# ASB Biodiesel (Hong Kong) Limited

# Development of a Biodiesel Plant at Tseung Kwan O Industrial Estate

Quarterly EM&A Summary Report

June 2013 to August 2013 (Version 1.0)

Certified By

(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

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Tel: 852 - 3168 2028	Fax:	852 - 3168 2022	

To:	Cinotech	Date:	12 September 2013
Attn:	Ms. Ivy Tam / Ms. Betty Choi	Fax:	3107 1388
From:	Mr. Mark Cheung	Ref:	D1067/H03454
Job No.	D1067	Total Pages:	1
SUBJECT:	Development of a Biodiesel Pl Quarterly EM&A Summary	_	

Dear Sir / Madam,

We refer to your submission of the Quarterly EM&A Summary Report (June 2013 to August 2013) via email dated 12 September 2013.

We write to advise that we have no comment on the captioned report.

Regards,

Mark Cheung

Independent Environmental Checker

KTC/gk

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#### **EXECUTIVE SUMMARY**

#### Introduction

- 1. This is the 17<sup>th</sup> Quarterly Environmental Monitoring and Audit (EM&A) Summary Report prepared by Cinotech Consultants Limited for Development of a Biodiesel Plant at Tseung Kwan O Industrial Estate". This report documents the findings of EM&A Works conducted from June to August 2013.
- 2. The major site activities undertaken in the reporting quarter included:
  - General site cleaning and tidying.
  - Zone 1A Administration Building Finishing work
  - Zone 1A Administration Building Windows, louver and doors installation work
  - Zone 1B Fat Preparation Building Windows, louver and doors installation work
  - Zone 1B Fat Preparation Building Finishing work
  - Zone 1B Steam Boiler Room Building –Windows, louver and doors installation work
  - Zone 2A GTWSR Equipment installation work
  - Zone 2B-2E Tank Farm Steel tank fabrication work
  - Zone 2B-2E LV switch room construction work
  - WWTP Roof system installation work
  - WWTP Equipment installation work
  - Jetty Pile cap and deck superstructure construction work
  - Pipe Bridge Pipe Bridge Erection Work
  - Building Services P&D work
  - Building Services Fire Service work
  - Building Services MVAC work
  - Building Services Electrical work
  - External Works Boundary wall construction work
  - External Works Storm water drainage work
  - External Works Foul water drainage work
  - External Works Fresh water main installation work
  - External Works Salt water main installation work
  - External Works Fire Services pipes laying work
  - External Works Cable laying work
  - External Works Pavement work
  - Jetty Seawater Pump House construction work
  - Jetty Seawater Pump Installation work
  - External Works Fire Services pipe laying work
  - External Works Draw Pit construction & Cable Ducts laying work

# **Environmental Monitoring and Audit Works**

3. Environmental monitoring and audit works for the Project were performed regularly as stipulated in the EM&A Manual and the results were checked and reviewed. Site audits were conducted once per month. The implementation of the environmental mitigation measures and environmental complaint handling procedures were also checked.

# **Environmental Licenses and Permits**

4. Licenses/Permits granted to the Project include the Environmental Permit (EP) for the Project. Environmental Permits No. EP-319/2009 and EP-319/2009/A were issued on 11 March 2009 and 7 April 2009 respectively. The Contractor has applied for the Registration of Chemical Waste Producer (WPN-5113-839-C1186-15), Construction Noise Permits (CNP) (GW-RE0043-13) and (GW-RE0709-13), Wastewater Discharge License (WT00004508-2009), Notification of Works under APCO (337009) and Waste Discharge Account (7013917).

# **Key Information in the Reporting Quarter**

5. Summary of key information in this reporting quarter is tabulated in **Table I**.

**Table I** Summary Table for Key Information in the Reporting Quarter

Event	Ev	ent Details	Action Taken	Status	Remark
Event	Number	Nature	Action Taken	on raken Status	
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	3	Monthly EM&A Report for June, July and August 2013	Submitted to EPD on 17 June, 15 July and 14 August 2013 respectively	Verified by IEC	
Notifications of any summons & prosecutions	0		N/A	N/A	

#### **Future Key Issues**

- 6. Major site activities for the coming two months will include:
  - General site cleaning and tidying.
  - Building Services Testing Work.
- 7. The future environmental concerns are air quality, waste management, water quality and surface runoff from construction works.

#### 1 INTRODUCTION

#### **Background**

- 1.1 Development of a Biodiesel Plant at Tseung Kwan O Industrial Estate is a Designated Project (hereafter referred to as "the Project") under the Environmental Impact Assessment Ordinance (Cap. 449). A study of environmental impact assessment (EIA) was undertaken to consider the key issues of air quality, noise, water quality, ecological and identify possible mitigation measures associated with the works. An EIA Report was approved by the Environmental Protection Department (EPD) on 26 February 2009.
- 1.2 The project is to construct and operate a 100,000 tonnes per annum biodiesel plant at Tseung Kwan O Industrial Estate. The plant will use a multi-feedstock which consists of waste cooking oil (WCO), oil and grease recovered from grease trap waste (GTW), Palm Fatty Acid Distillate (PFAD) and animal fats. The proposed biodiesel plant not only offers a convenient recycling outlet for GTW and WCO but also converts the oil and grease recovered from these wastes into useful products. The Project also offers a cleaner alternative to diesel fuel to the Hong Kong market. The main processes include the followings:-
  - Construction of feedstock reception and storage facilities, and offices;
  - Construction of a grease trap waste pre-treatment facility (with a designated treatment capacity of about 200,000 tonnes per annum);
  - Construction of a wastewater treatment plant (with a designed treatment capacity of about 170,000 m³ per annum);
  - Installation of biodiesel production and glycerine purification system;
  - Construction of product storage and ancillary facilities;
  - Pretreatment of grease trap waste;
  - Treatment of wastewater generated from feedstock pre-treatment and glycerine dewatering process, and filtrates from dewatering process of sludge treatment;
  - Transesterification of feedstock with alcohol-catalyst; and
  - Purification of biodiesel.
  - 1.3 The general layout of the Project is shown in **Figure 1.1.**
  - 1.4 Environmental Permits (EP) No. EP-319/2009, EP-319/2009/A and EP-319/2009/B were issued on 11 March 2009, 7 April 2009 and 31 Jan 2013 respectively for Development of a Biodiesel Plant at Tseung Kwan O Industrial Estate to ASB Biodiesel (Hong Kong) Limited as the Permit Holder. A VEP was submitted and the latest EP No. EP-319/2009/C was issued by EPD on 5 Mar 2013.
  - 1.5 Cinotech Consultants Limited was commissioned by the Contractor to undertake the Environmental Monitoring and Audit (EM&A) works for the Project. This is the 17<sup>th</sup> Quarterly EM&A Summary Report summarizing the EM&A works for the Project in from June to August 2013.

## **Project Organizations**

- 1.6 Different parties with different levels of involvement in the project organization include:
  - Project Proponent ASB Biodiesel (Hong Kong) Limited
  - Project Manager AECOM
  - Contractor China Harbour Engineering Company Limited (CHEC)
  - Environmental Team (ET) Cinotech Consultants Limited
  - Independent Environmental Checker (IEC) Mannings (Asia) Consultants Ltd.
- 1.7 The responsibilities of respective parties are detailed in Section 1.10 of the Final EM&A Manual of the Project. The contact details of the project organisation are shown in **Appendix A.**

## **Construction Programme**

- 1.8 The construction programme is presented in **Appendix B**. The site activities undertaken in the reporting quarter were:
  - General site cleaning and tidying.
  - Zone 1A Administration Building Finishing work
  - Zone 1A Administration Building Windows, louver and doors installation work
  - Zone 1B Fat Preparation Building Windows, louver and doors installation work
  - Zone 1B Fat Preparation Building Finishing work
  - Zone 1B Steam Boiler Room Building Windows, louver and doors installation work
  - WWTP Equipment installation work
  - Jetty Seawater Pump Installation work
  - Pipe Bridge Pipe Bridge Erection Work
  - Building Services P&D work
  - Building Services Fire Service work
  - Building Services MVAC work
  - Building Services Electrical work
  - Building Services Testing Work
  - External Works Boundary wall construction work
  - External Works Storm water drainage work
  - External Works Foul water drainage work
  - External Works Fresh water main installation work
  - External Works Salt water main installation work
  - External Works Fire Services pipe laying work
  - External Works Draw Pit construction & Cable Ducts laying work
  - External Works Pavement work

# **Summary of EM&A Requirements**

- 1.9 The EM&A requirements are described in the following sections, including:
  - Environmental mitigation measures, as recommended in the project EIA study final report; and
  - Environmental requirements in contract documents.
- 1.10 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in Section 2 of this report.

#### 2 ENVIRONMENTAL AUDIT

#### **Site Audits**

- 2.1 Site audit was carried out by ET on monthly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site. The summaries of site audits are attached in **Appendix C**.
- 2.2 Site audits were conducted on 21<sup>st</sup> June, 19<sup>th</sup> July and 23<sup>rd</sup> August 2013 by ET in the reporting quarter. No non-compliance was observed during the site audits. The observations and recommendations made during the audit sessions are summarized in **Table II**.

Table II Observations and Recommendations of Site Audit

Parameters	Date	<b>Observations and Recommendations</b>	Follow-up
Water Quality	21/06/2013	Ponding water should be removed after	Follow up action was taken
water Quality	21/00/2013	rain.	by the Contractor.

#### Status of Environmental Licensing and Permitting

2.3 All permits/licenses obtained for the Project are summarized in **Appendix D** 

## **Implementation Status of Environmental Mitigation Measures**

2.4 According to the EIA Study Report, Environmental Permit and the EM&A Manual of the Project, the mitigation measures detailed in the documents are recommended to be implemented during the construction phase. An updated summary of the EMIS is provided in **Appendix E**.

# **Summary of Complaint and Prosecution**

- 2.5 No environmental related complaints were received in the reporting quarter.
- 2.6 No prosecution or notification of summons was received in the reporting quarter.
- 2.7 Since the Project commencement, there were a total of 5 project-related environmental complaints. No prosecution or notification of summons was received since the Project commencement. The Complaint Log is attached in **Appendix F**.

#### 3 CONCLUSIONS AND RECOMMENDATIONS

#### **Key Issues for the Coming Months**

- 3.1 Key issues to be considered in the coming quarter include:
  - Noise from operation of the equipment and machinery on-site;
  - Effluent discharge generated from surface runoff;
  - Dust generated from excavation works and stockpile of dusty materials;
  - Maintenance of de-silting facilities and drainage system, such as U-channels;
  - Storage of chemicals/fuel and chemical waste/waste oil on site;
  - Accumulation of stagnant water in the site areas;
  - · Accumulation of C&D waste and general waste on site; and

#### **Conclusions**

- 3.2 Environmental audit works were conducted in the reporting quarter. Site inspections were conducted on monthly basis. The results were reviewed and checked.
- 3.3 No environmental complaints and prosecution or notification of summons received.

#### Recommendations

3.4 According to the environmental audit performed in the reporting quarter, the following recommendations were made:

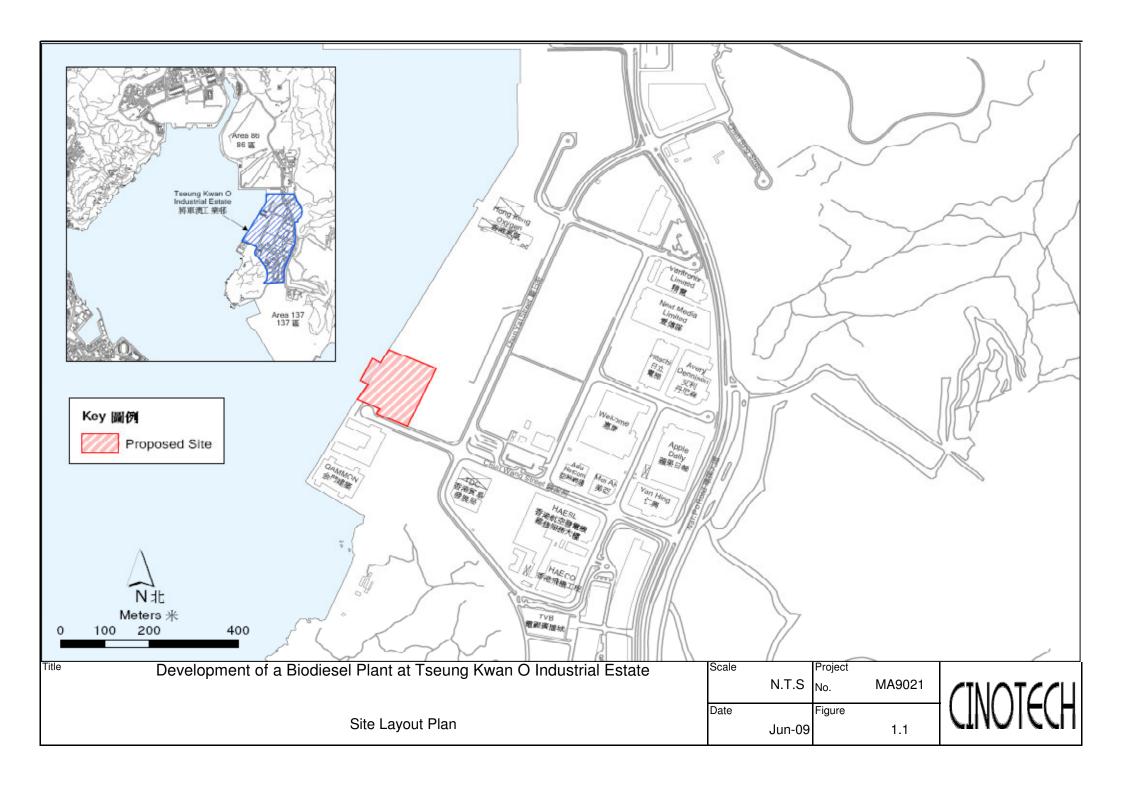
#### **Dust Impact**

- To remove fugitive dusty material on the haul road periodically...
- Stockpile of dusty materials should be covered by impervious sheeting, or sprayed with water so as to maintain entire surface wet.

# Waste / Chemical Management

- To provide proper rubbish bins / skips for waste collection.
- To provide proper storage area for oil container on site.
- To avoid and check for any accumulation of waste materials or rubbish on site.
- To avoid any discharge or accidental spillage of chemical waste or oil directly from the equipment.

# **FIGURES**

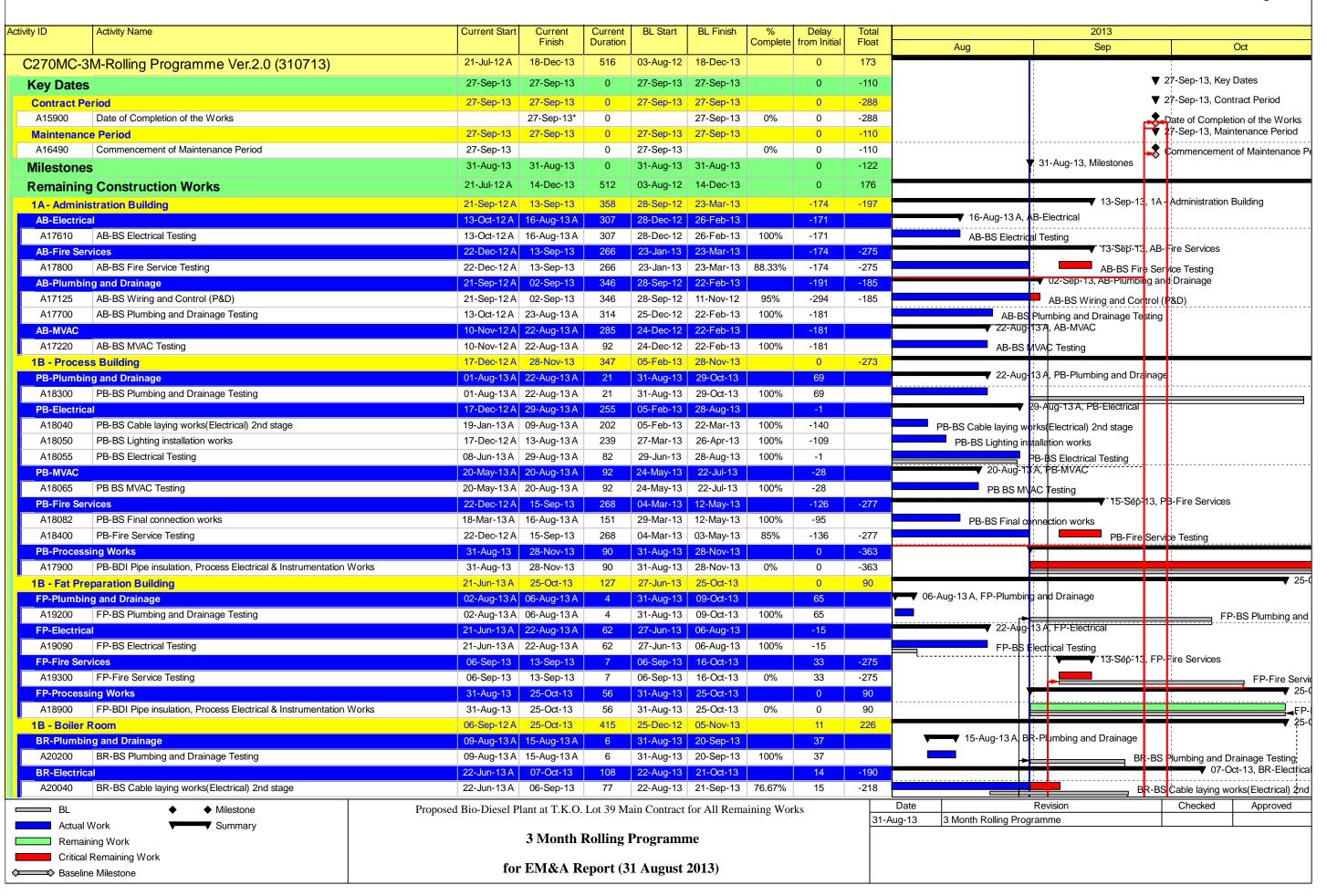


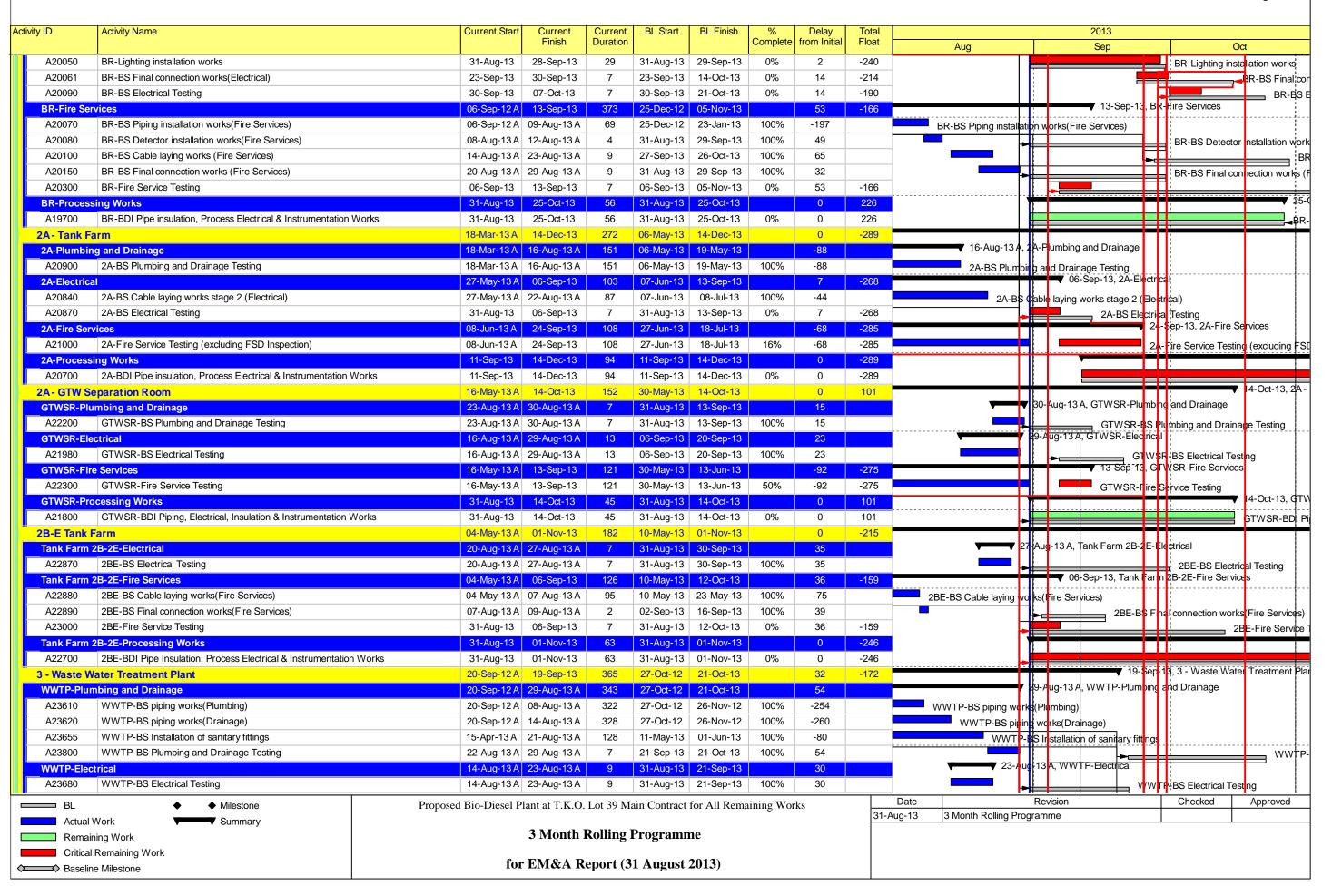
APPENDIX A CONTACT DETAILS OF THE PROJECT ORGANISATION

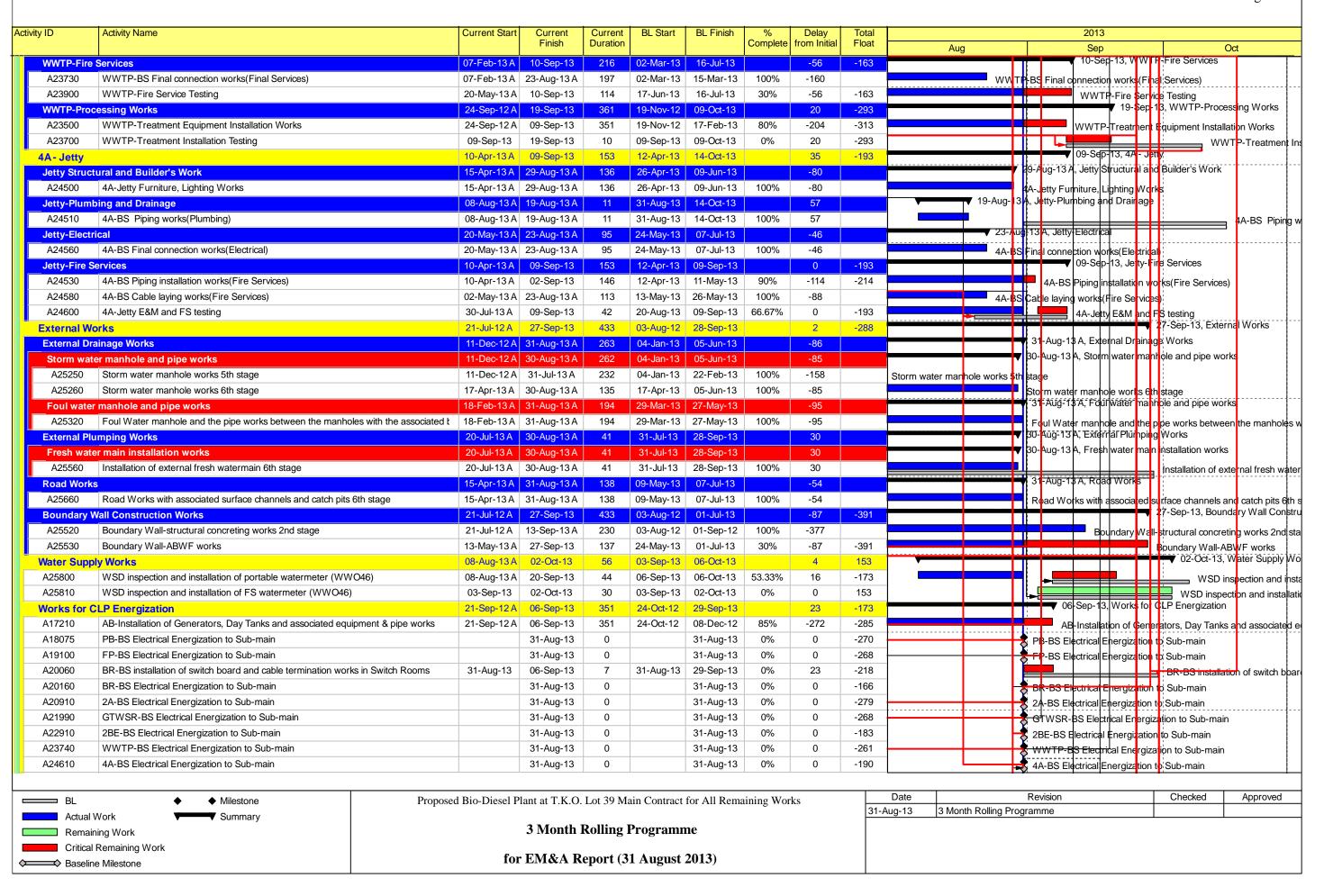
# **APPENDIX A – Contact Details of the Project Organisation**

Party	Role	Name	Position	Phone No.	Fax No.
ASB	Project Proponent	Ms. Sylvia Har Senior Plant Engineer		9479 0949	3741 1661
	Dr. HF Chan ET Leader		ET Leader	2151 2088	
Cinotech	Environmental Team	Ms. Ivy Tam	Project Coordinator	2151 2090	3107 1388
		Ms. Betty Choi	Audit Team Leader	2151 2072	
Monnings	Independent Environmental	Mr. Mark Cheung	Independent Environmental Checker	3168 2028	3168 2022
Mannings	Checker	Mr. Gavin Kwok	Assistant to Independent Environmental Checker	3168 2028	3108 2022
AECOM	Project Manager	Mr. Matthew Lau	Construction Manager	9363 5586	N/A
		Mr. Peter Chung	Project Manager	9471 2438	
CHEC	Contractor	Mr. Anson Wong	Safety and Environmental Officer	9656 3837	2623 9226
		Mr. Simon Li	Environmental Supervisor (Ass. Planning Engineer)	6152 7867	

# APPENDIX B CONSTRUCTION PROGRAMME







Activity ID	Activity Name	Current Start	Current	Current	BL Start	BL Finish	%	Delay	Total		2013	
			Finish	Duration			Complete	from Initial	Float	Aug	Sep	Oct
Maintena	nce Period	27-Sep-13	06-Dec-13	70	27-Sep-13	06-Dec-13		0	84			Y
FS & OP I	nspection	27-Sep-13	06-Dec-13	70	27-Sep-13	06-Dec-13		0	84			<b>▼</b>
A25900	Notification to FSD	27-Sep-13	25-Oct-13	28	27-Sep-13	25-Oct-13	0%	0	-288			No.
A25910	FS Inspection	24-Oct-13	25-Oct-13	1	24-Oct-13	25-Oct-13	0%	0	83			<b>□</b>
A25920	Rectification to FSD Comments	25-Oct-13	08-Nov-13	14	25-Oct-13	08-Nov-13	0%	0	83			<b>-</b>
A25930	Notification to FSD for 2nd Inspection	08-Nov-13	06-Dec-13	28	08-Nov-13	06-Dec-13	0%	0	83			
A26000	Notification for OP Inspection	27-Sep-13	25-Oct-13	28	27-Sep-13	25-Oct-13	0%	0	-288			NIO
A26010	OP Inspection	13-Oct-13	14-Oct-13	1	13-Oct-13	14-Oct-13	0%	0	136			OP Inspection
Works B	Other Contractors	30-Sep-12 A	18-Dec-13	445	12-Oct-12	18-Dec-13		0	173			
Works By	BDI	30-Sep-12 A	18-Dec-13	445	12-Oct-12	18-Dec-13		0	173			
BDI Proce	ssing Pipe Installation Works	30-Sep-12 A	14-Dec-13	441	12-Oct-12	29-Oct-13		-46	40			
P3230	BDI - PB Pipe installation works	30-Sep-12 A	19-Oct-13	384	12-Oct-12	08-Feb-13	59%	-252	-335			BDI - PB
P3240	BDI - FAT Pipe installation works	25-Dec-12 A	17-Sep-13	267	04-Jan-13	03-Apr-13	80%	-167	-289			BDI - FAT-Pipe installation-works
P3250	BDI - Boiler Room Building Pipe installation works	25-Dec-12 A	22-Sep-13	272	12-Jan-13	12-Apr-13	75%	-163	-274			BDIBoiler Room Building-Pipe installa
P3260	BDI - Tank Farm 2A Pipe installation works	21-Jan-13 A	14-Dec-13	328	01-Feb-13	31-May-13	12%	-197	-289			
P3270	BDI - Tank Farm 2B-E Pipe installation works	11-Mar-13 A	10-Dec-13	275	29-Mar-13	26-Jul-13	15%	-137	-246		,	
P3280	BDI - Pipe Bridges Pipe installation works	31-Aug-13	28-Nov-13	90	31-Aug-13	29-Oct-13	0%	-30	56	ļ.	-	
BDI Testir	ng and Commissioning	13-Sep-13	18-Dec-13	96	13-Sep-13	18-Dec-13		0	173			
A22100	GTWSR-Testing for Ventilation System (odour test)	13-Sep-13	13-Oct-13	30	13-Sep-13	13-Oct-13	0%	0	136		-	GTWSR-Testing
A23710	WWTP-Testing and Commissioning	19-Sep-13	18-Dec-13	90	19-Sep-13	18-Dec-13	0%	0	173		ا ا	

BL	◆ ◆ Milestone
Actual Work	Summary
Remaining Work	
Critical Remaining Work	
◆ Baseline Milestone	

Proposed Bio-Diesel Plant at T.K.O. Lot 39 Main Contract for All Remaining Works

3 Month Rolling Programme

for	EM&A	Report	(31)	August	2013)

Date	Revision	Checked	Approved
31-Aug-13	3 Month Rolling Programme		

# APPENDIX C SUMMARY OF SITE AUDITS

# Monthly Site Inspection Record Summary

**Inspection Information** 

Checklist Reference Number	130621
Date	21 June 2013 (Friday)
Time	16:25 – 16:45

Ref. No.	Non-Compliance		Related Item No.
	None		-
Ref. No.	Remarks/Observations		Related Item No.
	A. Water Quality		
130621–R01	Ponding water should be removed after rain.		B13
	B. Air Quality     No environmental deficiency was identified	during site inspection.	
	C. Noise		
	No environmental deficiency was identified	during site inspection.	
	D. Waste / Chemical Management		
	No environmental deficiency was identified	during site inspection.	
	E. Permit / Licenses		
	No environmental deficiency was identified	during site inspection.	
	F. Reminders		
	No environmental deficiency was identified	during site inspection.	
	G. Others  Follow-up on previous audit section (P. of N.	0.130515)	
	Follow-up on previous audit section (Ref. N	o.:130515):	-

	Name	Signature	Date
Recorded by	Betty Choi	Bettyn	24 June 2013
Checked by	Dr. HF Chan	1/1/2	24 June 2013
		<b>V</b>	

• No environmental deficiency was observed in the previous site inspection.

CINOTECH MA9021 130621

# Development of a Biodiesel Plant at Tseung Kwan O Industrial Estate

#### **Monthly Site Inspection Record Summary**

**Inspection Information** 

Checklist Reference Number	130719
	19 July 2013 (Friday)
Time	16:25 – 16:45

Ref. No.	Non-Compliance	Related Item
		No.
-	None	-

# Ref. No. Remarks/Observations Related Item Νo. A. Water Quality • No environmental deficiency was identified during site inspection. B. Air Quality • No environmental deficiency was identified during site inspection. C. Noise • No environmental deficiency was identified during site inspection. D. Waste / Chemical Management • No environmental deficiency was identified during site inspection. E. Permit / Licenses • No environmental deficiency was identified during site inspection. F. Reminders • No environmental deficiency was identified during site inspection. G. Others Follow-up on previous audit section (Ref. No.:130624): • All environmental deficiencies were improved/rectified by contractor.

	Name	Signature	Date
Recorded by	Betty Choi	Bethyns	22 July 2013
Checked by	Dr. HF Chan	1/12	22 July 2013

CINOTECH MA9021 130719

# Development of a Biodiesel Plant at Tseung Kwan O Industrial Estate

# Monthly Site Inspection Record Summary

**Inspection Information** 

Checklist Reference Number	130823
Date	23 August 2013 (Friday)
Time	16:30 – 17:00

Ref. No.	Non-Compliance	Related Item
	•	No.
_	None	-

# Ref. No. Remarks/Observations Related Item No. A. Water Quality · No environmental deficiency was identified during site inspection. B. Air Quality • No environmental deficiency was identified during site inspection. C. Noise • No environmental deficiency was identified during site inspection. D. Waste / Chemical Management • No environmental deficiency was identified during site inspection. E. Permit / Licenses • No environmental deficiency was identified during site inspection. F. Reminders • No environmental deficiency was identified during site inspection. G. Others Follow-up on previous audit section (Ref. No.:130719):

	Name	Signature	Date
Recorded by	Betty Choi	Beth	28 August 2013
Checked by	Dr. HF Chan	Mr	28 August 2013

• All environmental deficiencies were improved/rectified by contractor.

CINOTECH MA9021 130823

# APPENDIX D PERMITS AND LICENSES

Appendix D - Summary of Environmental Licensing and Permit Status

Permit / License No.	Valid Period		Details	Status
Permit / License No.	From	To	Details	Status
<b>Environmental Permit (El</b>	<b>P</b> )			
EP-319/2009/A	07/04/2009	N/A	Construction and operation of	Valid
			(i) a biochemical plant with a storage capacity of more than 500 tonnes and in which substances are processed and produced;	
			(ii) a storage, transfer and transhipment of oil facility with a storage capacity of not less than 1,000 tonnes; and	
			(iii) a dangerous goods godown with a storage capacity exceeding 500 tonnes.	
Registration of Chemical '	Waste Produce	r		
WPN-5113-839-C1186-15	12/06/2009	-	Spent Lubrication oil.	Valid
<b>Construction Noise Permi</b>	` /			
GW-RE0043-13	02/01/2013	20/07/2013	Use of Powered Mechanical Equipment during 0000-2400 hours on general holidays (including Sundays), 0000-0700 hours and 1900-2400 hours on any day not being a general holiday.	Invalid
GW-RE0043-13	02/07/2013	19/01/2014	Use of Powered Mechanical Equipment during 0000-2400 hours on general holidays (including Sundays), 0000-0700 hours and 1900-2400 hours on any day not being a general holiday.	Valid
Wastewater Discharge Lie				
WT00004508-2009	07/09/2009	-	Discharge of wastewater from construction site including wheel washing water and chemical precipitation tank	Valid
Billing Account for Dispos	sal of Construct	tion Waste		
A/C No.: 7013917	-	-	-	Valid
Notification of Works und	er APCO	ı	<u> </u>	
Ref. no.: 337009	26/10/2011	_		Valid

APPENDIX E UPDATED ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE

Appendix E - Summary of Environmental Mitigation Implementation Schedule (Construction Phase)

Types of Impacts	Mitigation Measures	Status
	• Dust control measures such as water spaying on roads and dusty areas, covering of lorries by impervious sheets and controlling of the falling height of fill materials will be implemented;	^
	• Effective dust screens, sheeting or netting will be provided to enclose the scaffolding from the ground level of the facility during the building construction;	^
	<ul> <li>All debris and materials will be covered or stored in a sheltered debris collection area;</li> </ul>	^
Construction Dust	<ul> <li>Hoarding from ground level will be provided along the entire length of the site boundary except for a site entrance or exit;</li> <li>Every stockpile of dusty materials will be covered entirely by impermeable sheeting or placed in an area sheltered on the top and the 2 sides.</li> </ul>	^
	<ul> <li>and the 3 sides;</li> <li>Regular maintenance and checking of the diesel powered mechanical equipment will be adopted to avoid any black smoke</li> </ul>	^
	<ul> <li>emissions and to minimize gaseous emissions.</li> <li>Monthly site audits will be conducted to ensure the implementation of suitable dust control measures and good site practices.</li> </ul>	^
	Working site audits will be conducted to ensure the implementation of suitable dust control measures and good site practices.	^
	<ul> <li>Only well-maintained plant will be operated on-site and plant will be serviced regularly during the construction program;</li> </ul>	^
	• Silencers or mufflers on construction equipment will be utilized and will be properly maintained during the construction program;	^
	<ul> <li>Mobile plant, if any, will be sited as far from NSRs as possible;</li> </ul>	^
Construction	• Machines and plant (such as trucks) that may be in intermittent use will be shut down between work periods or will be throttled down to a minimum;	^
Noise	• Plant known to emit noise strongly in one direction will, wherever possible, be orientated so that the noise is directed away from the nearby NSRs; and	^
	• Material stockpiles and other structures will be effectively utilised, wherever practicable, in screening noise from onsite construction activities.	^

Compliance of mitigation measure; Remarks: ^

X Non-compliance of mitigation measure;

N/A Not Applicable at this stage; • Non-compliance but rectified by the contractor;

\* Recommendation was made during site audit but improved/rectified by the contractor;

\* Non-compliance but rectified/improved by the contractor and awaiting IEC's further comment.

Types of Impacts	Mitigation Measures	Status
	<ul> <li>Silt curtain will be installed around the marine piling area to contain any suspended mud and sediments generated during the piling works. Silt removal facilities such as silt traps or sedimentation facilities will be provided to remove silt particles from groundwater (if pumping is required) to meet the requirements of the TM standard under the WPCO. The design of silt removal facilities will be based on the guidelines provided in ProPECC PN 1/94. All drainage facilities and erosion and sediment control structures will be inspected monthly and maintained to ensure proper and efficient operation at all times and particularly during rainstorms.</li> <li>Construction Site Run-off and Drainage</li> </ul>	۸
Water Quality	<ul> <li>Silt removal facilities such as silt traps or sedimentation facilities will be provided to remove silt particles from runoff to meet the requirements of the TM standard under the WPCO. The design of silt removal facilities will be based on the guidelines provided in ProPECC PN 1/94. All drainage facilities and erosion and sediment control structures will be inspected monthly and maintained to ensure proper and efficient operation at all times and particularly during rainstorms.</li> <li>Careful programming of the works to minimise surface excavations for the construction works during the wet season. If excavation of soil cannot be avoided during the wet season, exposed slope surfaces will be covered by a tarpaulin or other means. Other measures that need to be implemented before, during, and after rainstorms are summarised in ProPECC PN 1/94.</li> <li>Exposed soil surfaces will be protected by paving or fill material as soon as possible to reduce the potential of soil erosion.</li> <li>Open stockpiles of construction materials or construction wastes on-site of more than 50m³ will be covered with tarpaulin or similar fabric during rainstorms. These materials will not be placed near the seawall area.</li> </ul>	^ ^
	<ul> <li>General Construction Activities</li> <li>Debris and refuse generated on-site will be collected, handled and disposed of properly to avoid entering the nearby water sensitive receivers (WSRs). Stockpiles of cement and other construction materials will be kept covered when not being used.</li> <li>Oils and fuels will only be used and stored in designated areas which have pollution prevention facilities. All fuel tanks and storage areas will be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank. The bund will be drained of rainwater after a rain event.</li> </ul>	^

Remarks: ^ Compliance of mitigation measure;

X Non-compliance of mitigation measure;

N/A Not Applicable at this stage; • Non-compliance but rectified by the contractor;

\* Recommendation was made during site audit but improved/rectified by the contractor;

\* Non-compliance but rectified/improved by the contractor and awaiting IEC's further comment.

Types of Impacts	Mitigation Measures	Status
	<ul> <li>Sewage generated from On-site Workforce</li> <li>Temporary sanitary facilities, such as portable chemical toilets, will be provided on-site. A specialised contractor will be responsible for regular collection and appropriate disposal of the sewage and maintenance of these facilities.</li> <li>Monthly site inspections will be carried out during construction to ensure that the mitigation measures listed above are properly implemented. The site audit frequency will be increased to weekly intervals during the piling works.</li> </ul>	^ ^
Ecology	<ul> <li>Mitigation measures for minimising water quality impacts are presented in detail above. These measures will be properly implemented and good construction practices will be adopted to minimise potential adverse impacts to marine ecological resources.</li> </ul>	^

X Non-compliance of mitigation measure;

N/A Not Applicable at this stage; • Non-compliance but rectified by the contractor;

\* Recommendation was made during site audit but improved/rectified by the contractor;

\* Non-compliance but rectified/improved by the contractor and awaiting IEC's further comment.

# APPENDIX F COMPLAINT LOG

# APPENDIX F – COMPLAINT LOG

**Reporting Month**: June to August 2013

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
COM- 2012- 08-001	Jetty Area	28-08- 2012	A resident in Lohas Park complained about noise nuisance from the site.	Investigation by EPD identified the source to be chiselling work at the jetty area. Although the chisel machines were covered by valid CNP, the Contractor decided to suspend the corresponding work during restricted hours. The machine was later covered by sound proof canvas to minimize noise transmission. Subsequent inspection and noise measurement by the EPD on 3 <sup>rd</sup> September 2012 concluded that the noise reduction measure was effective and acceptable at Lohas Park.	Closed
COM- 2012- 09-002	Jetty Area	07-09- 2012	A resident in Lohas Park complained about noise nuisance from the site.	Investigation by EPD identified the source to be chiselling work at the jetty area. Only one chisel machine was operated on the day of complain and it was screened by sound proof canvas. Although the machine was covered by valid CNP, the Contractor decided to suspend the corresponding work during restricted hours during investigation period. Subsequent inspection and noise measurement (daytime at site, night time at Lohas Park) by the EPD on 12 <sup>th</sup> September 2012 concluded that the noise levels were acceptable at Lohas Park.	Closed
COM- 2012- 09-003	Jetty Area	27-09- 2012	A resident in Lohas Park complained about noise nuisance from the site.	The chisel machine used at JP3 of the jetty area was identified as the noise source. According to the Contractor, the machine was screened by sound proof canvas. Although the machine was covered by valid CNP, the Contractor decided to carry out the corresponding work during normal operation hours only. This was agreed with the complainant in Lohas Park.	Closed
COM- 2012- 09-004	Not Specified	04-10- 2012	A resident in Lohas Park complained about noise nuisance from the site at	According to the Contractor, According to the Contractor, only one drilling machine and chiselling machine were in use, which were covered by valid CNP. We advised the Contractor to communicate with the residents in Lohas	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
			11:18pm.	Park given consistent noise complains. The Contractor explained to the complainant that chiselling work will stop at 11pm every day and start after 10am during weekends to minimize noise nuisance. Further in November, a noise enclosure was erected to cover the noisy part of the chiselling machine.	
Com- 2012- 11-005	Jetty Area	23-11- 2012	A resident in Lohas Park complained about noise nuisance from the site at around 3:00 am	The chisel machine used of the jetty area was identified the noise source. According to the Contractor, the machine was screened by enclosure. Although the machine was covered by valid CNP, the Contractor decided to carry out the corresponding work during 7:00 – 23:00. Contractor explained to the complainant that the bored piling will be completed in early December.	Closed

Remarks: N/A