

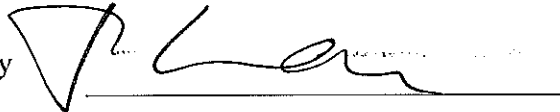
ASB Biodiesel (Hong Kong) Limited

Development of a Biodiesel Plant at Tseung Kwan O Industrial Estate

Monthly EM&A Report

June 2012

(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

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



MANNINGS
(Asia) Consultants Limited

Address: 5/F, Winning Commercial Building, 46-48 Hillwood Road, Tsim Sha Tsui, Kowloon
Tel: 852 - 3168 2028 Fax: 852 - 3168 2022

<i>To:</i>	Cinotech	<i>Date:</i>	12 July 2012
<i>Attn:</i>	Ms. Ivy Tam / Ms. Betty Choi	<i>Fax:</i>	3107 1388
<i>From:</i>	Mr. Mark Cheung	<i>Ref:</i>	D1067/G02767
<i>Job No.</i>	D1067	<i>Total Pages:</i>	1

**SUBJECT: Development of a Biodiesel Plant at Tseung Kwan O Industrial Estate
Monthly EM&A Report for June 2012**

Dear Madam,

We refer to your submission of the Monthly EM&A Report for June 2012 via email dated 12 July 2012.

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

Regards,

Mark Cheung
Independent Environmental Checker

KTC/gk

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY	1
Introduction	1
Environmental Monitoring and Audit Works	1
Environmental Licenses and Permits	1
Key Information in the Reporting Month	2
Future Key Issues	2
1 INTRODUCTION	4
Background.....	4
Project Organizations	5
Construction Programme.....	6
Summary of EM&A Requirements	6
2 ENVIRONMENTAL AUDIT	7
Site Audits	7
Status of Environmental Licensing and Permitting.....	7
Status of Waste Management	7
Implementation Status of Environmental Mitigation Measures.....	7
Summary of Complaint and Prosecution.....	9
3 FUTURE KEY ISSUES	10
Key Issues for the Coming Month.....	10
Construction Program for the Next Months	10
4 CONCLUSIONS AND RECOMMENDATIONS	11
Conclusions	11
Recommendations	11

LIST OF TABLES

Table I	Summary Table for Key Information in the Reporting Month
Table 1.1	Key Project Contacts
Table 2.1	Summary of Environmental Licensing and Permit Status
Table 2.2	Observations and Recommendations of Site Audit

LIST OF FIGURE

Figure 1.1	Site Layout Plan
------------	------------------

LIST OF APPENDICES

Appendix A	Site Audit Summary
Appendix B	Updated Environmental Mitigation Implementation Schedule
Appendix C	Waste Generation in the Reporting Month
Appendix D	Complaint Log
Appendix E	Construction Programme

EXECUTIVE SUMMARY

Introduction

1. This is the 37th 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". This report documents the findings of EM&A Works conducted in June 2012.
2. The major site activities undertaken in the reporting month included:
 - General site cleaning and tidying.
 - Zone 1A Administration Building – Finishing works.
 - Zone 1A Administration Building – MEK room metal works
 - Zone 1A Administration Building – Installation of roof waterproofing system works
 - Zone 1B Processing Building – Cladding system installation works
 - Zone 1B Fat Preparation and Steam Boiler Room Building – Equipment Installation works
 - Zone 1B Fat Preparation and Steam Boiler Room Building – Finishing works
 - Zone 2A Tank Farm – Steel tank erection works
 - Zone 2A GTWSR – Footing construction works
 - Zone 2B-2E Tank Farm – Bund wall construction works
 - Zone 2B-2E Tank Farm – Tank plinth construction works
 - WWTP – RC superstructure construction works.
 - WWTP – RC tanks construction works.
 - Jetty – Temporary platform erection works
 - Jetty – Temporary pile casing erection works
 - Jetty – Bore pile casing erection works
 - Building Services – P&D U/G pipe cast-in works
 - Building Services – Fire Service U/G pipe cast-in works
 - Building Services – Cable duct cast-in works
 - Building Services – Pressure Test works
 - External Works – Fence wall construction works
 - External Works – Storm water manhole works
 - External Works – Foul water manhole works

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. 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 (GW-RE0470-12, GW-RE0471-12), Wastewater Discharge License (WT00004508-2009), Notification of Works under APCO (337009) and Waste Discharge Account (7013917). The new Construction Noise Permits (GW-RE0470-12, GW-RE0471-12) were issued by the EPD on 20th June 2012.

Key Information in the Reporting Month

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

Table I Summary Table for Key Information in the Reporting Month

Event	Event Details		Action Taken	Status	Remark
	Number	Nature			
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 Report for May 2012	Submitted to EPD on 11 Jun 2012	Verified by IEC	---
Notifications of any summons & prosecutions	0	---	N/A	N/A	---

Future Key Issues

6. Major site activities for the coming three months will include:
- General site cleaning and tidying.
 - Administration Building – Steel and metal works at MEK Room
 - Administration Building – Installation of roof waterproofing system works
 - Administration Building – Finishing works
 - Processing Building – Cladding system installation works
 - Fat Preparation Building – Finishing works
 - Fat Preparation Building and Boiler Room – Roof waterproofing system works
 - Fat Preparation Building and Boiler Room – Structural steel works
 - Tank Farm 2A – Footing and bund wall construction works
 - Tank Farm 2A – Tank erection works
 - Tank Farm GTWSR – Superstructure construction works
 - Tank Farm 2B-2E – Tank erection works
 - WWTP – Structural construction works
 - WWTP – IC Reactor erection works.
 - WWTP – Water proofing system installation works.
 - Jetty – Temporary platform construction works.
 - Jetty – Bore pile installation works.
 - Pipe Bridge – Pipe support construction works and pipe bridge erection works.
 - External – Fence wall construction works.

- Building Services – Fire services works
 - Building Services – MVAC works
 - Building Services – Electrical works
 - Building Services – P&D works
7. The future environmental concerns are air quality, water quality, waste management 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 Layout plan of tank farm **2A, 2B to 2E** is revised and a report is made by Environmental Resources Management (ERM) regarding such change. The report concluded that no deviation is found from the approved EIA report.
- 1.5 An Environmental Permit (EP) No. EP-319/2009 and EP-319/2009/A was issued on 11 March 2009 and 7 April 2009 respectively for Development of a Biodiesel Plant at Tseung Kwan O Industrial Estate to ASB Biodiesel (Hong Kong) Limited as the Permit Holder.
- 1.6 Cinotech Consultants Limited was commissioned by the Contractor to undertake the Environmental Monitoring and Audit (EM&A) works for the Project. This is the 37th Monthly EM&A report summarizing the EM&A works for the Project in June 2012.

Project Organizations

1.7 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.

1.8 The responsibilities of respective parties are detailed in Section 1.10 of the Final EM&A Manual of the Project.

1.9 The key contacts of the Project are shown in **Table 1.1**.

Table 1.1 Key Project Contacts

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

Construction Programme

1.10 The site activities undertaken in the reporting month were:

- General site cleaning and tidying.
- Zone 1A Administration Building – Finishing works.
- Zone 1A Administration Building – MEK room metal works
- Zone 1A Administration Building – Installation of roof waterproofing system works
- Zone 1B Processing Building – Cladding system installation works
- Zone 1B Fat Preparation and Steam Boiler Room Building – Equipment Installation works
- Zone 1B Fat Preparation and Steam Boiler Room Building – Finishing works
- Zone 2A Tank Farm – Steel tank erection works
- Zone 2A GTWSR – Footing construction works
- Zone 2B-2E Tank Farm – Bund wall construction works
- Zone 2B-2E Tank Farm – Tank plinth construction works
- WWTP – RC superstructure construction works.
- WWTP – RC tanks construction works.
- Jetty – Temporary platform erection works
- Jetty – Temporary pile casing erection works
- Jetty – Bore pile casing erection works
- Building Services – P&D U/G pipe cast-in works
- Building Services – Fire Service U/G pipe cast-in works
- Building Services – Cable duct cast-in works
- Building Services – Pressure Test works
- External Works – Fence wall construction works
- External Works – Storm water manhole works
- External Works – Foul water manhole works

Summary of EM&A Requirements

1.11 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.

1.12 The advice on the implementation status of environmental protection and pollution control/ mitigation measures is summarized in Section 3 of this report.

2 ENVIRONMENTAL AUDIT

Site Audits

- 2.1 Site audits were 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 summary of the site audit in this reporting month is attached in **Appendix A**.
- 2.2 Site audit was conducted on 20th June 2012 by ET in the reporting month. No non-compliance was observed during the site audits.

Status of Environmental Licensing and Permitting

- 2.3 All permits/licenses obtained for the Project are summarized in **Table 2.1**.

Status of Waste Management

- 2.4 The quantities of waste generated in this reporting month are summarized in **Appendix C**.

Implementation Status of Environmental Mitigation Measures

- 2.5 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 B**.

Table 2.1 Summary of Environmental Licensing and Permit Status

Permit / License No.	Valid Period		Details	Status
	From	To		
Environmental Permit (EP)				
EP-319/2009/A	07/04/2009	N/A	Construction and operation of (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 trans-shipment 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 .	Valid
Registration of Chemical Waste Producer				
WPN-5113-839-C1186-15	12/06/2009	-	Spent Lubrication oil.	Valid
Construction Noise Permit (CNP)				
GW-RE0470-12	22/06/2012	21/07/2012	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
GW-RE0471-12	22/06/2012	21/07/2012	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 License				
WT00004508-2009	07/09/2009	-	Discharge of wastewater from construction site including wheel washing water and chemical precipitation tank	Valid
Billing Account for Disposal of Construction Waste				
A/C No.: 7013917	-	-	-	Valid
Notification of Works under APCO				
Ref. no.: 337009	26/10/2011	-	-	Valid

- 2.6 During the site inspection in the reporting month, no non-conformance was identified. The observations and recommendations made during the audit session are summarized in **Table 2.2**.

Table 2.2 Observations and Recommendations of Site Audit

Parameters	Date	Observations and Recommendations	Follow-up
Water Quality	20/06/2012	Buoys of the silt curtain should be maintained.	Follow up action was taken by the Contractor.
Air Quality		Stockpile should be covered with tarpaulin when not in use.	Follow up action was taken by the Contractor.
		Dust track was observed in public road. Vehicles moving out of the site should be cleaned thoroughly.	Follow up action was taken by the Contractor.
Waste / Chemical Management		Drip tray should be provided under chemical/oil containers.	Follow up action was taken by the Contractor.

Summary of Complaint and Prosecution

- 2.7 No environmental related complaint, prosecution or notification of summons was received in the reporting month.
- 2.8 There was no environmental complaint, prosecution or notification of summons received since the Project commencement. The Complaint Log is attached in **Appendix D**.

3 FUTURE KEY ISSUES

Key Issues for the Coming Month

3.1 Key issues to be considered in the coming month 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
- Suspended mud, sediment and potential leakage of bentonite slurry from marine piling work for jetty construction.

3.2 In June, temporary piles and platform were constructed in the jetty area and bore pile casing were erected. During the site inspection, silt curtain was erected as a mitigation measure. Bentonite slurry will be injected in the coming months and the process will be closely monitored to prevent leakage into the water.

Construction Program for the Next Months

3.3 A tentative construction programme is provided in **Appendix E**. The major construction activities in the coming three months will include:

- General site cleaning and tidying.
- Administration Building – Steel and metal works at MEK Room
- Administration Building – Installation of roof waterproofing system works
- Administration Building – Finishing works
- Processing Building – Cladding system installation works
- Fat Preparation Building – Finishing works
- Fat Preparation Building and Boiler Room – Roof waterproofing system works
- Fat Preparation Building and Boiler Room – Structural steel works
- Tank Farm 2A – Footing and bund wall construction works
- Tank Farm 2A – Tank erection works
- Tank Farm GTWSR – Superstructure construction works
- Tank Farm 2B-2E – Tank erection works
- WWTP – Structural construction works
- WWTP – IC Reactor erection works.
- WWTP – Water proofing system installation works.
- Jetty – Temporary platform construction works.
- Jetty – Bore pile installation works.
- Pipe Bridge – Pipe support construction works and pipe bridge erection works.
- External – Fence wall construction works.
- Building Services – Fire services works
- Building Services – MVAC works
- Building Services – Electrical works
- Building Services – P&D works

4 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

- 4.1 Environmental audit works were conducted in the reporting month. Site inspections were conducted on a monthly basis. The results were reviewed and checked.
- 4.2 There was no environmental complaint, prosecution or notification of summons received.

Recommendations

- 4.3 According to the environmental audit performed in the reporting month, the following recommendations were made:

Water Impact

- To identify any wastewater discharges from site.
- To ensure properly maintenance for de-silting facilities.
- To clear the silt and sediment in the sedimentation tanks.
- To review the capacity of de-silting facilities for discharge.
- To divert all the water generated from construction site to de-silting facilities with enough handling capacity before discharge.
- To avoid accumulation of stagnant and ponding water on site.
- To clear the drainage channel regularly to prevent blockage.
- To set up silt curtain around marine piling work.
- To check integrity of bore pile casing to prevent leakage.

Dust Impact

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

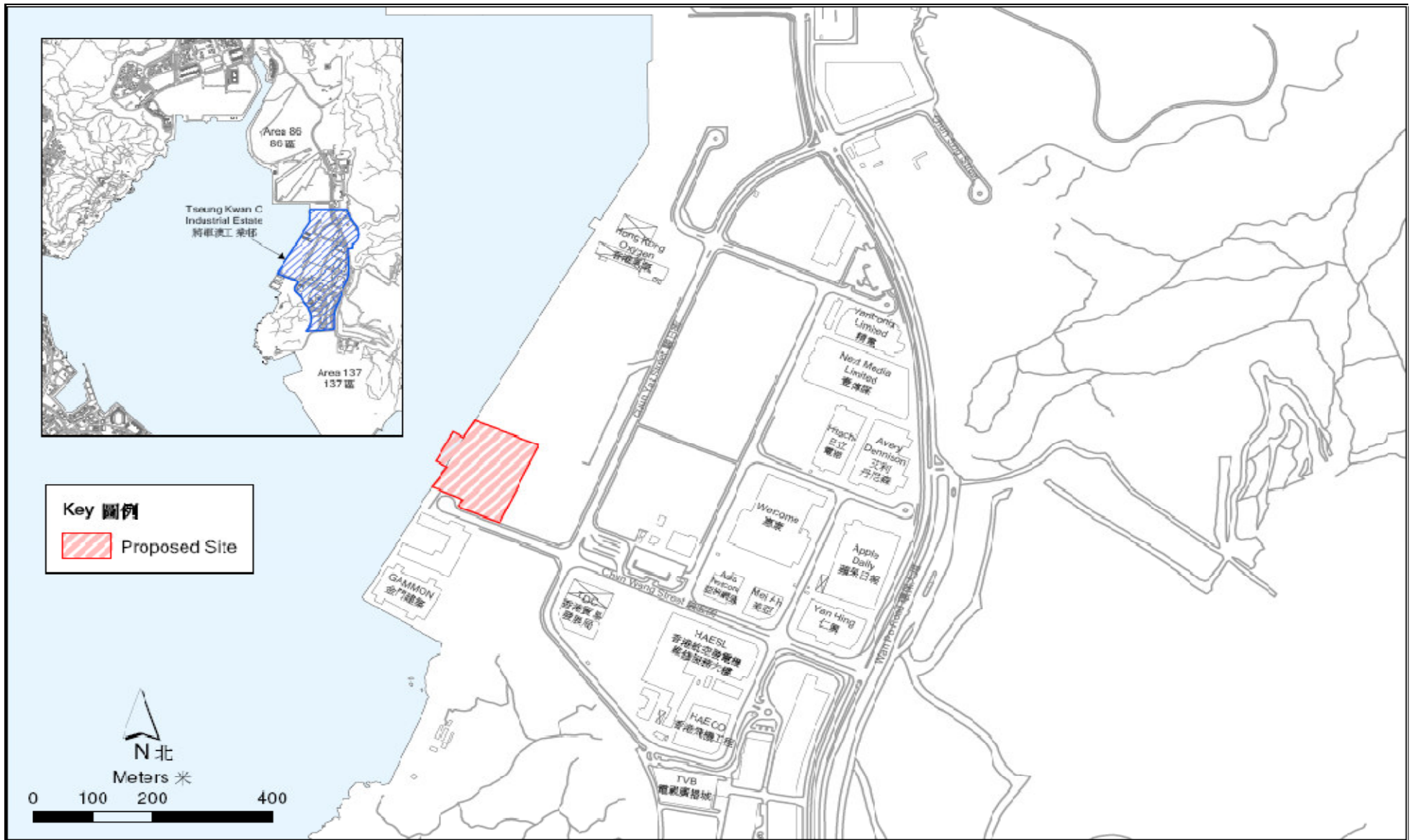
Noise Impact

- To space out noisy equipment and position as far away as possible from sensitive receivers.
- To inspect the noise sources inside the site.

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



Key 圖例
 Proposed Site

Title	Development of a Biodiesel Plant at Tseung Kwan O Industrial Estate		Scale	N.T.S	Project No.	MA9021	CINOTECH
	Site Layout Plan		Date	Jun-09	Figure	1.1	

**APPENDIX A
SITE AUDIT SUMMARY**

Development of a Biodiesel Plant at Tseung Kwan O Industrial Estate

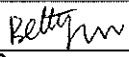
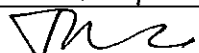
Monthly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	120620
Date	20 June 2012 (Wednesday)
Time	15:45 – 16:20

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

Ref. No.	Remarks/Observations	Related Item No.
120620-R04	<p>A. Water Quality</p> <ul style="list-style-type: none"> Buoys of the silt curtain should be maintained. 	N/A
120620-R02	<p>B. Air Quality</p> <ul style="list-style-type: none"> Stockpile should be covered with tarpaulin when not in use. 	C10
120620-R03	<ul style="list-style-type: none"> Dust track was observed in public road. Vehicles moving out of the site should be cleaned thoroughly. 	C3
	<p>C. Noise</p> <ul style="list-style-type: none"> No environmental deficiency was identified during site inspection. 	
120620-R01	<p>D. Waste / Chemical Management</p> <ul style="list-style-type: none"> Drip tray should be provided under chemical/oil containers. 	E8
	<p>E. Permit / Licenses</p> <ul style="list-style-type: none"> No environmental deficiency was identified during site inspection. 	
	<p>F. Reminders</p> <ul style="list-style-type: none"> No environmental deficiency was identified during site inspection. 	
	<p>G. Others</p> <p>Follow-up on previous audit section (Ref. No.:120522):</p> <ul style="list-style-type: none"> All environmental deficiencies were improved/rectified by the Contractor. 	

	Name	Signature	Date
Recorded by	Betty Choi		22 June 2012
Checked by	Dr. HF Chan		22 June 2012

**APPENDIX B
UPDATED ENVIRONMENTAL
MITIGATION IMPLEMENTATION
SCHEDULE**

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

Types of Impacts	Mitigation Measures	Status
<p>Construction Dust</p>	<ul style="list-style-type: none"> • 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; • All debris and materials will be covered or stored in a sheltered debris collection area; • Hoarding from ground level will be provided along the entire length of the site boundary except for a site entrance or exit; • Every stockpile of dusty materials will be covered entirely by impermeable sheeting or placed in an area sheltered on the top and the 3 sides; • Regular maintenance and checking of the diesel powered mechanical equipment will be adopted to avoid any black smoke emissions and to minimize gaseous emissions. • Monthly site audits will be conducted to ensure the implementation of suitable dust control measures and good site practices. 	<p>^ ^ ^ ^ • ^ ^</p>
<p>Construction Noise</p>	<ul style="list-style-type: none"> • Only well-maintained plant will be operated on-site and plant will be serviced regularly during the construction program; • Silencers or mufflers on construction equipment will be utilized and will be properly maintained during the construction program; • Mobile plant, if any, will be sited as far from NSRs as possible; • 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; • 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. 	<p>^ ^ ^ ^ ^ ^</p>

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
Water Quality	<p><u>Piling Activities</u></p> <ul style="list-style-type: none"> 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. 	•
	<p><u>Construction Site Run-off and Drainage</u></p> <ul style="list-style-type: none"> 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. 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. Exposed soil surfaces will be protected by paving or fill material as soon as possible to reduce the potential of soil erosion. 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. 	^ ^ ^ ^
	<p><u>General Construction Activities</u></p> <ul style="list-style-type: none"> 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. 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. 	^ ^

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
	<p><u>Sewage generated from On-site Workforce</u></p> <ul style="list-style-type: none"> 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. 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. 	<p>N/A ^</p>
<p>Ecology</p>	<ul style="list-style-type: none"> 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. 	<p>^</p>

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.

**APPENDIX C
WASTE GENERATION IN THE
REPORTING MONTH**

**APPENDIX D
COMPLAINT LOG**

APPENDIX D – COMPLAINT LOG**Reporting Month:** June 2012

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
N/A	N/A	N/A	N/A	N/A	N/A

Remarks: No environmental complaint was received in the reporting month.

APPENDIX E
CONSTRUCTION PROGRAMME

Activity ID	Activity Name	Duration	Current Start	Current Finish	Month				
					8	9	10	11	12
C270MC-3M-Rolling Programme Ver.1.1 (220612)									
Key Dates									
A15600	Contract Award	0	14-Oct-11 A						
Contract Period									
A15700	Date of Commencement of the Works	0	04-Nov-11 A						
A15900	Date of Completion of the Works	0		14-Mar-13*					
Maintenance Period									
A16400	Granting of DG License	0	18-May-13*						
A16500	Commence T&C	0	28-Feb-13*						
A16600	Complete T&C	0		08-Sep-13*					
Milestones									
Remaining Construction Works									
Major Equipment and Material Procurement and Delivery									
P10000	Lift Procurement	180	01-Mar-12 A	27-Aug-12	▼ 27-Aug-12, Major Equipment and Mat				
1A - Administration Building									
Administration Building Structural and Builder's Work					▼ 07-Aug-12, Administration Building Structural and Builder's				
A17040	AB-Steel and Metal Works at MEK Room	79	06-Apr-12 A	23-Jun-12					
A17410	AB-Installation of windows, louvers and doors 1st stage	20	23-Jun-12	13-Jul-12					
A17420	AB-Installation of windows, louvers and doors 2nd stage	25	13-Jul-12	07-Aug-12					
A17430	AB-ABWF works excluding windows, louvers & doors	105	04-Apr-12 A	17-Jul-12					
A17440	AB-Installation of roof waterproofing system works	30	22-Jun-12	21-Jul-12					
AB-Electrical									
A17140	AB-BS Cable laying works(Electrical) 2nd stage	0	22-Jul-12 A	21-Jul-12					
A17160	AB-BS Installation of switch board and cable termination works in Switch Rooms	40	07-Jul-12	15-Aug-12					
A17190	AB-BS Lighting installation works	30	16-Aug-12	14-Sep-12					
A17200	AB-Installation of switch board and cable termination works in Main Switch Room	40	07-Jul-12	15-Aug-12					
A17210	AB-Installation of Generators, Day Tanks and associated equipment & pipe works	45	16-Aug-12	29-Sep-12					
A17500	AB-Lift Installation Works	45	28-Aug-12	11-Oct-12					
AB-Fire Services					▼ 14-Sep-12, AB-Fire				
A17170	AB-BS Piping works(Fire Services) 1st stage	35	22-Jun-12	26-Jul-12					
A17180	AB-BS Piping works(Fire Services) 2nd stage	35	27-Jul-12	30-Aug-12					
A17185	AB-Control Room and Pump Room FS equipment installation and associated pipe works	30	16-Aug-12	14-Sep-12					
AB-Plumbing and Drainage									
A17110	AB-BS Piping works (P&D) 1st stage	40	22-Jun-12	31-Jul-12					
A17120	AB-BS Piping works(P&D) 2nd stage	45	01-Aug-12	14-Sep-12					
A17155	AB-Installation of sanitary fittings	60	15-Sep-12	13-Nov-12					
AB-MVAC					▼ 26-Jul-12, AB-MVAC				
A17150	AB-BS Installation of piping and ducting works (MVAC)	106	12-Apr-12 A	26-Jul-12					
1B - Process Building									
Processing Building Structural and Builder's Work					▼ 07-Jul-12, Processing Building Structural and Builder's Work				
A18110	PB-Cladding wall for Processing Building	153	06-Feb-12 A	07-Jul-12					
A18120	PB-Cladding roof for Processing Building	87	05-Apr-12 A	30-Jun-12					
PB-Plumbing and Drainage					▼ 28-Sep-12				
A18010	PB-BS Piping works(P&D) 1st stage	45	01-Jul-12	14-Aug-12					
A18020	PB-BS Piping works(P&D) 2nd stage	45	15-Aug-12	28-Sep-12					
PB-Electrical					▼ 28-Sep-12				
A18030	PB-Cable laying works(Electrical) 1st stage	45	01-Jul-12	14-Aug-12					
A18040	PB-Cable laying works(Electrical) 2nd stage	45	15-Aug-12	28-Sep-12					
PB-MVAC					▼ 28-Sep-12				
A18060	PB-BS Installation of piping and Ducting Works (MVAC)	90	01-Jul-12	28-Sep-12					
PB-Fire Services					▼ 28-Sep-12				
A18070	PB-BS piping works (Fire Services) 1st stage	45	01-Jul-12	14-Aug-12					
A18080	PB-BS piping works (Fire Services) 2nd stage	45	15-Aug-12	28-Sep-12					
PB-Processing Works					▼ 28-Sep-12				
A17900	PB-BDI Pipe insulation, Process Electrical & Instrumentation Works	90	01-Sep-12	29-Nov-12					
1B - Fat Preparation Building									
Fat Preparation Structural and Builder's Work									
A18600	FP-Fat Preparation Steel Works	24	14-Jun-12 A	07-Jul-12					
A18700	FP-Cooling Tower Installation	62	28-Jun-12	28-Aug-12					
A19130	FP-ABWF works excluding windows, louvers and doors	282	16-Apr-12 A	22-Jan-13					

- █ Actual Work
- █ Remaining Work
- █ Critical Remaining Work
- ◆ Critical Milestone
- ▼ Milestone
- ▶ Summary

Proposed Biodiesel Plant at T.K.O.T. Lot 39 Main Contract for All Remaining Works

3 Months Rolling Programme (22 Jun 2012)

Date	Revision	Checked	Approved
22-Jun-12			

Activity ID	Activity Name	Duration	Current Start	Current Finish	Month				
					8	9	10	11	12
A19140	FP-Installation of roof waterproofing system works	38	14-Jun-12 A	21-Jul-12	[Gantt bar: 14-Jun-12 to 21-Jul-12]				
FP-Plumbing and Drainage					[Summary bar: 14-Jun-12 to 27-Sep-12]				
A19010	FP-BS piping works(P&D) 1st stage	30	29-Aug-12	27-Sep-12	[Gantt bar: 29-Aug-12 to 27-Sep-12]				
FP-Electrical					[Summary bar: 29-Aug-12 to 27-Sep-12]				
A19030	FP-BS Cable laying works(Electrical) 1st stage	30	29-Aug-12	27-Sep-12	[Gantt bar: 29-Aug-12 to 27-Sep-12]				
FP-Fire Services					[Summary bar: 29-Aug-12 to 27-Sep-12]				
A19070	FP-BS piping works(Fire Services) 1st stage	30	29-Aug-12	27-Sep-12	[Gantt bar: 29-Aug-12 to 27-Sep-12]				
FP-Processing Works					[Summary bar: 05-Aug-12 to 05-Aug-12, FP-Processing Works]				
A18800	FP-BDI Fat Prep. Equipment Installation Works	29	08-Jul-12	05-Aug-12	[Gantt bar: 08-Jul-12 to 05-Aug-12]				
1B - Boiler Room					[Summary bar: 25-May-12 A to 14-Oct-12]				
Boiler Room Structural and Builder's Work					[Summary bar: 25-May-12 A to 14-Sep-12]				
A19500	BR-Boiler Room Steel Works	81	25-May-12 A	14-Aug-12	[Gantt bar: 25-May-12 A to 14-Aug-12]				
A19800	BR-Cladding Roof Installation	31	14-Aug-12	14-Sep-12	[Gantt bar: 14-Aug-12 to 14-Sep-12]				
A19900	BR-Chimney Works	31	14-Aug-12	14-Sep-12	[Gantt bar: 14-Aug-12 to 14-Sep-12]				
A20140	BR-Installation of roof waterproofing system works	30	22-Jun-12	21-Jul-12	[Gantt bar: 22-Jun-12 to 21-Jul-12]				
BR-Plumbing and Drainage					[Summary bar: 14-Sep-12 to 14-Oct-12]				
A20010	BR-BS piping works(P&D) 1st stage	30	14-Sep-12	14-Oct-12	[Gantt bar: 14-Sep-12 to 14-Oct-12]				
BR-Electrical					[Summary bar: 14-Sep-12 to 14-Oct-12]				
A20030	BR-BS Cable laying works(Electrical) 1st stage	30	14-Sep-12	14-Oct-12	[Gantt bar: 14-Sep-12 to 14-Oct-12]				
BR-Fire Services					[Summary bar: 14-Sep-12 to 14-Oct-12]				
A20070	BR-BS piping works(Fire Services) 1st stage	30	14-Sep-12	14-Oct-12	[Gantt bar: 14-Sep-12 to 14-Oct-12]				
BR-Processing Works					[Summary bar: 02-Aug-12 to 02-Aug-12, BR-Processing Works]				
A19600	BR-BDI Boiler Room & Utility Equipment Installation Works	70	25-May-12 A	02-Aug-12	[Gantt bar: 25-May-12 A to 02-Aug-12]				
2A - Tank Farm					[Summary bar: 17-Mar-12 A to 13-Oct-12]				
Tank Farm 2A Structural and Builder's Work					[Summary bar: 17-Mar-12 A to 10-Aug-12]				
A20520	2A-Bund walls structural concrete works 2nd stage	101	17-Mar-12 A	25-Jun-12	[Gantt bar: 17-Mar-12 A to 25-Jun-12]				
A20620	2A-Erection of tanks in Tank Farm 2A 2nd stage	33	01-Jun-12 A	03-Jul-12	[Gantt bar: 01-Jun-12 A to 03-Jul-12]				
A20630	2A-Erection of tanks in Tank Farm 2A 3rd stage	38	04-Jul-12	10-Aug-12	[Gantt bar: 04-Jul-12 to 10-Aug-12]				
2A-Plumbing and Drainage					[Summary bar: 11-Aug-12 to 13-Oct-12]				
A20810	2A-BS Piping works(P&D) at Tank Farms 1st stage	32	11-Aug-12	11-Sep-12	[Gantt bar: 11-Aug-12 to 11-Sep-12]				
A20820	2A-BS Piping works(P&D) at Tank Farms 2nd stage	32	12-Sep-12	13-Oct-12	[Gantt bar: 12-Sep-12 to 13-Oct-12]				
2A-Electrical					[Summary bar: 11-Aug-12 to 13-Oct-12]				
A20830	2A-BS Cable laying works(Electrical) at Tank Farms 1st stage	32	11-Aug-12	11-Sep-12	[Gantt bar: 11-Aug-12 to 11-Sep-12]				
A20840	2A-BS Cable laying works(Electrical) at Tank Farms 2nd stage	32	12-Sep-12	13-Oct-12	[Gantt bar: 12-Sep-12 to 13-Oct-12]				
2A-Fire Services					[Summary bar: 11-Aug-12 to 13-Oct-12]				
A20850	2A-Piping works(Fire Services) at Tank Farms 1st stage	32	11-Aug-12	11-Sep-12	[Gantt bar: 11-Aug-12 to 11-Sep-12]				
A20860	2A-Piping works(Fire Services) at Tank Farms 2nd stage	32	12-Sep-12	13-Oct-12	[Gantt bar: 12-Sep-12 to 13-Oct-12]				
2A - GTWSR Separation Room					[Summary bar: 13-Jun-12 A to 21-Oct-12]				
GTWSR Structural and Builder's Work					[Summary bar: 13-Jun-12 A to 12-Aug-12]				
A21410	GTWSR-Concreting works for GTWSR 1st Stage	30	13-Jun-12 A	12-Jul-12	[Gantt bar: 13-Jun-12 A to 12-Jul-12]				
A21420	GTWSR-Concreting works for GTWSR 2nd Stage	31	13-Jul-12	12-Aug-12	[Gantt bar: 13-Jul-12 to 12-Aug-12]				
GTWSR-Plumbing and Drainage					[Summary bar: 06-Sep-12 to 28-Sep-12]				
A21910	GTWSR-BS piping works(P&D) 1st stage	23	06-Sep-12	28-Sep-12	[Gantt bar: 06-Sep-12 to 28-Sep-12]				
GTWSR-Electrical					[Summary bar: 03-Sep-12 to 26-Sep-12]				
A21930	GTWSR-BS Cable laying works(Electrical) 1st stage	23	03-Sep-12	26-Sep-12	[Gantt bar: 03-Sep-12 to 26-Sep-12]				
GTWSR-Fire Services					[Summary bar: 03-Sep-12 to 26-Sep-12]				
A21960	GTWSR-BS piping works(Fire Services) 1st stage	23	03-Sep-12	26-Sep-12	[Gantt bar: 03-Sep-12 to 26-Sep-12]				
GTWSR-Processing Works					[Summary bar: 22-Jun-12 to 21-Oct-12]				
A21500	GTWSR-Paques Process Equipment Installation Works	62	22-Jun-12	22-Aug-12	[Gantt bar: 22-Jun-12 to 22-Aug-12]				
A21600	GTWSR-Paques Piping, Electrical, Insulation & Instrumentation Works	60	23-Aug-12	21-Oct-12	[Gantt bar: 23-Aug-12 to 21-Oct-12]				
A21700	GTWSR-BDI Unloading Equipment Installation Works	14	23-Aug-12	05-Sep-12	[Gantt bar: 23-Aug-12 to 05-Sep-12]				
2B-E Tank Farm					[Summary bar: 10-Jun-12 A to 22-Oct-12]				
Tank Farm 2B-2E Structural and Builder's Work					[Summary bar: 10-Jun-12 A to 19-Aug-12]				
A22420	2BE-Bund wall concreting works 2nd stage	12	10-Jun-12 A	22-Jun-12 A	[Gantt bar: 10-Jun-12 A to 22-Jun-12 A]				
A22510	2BE-Erection tanks in Tank Farm 2B-2E 1st stage	28	22-Jun-12	19-Jul-12	[Gantt bar: 22-Jun-12 to 19-Jul-12]				
A22520	2BE-Erection tanks in Tank Farm 2B-2E 2nd stage	31	20-Jul-12	19-Aug-12	[Gantt bar: 20-Jul-12 to 19-Aug-12]				
Tank Farm 2B-2E-Plumbing and Drainage					[Summary bar: 20-Aug-12 to 22-Oct-12]				
A22810	2BE-BS Piping works(P&D) at Tank Farms 1st stage	32	20-Aug-12	20-Sep-12	[Gantt bar: 20-Aug-12 to 20-Sep-12]				
A22820	2BE-BS Piping works(P&D) at Tank Farms 2nd stage	32	21-Sep-12	22-Oct-12	[Gantt bar: 21-Sep-12 to 22-Oct-12]				
Tank Farm 2B-2E-Electrical					[Summary bar: 20-Aug-12 to 22-Oct-12]				
A22830	2BE-BS Cable laying works(Electrical) at Tank Farms 1st stage	32	20-Aug-12	20-Sep-12	[Gantt bar: 20-Aug-12 to 20-Sep-12]				
A22840	2BE-BS Cable laying works(Electrical) at Tank Farms 2nd stage	32	21-Sep-12	22-Oct-12	[Gantt bar: 21-Sep-12 to 22-Oct-12]				
Tank Farm 2B-2E-Fire Services					[Summary bar: 20-Aug-12 to 22-Oct-12]				

- █ Actual Work
- █ Remaining Work
- █ Critical Remaining Work
- ◆ Critical Milestone
- ▼ Milestone
- ▬ Summary

Proposed Biodiesel Plant at T.K.O.T. Lot 39 Main Contract for All Remaining Works

3 Months Rolling Programme (22 Jun 2012)

Date	Revision	Checked	Approved
22-Jun-12			

Activity ID	Activity Name	Duration	Current Start	Current Finish	Month				
					8	9	10	11	12
A22850	2BE-Piping works(Fire Services) at Tank Farms 1st stage	32	20-Aug-12	20-Sep-12					
A22860	2BE-Piping works(Fire Services) at Tank Farms 2nd stage	32	21-Sep-12	22-Oct-12					
Tank Farm 2B-2E-Processing Works									
A22600	2BE-BDI Process Equipment Installation Works	63	20-Jul-12	20-Sep-12					
3 - Waste Water Treatment Plant									
Waste Water Treatment Plant Structural and Builder's Work									
A23330	WWTP-Structural concreting works 3rd pour	40	24-May-12 A	02-Jul-12					
A23400	WWTP-IC Reactor Erection	21	15-Jun-12 A	05-Jul-12					
A24010	WWTP-Installation of roof waterproofing system	30	03-Jul-12	01-Aug-12					
A24020	WWTP-Installation of windows, louvers and doors	30	04-Sep-12	03-Oct-12					
A24030	WWTP- ABWF works excluding windows, louvers and doors	30	04-Sep-12	03-Oct-12					
WWTP-Plumbing and Drainage									
A23610	WWTP-BS piping works(P&D) at WWTP 1st stage	30	06-Jul-12	04-Aug-12					
A23620	WWTP-BS piping works(P&D) at WWTP 2nd stage	30	05-Aug-12	03-Sep-12					
A23655	WWTP-Installation of sanitary fittings	22	04-Sep-12	25-Sep-12					
WWTP-Electrical									
A23630	WWTP-Cable laying works (Electrical) at WWTP 1st stage	30	06-Jul-12	04-Aug-12					
A23640	WWTP-Cable laying works (Electrical) at WWTP 2nd stage	30	05-Aug-12	03-Sep-12					
A23650	WWTP-Lighting installation works	22	04-Sep-12	25-Sep-12					
WWTP-Fire Services									
A23660	WWTP-Piping works(Fire Services) at WWTP 1st stage	30	06-Jul-12	04-Aug-12					
A23670	WWTP-Piping works(Fire Services) at WWTP 2nd stage	30	05-Aug-12	03-Sep-12					
WWTP-Processing Works									
A23500	WWTP-Treatment Equipment Installation Works	90	06-Jul-12	03-Oct-12					
4A - Jetty									
Jetty Structural and Builder's Work									
A24117	4A-Temporary Platform Erection Stage 2 (RHS)	7	12-Jun-12 A	19-Jun-12 A					
A24118	4A -2600 Temporary Casing Erection (2 nos) and level of Platform Formation at seawall	7	22-Jun-12	28-Jun-12					
A24119	4A-Temporary Platform Erection Stage 3 (LHS)	29	20-Jun-12 A	18-Jul-12					
A24120	4A-Construct upto 2 nos of Jetty Bored Piles	25	20-Jun-12 A	14-Jul-12					
A24130	4A-Construct upto 6 nos of Jetty Bored Piles	28	15-Jul-12	11-Aug-12					
A24140	4A-Construct upto 10 nos of Jetty Bored Piles	28	12-Aug-12	08-Sep-12					
A24210	4A-Construct upto 14 nos of Jetty Bored Piles	28	09-Sep-12	06-Oct-12					
Pipe Bridge & Pipe Trench Works									
A24900	Pipe Bridge Between FAT and WWTP	30	03-Jul-12	01-Aug-12					
A24910	Erection of steel pipe racks at Tank Farm 2A & GTWSR	30	13-Aug-12	11-Sep-12					
A24920	Erection of pipe bridge between Tank Farm 2A and Tank Farm 2B-2E	30	22-Jun-12*	21-Jul-12					
A24930	Erection of steel pipe racks at Tank Farm 2B-2E	30	22-Jun-12*	21-Jul-12					
A25000	Pipe Bridge Between PB and FP	34	22-Jul-12	24-Aug-12					
A25100	Pipe Trench from 2A to Jetty	60	12-Sep-12	10-Nov-12					
External Works									
A25200	External Drainage Works. (Divided into 6 Areas)	210	28-Mar-12 A	23-Oct-12					
A25220	Storm water manhole works 2nd stage	37	09-Jun-12 A	16-Jul-12					
A25230	Storm water manhole works 3rd stage	30	16-Jul-12	15-Aug-12					
A25240	Storm water manhole works 4th stage	30	15-Aug-12	14-Sep-12					
A25250	Storm water manhole works 5th stage	30	14-Sep-12	14-Oct-12					
A25270	Faul Water manhole and the pipe works between the manholes with the associated branch	93	20-Apr-12 A	21-Jul-12					
A25280	Faul Water manhole and the pipe works between the manholes with the associated branch	30	22-Jul-12	20-Aug-12					
A25290	Faul Water manhole and the pipe works between the manholes with the associated branch	30	21-Aug-12	19-Sep-12					
A25300	Faul Water manhole and the pipe works between the manholes with the associated branch	30	20-Sep-12	19-Oct-12					
Works By Other Contractors									
Works By BDI									
BDI Preliminaries									
P3220	Procurement and Prefabrication of Pipes	154	01-Mar-12 A	01-Aug-12					
BDI Processing Pipe Installation Works									
P3230	BDI - PB Pipe installation works	120	02-Aug-12	29-Nov-12					

- █ Actual Work
- █ Remaining Work
- █ Critical Remaining Work
- ◆ Critical Milestone
- ▼ Milestone
- ▶ Summary

Proposed Biodiesel Plant at T.K.O.T. Lot 39 Main Contract for All Remaining Works

3 Months Rolling Programme (22 Jun 2012)

Date	Revision	Checked	Approved
22-Jun-12			