCE : บริเวณเหมืองไอน้ำ
SAMPLE TYPE : WORKPLACE
SAMPLING DATE : FEBRUARY 14, 2024
SAMPLING TIME : 08:55-16:55 HOUR
SAMPLING BY : MISS CHAMANDA KIMAKOM
ANALYZED BY : MISS JETJARIN TUMSA-AT
RECEIVED DATE : FEBRUARY 16, 2024
ANALYTICAL DATE : FEBRUARY 16-23, 2024
ISSUE DATE : FEBRUARY 29, 2024
REPORT NO. : 2024-U016843
WORK NO. : 2023-010435
ANALYSIS NO. : T24AD318-0003

PARAMETER	UNIT	METHOD OF ANALYSIS	RESULT
			บริเวณเหมืองไอน้ำ T24AD318-0003
TOTAL DUST ^b	mg/m ³	GRAVIMETRIC METHOD (NIOSH METHOD 0500)	0.181
RESPIRABLE DUST ^a	mg/m ³	GRAVIMETRIC METHOD (NIOSH METHOD 0600)	0.099
SAMPLE CONDITION			COMPLETE

^a : ISO/IEC 17025 ACCREDITED BY THAI INDUSTRIAL STANDARD INSTITUTE (TISI)
^b : VERIFIED BY OWN LABORATORY QUALITY SYSTEM, BUT STILL NOT ACCREDITED

REMARK

RESULT : REFERENCE CONDITION IS 25 DEGREE CELSIUS AT 1 ATMOSPHERE.

Budsakorn ✓

(MISS BUDSAKORN LERDPANUMAS)
LABORATORY SUPERVISOR

FEBRUARY 29, 2024



ระดับเสียงในสถานประกอบการ

ANALYSIS REPORT

CUSTOMER NAME : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
ADDRESS : 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140
CONTACT INFORMATION : TEL : 09 5992 6395 e-mail : Safetytherasak@hotmail.com
MEASURING PLACE : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
MEASURING TYPE : WORKPLACE (NOISE) **RECEIVED DATE** : JANUARY 17, 2024
MEASURING DATE : JANUARY 17, 2024 **ANALYTICAL DATE** : JANUARY 17, 2024
MEASURING TIME : * **ISSUE DATE** : APRIL 22, 2024
MEASURING EQUIPMENT : INTEGRATED SOUND LEVEL METER **REPORT NO.** : 2024-U033279
MEASURED BY : MISS CHAMANDA KIMAKOM **WORK NO.** : 2023-010217
ANALYSIS NO. : T24AB242-0002

ANALYSIS NO.	MEASURING SITE	TIME* (HOUR)	RESULT (dB(A))	
			L _{Aeq} 8 hours	L _{Amax} 8 hours
T24AB242-0002	เครื่องสับเชื้อเพลิง	09:22-17:22	79.5	90.1

Nattawat

(MR NATTAWAT DANGSAWAT)
LABORATORY SUPERVISOR

APRIL 22, 2024

ISO 9001:2015 CERTIFIED

ISO 14001:2015 CERTIFIED

BY BSI GROUP (THAILAND) CO.,LTD.

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• THIS ANALYSIS REPORT APPROVES ONLY FOR THE SAMPLES AS RECEIVED.



ANALYSIS REPORT

CUSTOMER NAME : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
ADDRESS : 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140
CONTACT INFORMATION : TEL : 09 5992 6395 e-mail : Safetytherasak@hotmail.com
MEASURING PLACE : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
MEASURING TYPE : WORKPLACE (NOISE) **RECEIVED DATE** : JANUARY 19, 2024
MEASURING DATE : JANUARY 19, 2024 **ANALYTICAL DATE** : JANUARY 19, 2024
MEASURING TIME : * **ISSUE DATE** : APRIL 22, 2024
MEASURING EQUIPMENT : INTEGRATED SOUND LEVEL METER **REPORT NO.** : 2024-U033280
MEASURED BY : MISS CHAMANDA KIMAKOM **WORK NO.** : 2023-010217
ANALYSIS NO. : T24AB242-0006

ANALYSIS NO.	MEASURING SITE	TIME* (HOUR)	RESULT (dB(A))	
			L _{Aeq} 8 hours	L _{Amax} 8 hours
T24AB242-0006	เครื่องกำเนิดไฟฟ้า 9.9 MW	09:15-17:15	84.3	87.1

.....
(MR NATTAWAT DANGSAWAT)
LABORATORY SUPERVISOR

APRIL 22, 2024



ความร้อนในสถานประกอบการ

ANALYSIS REPORT

CUSTOMER NAME : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
ADDRESS : 111 MOO 12 THAP LUANG BAN RAI UTHAI THANI 61140
CONTACT INFORMATION : TEL : 09 5992 6395 e-mail : Safetytherasak@hotmail.com
MEASURING PLACE : THAI ROONG RUANG BIO-ENERGY COMPANY LIMITED
MEASURING TYPE : WORKPLACE (HEAT STRESS) **RECEIVED DATE** : FEBRUARY 14, 2024
MEASURING DATE : FEBRUARY 14, 2024 **ANALYTICAL DATE** : FEBRUARY 14, 2024
MEASURING TIME : * **REPORT NO.** : 2024-U015092
MEASURING EQUIPMENT : WET BULB GLOBE TEMPERATURE **WORK NO.** : 2023-010435
MEASURED BY : MISS CHAMANDA KIMAKOM **ANALYSIS NO.** : T24AD320-0001 - T24AD320-0002

ANALYSIS NO.	MEASURING SITE	DURATION TIME*	RESULT (DEGREE CELSIUS)				
			NWB	DB	GT	WBGT	WBGT AVG
T24AD320-0001	บริเวณเหมืองไอน้ำ (พื้นที่หน้าเตา 60) (คุณเกิดติดกิด การบรรจุ)	10:00-12:00 HOUR	21.7	35.6	37.2	26.3	26.3
T24AD320-0002	บริเวณเครื่องกำเนิดไฟฟ้า (เทอร์ไบน์ GEN 9.9 MW) (คุณนิรันดร์ ป้อมผื่น)	10:03-12:03 HOUR	24.5	36.8	37.6	28.4	28.4

FEBRUARY 22, 2024

