ASB Biodiesel (Hong Kong) Limited

Development of a Biodiesel Plant at Tseung Kwan O Industrial Estate

Monthly EM&A Report October 2012 (Version 1.0)

Certified By	Min
	(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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Subject:	Development of a Biodiesel Plant at Tseung Kwan O Industrial Estate Monthly EM&A Report for October 2012		
Job No.	D1067	Total Pages:	1
From:	Mr. Mark Cheung	Ref:	D1067/G04580
Attn:	Ms. Ivy Tam / Ms. Betty Choi	Fax:	3107 1388
То:	Cinotech	Date:	13 November 2012

Dear Madam,

We refer to your submission of the Monthly EM&A Report for October 2012 via email dated 13 November 2012.

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

Regards,

Ċ Mark Cheung Independent Environmental Checker KTĊ/gk

TABLE OF CONTENTS

Page

EXECUTIVE SUMMARY	3
Introduction Environmental Monitoring and Audit Works	
Environmental Licenses and Permits	4
Future Key Issues	4
1 INTRODUCTION	6
Background Project Organizations Construction Programme	7
Summary of EM&A Requirements	
2 ENVIRONMENTAL AUDIT	9
Site Audits	
Site Audits	9 9
Site Audits	9 9 9 9
Site Audits	9 9 9 1
Site Audits	9 9 9 1 2
Site Audits Status of Environmental Licensing and Permitting Status of Environmental Licensing and Permitting Status of Waste Management Status of Waste Management Status of Environmental Mitigation Measures Implementation Status of Environmental Mitigation Measures Status of Environmental Mitigation Measures Status of Environmental Mitigation Measures 3 FUTURE KEY ISSUES Status of the Coming Month Status of the Coming Month	9 9 9 9 1 2 2

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

1

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 41st 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 October 2012.
- 2. The major site activities undertaken in the reporting month included:
 - General site cleaning and tidying.
 - Zone 1A Administration Building Finishing works.
 - Zone 1B Processing Building Cladding system installation works
 - Zone 1A Administration Building Windows, louver and doors installation works
 - Zone 1B Processing Building Windows, louver and doors installation works
 - Zone 1B Fat Preparation Building Fire paint works
 - Zone 1B Steam Boiler Room Building Equipment installation works
 - Zone 1B Steam Boiler Room Building Steel platform erection works
 - Zone 2A Tank Farm Steel tank erection works
 - Zone 2A Tank Farm Steel tank fabrication works
 - Zone 2A Tank Farm Tank sand blasting and painting works
 - Zone 2A GTWSR Equipment installation works
 - Zone 2B-2E Tank Farm Steel tank fabrication works
 - WWTP RC superstructure construction works
 - WWTP Equipment installation works
 - Jetty Bore pile installation works
 - Building Services P&D works
 - Building Services Fire Service works
 - Building Services MVAC works
 - Building Services Electrical works
 - Building Services Lift installation works
 - External Works Boundary wall construction works
 - External Works Storm water drainage works
 - External Works Foul water drainage works
 - External Works Fire Services pipes laying works
 - External Works Cable laying works
 - External Works Pavement 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 Permit (GW-RE0757-12), Wastewater Discharge License (WT00004508-2009), Notification of Works under APCO (337009) and Waste Discharge Account (7013917).

Key Information in the Reporting Month

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

E-ror4	Event Details		A ation Takan	S 4a4=-a	Domorila	
Event	Event Number		Action Taken	Status	Remark	
Complaint received	1	Noise nuisance	Communicated with complainant	Closed		
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 August 2012	Submitted to EPD on 13 September 2012	Verified by IEC		
Notifications of any summons & prosecutions	0		N/A	N/A		

Table ISummary Table for Key Information in the Reporting Month

Future Key Issues

- 6. Major site activities for the coming three months will include:
 - General site cleaning and tidying.
 - Administration Building Finishing works
 - Administration Building Windows, louver and doors installation works
 - Processing Building Windows, louver and doors installation works
 - Fat Preparation Building Finishing works
 - Boiler Room Roof waterproofing system works
 - Boiler Room Structural steel works
 - Boiler Room ABWF works
 - Tank Farm 2A Tanks erection and fabrication works
 - Tank Farm 2A Tank sand blasting and painting works
 - Tank Farm 2A GTWSR Equipment installation works
 - Tank Farm 2A GTWSR ABWF works excluding windows, louvers and doors

4

- Tank Farm 2B-2E Tank fabrication works
- Tank Farm 2B-2E ABWF works excluding windows, louvers and doors

- WWTP RC superstructure construction works
- WWTP IC Reactor erection works
- WWTP Water proofing system installation works
- WWTP ABWF works excluding windows, louvers and doors
- Jetty Bore pile installation works
- Jetty Deck Superstructure construction works
- Pipe Bridge Pipe support construction works and pipe bridge erection works.
- External Boundary wall construction works.
- Building Services Fire services works
- Building Services MVAC works
- Building Services Electrical works
- Building Services P&D works
- Building Services Lift installation works
- External Works Storm water drainage works
- External Works Foul water drainage works
- External Works Plumbing laying works
- External Works Fire Services piping laying works
- External Works Cable laying works
- External Works Pavement 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 41st Monthly EM&A report summarizing the EM&A works for the Project in October 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
		Dr. HF Chan	ET Leader	2151 2088	
Cinotech	Environmental Team	Ms. Ivy Tam	Project Coordinator	2151 2090	3107 1388
		Ms. Betty Choi	Audit Team Leader	2151 2072	
-	Independent	Mr. Mark Cheung	Independent Environmental Checker	3168 2028	
	Environmental Checker	Mr. Gavin Kwok	Assistant to Independent Environmental Checker	3168 2028	3168 2022
AECOM	Project Manager	Mr. Matthew Lau	Construction Manager	9363 5586	N/A
CHEC C	Contractor	Mr. Peter Chung	Project Manager	9471 2438	
		Mr. Anson Wong	Safety and Environmental Officer	9656 3837	2623 9226
	CHEC	Contractor	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 1B Processing Building Cladding system installation works
 - Zone 1A Administration Building Windows, louver and doors installation works
 - Zone 1B Processing Building Windows, louver and doors installation works
 - Zone 1B Fat Preparation Building Fire paint works
 - Zone 1B Steam Boiler Room Building Equipment installation works
 - Zone 1B Steam Boiler Room Building Steel platform erection works
 - Zone 2A Tank Farm Steel tank erection works
 - Zone 2A Tank Farm Steel tank fabrication works
 - Zone 2A Tank Farm Tank sand blasting and painting works
 - Zone 2A GTWSR Equipment installation works
 - Zone 2B-2E Tank Farm Steel tank fabrication works
 - WWTP RC superstructure construction works
 - WWTP Equipment installation works
 - Jetty Bore pile installation works
 - Building Services P&D works
 - Building Services Fire Service works
 - Building Services MVAC works
 - Building Services Electrical works
 - Building Services Lift installation works
 - External Works Boundary wall construction works
 - External Works Storm water drainage works
 - External Works Foul water drainage works
 - External Works Fire Services pipes laying works
 - External Works Cable laying works
 - External Works Pavement 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 weekly 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 audits were conducted on 10th, 17th and 24th October 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**.

Doumit / Lincore No	Valid Period		Detella	C 4 - 4
Permit / License No.	From	То	Details	Status
Environmental Permit (E	P)			
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 tran- 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.	
Registration of Chemical	Waste Produce	r		
WPN-5113-839-C1186-15	12/06/2009	-	Spent Lubrication oil.	Valid
Construction Noise Permi	it (CNP)			
GW-RE0757-12	21/09/2012	20/03/2013	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.	Valid
Wastewater Discharge Lie	cense			
WT00004508-2009	07/09/2009	-	Discharge of wastewater from construction site including wheel washing water and chemical precipitation tank	Valid
Billing Account for Dispo	sal of Construct	tion Waste		
A/C No.: 7013917	-	-	-	Valid
Notification of Works und	ler APCO	1		
Ref. no.: 337009	26/10/2011	-	-	Valid

Table 2.1	Summary of Environmental Licensing and Permit Status
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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**.

Parameters	Date	Observations and Recommendations	Follow-up
Air Quality	10/10/2012	Stockpile not in use should be covered by tarpaulin.	The item was found outstanding during the site inspection and recorded as 121017-R02.
	17/10/2012	Stockpile not in use should be covered by tarpaulin.	Follow up action was taken by the Contractor.
Water Quality	10/10/2012	Bentonite was observed outside the silt curtain. The integrity or the effectiveness of the silt curtain should be checked.	Follow up action was taken by the Contractor.
	17/10/2012	Hole on the temporary pile should be repaired to prevent any overflow of materials from the inside the pile.	Follow up action was taken by the Contractor.
Waste/Chemical Management	24/10/2012	Drip tray should be provided under oil/chemical container. Empty container should be stored at designated location.	The item was found outstanding during the site inspection and recorded as 121102-R02.

 Table 2.2
 Observations and Recommendations of Site Audit

Summary of Complaint and Prosecution

2.7 1 environmental related complaint was received in the reporting month. The detail can be found in the following table:

Table 2.3Complaint Details

Complaint No.	Date	Complaint Details
COM- 2012-10- 004	04/10/2012	A resident in Lohas Park complained about noise nuisance from the site at 11:18pm on 04/10/2012. According to the Contractor, one drilling machine and chiselling machine were in use, which were covered under valid CNP. The Contractor agreed to stop chiselling work after 11pm every day to minimize noise nuisance.

- 2.8 No prosecution or notification of summons was received in the reporting month.
- 2.9 Since the Project commencement, there were a total of 4 project-related environmental complaints. No prosecution or notification of summons was 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 October, bore pile installation was carried out in the jetty area. During the site inspection, silt curtain was erected as a mitigation measure. Bentonite was observed outside the silt curtain during the site inspection on 04 October 2012. The Contractor was reminded to check the integrity or the effectiveness of the silt curtain. A double-layer silt curtain was erected and no further leakage was found in the next inspection. The process will be closely monitored by site staff and during site inspection to prevent leakage.

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 Finishing works
 - Administration Building Windows, louver and doors installation works
 - Processing Building Windows, louver and doors installation works
 - Fat Preparation Building Finishing works
 - Boiler Room Roof waterproofing system works
 - Boiler Room Structural steel works
 - Boiler Room ABWF works
 - Tank Farm 2A Tanks erection and fabrication works
 - Tank Farm 2A Tank sand blasting and painting works
 - Tank Farm 2A GTWSR Equipment installation works
 - Tank Farm 2A GTWSR ABWF works excluding windows, louvers and doors
 - Tank Farm 2B-2E Tank fabrication works
 - Tank Farm 2B-2E ABWF works excluding windows, louvers and doors
 - WWTP RC superstructure construction works
 - WWTP IC Reactor erection works
 - WWTP Water proofing system installation works
 - WWTP ABWF works excluding windows, louvers and doors
 - Jetty Bore pile installation works
 - Jetty Deck Superstructure construction works

- Pipe Bridge Pipe support construction works and pipe bridge erection works.
- External Boundary wall construction works.
- Building Services Fire services works
- Building Services MVAC works
- Building Services Electrical works
- Building Services P&D works
- Building Services Lift installation works
- External Works Storm water drainage works
- External Works Foul water drainage works
- External Works Plumbing laying works
- External Works Fire Services piping laying works
- External Works Cable laying works
- External Works Pavement works

4 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

- 4.1 Environmental audit works were conducted in the reporting month. Site inspections were conducted on a weekly basis. The results were reviewed and checked.
- 4.2 1 environmental complaint was received. There was no prosecution or notification of summons.

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 the integrity of bore pile casing and connection pipes to prevent leakage.
- To monitor bentonite flow rate to prevent overflowing.
- To lower bentonite level in bored pile before concreting work.
- To check the integrity of the silt curtain and its effectiveness in preventing bentonite leakage to open water

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.

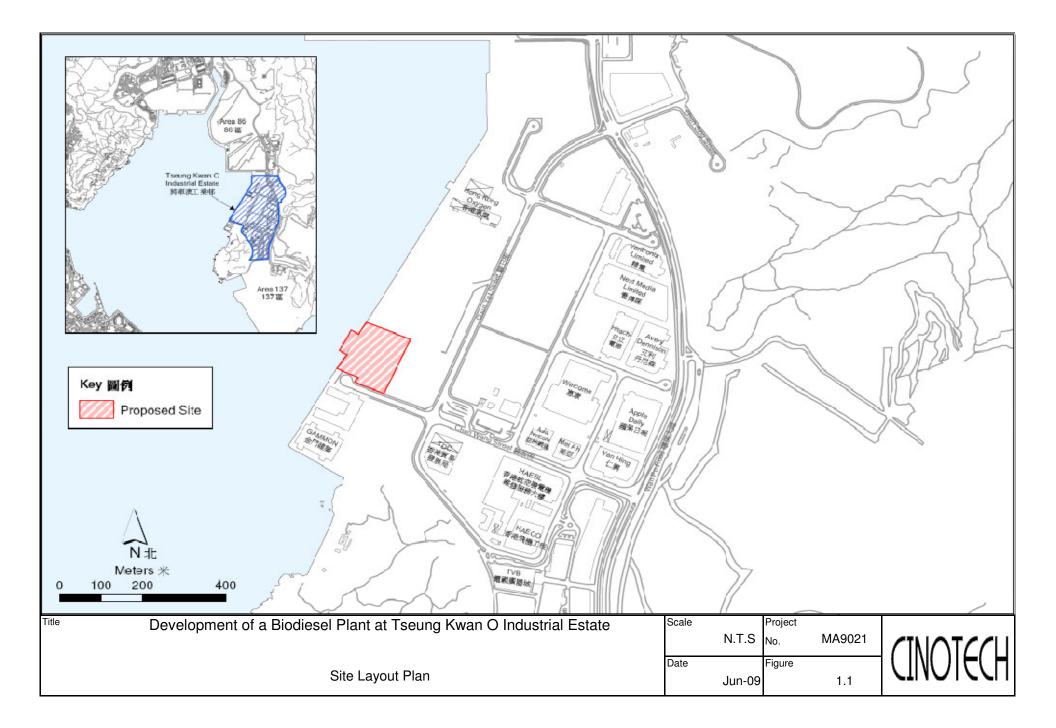
Noise Impact

- 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



APPENDIX A SITE AUDIT SUMMARY

Monthly Site Inspection Record Summary

Inspection Information		
Checklist Reference Number	121010	
Date	10 October 2012 (Wednesday)	
Time	15:45 - 16:45	

Ref. No. Non-Compliance

Related Item

Related Item

()

t

		No
-	None	-

Ref. No. Remarks/Observations

		No.
121010-R02	 A. Water Quality Bentonite was observed outside the silt curtain. The integrity or the effectiveness of the silt curtain should be checked. 	N/A
121010-R01	B. Air QualityStockpile not in use should be covered by tarpaulin.	C10
	C. NoiseNo environmental deficiency was identified during site inspection.	
	 D. Waste / Chemical Management No environmental deficiency was identified during site inspection. 	
	E. Permit / LicensesNo environmental deficiency was identified during site inspection.	
	F. RemindersNo environmental deficiency was identified during site inspection.	
	G. Others Follow-up on previous audit section (Ref. No.:120919):	
	• All environmental deficiencies were improved/rectified by the Contractor.	

	Name	Signature	Date
Recorded by	Betty Choi	Bettym	11 October 2012
Checked by	Dr. HF Chan	M	11 October 2012
	.	\sim \sim	

Development of a Biodiesel Plant at Tseung Kwan O Industrial Estate

Monthly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	121017
Date	17 October 2012 (Wednesday)
Time	15:45 – 16:45

Ref. No. Non-Compliance

Related Item

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_	-	No.
N	one	-

Ref. No.	Remarks/Observations	Related Item
		No.
	A. Water Quality	
121017-R02	• Hole on the temporary pile should be repaired to prevent any overflow of materials from the inside the pile.	N/A
	B. Air Quality	
121017-R01	• Stockpile not in use should be covered by tarpaulin.	C10
	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.:121010):	
	• Environmental deficiency 121010-R01 was not improved/rectified by the	
	Contractor. It was remarked as 121017-R01 in this site inspection.	

	Name	Signature	Date
Recorded by	Betty Choi	Retty	18 October 2012
Checked by	Dr. HF Chan	M	18 October 2012

Development of a Biodiesel Plant at Tseung Kwan O Industrial Estate

Monthly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	121024
Date	24 October 2012 (Wednesday)
Time	15:45 - 16:15

Ref. No. Non-Compliance

Related Item

Related Item

	-	No.
_	None	-

Ref. No. Remarks/Observations

		No.
	A. Water QualityNo environmental deficiency was identified during site inspection.	
	B. Air QualityNo environmental deficiency was identified during site inspection.	
	C. NoiseNo environmental deficiency was identified during site inspection.	
121024-R01	 D. Waste / Chemical Management Drip tray should be provided under oil/chemical container. Empty container should be stored at designated location. 	E2, E8
	 E. Permit / Licenses No environmental deficiency was identified during site inspection. 	
	F. RemindersNo environmental deficiency was identified during site inspection.	
	G. Others Follow-up on previous audit section (Ref. No.:121017):	
	• All environmental deficiencies were improved/rectified by the Contractor.	

	Name	Signature	Date
Recorded by	Betty Choi	Bettym	24 October 2012
Checked by	Dr. HF Chan	TDn	24 October 2012

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APPENDIX B UPDATED ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE

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;	^
	• All debris and materials will be covered or stored in a sheltered debris collection area;	^
Construction	• Hoarding from ground level will be provided along the entire length of the site boundary except for a site entrance or exit;	^
Dust	• 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. 	^
	• Wohuny site addits will be conducted to ensure the implementation of suitable dust control measures and good site practices.	^
	• Only well-maintained plant will be operated on-site and plant will be serviced regularly during the construction program;	٨
	• 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;	^
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.	^

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

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;
Mon-compliance but rectified/improved by the contractor and awaiting IEC's further comment.

Types of Impacts	Mitigation Measures	Status
	 <u>Piling Activities</u> 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. Construction Site Run-off and Drainage 	٨
Water Quality	 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. 	^ ^ ^
	 General Construction Activities 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;
Mon-compliance but rectified/improved by the contractor and awaiting IEC's further comment.

Types of Impacts	Mitigation Measures	Status
	Sewage generated from On-site Workforce	
	 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. 	N/A
Ecology	 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. 	۸

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;
Mon-compliance but rectified/improved by the contractor and awaiting IEC's further comment.

B-3

APPENDIX C WASTE GENERATION IN THE REPORTING MONTH

	Actual	Quantities of Iner	rt C&D Materia	als Generated / Im	0 m³)	Actual Quantities of Other C&D Materials / Wastes Generated									
Month	Total Quantities Generated [a+b+c+d]	Broken Concrete (including rock for recycling into aggregates) (a)	Reused in the Contract (b)	Reused in Other Projects (c)	Disposed as Public Fill (d)	Imported C&D Material	Metal (in '000 kg)	Paper/ cardboard packaging (in '000kg)	Plastics (bottles/containers, plastic sheets/ foams from package material) (in '000kg)	Chemical Waste (in '000kg)	Others (e.g. General Refuse etc.) (in '000m3)				
January	0.048	0	0	0	0.048	0.949	0	0.001	0	0	0.005				
February	0.087	0	0	0	0.087	0	0	0.001	0	0	0.005				
March	0.022	0	0	0	0.022	0	0	0.001	0	0	0.003				
April	0.042	0	0	0	0.042	0.583	0	0.001	0	0	0.004				
May	0.090	0	0	0	0.090	0	0	0.001	0	0	0.005				
June	0	0	0	0	0	0	0	0.001	0	0	0.004				
Half-year Total	0.289	0	0	0	0.289	1.532	0	0.006	0	0	0.026				
July	0.050	0	0	0	0.050	0	0	0.001	0	0	0.005				
August	0.013	0	0	0	0.013	0	0	0.001	0	0	0.006				
September	0.072	0	0	0	0.072	0	0	0.001	0	0	0.003				
October	0.146	0	0	0	0.146	0	0	0.001	0	0	0.006				
November															
December															
Yearly Total															

APPENDIX D COMPLAINT LOG

APPENDIX D – COMPLAINT LOG

Reporting Month: October 2012

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 rd 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 th 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 11:18pm.	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 Park given consistent noise complains. The Contractor explained to the	Closed

ASB Biodiesel (Hong Kong) Limited

Development of a Biodiesel Plant at Tseung Kwan O Industrial Estate Monthly EM&A Report for October 2012

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

Remarks: N/A

APPENDIX E CONSTRUCTION PROGRAMME

ity ID	Activity Name	BL Start	BL Finish	Current	Current Start	Current	% Delay				2012		2013
				Duration		Finish	Complete from In		Nov Dec Ja	n Feb Mar A	pr May Jun Jul	Aug Sep Oct No	
C270MC-3	M-Rolling Programme Ver.2.0 (261012) Update BI	28-Sep-12	11-Mar-13	163	27-Sep-12 A	08-Mar-13	3	388					▼ 08-Ma
Key Dates				0				0					
Contract Per	riod			0				0					
Maintenance	e Period			0				0					
Milestones				0				0					
Remaining	Construction Works	28-Sep-12	11-Mar-13	163	27-Sep-12 A	08-Mar-13	3	388					▼ 08-Ma
Major Equip	ment and Material Procurement and Delivery			0				0					
	tration Building	26-Oct-12		130	13-Oct-12 A		6	-69					▼ 20-Feb-1
	ion Building Structural and Builder's Work	26-Oct-12	19-Nov-12	28	13-Oct-12 A		10	-70					Ø9-Nov-12, Administration But
A17420	AB-Installation of windows, louvers and doors 2nd stage		19-Nov-12	28	13-Oct-12 A			-70	· · · · · · · · · · · · · · · · · · ·				AB-Installation of windows,
AB-Electrica			26-Feb-13	124	13-Oct-12A		12	-103	_				
A17610 AB-Fire Serv	AB-BS Electrical Testing		26-Feb-13 20-Feb-13	124 60	13-Oct-12 A 22-Dec-12			-103 -99					AB-BS E
AB-Fire Serv	AB-BS Fire Service Testing		20-Feb-13	60	22-Dec-12 22-Dec-12			-99					AB-BS Fir
	g and Drainage	22-Det-12 26-Oct-12	20-Feb-13 22-Feb-13	130	13-Oct-12 A	19-Feb-13	3	-99					AB-BS FI
A17155	AB-Installation of sanitary fittings		24-Dec-12	60	26-Oct-12	24-Dec-12		-99		<u>+</u> ++ 			AB-Installation of sar
A17700	AB-BS Plumbing and Drainage Testing	25-Dec-12	22-Feb-13	130	13-Oct-12 A	19-Feb-13	5% 3	-99					AB-BS P
AB-MVAC		30-Nov-12	28-Jan-13	60	30-Nov-12	28-Jan-13	0	-47					28-Jan-13, AE
A17220	AB-BS MVAC Testing	30-Nov-12	28-Jan-13	60	30-Nov-12	28-Jan-13	0% 0	-47					AB-BS MVAC
AB-Lift		28-Oct-12	12-Dec-12	38	22-Oct-12 A	28-Nov-12	14	14					28-Nov-12, AB-Lift
A17600	AB-Lift Testing	28-Oct-12	12-Dec-12	38	22-Oct-12 A	28-Nov-12	30% 14	14					AB-Lift Testing
1B - Process	s Building	26-Oct-12	01-Mar-13	133	13-Oct-12 A		7	-72					▼ 22-Feb-1
Processing I	Building Structural and Builder's Work			75	13-Oct-12 A		0	-100					26-Dec-12, Process
A18220	PB-Installation of windows, louvers and doors 2nd stage		25-Nov-12	22	13-Oct-12 A			-47					PB-Installation of windows
A18230	PB-ABWF works excluding windows, louvers and doors		26-Dec-12	62	26-Oct-12	26-Dec-12		-139		+++			PB-ABWF works ex 30-Jan-13, Pl
	g and Drainage		01-Mar-13	81	11-Nov-12	30-Jan-13		-79					
A18010 A18020	PB-BS Piping works (Plumbing) PB-BS Piping works (Drainage)	11-Nov-12	25-Dec-12 25-Dec-12	30 30	11-Nov-12 11-Nov-12	10-Dec-12 10-Dec-12	0% 15 0% 15	-79 -79	_				PB-BS Piping works
A18020	PB-Installation of sanitary fittings		08-Feb-13	21	11-Dec-12	31-Dec-12	0% 13	-79	-				PB-BS Piping works
A18300	PB-BS Plumbing and Drainage Testing		01-Mar-13	30	01-Jan-13	30-Jan-13	0% 30	-79	_				PB-IIIstaliat
PB-Electrica			08-Feb-13	90	11-Nov-12	08-Feb-13		-148					08-Feb-13,
A18030	PB-BS Cable laying works(Electrical) 1st stage		25-Dec-12	45	11-Nov-12			-148	_				PB-BS Cable laying
A18040	PB-BS Cable laying works(Electrical) 2nd stage		08-Feb-13	45	26-Dec-12	08-Feb-13	0% 0	-148					PB-BS Cab
PB-MVAC		11-Nov-12	08-Feb-13	90	11-Nov-12	08-Feb-13	0	-58					08-Feb-13,
A18060	PB-BS Installation of piping and Ducting Works (MVAC)	11-Nov-12	08-Feb-13	90	11-Nov-12	08-Feb-13	0% 0	-58					PB-BS Inst
PB-Fire Serv			29-Jan-13	80	11-Nov-12	29-Jan-13	0	-108				I	29-Jan-13, Pl
A18070	PB-BS Piping installation works (Fire Services)		25-Dec-12	60	11-Nov-12	09-Jan-13	0% -15	-108				H	PB-BS Piping ins
A18080	PB-BS Sprinkler installation works (Fire Services)	-	25-Dec-12	60	11-Nov-12	09-Jan-13	0% -15	-108	_				PB-BS Sprinkler i
A18081	PB-BS Cable laying works	25-Nov-12		45	25-Nov-12	08-Jan-13	0% 0	-108	_				PB-BS Cable layi
A18082	PB-BS Final connection works		29-Jan-13	45	16-Dec-12	29-Jan-13 22-Feb-13	0% 0	-108	·····				B-BS Final of 22-Feb-
PB-Processi A17900	PB-BDI Pipe insulation, Process Electrical & Instrumentation Works		22-Feb-13 22-Feb-13	90 90	25-Nov-12 25-Nov-12			-84 -84					
	paration Building		22-Feb-13 08-Mar-13	90 145	15-Oct-12A		0% 0	-84					PB-BDI
	ion Structural and Builder's Work		12-Dec-12	59	15-Oct-12 A			0					12-Dec-12, Fat Prepa
A19110	FP-Installation of windows, louvers and doors 1st stage		10-Dec-12	28	15-Oct-12 A			0					FP-Installation of winde
A19120	FP-Installation of windows, louvers and doors 2nd stage		12-Dec-12	31	11-Nov-12			0					FP-Installation of wind
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| BR-Installation of roof waterproofing system works | 26-Oct-12
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| g and Drainage | 10-Jan-13
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| BR-Installation of sanitary fittings | 10-Jan-13
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| BR-BS Cable laying works(Electrical) 1st stage | 31-Dec-12
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 | 31-Dec-12 | 29-Jan-13 | 0% | 0
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| vices | 31-Dec-12
 | 29-Jan-13 | 30

 | 31-Dec-12 | 29-Jan-13 | | 0
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| BR-BS Sprinkler installation works(Fire Services) | 31-Dec-12
 | 29-Jan-13 | 30

 | 31-Dec-12 | 29-Jan-13 | 0% | 0
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| ing Works | 12-Jan-13
 | 08-Mar-13 | 56

 | 12-Jan-13 | 08-Mar-13 | | 0
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| BR-BDI Pipe insulation, Process Electrical & Instrumentation Works | 12-Jan-13
 | 08-Mar-13 | 56

 | 12-Jan-13 | 08-Mar-13 | 0% | 0
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| rm | 02-Nov-12
 | 14-Feb-13 | 133

 | 13-Oct-12 A | 22-Feb-13 | | -8
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 | 02-Dec-12 | 30

 | 02-Nov-12 | 02-Dec-12 | | 0
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| 2A-ABWF works in Tank Farm 2A | 02-Nov-12
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 | 02-Nov-12 | 02-Dec-12 | 0% | 0
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| g and Drainage | 02-Dec-12
 | 04-Feb-13 | 64

 | 02-Dec-12 | 04-Feb-13 | | 0
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| 2A-BS Piping works(Plumbing) 1st Stage | 02-Dec-12
 | 03-Jan-13 | 32

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| 2A-BS Piping works(Plumbing) 2nd stage | 03-Jan-13
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| 2A-BS Cable laying works stage 1 (Electrical) | 14-Jan-13
 | 14-Feb-13 | 32

 | 14-Jan-13 | 14-Feb-13 | 0% | 0
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| ices | 14-Jan-13
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| 2A-BS Piping installation works(Fire Services) | 14-Jan-13
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 | 13-Oct-12 A | 10-Feb-13 | 15% | 5
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| 2A-BS Sprinkler installation works(Fire Services) | 14-Jan-13
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 | 13-Oct-12 A | 10-Feb-13 | 15% | 5
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| 2A-BS Cable laying works(Fire Services) | 14-Jan-13
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| GTWSR-Lighting installation works | 09-INOV-12
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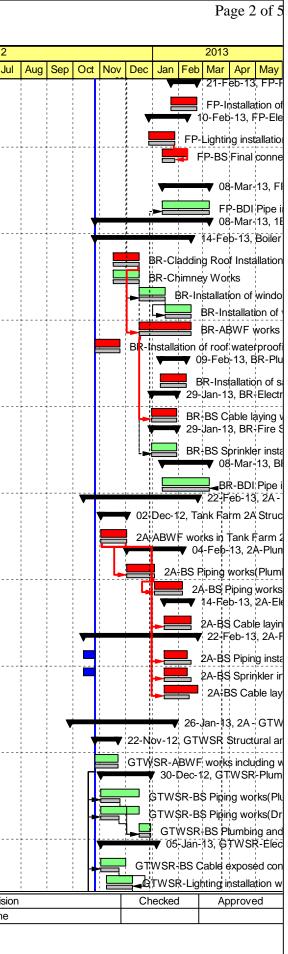
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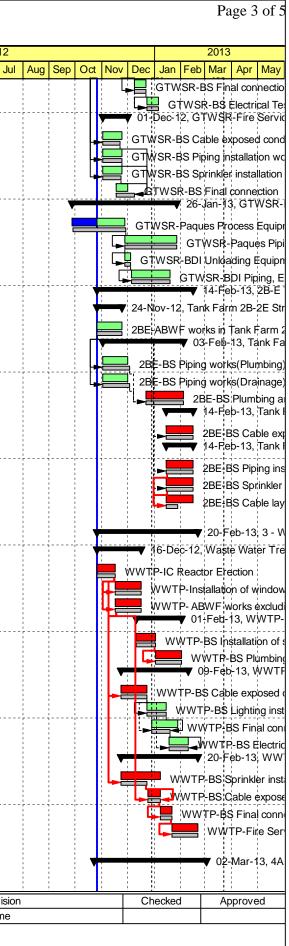
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| | FP-Lighting installation works FP-BS Final connection works FP-BS Final connection works FP-BDI Pipe insulation, Process Electrical & Instrumentation Works Som Structural and Builder's Work BR-Cladding Roof Installation BR-Chimney Works BR-Installation of windows, louvers and doors 1st stage BR-Installation of windows, louvers and doors 2nd stage BR-Installation of roof waterproofing system works g and Drainage BR-BS Cable laying works(Electrical) 1st stage ices BR-BS Cable laying works(Electrical) 1st stage ices BR-BS Cable laying works(Fire Services) g and Drainage 2A-BS Piping works(Plumbing) 1st Stage 2A-BWF works in Tank Farm 2A g and Drainage 2A-BS Piping works(Plumbing) 2nd stage 2A-BS Piping works(Fire Services) 2A-BS Piping works(Fire Services) 2A-BS Piping works(Fire Services) 2A-BS Piping works(Plumbing) 2nd stage 2A-BS Piping works(Plumbing) 2nd stage 2A-BS Piping works(Plumbing) 2A-BS Piping works(Plumbing) 2A-BS Piping works(Plumbing) 2A-BS Piping works(Plumbing) 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Piping works(Plumbing) 1st stage02-Nov-122A-BS Piping works(Plumbing) 1st stage02-Nov-122A-BS Piping works(Plumbing) 1st stage02-Nov-122A-BS Piping works(Plumbing) 1st stage02-Nov-122A-BS Piping works(Plumbing) 2nd stage02-Jan-132A-BS Piping works(Plumbing) 2nd stage02</td> <td>FP-Installation of sanitary fittings 22-Jan-13 22-Jan-13 FP-Lighting installation works 28-Dac12 26-Jan-13 FP-BS Final connection works 12-Jan-13 26-Jan-13 Ges reg Vorks 12-Jan-13 26-Jan-13 FP-BD Type insulation, Process Electrical & Instrumentation Works 12-Jan-13 08-Mar-13 Structural and Builder's Work 26-Oct-12 26-Mar-13 BR-Cladding Roof Installation 16-Nov-12 16-Dec12 BR-Installation of windows, louvers and doors 1st stage 17-Dec12 14-Feb-13 BR-Installation of windows, louvers and doors 2nd stage 16-Jan-13 10-Jan-13 BR-Installation of windows, louvers and doors 2nd stage 17-Dec12 14-Feb-13 BR-Installation of windows, louvers and doors 17-Dec12 24-Nov-12 g and Drainage 10-Jan-13 09-Feb-13 BR-Installation of sanitary fittings 10-Jan-13 09-Feb-13 BR-BS Cable laying works(Electrical 1 st stage 31-Dec-12 29-Jan-13 BR-BS Sprinkler installation works(Fire Services) 31-Dec-12 29-Jan-13 BR-BS Pipip insulation, Process Electrical & Instrumentation Works 12-Jan-13 09-Her-13 <td>and Drainage 22-Jan-13 21+Feb-13 30 FP-Installation of sanitary fittings 22-Jan-13 21+Feb-13 30 FP-Lighting installation works 22-Jan-13 21+Feb-13 30 FP-Lighting installation works 22-Jan-13 26-Jan-13 30-Jan-13 26-Jan-13 30 FP-BS Final connection works 12-Jan-13 08-Mar-13 56 00</td><td>and Drainage 22-Jan-13 21-Feb-13 30 22-Jan-13 FP-Iughing installation works 22-Jan-13 21-Feb-13 30 22-Jan-13 FP-Lighting installation works 28-Dec12 28-Jan-13 30 28-Dec12 FP-BS Final connection works 12-Jan-13 26-Jan-13 30 28-Dec12 FP-BDI Pipe insulation works 12-Jan-13 06-Mar-13 566 12-Jan-13 FP-BDI Pipe insulation, Process Electrical & Instrumentation Works 12-Jan-13 06-Mar-13 566 12-Jan-13 Structural and Builder's Work 26-Odr12 14-Fab-13 112 27-Odr12 31 16-Nov-12 BR-Chadding Roof Installation 16-Nov-12 16-Dec-12 31 16-Nov-12 BR-Installation of windrws, lowers and doors 17-Dec-12 14-Fab-13 30 17-Dec-12 BR-ABWF works excluding works 26-Odr12 09-Fab-13 30 17-Dec-12 BR-ABWF works excluding works[Electrical) 15-Dec-12 14-Fab-13 30 31-Dec-12 BR-BS Cable laying works[Electrical) 15-Dec-12 29-Jan-13</td><td>and Drainage 22-Jun-13 24-Feb-13 300 22-Jun-13 24-Feb-13 FP Inclation of soniary fittings 22-Jun-13 24-Feb-13 300 22-Jun-13 24-Feb-13 FP Lepting installation works 22-Jun-13 26-Jun-13 300 22-Jun-13 10-Feb-13 FP-BD (Pp insuktion, Process Electrical & Instrumentation Works 22-Jun-13 06-Mar-13 26-Jun-13 06-Mar-13 BY Works FP-BD (Pp insuktion, Process Electrical & Instrumentation Works 22-Jun-13 06-Mar-13 26-Jun-13 06-Mar-13 06-Mar-13 06-Mar-13 06-Mar-13 06-Mar-14 16-Nor-12 16</td><td>and Drainage 22-Jan-13 21-Fdb-13 SO 22-Jan-13 21-Fdb-13 ON FP-Lingting instation on sanary fittings 22-Jan-13 21-Fdb-13 00 22-Jan-13 01 22-Jan-13 01 22-Jan-13 00 22-Jan-13 01-Fdb-13 00 FP-Lingting instation onois 25-Dac-12 25-Jan-13 00 22-Jan-13 00-Fdb-13 00-Fdb-13</td><td>phot 22-Jan-13 21-Fab-13 S0 22-Jan-13 S2-Fab-13 S0 S2-Fab-13<</td><td>and Drainage 22.3erbit 21.4fabit 3.0 22.3erbit 21.4fabit 3.00 22.3erbit 21.4fabit 3.00 22.3erbit 21.4fabit 3.00 22.3erbit 3.00 2.00 2.00<td>part of braining: 220-ph 53 21/red 51 0.00 223-ph 53 21-red 51 0.00 0.01</td><td>part D20 <thd20< th=""> <thd20< td="" th<=""><td>part 22 Jun 10 21 Emils 3 000 20 Emils 3 0000<!--</td--><td>print 123/10 121/10 23/10 23/10 23/10 0</td><td>part of controls if pressed is not pressed is not</td></td></thd20<></thd20<></td></td></td> | FP-Installation of sanitary fittings22-Jan-13PP-Lighting installation works28-Dec-12FP-BS Final connection works12-Jan-13ICes12-Jan-13IGW fitting installation, Process Electrical & Instrumentation Works12-Jan-13ICes26-Oct-12BR-Cladding Roof Installation16-Nov-12BR-Chinney Works16-Nov-12BR-Chinney Works16-Nov-12BR-Installation of windows, louvers and doors 1st stage17-Dec-12BR-Installation of windows, louvers and doors 2nd stage16-Jan-13BR-Installation of windows, louvers and doors17-Dec-12BR-Installation of sanitary fittings10-Jan-13BR-Installation of sanitary fittings10-Jan-13BR-Installation of sanitary fittings10-Jan-13BR-BS Cable laying works(Electrical) 1st stage31-Dec-12BR-BS Sprinkler installation works(Fire Services)12-Jan-13BR-BS Piping works(Plumbing) 1st stage02-Nov-122A-BS Piping works(Plumbing) 1st stage02-Nov-122A-BS Piping works(Plumbing) 1st stage02-Nov-122A-BS Piping works(Plumbing) 1st stage02-Nov-122A-BS Piping works(Plumbing) 1st stage02-Jan-13Ces14-Jan-132A-BS Piping works(Plumbing) 1st stage02-Nov-122A-BS Piping works(Plumbing) 1st stage02-Nov-122A-BS Piping works(Plumbing) 1st stage02-Nov-122A-BS Piping works(Plumbing) 1st stage02-Nov-122A-BS Piping works(Plumbing) 2nd stage02-Jan-132A-BS Piping works(Plumbing) 2nd stage02 | FP-Installation of sanitary fittings 22-Jan-13 22-Jan-13 FP-Lighting installation works 28-Dac12 26-Jan-13 FP-BS Final connection works 12-Jan-13 26-Jan-13 Ges reg Vorks 12-Jan-13 26-Jan-13 FP-BD Type insulation, Process Electrical & Instrumentation Works 12-Jan-13 08-Mar-13 Structural and Builder's Work 26-Oct-12 26-Mar-13 BR-Cladding Roof Installation 16-Nov-12 16-Dec12 BR-Installation of windows, louvers and doors 1st stage 17-Dec12 14-Feb-13 BR-Installation of windows, louvers and doors 2nd stage 16-Jan-13 10-Jan-13 BR-Installation of windows, louvers and doors 2nd stage 17-Dec12 14-Feb-13 BR-Installation of windows, louvers and doors 17-Dec12 24-Nov-12 g and Drainage 10-Jan-13 09-Feb-13 BR-Installation of sanitary fittings 10-Jan-13 09-Feb-13 BR-BS Cable laying works(Electrical 1 st stage 31-Dec-12 29-Jan-13 BR-BS Sprinkler installation works(Fire Services) 31-Dec-12 29-Jan-13 BR-BS Pipip insulation, Process Electrical & Instrumentation Works 12-Jan-13 09-Her-13 <td>and Drainage 22-Jan-13 21+Feb-13 30 FP-Installation of sanitary fittings 22-Jan-13 21+Feb-13 30 FP-Lighting installation works 22-Jan-13 21+Feb-13 30 FP-Lighting installation works 22-Jan-13 26-Jan-13 30-Jan-13 26-Jan-13 30 FP-BS Final connection works 12-Jan-13 08-Mar-13 56 00</td> <td>and Drainage 22-Jan-13 21-Feb-13 30 22-Jan-13 FP-Iughing installation works 22-Jan-13 21-Feb-13 30 22-Jan-13 FP-Lighting installation works 28-Dec12 28-Jan-13 30 28-Dec12 FP-BS Final connection works 12-Jan-13 26-Jan-13 30 28-Dec12 FP-BDI Pipe insulation works 12-Jan-13 06-Mar-13 566 12-Jan-13 FP-BDI Pipe insulation, Process Electrical & Instrumentation Works 12-Jan-13 06-Mar-13 566 12-Jan-13 Structural and Builder's Work 26-Odr12 14-Fab-13 112 27-Odr12 31 16-Nov-12 BR-Chadding Roof Installation 16-Nov-12 16-Dec-12 31 16-Nov-12 BR-Installation of windrws, lowers and doors 17-Dec-12 14-Fab-13 30 17-Dec-12 BR-ABWF works excluding works 26-Odr12 09-Fab-13 30 17-Dec-12 BR-ABWF works excluding works[Electrical) 15-Dec-12 14-Fab-13 30 31-Dec-12 BR-BS Cable laying works[Electrical) 15-Dec-12 29-Jan-13</td> <td>and Drainage 22-Jun-13 24-Feb-13 300 22-Jun-13 24-Feb-13 FP Inclation of soniary fittings 22-Jun-13 24-Feb-13 300 22-Jun-13 24-Feb-13 FP Lepting installation works 22-Jun-13 26-Jun-13 300 22-Jun-13 10-Feb-13 FP-BD (Pp insuktion, Process Electrical & Instrumentation Works 22-Jun-13 06-Mar-13 26-Jun-13 06-Mar-13 BY Works FP-BD (Pp insuktion, Process Electrical & Instrumentation Works 22-Jun-13 06-Mar-13 26-Jun-13 06-Mar-13 06-Mar-13 06-Mar-13 06-Mar-13 06-Mar-14 16-Nor-12 16</td> <td>and Drainage 22-Jan-13 21-Fdb-13 SO 22-Jan-13 21-Fdb-13 ON FP-Lingting instation on sanary fittings 22-Jan-13 21-Fdb-13 00 22-Jan-13 01 22-Jan-13 01 22-Jan-13 00 22-Jan-13 01-Fdb-13 00 FP-Lingting instation onois 25-Dac-12 25-Jan-13 00 22-Jan-13 00-Fdb-13 00-Fdb-13</td> <td>phot 22-Jan-13 21-Fab-13 S0 22-Jan-13 S2-Fab-13 S0 S2-Fab-13<</td> <td>and Drainage 22.3erbit 21.4fabit 3.0 22.3erbit 21.4fabit 3.00 22.3erbit 21.4fabit 3.00 22.3erbit 21.4fabit 3.00 22.3erbit 3.00 2.00 2.00<td>part of braining: 220-ph 53 21/red 51 0.00 223-ph 53 21-red 51 0.00 0.01</td><td>part D20 <thd20< th=""> <thd20< td="" th<=""><td>part 22 Jun 10 21 Emils 3 000 20 Emils 3 0000<!--</td--><td>print 123/10 121/10 23/10 23/10 23/10 0</td><td>part of controls if pressed is not pressed is not</td></td></thd20<></thd20<></td></td> | and Drainage 22-Jan-13 21+Feb-13 30 FP-Installation of sanitary fittings 22-Jan-13 21+Feb-13 30 FP-Lighting installation works 22-Jan-13 21+Feb-13 30 FP-Lighting installation works 22-Jan-13 26-Jan-13 30-Jan-13 26-Jan-13 30 FP-BS Final connection works 12-Jan-13 08-Mar-13 56 00 | and Drainage 22-Jan-13 21-Feb-13 30 22-Jan-13 FP-Iughing installation works 22-Jan-13 21-Feb-13 30 22-Jan-13 FP-Lighting installation works 28-Dec12 28-Jan-13 30 28-Dec12 FP-BS Final connection works 12-Jan-13 26-Jan-13 30 28-Dec12 FP-BDI Pipe insulation works 12-Jan-13 06-Mar-13 566 12-Jan-13 FP-BDI Pipe insulation, Process Electrical & Instrumentation Works 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instation on sanary fittings 22-Jan-13 21-Fdb-13 00 22-Jan-13 01 22-Jan-13 01 22-Jan-13 00 22-Jan-13 01-Fdb-13 00 FP-Lingting instation onois 25-Dac-12 25-Jan-13 00 22-Jan-13 00-Fdb-13 00-Fdb-13 | phot 22-Jan-13 21-Fab-13 S0 22-Jan-13 S2-Fab-13 S0 S2-Fab-13< | and Drainage 22.3erbit 21.4fabit 3.0 22.3erbit 21.4fabit 3.00 22.3erbit 21.4fabit 3.00 22.3erbit 21.4fabit 3.00 22.3erbit 3.00 2.00 2.00 <td>part of braining: 220-ph 53 21/red 51 0.00 223-ph 53 21-red 51 0.00 0.01</td> <td>part D20 <thd20< th=""> <thd20< td="" th<=""><td>part 22 Jun 10 21 Emils 3 000 20 Emils 3 0000<!--</td--><td>print 123/10 121/10 23/10 23/10 23/10 0</td><td>part of controls if pressed is not pressed is not</td></td></thd20<></thd20<></td> | part of braining: 220-ph 53 21/red 51 0.00 223-ph 53 21-red 51 0.00 0.01 | part D20 D20 <thd20< th=""> <thd20< td="" th<=""><td>part 22 Jun 10 21 Emils 3 000 20 Emils 3 0000<!--</td--><td>print 123/10 121/10 23/10 23/10 23/10 0</td><td>part of controls if pressed is not 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ity ID	Activity Name	BL Start	BL Finish	Current	Current Start	Current	%	Delay	Total					2	012
				Duration		Finish	Complete	from Initial	Float	Nov Dec	Jan Fe	b Mar	· Apr M	ay Jun	Ju
A21951	GTWSR-BS Final connection works	09-Dec-12		14	09-Dec-12	22-Dec-12	0%	0	-24						
A21980	GTWSR-BS Electrical Testing	23-Dec-12		14	23-Dec-12	05-Jan-13	0%	0	-24						
GTWSR-Fire		02-Nov-12		30	02-Nov-12			7	-3						
A21959	GTWSR-BS Cable exposed conduits laying works(Fire Services)	02-Nov-12		23	02-Nov-12		0%	-2	-3						
A21960	GTWSR-BS Piping installation works(Fire Services)	02-Nov-12		23	02-Nov-12	24-Nov-12	0%	0	-3						
A21970	GTWSR-BS Sprinkler installation works(Fire Services)	02-Nov-12		23	02-Nov-12	24-Nov-12	0%	-1	-3						
A22020	GTWSR-BS Final connection	18-Nov-12		14	18-Nov-12	01-Dec-12	0%	7	-3						
	cessing Works	28-Sep-12	26-Jan-13	122	27-Sep-12 A			0	293						
A21500	GTWSR-Paques Process Equipment Installation Works	28-Sep-12		62	27-Sep-12 A		46.77%	1	-27	_					
A21600	GTWSR-Paques Piping, Electrical, Insulation & Instrumentation Works	28-Nov-12	26-Jan-13	60	28-Nov-12	26-Jan-13	0%	0	-27	_					
A21700	GTWSR-BDI Unloading Equipment Installation Works	28-Nov-12	04-Dec-12	7	28-Nov-12	04-Dec-12	0%	0	301	_					
A21800	GTWSR-BDI Piping, Electrical, Insulation & Instrumentation Works	05-Dec-12	18-Jan-13	45	05-Dec-12	18-Jan-13	0%	0	301						
B-E Tank F	arm	26-Oct-12	14-Feb-13	112	26-Oct-12	14-Feb-13		0	-94						
Tank Farm 2	B-2E Structural and Builder's Work	26-Oct-12	24-Nov-12	30	26-Oct-12	24-Nov-12		0	-62						
A23100	2BE-ABWF works in Tank Farm 2B-2E	26-Oct-12	24-Nov-12	30	26-Oct-12	24-Nov-12	0%	0	-62						
Tank Farm 2	B-2E-Plumbing and Drainage	02-Nov-12	03-Feb-13	93	02-Nov-12	03-Feb-13		0	-82						
A22810	2BE-BS Piping works(Plumbing)	02-Nov-12	03-Dec-12	30	02-Nov-12	01-Dec-12	0%	2	-62						-
A22820	2BE-BS Piping works(Drainage)	02-Nov-12	03-Dec-12	30	02-Nov-12	01-Dec-12	0%	2	-62						
A22900	2BE-BS Plumbing and Drainage Testing	22-Dec-12	03-Feb-13	43	22-Dec-12	03-Feb-13	0%	0	-82						
Tank Farm 2	B-2E-Electrical	14-Jan-13	14-Feb-13	32	14-Jan-13	14-Feb-13		0	-109						
A22840	2BE-BS Cable exposed conduits laying works(Electrical)	14-Jan-13	14-Feb-13	32	14-Jan-13	14-Feb-13	0%	0	-109						
Tank Farm 2	B-2E-Fire Services	14-Jan-13	14-Feb-13	32	14-Jan-13	14-Feb-13		0	-125						
A22850	2BE-BS Piping installation works(Fire Services)	14-Jan-13	14-Feb-13	32	14-Jan-13	14-Feb-13	0%	0	-125]
A22860	2BE-BS Sprinkler installation works(Fire Services)	14-Jan-13	14-Feb-13	32	14-Jan-13	14-Feb-13	0%	0	-125						
A22880	2BE-BS Cable laying works(Fire Services)	14-Jan-13	27-Jan-13	32	14-Jan-13	14-Feb-13	0%	-18	-125						
Tank Farm 2	B-2E-Processing Works			0					0						
3 - Waste Wa	ater Treatment Plant	26-Oct-12	20-Feb-13	117	26-Oct-12	20-Feb-13		0	-70						
Waste Water	Treatment Plant Structural and Builder's Work	26-Oct-12	16-Dec-12	51	26-Oct-12	16-Dec-12		0	-107]
A23400	WWTP-IC Reactor Erection	26-Oct-12	16-Nov-12	21	26-Oct-12	16-Nov-12	0%	0	-118						
A24020	WWTP-Installation of windows, louvers and doors	16-Nov-12	16-Dec-12	30	16-Nov-12	16-Dec-12	0%	0	-107						
A24030	WWTP- ABWF works excluding windows, louvers and doors	16-Nov-12	16-Dec-12	30	16-Nov-12	16-Dec-12	0%	0	-118						
WWTP-Plum	bing and Drainage	11-Dec-12	01-Feb-13	52	11-Dec-12	01-Feb-13		0	-81						
A23655	WWTP-BS Installation of sanitary fittings	11-Dec-12	02-Jan-13	22	11-Dec-12	02-Jan-13	0%	0	-81]
A23800	WWTP-BS Plumbing and Drainage Testing	02-Jan-13	01-Feb-13	30	02-Jan-13	01-Feb-13	0%	0	-81						
WWTP-Elect	rical	23-Nov-12	09-Feb-13	78	23-Nov-12	09-Feb-13		0	-59						
A23640	WWTP-BS Cable exposed conduits laying works (Electrical)	23-Nov-12	23-Dec-12	30	23-Nov-12	23-Dec-12	0%	0	-84						
A23650	WWTP-BS Lighting installation works	23-Dec-12	14-Jan-13	22	23-Dec-12	14-Jan-13	0%	0	-73	_					
A23651	WWTP-BS Final connection works	29-Dec-12	19-Jan-13	30	29-Dec-12	28-Jan-13	0%	-9	-59						
A23680	WWTP-BS Electrical Testing	18-Jan-13	09-Feb-13	22	18-Jan-13	09-Feb-13	0%	0	-59						
WWTP-Fire	Services	23-Nov-12	20-Feb-13	89	23-Nov-12	20-Feb-13		0	-100						
A23670	WWTP-BS Sprinkler installation works(Fire Services)	23-Nov-12	23-Dec-12	45	23-Nov-12	07-Jan-13	0%	-15	-100						
A23720	WWTP-BS Cable exposed conduits laying works(Fire Services)	24-Dec-12	07-Jan-13	14	24-Dec-12	07-Jan-13	0%	0	-100						
A23730	WWTP-BS Final connection works(Final Services)	07-Jan-13	21-Jan-13	14	07-Jan-13	21-Jan-13	0%	0	-100						
A23900	WWTP-Fire Service Testing	21-Jan-13	20-Feb-13	30	21-Jan-13	20-Feb-13	0%	0	-100	_					
	essing Works			0					0						
4A - Jetty		26-Oct-12	11-Mar-13	131	23-Oct-12 A	02-Mar-13		9	-146						
	rary Works design amendment			0					0			1			
BL	♦ ♦ Milestone	Droposed D	in Diasel Dia	ntotTVO	Lot 39 Main C	ontroat for A	11 Domoir:	ng Works			ate	<u> </u>	<u> </u>	R	evisio
		r toposed B	no-Diesei Fla	in at 1.K.U. 1	Lot 59 Maili C	onu act 101 A		ng works		26-Oc		3 Mont	th Rolling		
Actual V	,		3 Month	Rolling Pr	ogramme (26 Octobe	er 2012)					-			
	ing Work		s monul.	sound 11	Ser annine (. 2012)								
	Remaining Work									1					



													Page 4 of
ivity ID	Activity Name	BL Start	BL Finish	Current	Current Start	Current	%	Delay	Total			2012	2013
				Duration		Finish	Complete	from Initial	Float	Nov Dec Ja	an Feb Mar	· Apr May Jun Jul Aug S	Sep Oct Nov Dec Jan Feb Mar Apr Ma
Jetty Structur	ral and Builder's Work		11-Mar-13	131	23-Oct-12 A	02-Mar-13		9	-146				02-Mar-13, .
A24140	4A-Construct upto 10 nos of Jetty Bored Piles	26-Oct-12	22-Nov-12	20	23-Oct-12 A	11-Nov-12		11	-146				4A-Construct upto 10 nos of Je
A24210	4A-Construct upto 14 nos of Jetty Bored Piles	01-Nov-12	29-Nov-12	28	01-Nov-12	29-Nov-12	0%	0	-146				A-Construct upto 14 nos of J
A24215	4A-Submit BA14 for Pile Works	29-Nov-12	13-Dec-12	14	29-Nov-12	13-Dec-12	0%	0	-146				4A-Submit BA14 for Pile W
A24220	4A-Piles Test	06-Dec-12	27-Dec-12	21	06-Dec-12	27-Dec-12	0%	0	-146				4A-Piles Test
A24310	4A-Pile Cap and Superstructure of Jetty Deck concreting works	27-Dec-12	11-Mar-13	65	27-Dec-12	02-Mar-13	0%	9	-146				4A-Pile Ca
Jetty-Plumbir	ng and Drainage			0					0				
Jetty-Electric	al			0					0				
Jetty-Fire Ser	rvices			0					0				
Pipe Bridge 8	& Pipe Trench Works	26-Oct-12	09-Mar-13	105	26-Oct-12	07-Feb-13		30	-42				07-Feb-13, Pipe
A24900	Pipe Bridge Between FAT and WWTP (PB 5)	29-Dec-12	27-Jan-13	30	29-Dec-12	27-Jan-13	0%	0	-31				Pipe Bridge Betwe
A24910	Erection of steel pipe racks at Tank Farm 2A & GTWSR (Tower 3 & PE	26-Oct-12	24-Nov-12	30	26-Oct-12	24-Nov-12	0%	0	-55				Erection of steel pipe racks at T
A24920	Erection of pipe bridge between Tank Farm 2A and Tank Farm 2B-2E (29-Nov-12	28-Dec-12	30	29-Nov-12*	28-Dec-12	0%	0	-58				Erection of pipe bridge b
A24930	Erection of steel pipe racks at Tank Farm 2B-2E (Tower 1 & PB 7)	26-Oct-12	24-Nov-12	60	26-Oct-12	24-Dec-12	0%	-30	-85				Erection of steel pipe rac
A25000	Pipe Bridge Between PB and FP (PB3,4)	29-Dec-12	31-Jan-13	30	29-Dec-12	27-Jan-13	0%	4	-58				- Pipe Bridge Betwe
A25100	Pipe Trench from WWTP to Jetty	09-Jan-13	09-Mar-13	30	09-Jan-13	07-Feb-13	0%	30	-123				Pipe Trenc
External Wor			22-Feb-13	142	04-Oct-12 A	22-Feb-13		0	-24				22-Feb-13, E
External Drain		06-Oct-12	07-Feb-13	127	04-Oct-12 A	07-Feb-13		0	-69				v 07-Fe <mark>p-13, Exte</mark>
Storm water	manhole and pipe works	06-Oct-12		127	04-Oct-12 A			-10	-123			i i	07-Feb+13, Stor
A25240	Storm water manhole works 4th stage		24-Nov-12	67	04-Oct-12 A			-15	-123				Storm water manhole works
A25250	Storm water manhole works 5th stage	10-Nov-12		60	10-Nov-12	08-Jan-13	0%	-10	-123				Storm water manhole
A25260	Storm water manhole works 6th stage	10-Dec-12		60		07-Feb-13		-10	-123				
	nanhole and pipe works	06-Oct-12		125	06-Oct-12 A		070	0	-69				vater mai vater mai
A25300	Faul Water manhole and the pipe works between the manholes with th			65	06-Oct-12 A		25%	-5	-100				
A25310		10-Nov-12		60	10-Nov-12	09-Dec-12 08-Jan-13	0%	-5	-69				Faul Water manhole and th
	Faul Water manhole and the pipe works between the manholes with th					07-Feb-13		0	-69				Faul Water manhole a
A25320	Faul Water manhole and the pipe works between the manholes with th			60 106	10-Dec-12		0%	0					LFaul Water man
External Plum		26-Oct-12			15-Oct-12A	28-Jan-13			-77				▼ 23-Jan-13, Fresh w
	main installation works	26-Oct-12	23-Jan-13	101	15-Oct-12 A	23-Jan-13	500/	0	-72				
A25540	Installation of external fresh watermain 4th stage		24-Dec-12	41	15-Oct-12 A			30	-72	_			Installation of external fre
A25550	Installation of external fresh watermain 5th stage		24-Dec-12	60		24-Dec-12		0	-72				Installation of external fre
A25560	Installation of external fresh watermain 6th stage	25-Nov-12		60		23-Jan-13	0%	0	-72				Installation of extern
	ain installation works	26-Oct-12		106	15-Oct-12 A			0	-77				28-Jan-13, Salt wa
A25570	Installation of external salt watermain 4th stage	26-Oct-12		41	15-Oct-12 A			30	-72				Installation of external sal
A25580	Installation of external salt watermain 5th stage	26-Oct-12	24-Dec-12	60	26-Oct-12	24-Dec-12	0%	0	-72				Installation of external sal
A25590	Installation of external salt watermain 6th stage	29-Nov-12	28-Jan-13	60	29-Nov-12	28-Jan-13	0%	0	-77		· · · · ·		Installation of exter
Fire Services	Works	26-Oct-12	28-Jan-13	108	13-Oct-12 A	28-Jan-13		0	-77				v v 28-Jan-13, Fire Se
A25470	External - Fire Services pipe works 4th Stage	26-Oct-12	24-Dec-12	31	13-Oct-12 A	12-Nov-12	70%	42	-60				External - Fire Services p
A25480	External - Fire Services pipe works 5th Stage	26-Oct-12	24-Dec-12	60	26-Oct-12	24-Dec-12	0%	0	-72				External - Fire Services p
A25490	External - Fire Services pipe works 6th Stage	29-Nov-12	28-Jan-13	60	29-Nov-12	28-Jan-13	0%	0	-77				External - Fire Ser
External Serv	ice Cable Works	26-Oct-12	22-Feb-13	120	26-Oct-12	22-Feb-13		0	-72				22-Feb-13, E
A25710	Exteranl cable duct and draw pits instalation works 4th stage	26-Oct-12	24-Dec-12	60	26-Oct-12	24-Dec-12	0%	0	-72				Exteriant cable duct and d
A25720	Exteranl cable duct and draw pits instalation works 5th stage	25-Nov-12	23-Jan-13	60	25-Nov-12	23-Jan-13	0%	0	-72				Exteranl cable duct
A25730	Exteranl cable duct and draw pits instalation works 6th stage	25-Dec-12	22-Feb-13	60	25-Dec-12	22-Feb-13	0%	0	-72				Exteranl cable
Road Works			07-Dec-12	90	07-Nov-12			-59	-6				▼ 04-Feb-13, Rbac
A25640	Road Works with associated surface channels and catch pits 4th stage	07-Nov-12	07-Nov-12	60	07-Nov-12		0%	-59	-127				Road Works with asso
A25650	Road Works with associated surface channels and catch pits 5th stage	07-Dec-12	07-Dec-12	60	07-Dec-12	04-Feb-13	0%	-59	-6				Road Works with
	all Construction Works		03-Dec-12	39		03-Dec-12		0	-94				03-Dec-12 Boundary Wall C
										Date	<u> </u>	Revision	Checked Approved
BL		Proposed E	310-Diesel Pla	nt at T.K.O.	Lot 39 Main C	ontract for A	All Remaini	ng Works		26-Oct-12	3 Mont	th Rolling Programme	
Actual W			2 Manth	Dolling P-	ognomen (26 Octob	on 2012)				12		I I
Remainin			5 IVIONUN	KUIIIIg PI	ogramme (er 2012)						
Critical R	emaining Work												
• - ···	Milestone									1			

ctivity ID	Activity Name	BL Start	BL Finish	Current	Current Start		%	Delay	Total							2012
				Duration		Finish	Complete	from Initial	Float	Nov	Dec	Jan	Feb	Mar Apr	May Ju	un 、
A25530	Boundary Wall-ABWF works	26-Oct-12	03-Dec-12	39	26-Oct-12	03-Dec-12	0%	0	-94							
Water Suppl	ly Works	11-Nov-12	28-Jan-13	78	11-Nov-12	28-Jan-13		0	-77							
A25700	WSD pipe laying Works	11-Nov-12	28-Jan-13	78	11-Nov-12	28-Jan-13	0%	0	-77				1 1 1 1			
Maintenand	ce Period			0					0							
FS & OP Ins	pection			0					0							
Works By	Other Contractors			0					0				, , , , , , , , , , , , , , , , , , ,			
Works By B	DI			0					0							
BDI Process	ing Pipe Installation Works			0					0							
BDI Prelimin	aries			0					0					, , , , , , , , , , , , , , , , , , ,		
BDI Testing	and Commissioning			0					0		1	-				

BL Milestone	Proposed Bio-Diesel Plant at T.K.O. Lot 39 Main Contract for All Remaining Works	Date	Revision	Checked	Approved
Actual Work		26-Oct-12	3 Month Rolling Programme		
Remaining Work	3 Month Rolling Programme (26 October 2012)				
Critical Remaining Work					
Saseline Milestone					

								Pa	ige 5	of 5					
2					2013										
Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May					
					Βοι		28-	I-ABV Jan-1: D pipe	3, Wa ¦	ter Su					
				l											