ASB Biodiesel (Hong Kong) Limited

Development of a Biodiesel Plant at Tseung Kwan O Industrial Estate

Monthly Environmental Monitoring and Audit Report for December 2024

(version 1.0)

Approved By

(Dr. HF Chan,

Environmental Team Leader)

REMARKS:

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

CINOTECH accepts no responsibility for changes made to this report by third parties.

CINOTECH CONSULTANTS LTD

Room 1710, Technology Park, 18 On Lai Street, Shatin, NT, Hong Kong Tel: (852) 2151 2083 Fax: (852) 3107 1388

Email: info@cinotech.com.hk



CINOTECH Consultants Limited Rm1710, Technology Park, 18 On Lai Street, Shatin, New Territories, Hong Kong

Attention: Ms. Karina CHAN

Your Reference

Development of a Biodiesel Plant at Tseung Kwan O Industrial Estate – Operation Phase

Monthly Environmental Monitoring and Audit Report No. 105 (December 2024)

Our Reference EC/LL/kl/100229/L0021

3/F Manulife Place 348 Kwun Tong Road Kowloon

348 Kwun Tong Road Kowloon Hong Kong 9 Jan 2025

BY EMAIL

T +852 2828 5757 F +852 2827 1823 mottmac.hk Dear Madam.

We refer to your submission via email on 9 January 2025. We would like to inform you that we have no adverse comment on the captioned submission. Therefore, we write to verify the captioned submission in accordance with the Condition 4.2 of the Environmental Permit No. EP-319/2009/D.

Should you have any queries, please contact the undersigned or our Ms. Kimmy Lui at 2828 5953.

Yours faithfully, For and on behalf of the Mott MacDonald Hong Kong Limited

Environmental Permit No. EP-319/2009/D

Liz Lo

Independent Environmental Checker

T +852 2828 5751 Liz.Lo@mottmac.com

TABLE OF CONTENTS

		Page
EX	KECUTIVE SUMMARY	1
	Introduction Environmental Licenses and Permits Environmental Monitoring and Audit Works Key Information in the Reporting Month	1
1	INTRODUCTION	3
	Background	3
2	STATUS OF ENVIRONMENTAL LICENSING AND PERMITTING	5
3	ENVIRONMENTAL MONITORING REQUIREMENTS	7
	Air Quality	10
4	MONITORING METHODOLOGY	13
	Air Quality Water Quality	13
5	MONITORING RESULTS	15
	Air Quality	16
6	SUMMARY OF COMPLAINT AND PROSECUTION	18
7	CONCLUSIONS	19

LIST OF TABLES

Table 1	Summary of Key Information in December 2024	2
Table 1–1	Key Project Contacts	
Table 2–1	Summary of Environmental Licensing and Permit Status	
Table 3–1	Monitoring Criteria for the Emission from Stacks of Boiler, Biogas Flare and Process Building	7
Table 3–2	Monitoring Criteria for the Odour Concentrations at the Final Air Scrubber & Air Scrubber for	
	Fertiliser Room and Odour Patrols along the Project Site Boundary	8
Table 3–3	Event and Action Plan for Air Quality Monitoring	9
Table 3–4	Monitoring Criteria for the Water Quality of Treated Effluent Discharged from Project Site and	
	Stormwater Discharge	. 10
Table 3–5	Event and Action Plan for Water Quality Monitoring	.11
Table 3–6	Monitoring Criteria for Sulphur Content in Bio Heating Oil	. 12
Table 4–1	Methodologies for Water Quality Monitoring of Treated Effluent Discharged from Project Site	. 14
Table 4–2	Methodologies for Water Quality Monitoring of Stormwater Discharge	. 14
Table 5–1	Monitoring Result of Odour Patrols along Site Boundary	. 15
Table 5–2	Water Quality Monitoring Result of Treated Effluent Discharged from Project Site	. 16
Table 5–3	Water Quality Monitoring Result of Stormwater Discharge	. 16
Table 5–4	Monitoring Result of Sulphur Content in Bio Heating Oil	. 17

LIST OF FIGURES

Figure 1.1 Location Plan of the Plant

Figure 2.1 Location Plan of Emission Points in the Plant

LIST OF APPENDICES

Appendix A Not Used Appendix B Not Used Appendix C Not Used Appendix D Not Used Appendix E Not Used Appendix F Air Quality Monitoring Report – Odour Patrol Appendix G Water Quality Monitoring Result – Effluent from Wastewater Treatment Plant Appendix H Water Quality Monitoring Result – Stormwater Discharge Test Result – Sulphur Content in Bio Heating Oil Appendix I Appendix J Complaint Log

EXECUTIVE SUMMARY

Introduction

1. This is the 105th monthly Environmental Monitoring and Audit (EM&A) Report prepared by Cinotech Consultants Limited for Development of a Biodiesel Plant at Tseung Kwan O Industrial Estate in operational phase. This report documents the findings of EM&A works carried out in December 2024.

Environmental Licenses and Permits

- 2. Licenses/Permits granted to the Project include the followings:
 - Environmental Permit, EP-319/2009/D, granted on 28 January 2014;
 - Specified Process Licence, L-25-019(4), granted on 17 April 2024 &
 - Water Pollution Control Ordinance Licence, WT10002362-2023, granted on 22 February 2024

Environmental Monitoring and Audit Works

- 3. Environmental monitoring and audit works for the Project were carried out in accordance with the criteria and requirements listed in the EM&A Manual, Environmental Permit, Specified Process Licence and Water Pollution Control Ordinance (WPCO) Licence granted. Monitoring results were checked and reviewed.
- 4. As the biodiesel plant was not operated during December 2024, no emission from the stacks (i.e. EP1, EP2, EP3, EP5 & EP6) were expected. Hence, the monitoring of emissions from the stacks were not carried out in December 2024.

Key Information in the Reporting Month

5. Summary of key information in this reporting month (December 2024) is listed in **Table 1**.

Table 1 Summary of Key Information in December 2024

Event	E	Event Details	A officer Tollege	C404	Domonik	
Event	Number	Nature	Action Taken	Status	Remark	
Exceedance of Action & Limit Levels	0		N/A	N/A		
Complaint received	0		N/A	N/A		
Changes to the assumptions and key construction / operation activities recorded	0		N/A	N/A		
Status of submissions under EP	1	Monthly EM&A Reports: November 24 v1.0	Submitted to EPD on 12 Dec 2024	Verified by IEC		
Notifications of any summons & prosecutions	0		N/A	N/A		

1 INTRODUCTION

Background

- 1.1 ASB Biodiesel Plant (hereafter referred to as "the Plant") was established in 2013 for the production of biodiesel and crude glycerine using cooking oil (UCO) and grease trap waste (GTW). The plant is located at Tseung Kwan O Industrial Estate (see **Figure 1.1** for the location plan of Project Site) and are able to produce 100,000 tonnes of low-carbon fuel per year for selling to both local and overseas market. The plant uses multifeedstock which consists of UCO, oil and grease recovered from GTW, palm fatty acid distillate (PFAD) and animal fats. The plant offers a convenient recycling outlet for GTW and UCO, and converts oil and grease recovered from these wastes into useful products. The Project also offers a more environmental-friendly alternative to the diesel fuel market in Hong Kong.
 - 1.2 This Project is a Designated Project under the Environmental Impact Assessment Ordinance (Cap. 499). An environmental impact assessment (EIA) was undertaken to identify and evaluate the impact on environment (e.g. air quality, noise, water quality and ecology), and propose possible measures to mitigate the impact. The EIA Report was approved by the Environmental Protection Department (EPD) on 26 February 2009.
 - 1.3 Environmental Permit (EP) No. EP-319/2009 was issued on 11 March 2009 to ASB Biodiesel (Hong Kong) Limited as the Permit Holder. After several rounds of amendments, the latest version is EP No. EP-319/2009/D, which was issued on 28 January 2014.
 - 1.4 Construction of the Plant has been completed since November 2013. After more than 2 years of commissioning trial, the Plant started to operate in April 2016. Cinotech Consultants Limited was commissioned by ASB Biodiesel (Hong Kong) Limited to undertake the Environmental Monitoring and Audit (EM&A) works for the Project. This is the 105th Monthly EM&A report summarizing the EM&A works in operational phase for the Project in December 2024.

Project Organizations

- 1.5 Different parties with different levels of involvement in the project organization include:
 - Project Proponent & Operator –

ASB Biodiesel (Hong Kong) Limited

- Independent Environmental Checker (IEC) Mott MacDonald HK Limited.
- Environmental Team (ET) –

Cinotech Consultants Limited

- 1.6 The responsibilities of respective parties are detailed in Section 2 of the Final EM&A Manual of the Project.
- 1.7 The key contacts of the Project are shown in **Table 1–1.**

Table 1-1 Key Project Contacts

Party	Role	Name	Position	Phone No.
ASB	Permit Holder & Operator	Mr. Tommy Fung	Senior Process Engineer	3183 4306
Mott MacDonald	Independent Environmental Checker	Ms. Liz Lo	Independent Environmental Checker	2828 5751
Cinotech	Environmental	Dr. HF Chan	ET Leader	2151 2088
	Team	Ms. Karina Chan	Project Coordinator	2157 3880

Summary of EM&A Requirements

- 1.8 EM&A requirements for the Project include:
 - Monitoring requirements as listed in the Project EM&A Manual;
 - Conditions listed in the Environmental Permit;
 - Monitoring requirements as listed in the Specified Process (SP) Licence granted; &
 - Monitoring requirements as listed in the Water Pollution Control Ordinance (WPCO) Licence granted

2 STATUS OF ENVIRONMENTAL LICENSING AND PERMITTING

2.1 All permits/licenses obtained for the Project are summarized in **Table 2–1**.

Table 2–1 Summary of Environmental Licensing and Permit Status

Permit / License	Valid	Period	S	C4-4			
No.	From	То	Summary	Status			
Environmental Per	Environmental Permit (EP)						
EP-319/2009/D	28/01/2014	N/A	 Operation of a biochemical plant with a storage capacity of more than 500 tonnes and in which substances are processed and produced; a storage, transfer and transhipment of oil facility with a storage capacity of not less than 1,000 tonnes; and a dangerous goods godown with a storage capacity exceeding 500 tonnes 	Valid			
Specified Process (SP) Licence						
L-25-019(4)	17/04/2024	16/04/2026	Emission of non-fugitive fixed point emissions	Valid			
L-25-019(3)	29/09/2020	28/09/2022	Emission of non-fugitive fixed point emissions	Expired on 28/09/2022			
L-25-019(2)	19/07/2018	18/07/2020	Emission of non-fugitive fixed point emissions	Expired on 18/07/2020			
L-25-019(1)	10/10/2013	10/10/2015	Emission of non-fugitive fixed point emissions	Expired on 10/10/2015			
Water Pollution Co	ontrol Ordina	nce (WPCO) I	Licence				
WT10002362- 2023	22/02/2024	28/02/2026	Discharge of	Valid			
WT00040341- 2022	10/02/2022	28/02/2024	Discharge of	Expired on 28/02/2024			

Permit / License	Valid	Period	S	Status
No.	From	To	Summary	Status
WT00035448- 2019	31/12/2019	28/02/2022	Discharge of	Expired on 28/02/2022
WT00029932- 2017	22/12/2017	31/12/2019	Discharge of	Expired on 31/12/2019
WT00022972- 2015	16/12/2015	31/12/2017	Discharge of effluent from wastewater treatment facilities to communal foul sewer; and effluent from floor washing of operation areas to communal storm drain	Expired on 31/12/2017

3 ENVIRONMENTAL MONITORING REQUIREMENTS

Air Quality

- 3.1 According to Section 4.3 of the Final EM&A Manual of the Project, the emission from stacks of boiler, biogas flare and process building, and odour concentrations at the final air scrubber & air scrubber for fertiliser room shall be monitored. Odour patrols along the Project Site boundary is also required.
- 3.2 Monitoring criteria (i.e. frequency, parameter, and action & limit levels) for the emission of the boiler stack, biogas flare and process building are listed in **Table 3–1**, while criteria for odour concentrations at the final air scrubber & air scrubber for fertiliser room and odour patrols along the Project Site boundary are listed in **Table 3–2**.

Table 3–1 Monitoring Criteria for the Emission from Stacks of Boiler, Biogas Flare and Process Building

Stack	Frequency *	Parameter	Limit Levels **
		Nitrogen oxides (NO _X)	4.176 kg/h ***
		Carbon monoxide (CO)	1.040 kg/h ***
		Sulphur dioxide (SO ₂)	1.501 kg/h ***
Boiler (EP2)	Once per quarter. (If the	Non-methane Organic Compounds (NMOC)	0.041 kg/h
(212)	limit level(s) is exceeded, the frequency shall be increased to once per month	Respirable suspended particulates	0.208 kg/h ***
	until compliance for three	Odour ****	1,000 OU/s ***
	consecutive months is obtained and the frequency will be resumed to once per quarter thereafter.)	Exhaust gas velocity	10.00 m/s (minimum)
		NO_X	0.053 kg/h
Biogas		СО	0.018 kg/h
Flare		SO_2	0.039 kg/h
(EP1)		NMOC	0.0018 kg/h
		Exhaust gas velocity	0.54 m/s (minimum)
	Once per quarter. (If the limit level(s) is	Acetyldehyde	0.0975 kg/h
	exceeded, the frequency	Methanol	0.0975 kg/h
Process Building (EP3)	shall be increased to once per month until compliance for three consecutive months is obtained and the frequency will be resumed to once per 3 months thereafter.)	Exhaust gas velocity	0.79 m/s (minimum)

^{*} The frequencies are updated according to the latest SP Licence, L-25-019(4) and Monitoring will not be carried out during raining days.

^{**} No action level is set in the Final EM&A Manual of the Project and in the latest SP Licence, L-25-019(4).

^{***} The limit levels are updated according to the latest SP Licence, L-25-019(4).

^{****} Odour emission from EP2 shall be monitored once per month according to the latest SP Licence, L-25-019(4).

Table 3–2 Monitoring Criteria for the Odour Concentrations at the Final Air Scrubber & Air Scrubber for Fertiliser Room and Odour Patrols along the Project Site Boundary

	Frequency	Parameter	Action Levels	Limit Levels
Odour Concentrations		Odour		28.6 OU/s
at the Final Air Scrubber (EP5)	Once per month. *	Exhaust gas velocity	_ **	0.70 m/s (minimum)
Odour Concentrations at the Air Scrubber for Fertiliser Room (EP6)	Once per quarter. *	Odour	_ **	5 OU/s
Odour Patrols along the Project Site Boundary	Two times a day, one in the morning and one in the afternoon Once a month for the licence period; and If the action level is triggered, the frequency will be increased to twice a month until compliance with the action level for three consecutive months is obtained and the frequency will be resumed to once a month thereafter.	Odour Intensity	 Odour intensity ≥ Class 2 recorded; or One documented complaint received 	• Odour intensity ≥ Class 3 recorded on 2 consecutive patrols

^{*} Monitoring will not be carried out during raining days

3.3 If action / limit levels are exceeded, the following actions should be taken by the ET:

- Inform Project Proponent and IEC, and investigate and record the cause of exceedance within 24 hours;
- Repeat measurement to confirm findings; and
- Implement the event and action plan as shown in **Table 3–3**.

^{**} No action level was set in the Final EM&A Manual of the Project and in the latest Specified Process Licence, L-25-019(4).

Table 3–3 Event and Action Plan for Air Quality Monitoring

Table 3–3	Actions Action Plan for Air Quality Monitoring						
Event	ET Leader	IEC	Project Proponent				
Exceedance of Limit Level for stack emission from boiler, biogas flare, process building and final air scrubber & air scrubber for fertiliser room	 Repeat measurement to confirm finding Identify source(s) and investigate the cause(s) of exceedance Inform Project Proponent whether the cause of exceedance is due to the Project Prepare the Notification of Exceedance within 24 hours Discuss remedial actions with the Project Proponent Assess the effectiveness of Project Proponent's remedial actions For the monitoring of emissions from the stacks of the boiler, biogas flare and process building, increase the monitoring frequency from half-yearly (for the second year onward) to monthly intervals. If results of three consecutive monthly monitoring show no exceedance of the limit level, the monitoring frequency will be reverted back to half-yearly 	Verify the Notification of Exceedance submitted by the ET Leader Check with the Project Proponent on the operating activities and implementation of control measures Discuss with ET Leader and Project Proponent on the possible remedial actions Advise the Project Proponent on the effectiveness of the proposed remedial measures Supervise implementation of remedial measures	Rectify any unacceptable practice Amend working methods as required Implement amended working methods, if necessary				
Exceedance of Action Level for odour	 intervals. Identify source(s) / reason of exceedance or complain Prepare the odour complain form or the Notification of Exceedance within 24 hours Inform Project Proponent whether the cause of exceedance is due to the Project Discuss remedial actions with the Project Proponent During the second year of operation, if the action level is triggered, the frequency will be resumed to monthly until compliance with the action level for three consecutive months is obtained and the frequency will be reduced to quarterly intervals thereafter. 	Verify the Notification of Exceedance submitted by the ET Leader	Rectify any unacceptable practice Amend working methods as required Implement amended working methods, if necessary				

Event	Actions				
Event	ET Leader	IEC	Project Proponent		
Exceedance of Limit Level for odour	Identify source(s) / reason of exceedance or complain Prepare the odour complain form or the Notification of Exceedance within 24 hours Inform Project Proponent whether the cause of exceedance is due to the Project Assess the effectiveness of Project Proponent's remedial actions or amended design	Verify the Notification of Exceedance submitted by the ET Leader Check with the Project Proponent on the operating activities and implementation of control measures Discuss with ET Leader and Project Proponent on the possible remedial actions Advise the Project Proponent on the effectiveness of the proposed remedial measures Supervise implementation of remedial measures	<u> </u>		

Water Quality

- 3.4 According to Section 6.3 of the Final EM&A Manual of the Project, the water quality of treated effluent discharged from Project Site and stormwater discharge shall be monitored.
- 3.5 Monitoring criteria (i.e. frequency, parameter, and limit levels) for the water quality of treated effluent discharged from Project Site and stormwater discharge are listed in **Table 3–4**.

Table 3–4 Monitoring Criteria for the Water Quality of Treated Effluent Discharged from Project Site and Stormwater Discharge

Discharge Frequency		Parameter	Limit Levels*
		рН	Within the range of 6 - 10
		Suspended Solids	800 mg/L
Treated		Biochemical Oxygen Demand (BOD) (5 days, 20 °C)	800 mg/L
Effluent	Monthly	Chemical Oxygen Demand (COD)	2000 mg/L
Discharged from	Monthly	Oil & Grease	50 mg/L
Project Site		Sulphate	1000 mg/L
		Total Nitrogen	200 mg/L
		Total Phosphorus	50 mg/L
		рН	Within the range of 6 – 9
C+		Suspended Solids	50 mg/L
Stormwater Discharge	Monthly	Biochemical Oxygen Demand (BOD) (5 days, 20 °C)	50 mg/L
Ç		Chemical Oxygen Demand (COD)	100 mg/L
		Oil & Grease	30 mg/L

- 3.6 If limit levels are exceeded, the following actions should be taken by the ET:
 - Inform Project Proponent and IEC, and investigate and record the cause of exceedance within 24 hours;
 - · Repeat measurement to confirm findings; and
 - Implement the event and action plan as shown in **Table 3–5**.

Table 3-5 Event and Action Plan for Water Quality Monitoring

II4	Actions					
Event	ET Leader	IEC	Project Proponent			
Exceedance of Limit Level for Treated Effluent Discharged from Project Site	Identify source(s) and investigate the cause(s) of exceedance Repeat measurement to confirm finding Prepare the Notification of Exceedance within 24 hours Discuss remedial actions with the Project Proponent Assess the effectiveness of Project Proponent's remedial actions	 Verify the Notification of Exceedance submitted by the ET Leader Check with Contractor on the operating activities and implementation of landfill gas control measures Discuss with ET Leader and Contractor on the possible remedial actions Advise the IC on the effectiveness of the proposed remedial measures Supervise implementation of remedial measures 	Check the performance of the on-site WWTP Rectify any unacceptable performance Carry out remedial measures or amend design as required Implement amended design, if necessary			
Exceedance of Limit Level for Stormwater Discharged from the Project Site	Identify source(s) and investigate the cause(s) of exceedance Repeat measurement to confirm finding Prepare the Notification of Exceedance within 24 hours Discuss remedial actions with the Project Proponent Assess the effectiveness of Project Proponent's remedial actions	Verify the Notification of Exceedance submitted by the ET Leader Check with Project Proponent on the operating activities Discuss with ET Leader and Project Proponent on the possible remedial actions Advise the Project Proponent on the effectiveness of the proposed remedial measures Supervise implementation of remedial measures	 Propose and implement remedial measures or amend design as required Rectify any unacceptable practice Amend working methods as required Implement amended working methods, if necessary 			

Sulphur Content in Bio Heating Oil

- 3.7 According to Section 3.11 of the EP-319/2009/D, if Bio Heating Oil (BHO) is used on site, the sulphur content in BHO shall be monitored.
- 3.8 Monitoring criteria (i.e. frequency, parameter, and limit level) for the sulphur content in BHO are listed in **Table 3–6.**

Table 3-6 Monitoring Criteria for Sulphur Content in Bio Heating Oil

Frequency	Parameter	Limit Level*
 Every tank load of the BHO for the BHO's sulphur content when the fuel tank(s) is being filled/refilled This original frequency shall be adopted in the first three months of using BHO on site. After the first three months of the original monitoring regime, if all monitoring result in the first three months meet the limit level, the frequency may be reduced to one test for every two refills for the next three months; and after the first six months, the monitoring may be conducted once a month. If exceedance occur, the monitoring shall be reverted to the original frequency of a test for every tank load of BHO, or at such a monitoring frequency to be advised and agreed by the EPD's Director. 	Sulphur Content	346 ppm

- 3.9 If limit level is exceeded, the following actions should be taken by the ET:
 - Inform Project Proponent and IEC within 24 hours;
 - Repeat measurement to confirm findings;
 - Inform Project Proponent to increase the use of low sulphur diesel in the fuel tank(s) to achieve a fuel mixture with sulphur content of less than 346 ppm; and
 - Revert the monitoring programme to the original frequency of a test for every tank load of BHO, or at such a monitoring frequency to be advised and agreed by the EPD's Director.

4 MONITORING METHODOLOGY

Air Quality

Emission from Stack of Boiler (EP2)

4.1 As the biodiesel plant was not operated during December 2024, no emission from stack of boiler was expected. Since the emission from stack of boiler cannot be sampled, monitoring on emission from the boiler was suspended.

Emission from Stack of Biogas Flare (EP1)

4.2 As there was limited biogas production in the reporting month, emission from stack of biogas flare cannot be sampled. Therefore, monitoring on emission from the stack was suspended until sufficient amount of biogas is produced.

Emission from Stack of Process Building (EP3)

4.3 As the biodiesel plant was not operated during December 2024, no emission from stack was expected. Since the emission from the stack of process building cannot be sampled, monitoring on emission from the process building was suspended.

Odour Concentrations at the Final Air Scrubber (EP5)

4.4 As the biodiesel plant was not operated during December 2024, no emission from the final air scrubber was expected. Since the odour concentrations at the final air scrubber cannot be sampled, monitoring on emission from the final air scrubber was suspended.

Odour Concentrations at the Air Scrubber for Fertiliser Room (EP6)

4.5 As the biodiesel plant was not operated during December 2024, no emission from the air scrubber for fertiliser room was expected. Since the odour concentrations at the air scrubber for fertiliser room cannot be sampled, monitoring on emission from the air scrubber for fertiliser room was suspended.

Odour Patrols along Site Boundary

4.6 Odour patrols are carried out by a qualified odour panelist in both morning and afternoon. During odour patrol, the panelist identified the odour nature and determined the odour intensity, which is expressed using an odour intensity scale, at all 5 selected locations. Weather conditions including prevailing weather, wind direction and wind speed were also recorded. Detailed methodology for odour patrol is presented in **Appendix F**.

Water Quality

Water Quality of Treated Effluent Discharged from Project Site

4.7 Treated effluent discharged from Project Site was sampled and analyzed. Methodologies for water quality monitoring followed either American Public Health Association's (APHA's) "Standard Methods for the Examination of Water & Wastewater" or British Standard (BS), which are listed in. In addition to the parameters listed in **Table 4–1**, pH was measured.

Table 4–1 Methodologies for Water Quality Monitoring of Treated Effluent Discharged from Project Site

Parameter	Methodology
Suspended Solids (S.S.)	APHA 17ed 2540 D
Biochemical Oxygen Demand (BOD) (5 days, 20 °C)	BS 6068: Section 2.14: 1984
Chemical Oxygen Demand (COD)	APHA 17ed 5220 C & D
Oil & Grease	APHA 17ed 5520 B
Sulphate	APHA 17ed 4500-SO ₄ ² —
Total Nitrogen	APHA 17ed 4500-N C
Total Phosphorus	APHA 17ed 4500-P

Water Quality of Stormwater Discharge

4.8 Treated effluent discharged from Project Site was sampled and analyzed. Methodologies for water quality monitoring followed either American Public Health Association's (APHA's) "Standard Methods for the Examination of Water & Wastewater" or British Standard (BS), which are listed in **Table 4–2**. In addition to the parameters listed in **Table 4–2**, pH was measured.

Table 4–2 Methodologies for Water Quality Monitoring of Stormwater Discharge

Parameter	Methodology
Suspended Solids (S.S.)	APHA 17ed 2540 D
Biochemical Oxygen Demand (BOD) (5 days, 20 °C)	BS 6068: Section 2.14: 1984
Chemical Oxygen Demand (COD)	APHA 17ed 5220 C & D
Oil & Grease	APHA 17ed 5520 B

Sulphur Content in Bio Heating Oil

4.9 One BHO in the tank are sampled to analyse its sulphur content in accordance with EN-ISO-20486:2011: Determination of sulphur content of automotive fuels – Ultraviolet fluorescence method.

5 MONITORING RESULTS

Air Quality

Emission from Stack of Boiler (EP2)

- 5.1 Emission from stack of boiler was not monitored in December 2024 (see **Section 4.1** for details).
- 5.2 Odour emission from stack of boiler was not monitored in December 2024 (see **Section 4.1** for details).

Emission from Stack of Biogas Flare (EP1)

5.3 Emission from stack of biogas flare was not monitored in December 2024 (see **Section 4.2** for details).

Emission from Stack of Process Building (EP3)

5.4 Emission from stack of process building was not monitored in December 2024. (see **Section 4.3** for details).

Odour Concentrations at the Final Air Scrubber (EP5)

5.5 Emission from stack of final air scrubber was not monitored in December 2024. (see **Section 4.4** for details).

Odour Cencentrations at the Air Scrubber for Fertiliser Room (EP6)

5.6 Emission from stack of air scrubber for fertiliser room was not monitored in December 2024. (see **Section 4.5** for details).

Odour Patrols along Site Boundary

5.7 According to **Table 3–2**, the monitoring was conducted once in December 2024. The monitoring result of the odour patrol, carried out on 30 Dec 2024, is presented in **Table 5–1.** No exceedance of the Limit Level was reported. *Detailed* monitoring result of odour patrols along site boundary is presented in **Appendix F**.

Table 5–1 Monitoring Result of Odour Patrols along Site Boundary

Patrol	Location	Action Level	Limit Level	Odour Intensity	Odour Nature			
	1						Oil and Grease	
Morning	2	Odour	Odour intensity ≥Class 3	0	N/A			
	3	intensity ≥Class 2 recorded; or One documented complaint received		0	N/A			
	4			1	Oil and Grease			
	5		One	One	One 2	recorded on 2	0	N/A
	1		consecutive	1	Oil and Grease			
Afternoon	2		2 patrois	0	N/A			
	3			0	N/A			

Patrol	Location	Action Level	Limit Level	Odour Intensity	Odour Nature
	4			1	Oil and Grease
	5			0	N/A

Water Quality

Water Quality of Treated Effluent Discharged from Project Site

5.8 The water quality monitoring result of treated effluent discharged from Project Site on 24 Dec 2024 is presented in **Table 5–2**. No exceedance of Limit Level was reported. Detailed water quality monitoring result of treated effluent discharged from Project Site is presented in **Appendix G**.

Table 5–2 Water Quality Monitoring Result of Treated Effluent Discharged from Project Site

Parameter	Limit Level	Monitoring Result		
pH	Within the range of 6 - 10	7.33	N/A	
Chemical Oxygen Demand (COD)	2000 mg/L	428	mg/L	
Sulphate	1000 mg/L	46	mg/L	
Total Nitrogen	200 mg/L	51	mg/L	
Total Phosphorus	50 mg/L	27	mg/L	
Suspended Solids	800 mg/L	304	mg/L	
Oil & Grease	50 mg/L	22	mg/L	
Biochemical Oxygen Demand (BOD) (5 days, 20 °C)	800 mg/L	291	mg/L	

Water Quality of Stormwater Discharge

5.9 The water quality monitoring results of the stormwater discharge on 24 Dec 2024 are presented in **Table 5–3**. No exceedance of Limit Level was reported. Detailed water quality monitoring result of treated effluent discharged from Project Site is presented in **Appendix H**.

Table 5–3 Water Quality Monitoring Result of Stormwater Discharge

Parameter	Limit Level	Monitoring Result		
pН	Within the range of 6 - 9	7.18	N/A	
Chemical Oxygen Demand (COD)	100 mg/L	44	mg/L	
Suspended Solids	50 mg/L	35	mg/L	
Oil & Grease	30 mg/L	21	mg/L	
Biochemical Oxygen Demand (BOD) (5 days, 20 °C)	50 mg/L	30	mg/L	

Sulphur Content in Bio Heating Oil

5.10 The monitoring result of sulphur content in Bio Heating Oil (BHO) on 24 Dec 2024 is presented in **Table 5–4**. No exceedance of Limit Level was reported. Detailed monitoring result of sulphur content in Bio Heating Oil is presented in **Appendix I**.

Table 5-4 Monitoring Result of Sulphur Content in Bio Heating Oil

Sampling Date	Limit Level	Monitoring Result
24 Dec 2024	346 ppm	208 ppm

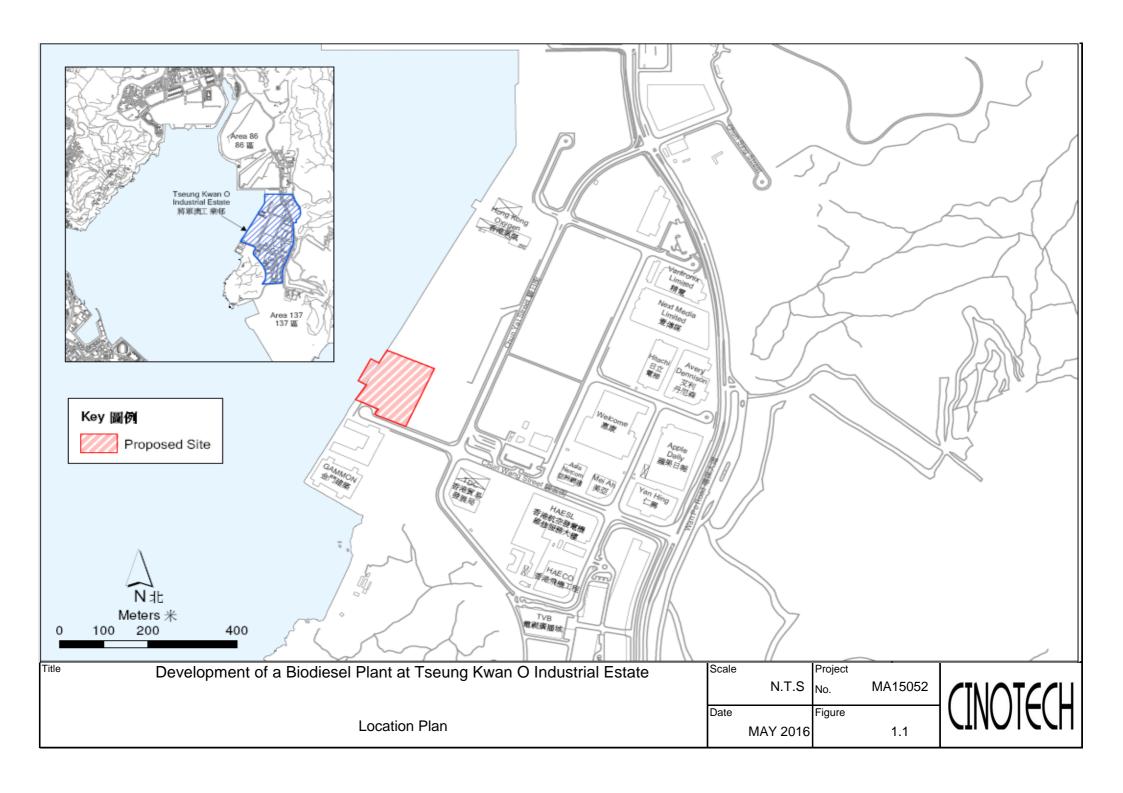
6 SUMMARY OF COMPLAINT AND PROSECUTION

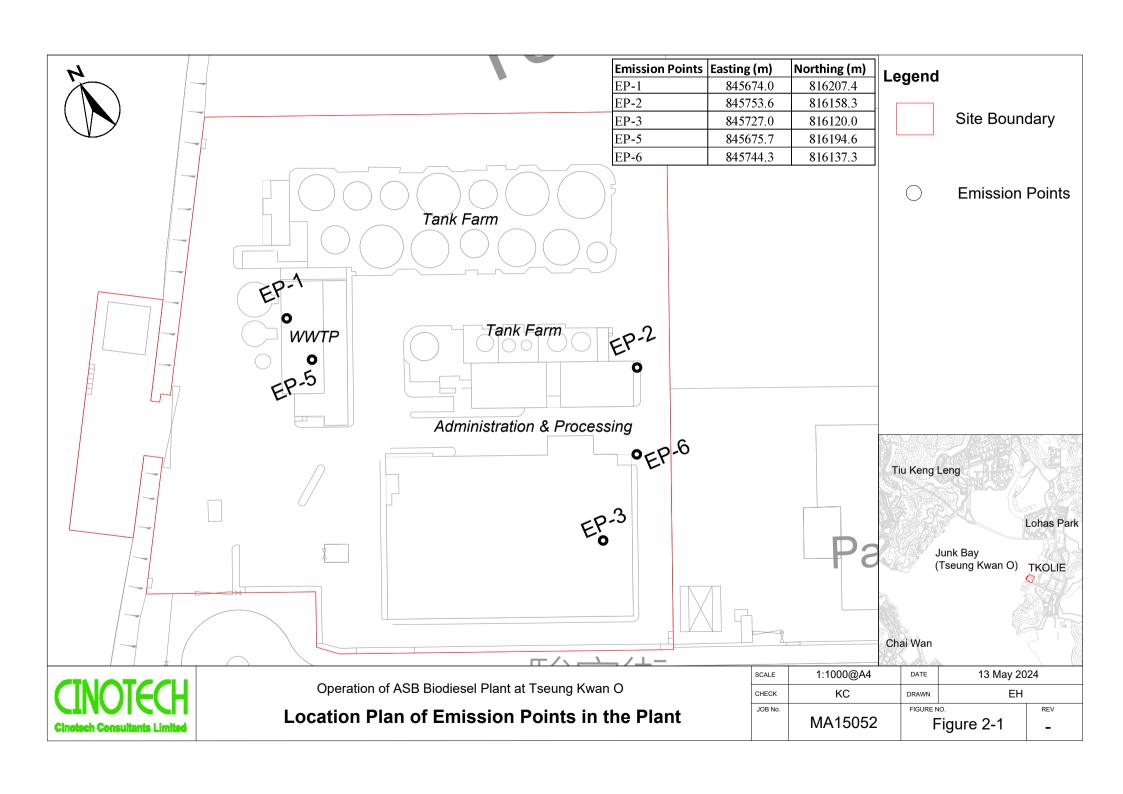
- 6.1 No environmental related complaints were received in the reporting month. There are no on-going investigations on previous complaints.
- 6.2 In total, 27 environmental complaints, 7 notifications of summons, and 6 successful prosecutions were received since the operation of Project. The Complaint Log is attached in **Appendix J**.

7 CONCLUSIONS

- 7.1 Environmental monitoring and audit works were carried out in accordance with criteria and requirements listed in the Project EM&A Manual, Environmental Permit EP-319/2009D, Specified Process License L-25-019(4) and Water Pollution Control Ordinance Licence WT10002362-2023.
- 7.2 As the biodiesel plant was not operated during December 2024, no emission from the stacks (i.e. EP1, EP2, EP3, EP5 & EP6) were expected. Hence, the monitoring of emissions from the stacks were not carried out in December 2024.
- 7.3 Monitoring of air quality, water quality and sulphur content in Bio Heating Oil were carried out at designated locations. No exceedance of the Action and Limit Levels were recorded.
- 7.4 No environmental related complaints were received in the reporting month. In total, 27 environmental complaints, 7 notifications of summons, and 6 successful prosecutions were received since the operation of Project.

FIGURES





APPENDIX F Air Quality Monitoring Report – Odour Patrol



Report No. : A20000962(8) Date: 2025-01-06

Application No. : L1029513(0)

Applicant : ASB BIODIESEL (HONG KONG) LTD.

22 CHUN WANG STREET,

TSEUNG KWAN O INDUSTRIAL ESTATE

NEW TERRITORIES, HONG KONG

Project Name : Odour Patrol on Tseung Kwan O Biodiesel Plant for

ASB Biodiesel (Hong Kong) Ltd.

Sampling Date : 2024-12-30.

Test Requested : Determine odour intensity and identify odour natures at each of five locations.

Methodology : Refer to page 2.

Test Result : Refer to page 3.

For and on behalf of CMA Industrial Development Foundation Limited

Authorized Signature:

Page 1 of 6

Tam Wing Kwun, Winnie Assistant Manager



Report No. : A20000962(8) Date: 2025-01-06

Application No. : L1029513(0)

Methodology:

The odour patrol means a simple judgment by observers patrolling and sniffing at the boundary of the ASB Biodiesel Plant to detect any odour at different time within operating hours.

One qualified odour panelist with his individual thresholds (n-butanol) complied with the requirement of the European Standard Method (EN 13725) in the range of 20 to 80 ppb/v and a standard deviation of R < 2.3 should be selected to conduct the odour patrol work.

The panelist should be free from any respiratory diseases and normally do not work at or live in the area in the vicinity of the ASB Biodiesel Plant.

During each visit, the instant weather conditions should be measured using a portable environment anemometer (Lutron LM-8000) and recorded for references.

During odour patrol, the panelist should identify the odour nature and determine the odour intensity at each location. The odour intensity can be expressed using an odour intensity scale, which is a verbal description of an odour sensation to which a numerical value is assigned at five different levels according to the following criteria:

0	Not detected	No odour perceived or an odour so week that it cannot be easily characterised or described
1	Slight	Identifiable odour, slight
2	Moderate	Identifiable odour, moderate
3	Strong	Identifiable, strong
4	Extreme	Severe odour



Report No. : A20000962(8) Date: 2025-01-06

Application No. : L1029513(0)

Results:

D.4.	I 4'	T'		Win	ıd	Odour	Observations
Date	Location	Time	Weather	Speed (m/s)	Direction	Intensity	Odour Nature
2024-12-30	1	09:59	Fine	0.4	NW	1	Oil and Grease
	2	10:01		0.7	Е	0	
	3	10:02		0.4	NE	0	
	4	10:04		0.4	N	1	Oil and Grease
	5	10:06		0.8	N	0	
	1	14:01	Fine	0.5	N	1	Oil and Grease
	2	14:02		0.5	NE	0	
	3	14:04		0.7	NE	0	
	4	14:06		0.6	Е	1	Oil and Grease
	5	14:07		0.9	Е	0	

***** End of Report *****

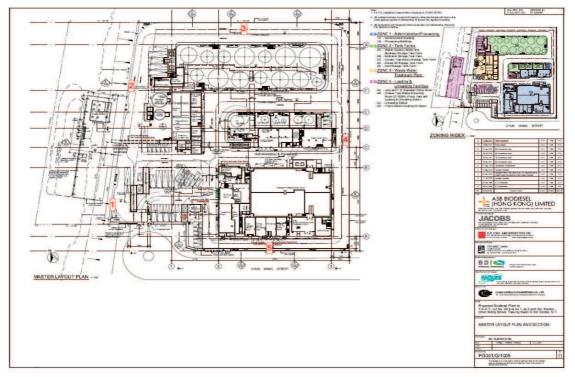


Report No. : A20000962(8) Date: 2025-01-06

Application No. : L1029513(0)

Appendix

Photo of Locations:







Page 4 of 6



Report No. : A20000962(8) Date: 2025-01-06

Application No. : L1029513(0)







5



Report No. : A20000962(8) Date: 2025-01-06

Application No. : L1029513(0)

Certificate for the qualified odour panel member



Certificate for a Qualified Odour Panel Member

Serial No. : P-053

Odour Panel Member : Leo Yip

Date of Screening Test : 09 Aug 2024

12 Aug 2024 14 Aug 2024

Valid Until : 13 Feb 2025

This is to certify that Mr. Leo Yip participated in a set of n-butanol screening tests in our laboratory between 09 Aug 2024 and 14 Aug 2024.

The odour threshold test results of n-butnaol in nitrogen gas was found to be in the range of 20-80 ppb/v and a standard deviation of $R \leq 2.3$, which comply with the requirement of the European Standard Method of Air Quality – Determination of Odour Concentration by Dynamic Olfactometry (EN 13725).

The participant is Approved and Authorized as Qualified Odour Panel Member for odour patrol and olfactometry analysis.

Signed for and on behalf of CMA Industrial Development Foundation Limited

Winne

Tam Wing Kwun, Winnie Assistant Manager – Environmental Division

Date: 14 Aug 2024

APPENDIX G

Water Quality Monitoring Result – Effluent from Wastewater Treatment Plant



ASB Biodiesel (Hong Kong) Ltd.

No.

: S301-20241224-0900

Date

: 6 January, 2024

Page

: 1 of 1

TEST REPORT

SAMPLE DESCRIPTION

Stream A, Water Pollution Control Ordinance (CAP. 358)

Licence No. WT10002362-2023

SAMPLE RECEIVED DATE

24 December, 2024

TESTING DATE

24 – 28 December, 2024

TEST RESULT

:

TEST	METHOD	UNIT	LIMIT	RESULT
рН	APHA 17ed 4500-H+B	/	6-10	7.33
TCOD	APHA 17ed 5220 C & D	mg/L	2000	428
Sulfate	APHA 17ed 4500-SO ₄ ²⁻	mg/L	1000	46
Total Nitrogen (as N)	APHA 17ed 4500-N C	mg/L	200	51
Total Phosphorous (as P)	APHA 17ed 4500-P	mg/L	50	27
Total Suspended Solid	APHA 17ed 2540 D	mg/L	800	304
Oil & Grease	APHA 17ed 5520 B	mg/L	50	22
BOD ₅	BS 6068: Section 2.14: 1984	mg/L	800	291

For and on behalf of ASB BIODIESEL (HONG KONG) LTD

TSE MAN LOK

LABORATORY MANAGER

APPENDIX H Water Quality Monitoring Result – Stormwater Discharge



ASB Biodiesel (Hong Kong) Ltd.

No.

: SP2-20241224-0900

Date

: 6 January, 2024

Page

1 of 1

TEST REPORT

SAMPLE DESCRIPTION

Stream B, Water Pollution Control Ordinance (CAP. 358)

Licence No. WT10002362-2023

SAMPLE RECEIVED DATE

24 December, 2024

TESTING DATE

24 - 28 December, 2024

TEST RESULT

TSE MAN LOK

LABORATORY MANAGER

:

TEST	METHOD	UNIT	LIMIT	RESULT
рН	APHA 17ed 4500-H+B	/	6-9	7.18
TCOD	APHA 17ed 5220 C & D	mg/L	100	44
Total Suspended Solid	APHA 17ed 2540 D	mg/L	50	35
Oil & Grease	APHA 17ed 5520 B	mg/L	30	21
BOD ₅	BS 6068: Section 2.14: 1984	mg/L	50	30

For and on behalf of ASB BIODIESEL (HONG KONG) LTD

ASB Biodiesel (Hong Kong) Ltd. No.22 Chun Wang Street, Tseung Kwan O Industrial Estate, New Territories, Hong Kong.

APPENDIX I Test Result – Sulphur Content in Bio Heating Oil



ASB Biodiesel (Hong Kong) Ltd.

No.

: T21-20241224-0900

Date

6 January, 2024

Page

1 of 1

TEST REPORT

SAMPLE DESCRIPTION

: Bio Heating Oil

SAMPLE RECEIVED DATE

24 December, 2024

TESTING DATE

24 December, 2024

TEST RESULT

0.0

TEST	METHOD	UNIT	RESULT
Sulphur	EN ISO 20846: 2011	mg/kg	208

For and on behalf of ASB BIODIESEL (HONG KONG) LTD

TSE MAN LOK LABORATORY MANAGER

APPENDIX J Complaint Log

APPENDIX J – COMPLAINT LOG

Reporting Month: December 2024

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action		
COM- 2016- 09- 001	Not Specified	24 th September 2016	2 Gammon engineers complained about strong odour and oily discharge at 9:15 am	The incident was due to the pump P101A was tripped and leaded to an overflow of wastewater at Influent Pit T101. According to the project proponent, at 8:45 am, high level alarm at Level Indicator of T101 was triggered and the water level in Influent Pit T101 was over 100%. Investigation found out that wastewater was flooding from Bar Screen Room to road because the pump P101A was not operating in the field (although the pump was indicated operating in Process Control System). Operator then immediately stopped the wastewater feeding to Influent Pit T101, and put sand bags around the stormwater grating outside the pedestrian walkway of Bar Screen Room to block wastewater leaking into storm water drainage. Afterwards, the Operator cleaned up the area. The problem was resolved at 10:30 am at the same day, and no irritation smell was sensed outside the project site. To prevent recurrence, the following measures are recommended: - Cover the storm water grating outside the bar screen room pedestrian walkway by steel plate; - Modify the pump P101A temporary control circuit to feedback overload trip signal back to Process Control System. Maintenance will set up periodic inspection programme to monitor pump performance; and - Review the emergency handling procedures.	Closed	
COM- 2016- 10- 002	Not Specified	5 th October, 2016	EPD referred that a councilor complained about constant smell released from the Project	Investigation found out that housekeeping of the plant was unsatisfactory and improvements are required. Operator has improved housekeeping, including: - Always keep the gate of the grease trap waste screening room closed; - Always keep sludge containers closed; - Frequent cleaning of drainage system; and		

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	
				- Always keep the work site clean and tidy	
COM- 2016- 10- 003	Not Specified	18 th October, 2016	EPD referred that a complaint on malodour from the Project was received on 11th October 2016	Investigation found no process upset during that week. Operator has put the best effort housekeeping (e.g. keeping sludge containers and rooms closed and frequent cleaning of drainage system), and staff have been trained on housekeeping.	Closed
COM- 2017- 02- 004	Not Specified	6 th February, 2017	EPD referred complaints from Drainage Service Department (DSD) and neighboring sites regarding the blockage of public sewerage system along Chun Wang Street. DSD reported to EPD that some oily substances and debris had blocked the sewerage system.	Investigation found similar substances (i.e. oily substances and debris) at the foul manhole within the Plant. Investigation also found that untreated effluent was discharged to a foul manhole within the Plant. Follow-up action (i.e. cleaning of internal sewerage system, from FMH01 to TFMH01) was carried out in early February. In addition, the Operator has put the best effort (e.g. carry out staff training) to ensure that all effluent are treated properly by wastewater treatment facilities before discharge.	Closed
COM- 2017- 07- 005	Not Specified	4 th July, 2017	EPD referred that resident of LOHAS Park complained operation of ASB plant caused noise nuisance (low frequency machinery noise continuously round the clock) and emitted unpleasant malodour on 19 July, 2017.	Noise Nuisance Since there are other noise sources which operate continuously round the clock (e.g. cooling tower from other buildings) between the Project Site and LOHAS Park, the noise nuisance could be due to other noise sources. In addition, investigation found no process upset on that day. Considering the long distance (at least 900m) between the Project Site and LOHAS Park, the noise nuisance may not be caused by the Operator. Unpleasant Malodour Investigation found no process upset during the week. Since the regular odour monitoring (i.e. odour measurement at the Final Air Scrubber and odour patrol along Site boundary) did not report any exceedance event (except this complaint) in July and July 2017, the unpleasant malodour may not be caused by the Project considering the long distance (at least 900m) between the Project Site and LOHAS Park.	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
				Operator has, and will, put the best effort housekeeping (e.g. keeping sludge containers and rooms closed and frequent cleaning of drainage system) to minimize odour nuisance.	
COM- 2017- 07- 006	Stack of Boiler	4 th July, 2017	EPD referred that a complaint on continuous dark smoke emission from Stack of Boiler on 30 July, 2017 at about 6 pm.	Investigation found that a Pressure Control Valve had malfunctioned, causing unsteady oil flow into burner. This led to a low air to fuel ratio which ultimately led to dark smoke emission. The Valve was repaired on 1st July 2017 morning, and no dark smoke was emitted.	Closed
COM- 2017- 10- 007	Not Specified	6 th October 2017	EPD referred that employee of nearby plant (Chun Wang Street, Tseung Kwan O Industrial Estate) complained ASB biodiesel plant emitting malodour continuously.	Investigation found no process upset during the week. Regular odour monitoring (i.e. odour measurement at the Final Air Scrubber and odour patrol along Site boundary) did not report any exceedance event (except complaint) in this reporting month. Nevertheless, as joint site visit on 1 st November 2017 carried out by ET & IEC identified several environmental deficiencies. Necessary actions were proposed to the Operator, and the Operator rectified the deficiencies.	Closed
COM- 2017- 10- 008	Not Specified	17 th October 2017	EPD referred that employee of nearby plant (Chun Wang Street, Tseung Kwan O Industrial Estate) complained ASB biodiesel plant emitting malodour from 7:15am to afternoon on 12 Oct 2017 and from 7:50am to afternoon on 13 Oct 2017.	Investigation found no process upset during the week. Regular odour monitoring (i.e. odour measurement at the Final Air Scrubber and odour patrol along Site boundary) did not report any exceedance event (except complaint) in this reporting month. Nevertheless, as joint site visit on 1 st November 2017 carried out by ET & IEC identified several environmental deficiencies. Necessary actions were proposed to the Operator, and the Operator rectified the deficiencies.	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
COM- 2017- 11- 009	Stack of Boiler	17 th November 2017	EPD referred that a complaint was received regarding continuous dark smoke emission from Stack of Boiler on 14 Nov 2017 at 12:50pm.	Investigation found that the steam boiler was tripped (the P11 filter was blocked) and caused dark smoke emission. The Operator had stopped the production immediately, and carried out maintenance work (filter cleaning and purging) to rectify the problem. The Operator will carry out regular maintenance more frequently to minimize the chance of tripping. The Operator also carried out an incident sharing on 18 Dec 2018 to prevent recurrence of similar event.	Closed
COM- 2017- 11- 010	Stack of Boiler	20 th November 2017	EPD referred that a complaint was received regarding continuous dark smoke emission from Stack of Boiler on 18 Nov 2017 from 11:00am to noon (12:00).	Investigation found that the steam boiler was tripped (the P11 filter was blocked) and caused dark smoke emission. The Operator had stopped the production immediately, and carried out maintenance work to rectify the problem. As the same filter was cleaned on 14 Nov 2017 (COM-2017-11-009) and was blocked again within a few days, the Operator replaced the filter. The Operator will carry out regular maintenance more frequently to minimize the chance of tripping. The Operator also carried out an incident sharing on 18 Dec 2018 to prevent recurrence of similar event.	Closed
COM- 2017- 11- 011	Not Specified	21 st November 2017	EPD referred that employee of nearby plant complained ASB biodiesel plant emitting malodour continuously.	Although investigation found no process upset during the week, the roller door of the sludge container room was impaired, which would emit malodour. The Operator fixed the roller door. Nevertheless, regular odour monitoring (i.e. odour measurement at the Final Air Scrubber and odour patrol along Site boundary) did not report any exceedance event (except complaint) in this reporting month. Besides, joint site visit on 11 th December 2017 carried out by ET & IEC identified several environmental deficiencies. Necessary actions were proposed to the Operator, and the Operator rectified the deficiencies.	Closed
COM- 2017- 11- 012	Not Specified	23 th November 2017	EPD referred that a complainant complained ASB biodiesel plant emitting malodour across Chun Wang Street.	Investigation found no process upset during the week. The impaired roller door of the sludge container room (COM-2017-11-011) hadn't been fixed. The Operator fixed the roller door. Nevertheless, regular odour monitoring (i.e. odour measurement at the Final Air Scrubber and odour patrol along Site boundary) did not report any exceedance event (except complaint) in this reporting month.	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
				Besides, joint site visit on 11 th December 2017 carried out by ET & IEC identified several environmental deficiencies. Necessary actions were proposed to the Operator, and the Operator rectified the deficiencies.	
COM- 2017- 11- 013	Not Specified	29 th November 2017	EPD referred that a complainant at Tseung Kwan O Industrial Estate complained ASB biodiesel plant emitting malodour continuously, from Monday to Saturday, from 8:00am to 7:00pm. The complainant suspected that the odourous gas is toxic and causes air pollution. The complainant also pointed out that complaint on malodour was raised one year ago. Although the malodour was mitigated after EPD's follow-up action, the problem resumed after 2 weeks.	Regular odour monitoring (i.e. odour measurement at the Final Air Scrubber and odour patrol along Site boundary) did not report any exceedance event (except complaint) since the commencement of the Project's operational phase. Nevertheless, during the year, site visits carried out by EPD and site audits carried out jointly by the Operator, ET and IEC identified environmental deficiencies which would pose malodour problem. The recent joint site audit carried out by the Operator, ET and IEC on 11th December 2017 identified several environmental deficiencies. Necessary actions were proposed to the Operator, and the Operator rectified the deficiencies. Regarding the complainant suspected that the odourous gas is toxic, investigation found no chemical leakage record. In addition, according to the monthly monitoring result, acetaldehyde and methanol emissions from the stack of process building were lower than reporting level in the reporting month. Therefore, the odourous gas is not likely to be due to chemicals. It is expected that the malodour was due to environmental deficiencies (e.g. sludge being left on ground, doors not being closed properly) identified by ET and IEC. It is because the complainant mentioned that the malodour had existed for a long time, and similar environmental deficiencies were identified in past site visits.	Closed
COM- 2017- 11- 014	Not Specified	29 th November 2017	EPD referred that a complaint complained oily substances being discharged from an outfall near the roundabout at the western end of Chun Wang Street. The oily	Investigation found that the diaphragm pump of S811 in the wastewater treatment plant was blocked. To prevent wastewater overflowing, the Operator placed a plastic tray underneath the pump. In addition, the Operator installed inflatable bladder to prevent wastewater flowing out via drainage channel. As the Operator had implemented measures to prevent wastewater being discharged via drainage channel, the event is not likely to be caused by the pump blockage.	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
			substances was suspected to be discharged from the ASB biodiesel plant.	Nevertheless, a joint site visit on 11 th December 2017 carried out by ET & IEC found oily substance being left near drainage channel. The Operator has 1.) cleaned up the oily substance; 2.) cleaned the oil interceptor; and 3.) cleaned the drainage system.	
COM- 2018- 01- 015	Not Specified	29 th January 2018	EPD referred that a complainant complained ASB biodiesel plant emitting malodour across Chun Wang Street.	Investigation found that the tricanter in the wastewater treatment plant was blocked on 29 th January 2018. During maintenance on the same day, some odourous material (e.g. sludge) spilled out. The Operator has cleaned up the spilled material. Joint site visit on 5 th February 2018 carried out by ET & IEC identified several environmental deficiencies. Necessary actions were proposed to the Operator, and the Operator rectified the deficiencies.	Closed
COM- 2018- 04- 016	Not Specified	13 th April 2018	EPD referred a complaint regarding continuous dark smoke emission from chimney on 12 Apr 2018 afternoon.	Investigation found that the dark smoke was emitted from the Stack of Boiler, which was under testing after the reparation of the boiler. The Operator also pointed out that the dark smoke emission was due to cold starting of the boiler and is inevitable. As the boiler was cold and was not in optimized temperature, the fuel cannot be combusted completely for a short period of time. Nevertheless, in order to minimize dark smoke emission, the Operator had 1.) pre-heated the fuel and 2.) set the fan to the highest speed to provide enough air for combustion. Although the Operator has camera for real-time monitoring at chimney, it is recommended that the Operator should provide a log on the duration of dark smoke emission. This allows the Operator to ensure that the inevitable dark smoke emission complies environmental license(s) granted.	Closed
COM- 2018- 11- 017	Not Specified	13/11/201	EPD referred a complaint in which the complainant stated that malodour was detected at Chun Wan street, near Gammon Technology Park, on 13 Nov 2018 afternoon when northern wind was prevailing.	 EPD referred a complaint in which the complainant stated that malodour was detected at Chun Wan street, near Gammon Technology Park, on 13 Nov 2018 afternoon when northern wind was prevailing. Joint site visit on 19th November 2018 carried out by ET & IEC identified the pungent smell which is consistent with the smell detected outside the plant was detected near the WWTP. The operator has proposed the following mitigation measures to counteract the problem: 1) Partitions will be provided in the WWTP sludge container room to facilitate the control of the negative pressure of the rooms 	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	
				2) Conduct an investigation on the equipment in WWT to ensure that no gaps are found.	
				3) Modification of the outdoor sludge containers with the motorized covering to minimise the odour emission from the sludge	
				4) Additional scrubbers shall be provided for WWTP sludge container room, fat preparation room and PB fertilizer room to improve the efficiency of the odour elimination by the scrubbers	
				Jan 2019 A Site audit was carried out on 7th January 2018 to check if the odour problem has been improved. The pungent smell that was detected earlier on previous site visit (19th November 2018) has been alleviated. However, a few environmental deficiencies was identified during the site audit within the WWTP, which was regarded as the odour source. The environmental deficiencies are as follows: 1) The DAF/oil-water separators were not fully covered. 2) A tank within the Pre-acidification/ buffer tank was not open to air and steam was	
				seen rising out from the tank In addition, mitigation measures as stated were not implemented, therefore, this issue should be followed up in the next site audit	
				Feb 2019 The Project Proponent/ operator has rectified / improved all environmental deficiencies identified in this investigation.	

Log Ref.	Location	Received Date	Details of Complaint		Ir	nvestigation/Mitigation A	ction		Status
COM- 2019- 03-	Not specific	18 th March 2019	EPD referred a complaint in which the complainant stated that malodor was detected at Plant in Tseung Kwan O Industrial Estate on 18 Mar 2019. The complainant stated that	oil and greathave worm last year, witigation in Following to May 2019.	ase in the wastewat out over the years which could have ca measures to the relate to the complaints, S		Some of the facilities in maged by the typhoon provided maintenance of the odour related on 07th Jan, 25th Marchad the follow-up action	n the Plant mangkhut and complaints.	Closed
018			malodor has adversely affected their mental and physical health. And the problem have not been solved since the previous complaints were made.		Environmental Deficiencies Identified Pretreament Tanks are	Stainless steel covers have been provided for	Recommendations N/A		
COM- 2019- 04-19	WWTP	25 th April 2019	EPD referred a complaint in which the complainant stated that malodor was detected at Chun Wan Street, near Gammon construction site on 24 April 2019. The complainant suspected that the odour was occurred as a result of not clearing the wastewater in ASB frequent enough. The southeasterly winds		exposed (Jan 19) DAF- Odourous watsewater was exposed and small holes are created in the units due to rusting (Jan 19)	the pre-acidification tank (March 19) - Covers of the DAF have been renovated, paints were provided to prevent rusting (March 19) - Adhesive tapes have been used to temporary sealed the doors of the DAF (March 19) - Sealing have been provided at the joints of pipes to improve airtightness (March 19)	As doors of DAF are expected to be frequently used, providing permanent airtight door seal is considered more effective for long-term use		Closed
			also brought the malodor to LOHAS park.		Gaps and openings at certain plant	- Roller door for the sludge dewatering room have been	Gaps at the doors of the plant room shall hinder the		

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action			
				rooms due to impaired doors (May 19) replaced in April 19 - Door for Fertilizer induced in the rooms and thus reducing the odour-removal efficiency rooms due to replaced in April 19 - Door for Fertilizer induced in the rooms and thus reducing the odour-removal efficiency			
COM- 2019- 05-20	Not Specified	29 May 2019	Noise nuisance from the plant at Night.	According to the EM&A Manual, no adverse noise impacts were predicted at the identified representative NSRs during the operational phase and hence no operational noise monitoring is required. The pumps and barriers are kept in good condition as recorded by the Operator. However the doors of a number of plant rooms are still observed to be either opened or contain gaps. Although noise emitted by the fixed plants to the surroundings is expected to be low, the improvement in this regard is still expected to be made in order to minimise the noise impact. As the residential developments in Lohas Park are located at over 800m away from the Plant. Therefore, no NSRs within 300m are expected during the night-time operation of the Plant. With the proper implementation of the mitigation measures, no residual impact is expected.	Closed		

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	
COM- 2019- 06-21	ASB Biodiesel	22 July 2019	EPD referred a complaint in which the complainant stated that many residents from Lohas Park has detected odour, some even has identified that the smell is similar to hydrogen sulphide.	The monitoring result of the odour patrol in the period of the complaints (July 2019) are reviewed. No exceedance of Action and Limit Levels was reported. Hydrogen sulphide (H ₂ S) concentration has been monitored using a gas meter at various point within deck of the WWTP, and no detectable H ₂ S level has been recorded. The environmental Deficiencies Identified are summarized below: - DAF & WWT tanks - Odourous watsewater was exposed via gaps in the units - Accumulation of sediment was found inside the tanks of the WWTP The follow-up actions were taken upon receiving the complaint - Replacing a cover for a tank in WWTP was proposed, and odour shall be monitored continuously to evaluate the effectiveness of the cover - Cleaning was provided for the DAF and pre-acidification tank and regular cleaning of the tanks should be provided Details of complaint investigation should be referred to the Monthly Report (July 2019) The door of the Fertilizer room is replaced in July 2019.	Closed
COM- 2020- 05-22	ASB Biodiesel	20 May 2020	EPD referred a complaint in which the complainant stated that many residents from Lohas Park has detected malodors. EPD inspection team has scented the oil & grease odour from ASB at Wan O Road	The monitoring results of the odour patrol in the period of the complaints (May 2020) are reviewed. No exceedance of Action and Limit Levels was reported. A site audit has been conducted on 21 st May 2020. Environmental Deficiencies Identified have been summarized below: - DAF tanks - Odourous watsewater was exposed via gaps in the units The follow-up action was taken after site audit: - Adhesive agents have been used to temporary sealed the windows of the DAF Operator has, and will, put the best effort housekeeping (e.g. keeping sludge containers	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
COM- 2020- 05-23	ASB Biodiesel	20 May 2020	EPD referred a complaint in which the complainant stated that many residents from Lohas Park has detected malodors. EPD inspection team has scented the oil & grease odour from ASB at Wan O Road	and rooms closed and frequent cleaning of drainage system) to minimize odour nuisance.	Closed
COM- 2020- 06-24	Not specified	9 July 2020	EPD referred a complaint in which the complainant stated that many residents from Le Prestige Block 1 in Lohas Park has detected malodors on 11 Jun 2020. EPD inspection team has scented the oil & grease odour emitted from ASB at Wan O Road on 2/7/2020	The monitoring results of the odour patrol in the period of the complaints (July 2020) are reviewed. No exceedance of Action and Limit Levels was reported. Environmental Deficiencies Follow-up Actions	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
COM- 2020- 07-25	Not specified	9 July 2020	EPD referred a complaint in which the complainant stated that many residents from Wings at Sea in Lohas Park has detected malodors on 7 Jul 2020. EPD inspection team has scented the oil & grease odour emitted from ASB at Wan O Road on 2/7/2020	The monitoring results of the odour patrol in the period of the complaints (July 2020) are reviewed. No exceedance of Action and Limit Levels was reported. Environmental Deficiencies Identified	Closed
COM- 2020- 09-26	Not specified	17 September 2020	EPD referred complaints from LOHAS Park Resident and at Tseung Kwan O Industrial Estate on 12 September 2020 about: malodors from the roundabout at the western end of Chun Wang Street and; - suspected discharge of oily substances to the sea outside the Chun Wang Street Outfall.	Malodour & Suspected Oil Discharge The odour monitoring results of the emissions from stacks, scrubber and patrol in the period of the complaints (September 2020) have been reviewed. An exceedance of Limit Level of odour emission from scrubber was reported in the reporting month, however, the cause of the exceedance was identified as the maintenance works in the aeration tank that were conducted during the monitoring period and not during complaint period. No other exceedance was conducted. An inspection form Hong Kong Fire Service Department was conducted for potential gas leakage. A gases detector was used to check the source of malodour at perimeter of the plant but revealed no abnormalities during inspection. Furthermore, no source of the oil spillage has been identified as no setback nor oil spillage has been found in the plant. A standard procedure and oil/grease trap has already been deployed at the terminal stormwater manhole of the plant, after the gate valve, to ensure that the stormwater has no oil content before being discharged. The standard procedure is outlined as follows: 1) The sluice gate in the upstream of the terminal manhole would be lowered to control water flow to the terminal manhole and prevent contaminated water from entering the Junk Bay via the outfall. 2) Water samples from the manholes would be collected and tested for	Closed

Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
			O&G 3) Tanker away contaminated water from the stormwater drain and direct the water to the WWTP for further treatment; 4) Review operation in the WWTP and implement mitigation measures if necessary. A visual inspection at the terminal manhole was carried out by the operator on 12 September and no oil discharge was identified. Other sources in the vicinity of ASB are also under suspicion for the cause of the incident during the complaint period, including the marine activities at Gammon Technology Park and the increased maritime traffic due to marine construction activities.	
Chun Wang Street	8 April 2021	EPD referred a complaint from Wings at Sea resident on 4 April 2021 about the malodors from the biodiesel plant near the sea side	EPD referred a complaint in which the complainant stated that malodour was detected at Chun Wang street, on 04 Apr 2021. No maintenance works were conducted and no leakages were reported on that day. According to the Daily Extract of Meteorological Observations provided by Hong Kong Observatory, despite the change of prevailing wind directions to south-west between 29 March and 3 April 2021, the prevailing winds are mostly from the east to north-east throughout the Spring season. Also, on 4 April 2021 which is the date of receipt of the complaint, the prevailing wind is in north-east direction. As the Wings at Sea is located upwind of the plant, the nearby residents should not be significantly impacted by the odour nuisances in Spring. Mitigation Actions: All process tanks, storage tanks, wastewater treatment tanks (including the aeration tanks) and the plant rooms should be enclosed, maintained with a slight negative pressure, and vented through a well-maintained air scrubbing system (with an odour removal efficiency of 99.5%);	Closed
	Chun Wang	Chun 8 April 2021	Chun Wang Street EPD referred a complaint from Wings at Sea resident on 4 April 2021 about the malodors from the biodiesel plant	Date Details of Complaint O&G 3) Tanker away contaminated water from the stormwater drain and direct the water to the WWTP for further treatment; 4) Review operation in the WWTP and implement mitigation measures if necessary. A visual inspection at the terminal manhole was carried out by the operator on 12 September and no oil discharge was identified. Other sources in the vicinity of ASB are also under suspicion for the cause of the incident during the complaint period, including the marine activities at Gammon Technology Park and the increased maritime traffic due to marine construction activities. EPD referred a complaint in which the complainant stated that malodour was detected at Chun Wang street, on 04 Apr 2021. No maintenance works were conducted and no leakages were reported on that day. According to the Daily Extract of Meteorological Observations provided by Hong Kong Observatory, despite the change of prevailing wind directions to south-west between 29 March and 3 April 2021, the prevailing winds are mostly from the east to north-east throughout the Spring season. Also, on 4 April 2021 which is the date of receipt of the complaint, the prevailing wind is in north-east direction. As the Wings at Sea resident on 4 April 2021 about the malodors from the biodiesel plant near the sea side Mitigation Actions: All process tanks, wastewater treatment tanks (including the aeration tanks) and the plant rooms should be enclosed, maintained with a slight negative pressure, and vented through a well-maintained air scrubbing system (with an odour removal efficiency)