東業德勤測試顧問有限公司
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TEST REPORT

DRAINAGE SERVICES DEPARTMENT

CONTRACT NO. DC/2006/15 BUILDING AND CIVIL MAINTENANCE AND MINOR WORKS OF DSD PLANTS AND FACILITIES (2007-2009)

–

GROUNDWATER MONITORING AT NGONG PING STW AND EFFLUENT EXPORT PIPE

MONTHLY EM&A REPORT

(MARCH 2009)

Prepared by: _____
LAW, Sau Yee
Senior Environmental Officer

Checked and Approved by: _____
LAU, Chi Leung
Environmental Team Leader

Issued Date: 06 April 2009 *Report No.: ENA90280*

Allied Environmental Consultants Limited
Acousticians & Environmental Engineers

1001, Shanghai Industrial Investment Building, 48 Hennessy Rd., Wanchai, H.K.
Tel.: (852) 2815 7028 Fax: (852) 2815 5399 Email: info@aechk.com

沛然環境評估工程顧問有限公司

Our Ref: 840/09-0006

29 April 2009

By POST and FAX (2827 8526)

Drainage Services Department
42nd Floor
Revenue Tower
5 Gloucester Road
Wan Chai
Hong Kong

Attn: Mr. Ringo Mok

Dear Sir,

Re: Ngong Ping Sewerage Project
Groundwater Monitoring at Ngong Ping STW and Effluent Export Pipe
EM&A Report (March 2009)

I refer to the Environmental Permit (EP-157/2003) and the email from the environmental monitoring team, ETS-Testconsult Limited with the report on 6 April 2009 for the captioned. I do not have comment and have verified the captioned report.

Yours sincerely,

Claudine Lee
Independent Environmental Checker

CL/ys

Cc. OAP – Ms Ada Pang (By Email)
ETS-Testconsult – Ms Linda Law (By Email and Fax: 2695 3944)

FAXED 29/04/09

TABLE OF CONTENTS

EXECUTIVE SUMMARY

This monthly EM&A report (No.17) has been prepared by the Environmental Team (ET) of ETS-Testconsult Ltd for groundwater monitoring under "Contract No. DC/2006/15 Building and Cilvil Maintenance and Minor Works to DSD Plants and Facilities (2007-2009) – Groundwater Monitoring at Ngong Ping STW and Effluent Export Pipeline" (the Project) during the operation period from 01 to 31 March 2009.

Under the requirements of Section 5 of "the Environmental Permit (No. EP-157/2003/A)" (the EP), EM&A programme as set out in the EM&A Manual and the EIA Report (Register No.: AEIAR-065/2002) is required to be implemented. In accordance with the EM&A manual and the EIA Report, groundwater monitoring is required for the Project during operation phase

Environmental Monitoring Progress

The summary of the monitoring activities in this monitoring month is listed below:

- *Groundwater Monitoring: 1 Occasion at 3 designated boreholes.*

Groundwater Monitoring

Groundwater monitoring was carried out on 26 March 2009 at WM10 and WM12 only since no groundwater was observed at WM11.

Test results of the groundwater during this monitoring show no contamination of ground water by any treated effluent. In other words, it is evident that there was no leakage of treated effluent from the Ngong Ping Sewage Treatment Works or its effluent export pipeline into the water gathering ground.

Environmental Complaints

No complaints were received in this reporting month.

Notification of summons and successful prosecutions

There were no notification of summons and prosecutions with respect to environmental issues in this month.

Future Key Issues

Future Key issues to be considered for the prevention of contamination of the water gathering ground are as follows:

- *The provision of leakage containment system for the section of pipeline in the close proximity of the reservoir;*
- *Removing waste in a timely manner and disposing of outside the water gathering ground;*
- *Locating the chemical storage area at a safe environment with adequate space; and*
- *Reminding the workers not to discharge any sewage or wastewater into the nearby environment.*

1.0 INTRODUCTION

The construction works of Ngong Ping Sewage Treatment Works (NPSTW) was certificated completed on 09 March 2006 and the NPSTW was handed over to "Drainage Sewage Department" (DSD) for operation and maintenance from 10 March 2006. "ETS-Testconsult Limited" (ETL) has been commissioned as Environmental Team (ET) to carry out groundwater monitoring at Ngong Ping according to the EM&A Manual.

This monthly EM&A report presents the results of groundwater monitoring during the reporting period from 01 to 31 March 2009.

2.0 PROJECT INFORMATION

2.1 Background

Master Plan (OI SMP) Study in December 1994 and drew up a SMP for Lantau Island, Cheung Chau, Lamma Island, Peng Chau and other smaller and less populated islands. The SMP comprises provisions for upgrading and expanding the sewerage systems to cover unsewered areas.

This sewerage project is the Stage 1 works under the OI SMP and can be divided into 3 packages as follows:
Package 1 – Ngong Ping STW with tertiary treatment
Package 2 – Ngong Ping main trunk sewer and effluent export pipeline
Package 3 – Ngong Ping village sewerage system

This Project only covers the operation phase of Package 1 and Package 2. The general layout plan of the project is shown in Appendix D (Drawing No. 23400/EN/098).

The existing treatment facilities at Ngong Ping include grease traps and septic tanks, with discharge locally to soakaways. Following the opening of the Statue of Buddha in December 1993, the number of visitors to Ngong Ping increased significantly. Besides, the Cable Car system linking Tung Chung and Ngong Ping was being planned for commissioning in June 2006. It will certainly further increase the number of visitors in Ngong Ping. The existing treatment and disposal facilities were found to be inadequate, with significant quantities of sewage being directly discharged into the local stream. It was under this setting that the recommendation to provide a local sewerage system and a centralised treatment system for Ngong Ping was put forward in the OI SMP in 1994.

The Project was planned, designed, operated and maintained by the DSD. During the operation phase of NPSTW, DSD will follow the environmental monitoring recommendation stated at the M&A Manual that was prepared with reference to the EIA Report (Register No.: AEIAR-065/2002) to avoid the contamination of the water gathering ground.

2.2 Site Description

The general layout plan of the project is shown in Appendix D. The groundwater monitoring locations are also shown in the Drawing No. 23400/R/VS/406.

2.3 Project Organization and Management Structure

The line of communication of project organization with respect to the on-site environmental management and monitoring program are shown in Appendix A.

2.4 Contact Details of Key Personnel

The key personnel contact names and telephone numbers, and construction programme are shown in table 2.1.

Table 2.1 Contact Details of Key Personnel

Organization	*Project Role*	*Name of Key Staff*	*Tel. No.*	*Fax No.*
DSD	*Contractor*	*Mr. P C Wu*	*2594 7199*	*2827 6657*
Allied Environmental Consultants Limited	*Independent Environmental Checker*	*Ms. Claudine Lee*	*2815 7028*	*2815 5399*
ETL	*Contractor's Environmental Team*	*Mr. C L Lau (ET Leader)*	*2946 7791*	*2695 3944*

3.0 GROUNDWATER QUALITY MONITORING

3.1 Monitoring Locations

Groundwater quality monitoring was undertaken at three designated sampling points shown in Table 3.1.

Table 3.1 Locations of Groundwater Quality Monitoring

Sampling Point	*Location*
WM10	*Ngong Ping Village*
WM11	*Ngong Ping Village*
WM12	*Ngong Ping Village*

3.2 Monitoring Parameters

Monitoring of the groundwater monitoring parameters are listed below:

- Biochemical Oxygen Demand (BOD_5), mg/L;
- Ammonia Nitrogen (NH_4^+-N), mg/L;
- Nitrate + Nitrite Nitrogen (NO_2^-+NO_3^-), mg/L;
- pH value;
- Turbidity, NTU;
- Oil & Grease (O&G), mg/L;
- Total Phosphates (TP), mg/L;
- Synthetic detergents, mg/L;
- E-coli, cfu/100ml.

3.3 Monitoring Frequency

The monitoring frequency of the groundwater monitoring is summarized in Table 3.3.

Table 3.3 The frequency of the Groundwater Monitoring

Parameter	*Frequency*	*No. of Boreholes*
Biochemical Oxygen Demand	*Once per month*	*3*
Ammonia Nitrogen		
Nitrate + Nitrite		
pH value		
Turbidity		
Oil & Grease		
Total Phosphates		
Synthetic detergents		
E-coli		

3.4 Monitoring Methodology and Equipment Used

A water sampler comprising a transparent PVC cylinder, with a capacity of not less than 2 liters, was lowered into the water body at the predetermined depth. The opening ends of the sampler were then closed accordingly and water samples were collected.

The sample container, made by high-density polythene / glass, was rinsed with a portion of the water sample. The groundwater sample was then transferred to the container, labeled with a unique sample ID and sealed with a screw cap. The water samples were stored in a cool box maintained at 4°C. The groundwater samples were then delivered to a local HOKLAS-accredited laboratory (Environmental Laboratory, ETS-Testconsult Ltd, HOKLAS Registration No. 022) on the same day for analysis.

In accordance with the requirement of HOKLAS, the laboratory testing of the monitoring parameters were carried out with QA/QC results shown in Appendix E. The summary of testing methods of testing parameters as recommended by EIA or required by EPD were shown in Table 3.4.

Table 3.4 Summary of testing procedures

Laboratory Analysis	*Testing Procedure*	*Detection Limit*
Biochemical Oxygen Demand	*In house method TPE/001/W or BS 6068 : Section 2.14 : 1990*	*2.0 mg/L*
Ammoniacal Nitrogen	*In house method TPE/016/W, refer to APHA 19ed 4500-NH_3 F & G*	*0.13 mg/L*
Nitrate + Nitrite	*In house method TPE/023/W, refer to APHA 19ed 4500-NO_3 B*	*0.004 mg/L*
pH (at 25°C)	*In house method TPE/003/W, refer to APHA 19ed APHA 4500-H^+ B*	*Detection range: 4.0-10.0*
Turbidity	*In house method TPE/005/W, refer to APHA 19ed 2130B*	*0.5 NTU*
Oil & Grease	*APHA 19ed 5520 B*	*5.0 m/L*
Total Phosphate	*In house method base on ASTM D 515-88*	*0.05 mg/L*
Synthetic detergents	*In house method based on APHA 19ed 5540 C & D*	*0.1 mg/L*
E-coli	*DoE Section 7.8 & 7.9 plus in-site urease test*	*<1 cfu/100ml*

3.5 Groundwater Monitoring Results

In this reporting month, groundwater monitoring was carried out on 26 March 2009 at WM10 and WM12 only since no groundwater was noted at WM11. The groundwater quality measurement results are detailed in Appendix B. Graphical presentation of the monitoring parameters for this reporting month is shown in Appendix C.

Test results of the groundwater during this monitoring show no contamination of ground water by any treated effluent. In other words, it is evident that there was no leakage of treated effluent from the Ngong Ping Sewage Treatment Works or its effluent export pipeline into the water gathering ground.

4.0 ENVIRONMENTAL NON-CONFORMANCE

4.1 Summary of Groundwater Quality Monitoring

According to the results of all testing parameters, they show no contamination of ground water by any treated effluent. In other words, it is evident that there was no leakage of treated effluent from the Ngong Ping Sewage Treatment Works or its effluent export pipeline into the water gathering ground.

4.2 Summary of Environmental Complaints

No complaints were received in this reporting month.

4.3 Summary of Notification of Summons and Prosecution

There was no notification of summons respect to environmental issues registered in this month.

5.0 IMPLEMENTATION STATUS

5.1 Implementation Status of Environmental Mitigation Measures

DSD has been implementing the required environmental mitigation measures indicating in Clause 4.5.20 of the EM&A manual.

5.2 Implementation Status of Environmental Complaint Handling

No complaints were received in this reporting month. The details of the complaint-log are presented in Table 5.1.

Table 5.1 Statistical Summary of Environmental Complaints

Reporting Month	*Complaint Statistics*			
	Frequency	*Cumulative*	*Aspect*	*Investigation Results and Follow up Actions*
November 07	*0*	*0*	---	---
December 07	*0*	*0*	---	---
January 08	*0*	*0*	---	---
February 08	*0*	*0*	---	---
March 08	*0*	*0*	---	---
April 08	*0*	*0*	---	---
May 08	*0*	*0*	---	---
June 08	*0*	*0*	---	---
July 08	*0*	*0*	---	---
August 08	*0*	*0*	---	---
September 08	*0*	*0*	---	---
October 08	*0*	*0*	---	---
November 08	*0*	*0*	---	---
December 08	*0*	*0*	---	---
January 09	*0*	*0*	---	---
February 09	*0*	*0*	---	---
March 09	*0*	*0*	---	---

5.3 Implementation Status of Notification of Summons and Prosecution

There were no notifications of summons respect to environmental issues registered in this reporting month.

6.0 CONCLUSION

In this reporting month, groundwater monitoring was carried out on 26 March 2009 at WM10 and WM12 only since no groundwater was noted at WM11.

According to the results of all testing parameters, they show no contamination of ground water by any treated effluent. In other words, it is evident that there was no leakage of treated effluent from the Ngong Ping Sewage Treatment Works or its effluent export pipeline into the water gathering ground.

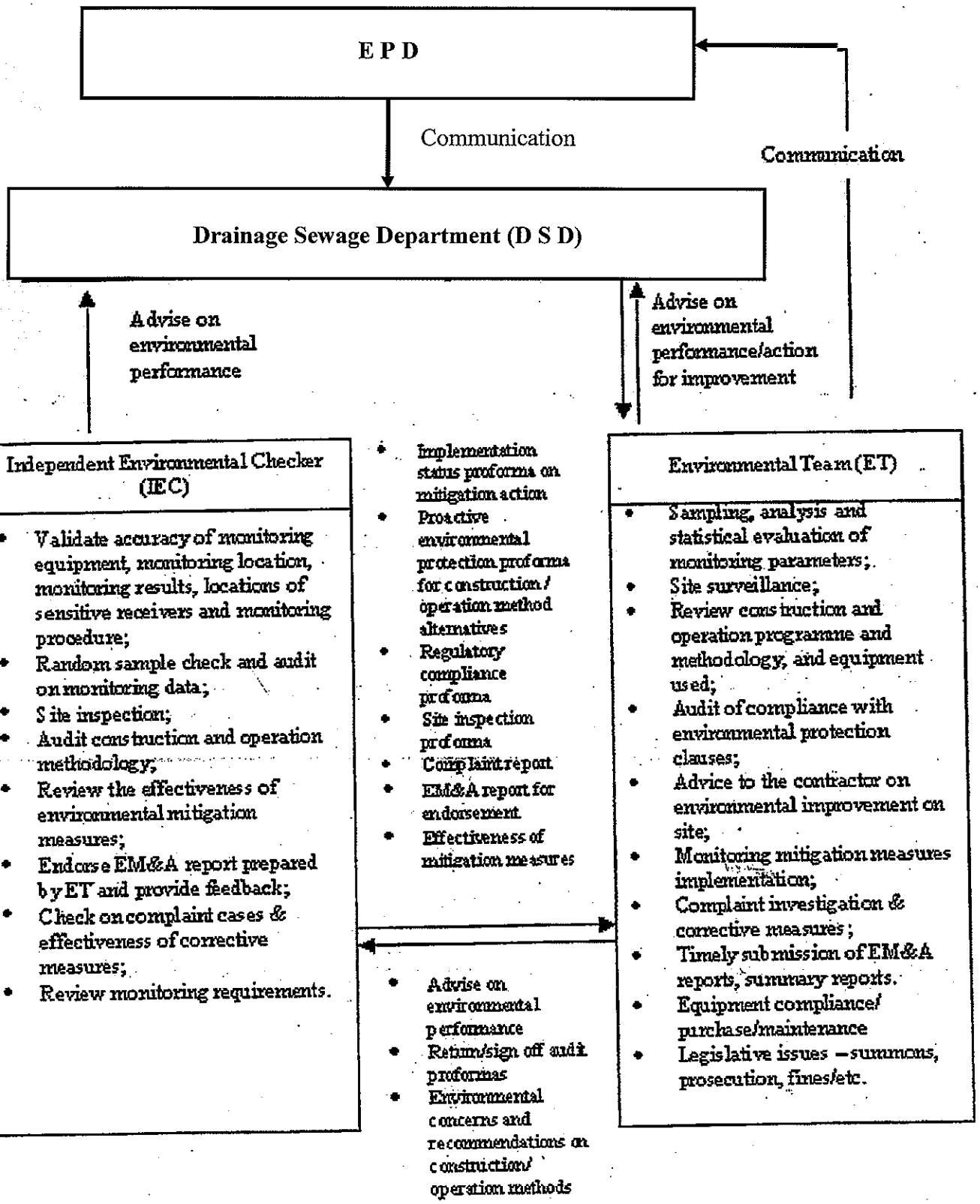
7.0 FUTURE KEY ISSUES

DSD will continue to carry out operation and maintenance works of NPSTW in the coming month. Future Key issues to be considered for the prevention of contamination of the water gathering ground are as follows:

- The provision of leakage containment system for the section of pipeline in the close proximity of the reservoir;
- Removing waste in a timely manner and disposing of outside the water gathering ground;
- Locating the chemical storage area at a safe environment with adequate space; and
- Reminding the workers not to discharge any sewage or wastewater into the nearby environment.

Appendix A

Lines of Communication


EPD
Communication
Communication
Drainage Sewage Department (D S D)
Advise on environmental performance
Advise on environmental performance/action for improvement
Independent Environmental Checker (IEC)
• Validate accuracy of monitoring equipment, monitoring location, monitoring results, locations of sensitive receivers and monitoring procedure;
• Random sample check and audit on monitoring data;
• Site inspection;
• Audit construction and operation methodology;
• Review the effectiveness of environmental mitigation measures;
• Endorse EM&A report prepared by ET and provide feedback;
• Check on complaint cases & effectiveness of corrective measures;
• Review monitoring requirements.
• Implementation status proforma on mitigation action
• Proactive environmental protection proforma for construction / operation method alternatives
• Regulatory compliance proforma
• Site inspection proforma
• Complaint report
• EM&A report for endorsement
• Effectiveness of mitigation measures
• Advise on environmental performance
• Return/sign off audit proformas
• Environmental concerns and recommendations on construction/ operation methods
Environmental Team (ET)
• Sampling, analysis and statistical evaluation of monitoring parameters;
• Site surveillance;
• Review construction and operation programme and methodology, and equipment used;
• Audit of compliance with environmental protection clauses;
• Advice to the contractor on environmental improvement on site;
• Monitoring mitigation measures implementation;
• Complaint investigation & corrective measures;
• Timely submission of EM&A reports, summary reports.
• Equipment compliance/ purchase/maintenance
• Legislative issues – summons, prosecution, fines/etc.

Appendix B

Groundwater Monitoring Results
and
Photos of Groundwater Monitoring at Boleholes

東業德勤測試顧問有限公司
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Fax : 2695 3944 Web site : www.ets-testconsult.com

TEST REPORT

Form : E/EN/R/01/Issue 4 (1/1) [08/02]

Environmental Testing of Water & Wastewater

Report No. : ENA90279
Date of issue : 03 April 2009

Information provided by Customer

Customer name : Welcome Construction Co Ltd
Customer address : Flat 01, 19/F, Westley Square, 48 Hoi Yuen Road, Kwun Tong, Kowloon
Sample Source : DC/2006/15 - Building and Civil Maintenance and Minor Works to DSD Plants and Facilities (2007-2009) - Groundwater Monitoring at Ngong Ping STW and Effluent Export Pipe
Sample Type : Groundwater
Date of sampling : 26 March 2009
Sample Description : The sample was collected in 100ml glass bottle (for Total Phosphates only), 500ml glass bottle (for Oil & Grease only), 100ml sterilized glass bottle (for E-coli only), 500ml and 1L plastic bottles (for other testing parameters). Sample for Ammonia and Nitrate + Nitrite Nitrogen was preserved by adding conc. H_2SO_4 to pH<2. Sample for Oil & Grease was preserved by adding conc. HCl to pH<2. All samples were chilled immediately after collection.

Laboratory information

Date Received : 26 March 2009

Result

Customer Sample ID	Lab Ref No	Test	Method Used	Result	Date Tested
WM10	W24357 (01)	pH Value	In house method TPE/003/W	6.5 (at 25°C)	26 March 2009
		Turbidity	In house method TPE/005/W	210 NTU	26 March 2009
		Biochemical Oxygen Demand (5-day)	In house method TPE/001/W	3.6 mg/L	26 March 2009 (17:00) to 31 March 2009 (17:00)
	W24357 (03)	Nitrate & Nitrite Nitrogen	In house method TPE/023/W	0.38 mg/L	27 March 2009
		Ammonia	In house method TPE/016/W	<0.25 mg/L	27 March 2009
	W24357 (05)	Synthetic Detergents	In house method refer to APHA 19th ed 5540 C & D	0.2 mg/L	27 March 2009
	W24357 (07)	Total Phosphates	In house method TPE/019/W	0.10 mg/L	27 March 2009
	W24357 (09)	Oil & Grease	APHA 19ed 5520B	<5.0 mg/L	28 March 2009
	W24357 (11)	E-coli *	DoE (1983), section 7.8 & 7.9 plus in-situ urease test	1200 cfu/100ml	26 to 28 March 2009

Remark (if any) : The tests marked with "*" indicated the tests were sub-contract to ALS Technichem (HK) Pty Ltd and HOKLAS accredited. Ground water monitoring was carried out at WM10 and WM12 only since no groundwater was noted at WM11. Reporting limits of Total Phoshphates and Ammonia were <0.10mg/L and <0.25mg/L instand of <0.010mg/L and <0.025mg/L correspondingly since the samples were diluted 10-fold before analysis due to matrix effect.

Checked by : Linda Law
LAW, Sau Yee
Senior Chemist

Approved by :
LAU, Chi Leung
Chief Chemist

東業德勤測試顧問有限公司
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TEST REPORT

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Information provided by Customer

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Sample Source : DC/2006/15 - Building and Civil Maintenance and Minor Works to DSD Plants and Facilities (2007-2009) - Groundwater Monitoring at Ngong Ping STW and Effluent Export Pipe
Sample Type : Groundwater
Date of sampling : 26 March 2009
Sample Description : The sample was collected in 100ml glass bottle (for Total Phosphates only), 500ml glass bottle (for Oil & Grease only), 100ml sterilized glass bottle (for E-coli only), 500ml and 1L plastic bottles (for other testing parameters). Sample for Ammonia and Nitrate + Nitrite Nitrogen was preserved by adding conc. H_2SO_4 to pH<2. Sample for Oil & Grease was preserved by adding conc. HCl to pH<2. All samples were chilled immediately after collection.

Laboratory information

Date Received : 26 March 2009

Result

Customer Sample ID	Lab Ref No	Test	Method Used	Result	Date Tested
WM12	W24357 (02)	pH Value	In house method TPE/003/W	5.5 (at 25°C)	26 March 2009
		Turbidity	In house method TPE/005/W	20 NTU	26 March 2009
		Biochemical Oxygen Demand (5-day)	In house method TPE/001/W	<2.0 mg/L	26 March 2009 (17:00) to 31 March 2009 (17:00)
	W24357 (04)	Nitrate & Nitrite Nitrogen	In house method TPE/023/W	1.2 mg/L	27 March 2009
		Ammonia	In house method TPE/016/W	<0.25 mg/L	27 March 2009
	W24357 (06)	Synthetic Detergents	In house method refer to APHA 19th ed 5540 C & D	0.1 mg/L	27 March 2009
	W24357 (08)	Total Phosphates	In house method TPE/019/W	0.26 mg/L	27 March 2009
	W24357 (10)	Oil & Grease	APHA 19ed 5520B	<5.0 mg/L	28 March 2009
	W24357 (12)	E-coli *	DoE (1983), section 7.8 & 7.9 plus in-situ urease test	0 cfu/100ml	26 to 28 March 2009

Remark (if any) : The tests marked with "*" indicated the tests were sub-contract to ALS Technichem (HK) Pty Ltd and HOKLAS accredited. Ground water monitoring was carried out at WM10 and WM12 only since no groundwater was noted at WM11. Reporting limits of Total Phoshphates and Ammonia were <0.10mg/L and <0.25mg/L instand of <0.010mg/L and <0.025mg/L correspondingly since the samples were diluted 10-fold before analysis due to matrix effect.

Checked by : LAW, Sau Yee
Senior Chemist

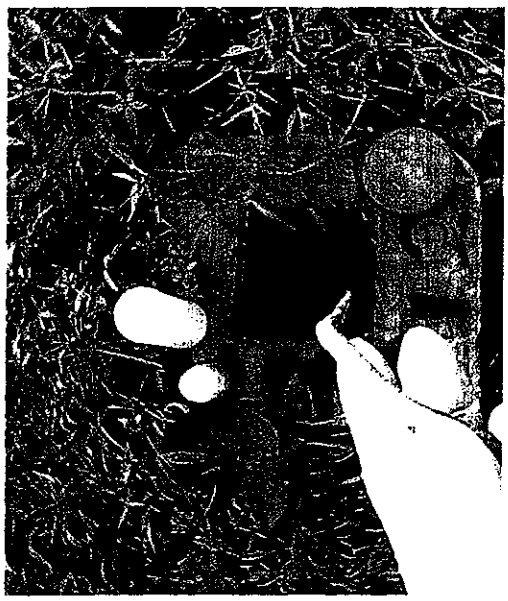
Approved by : LAU, Chi Leung
Chief Chemist

Project	:	DC/2006/15 - Building and Civil Maintenance and Minor Works to DSD Plants and Facilities (2007-2009)
Date of sampling and photo taking	:	26 March 2009
Report No.	:	ENA90279
Date of issue	:	03 April 2009

WM10

WM11

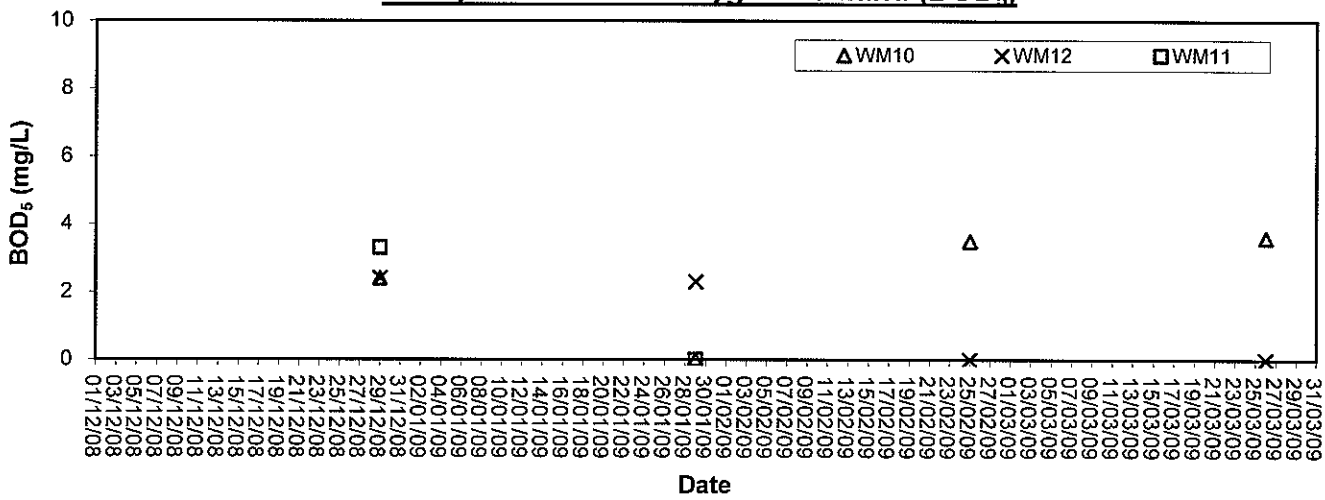
WM12



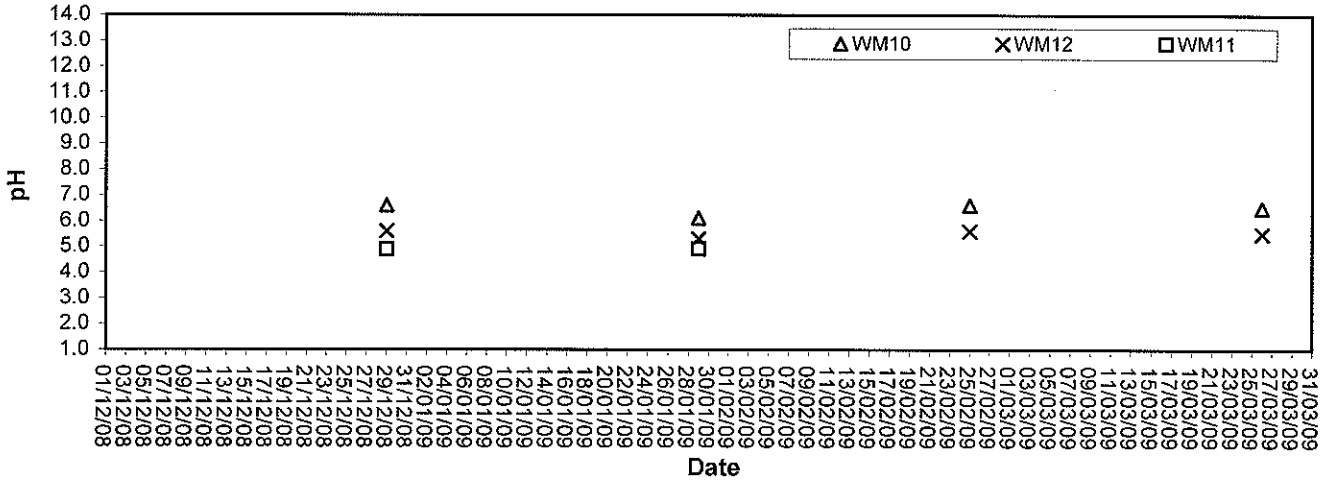
Appendix C

Graphical Plots of Groundwater Monitoring Data

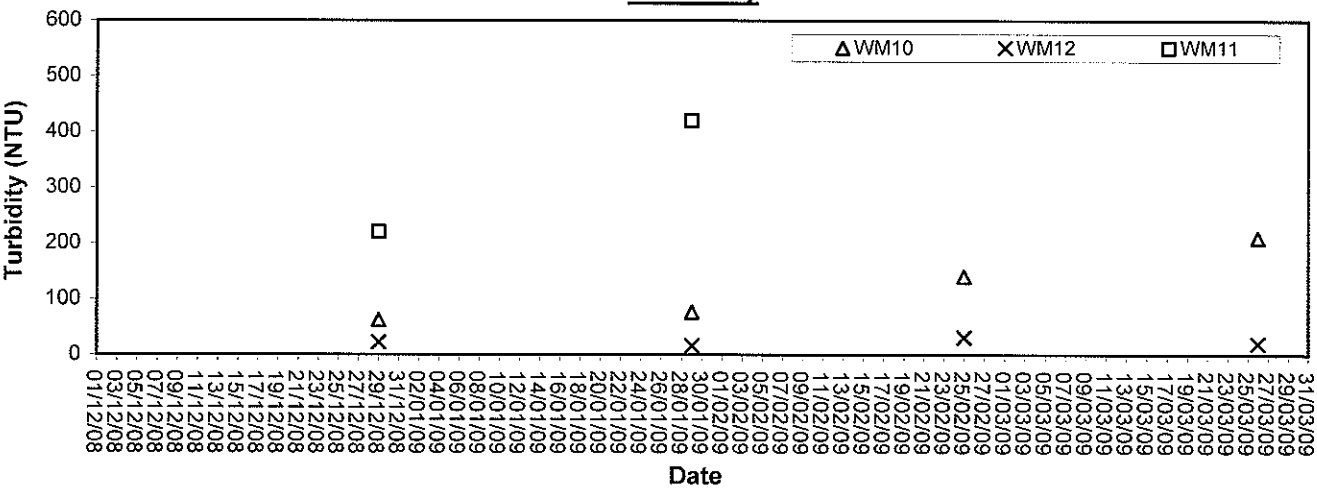
5-day Biochemical Oxygen Demand (BOD_5)



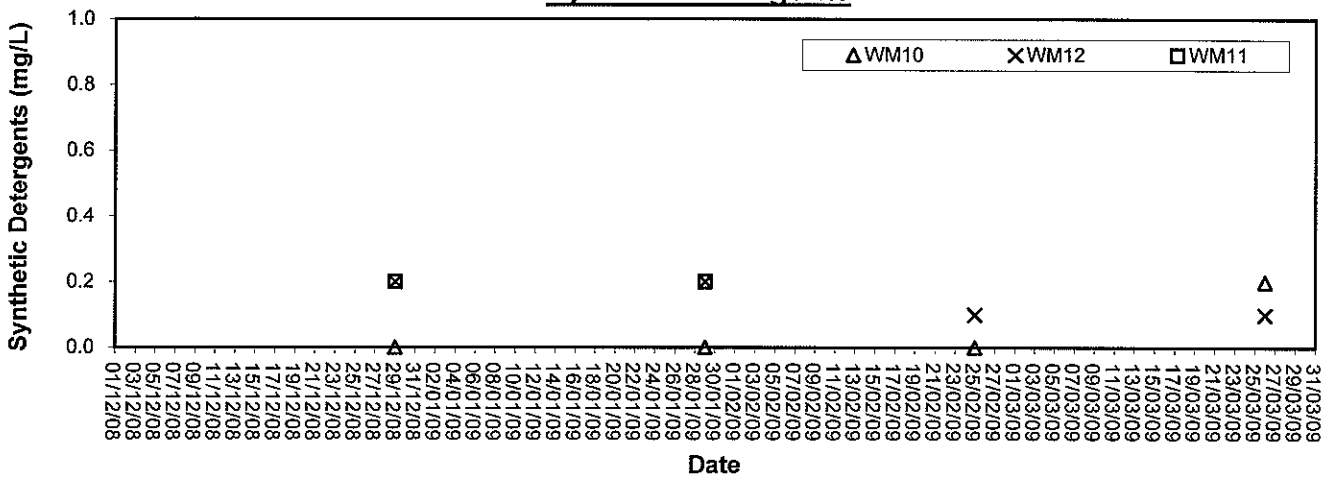
pH Value



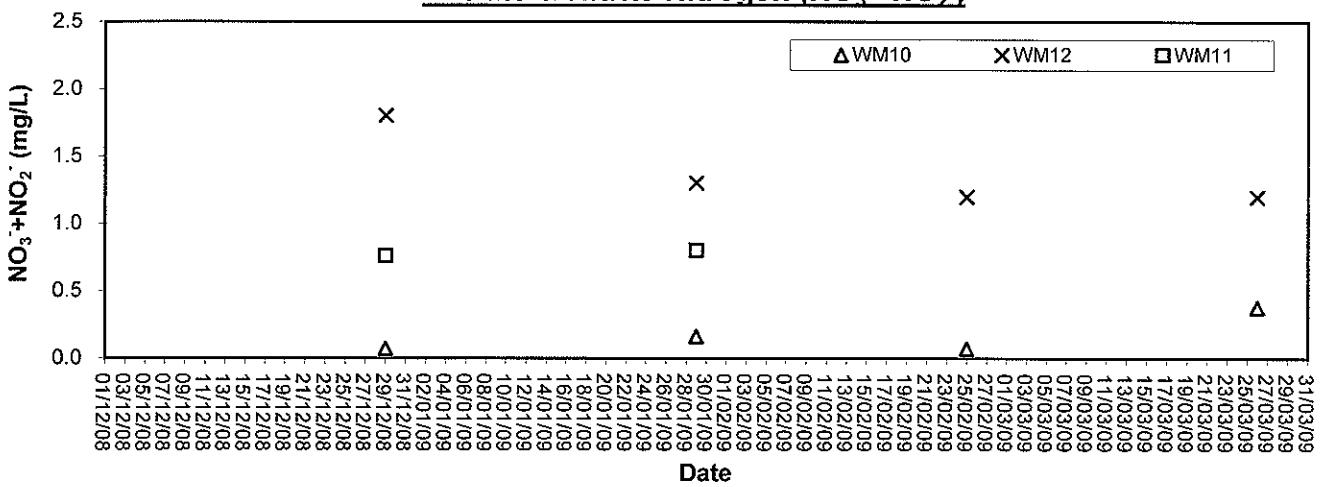
Turbidity



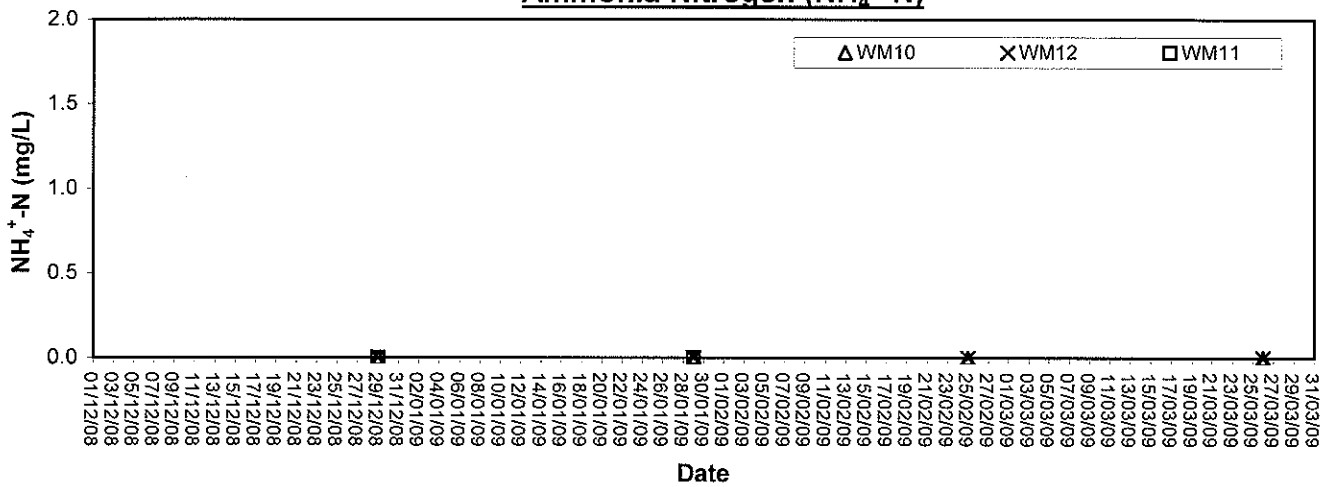
Synthetic Detergents



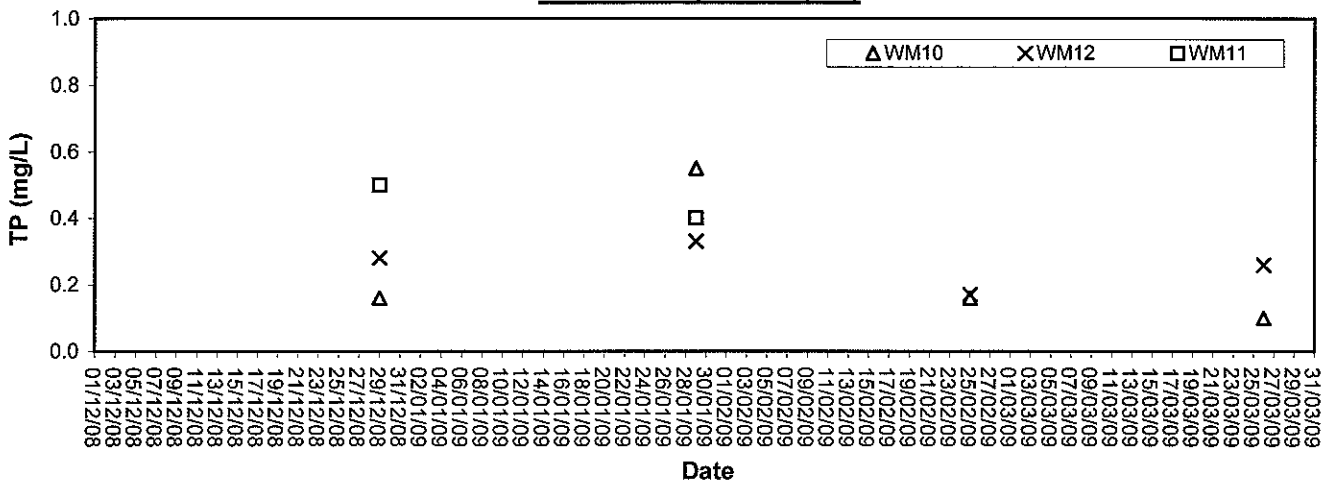
Nitrate & Nitrite Nitrogen (NO_3^-+NO_2^-)



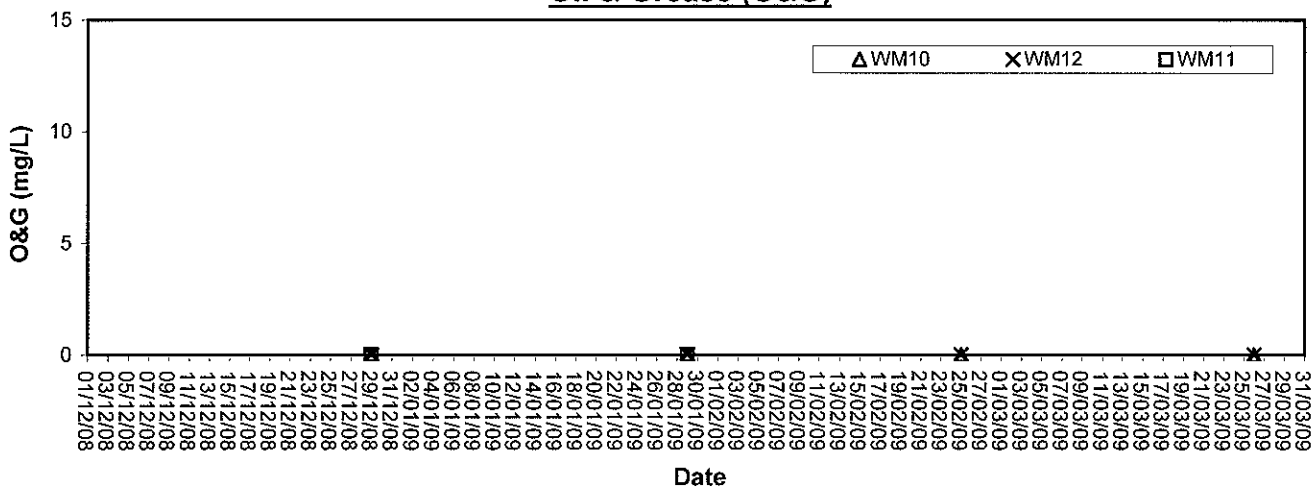
Ammonia Nitrogen (NH_4^+-N)



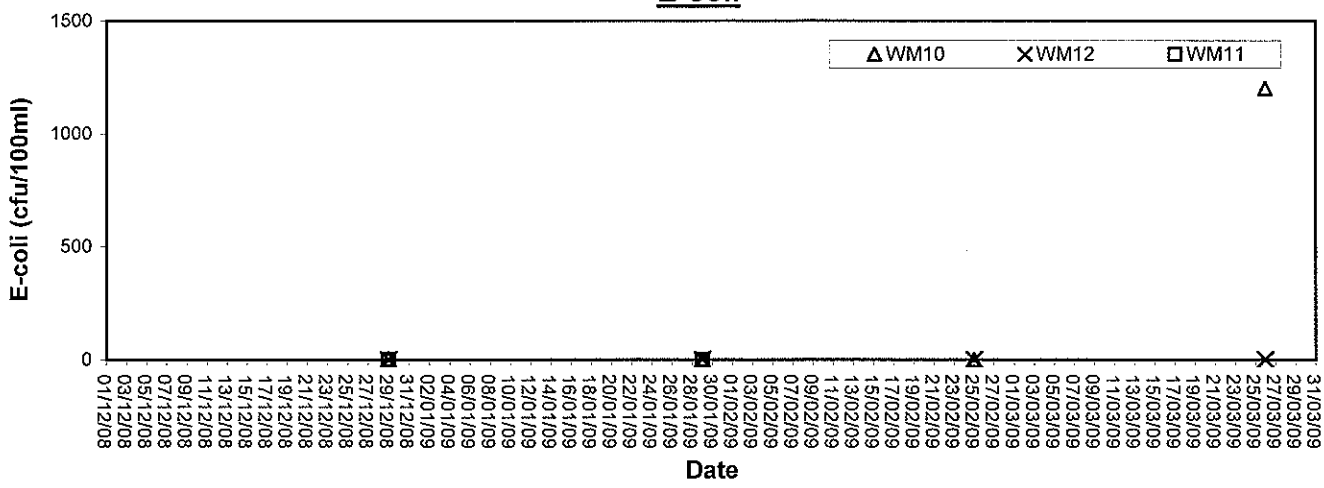
Total Phosphates (TP)



Oil & Grease (O&G)

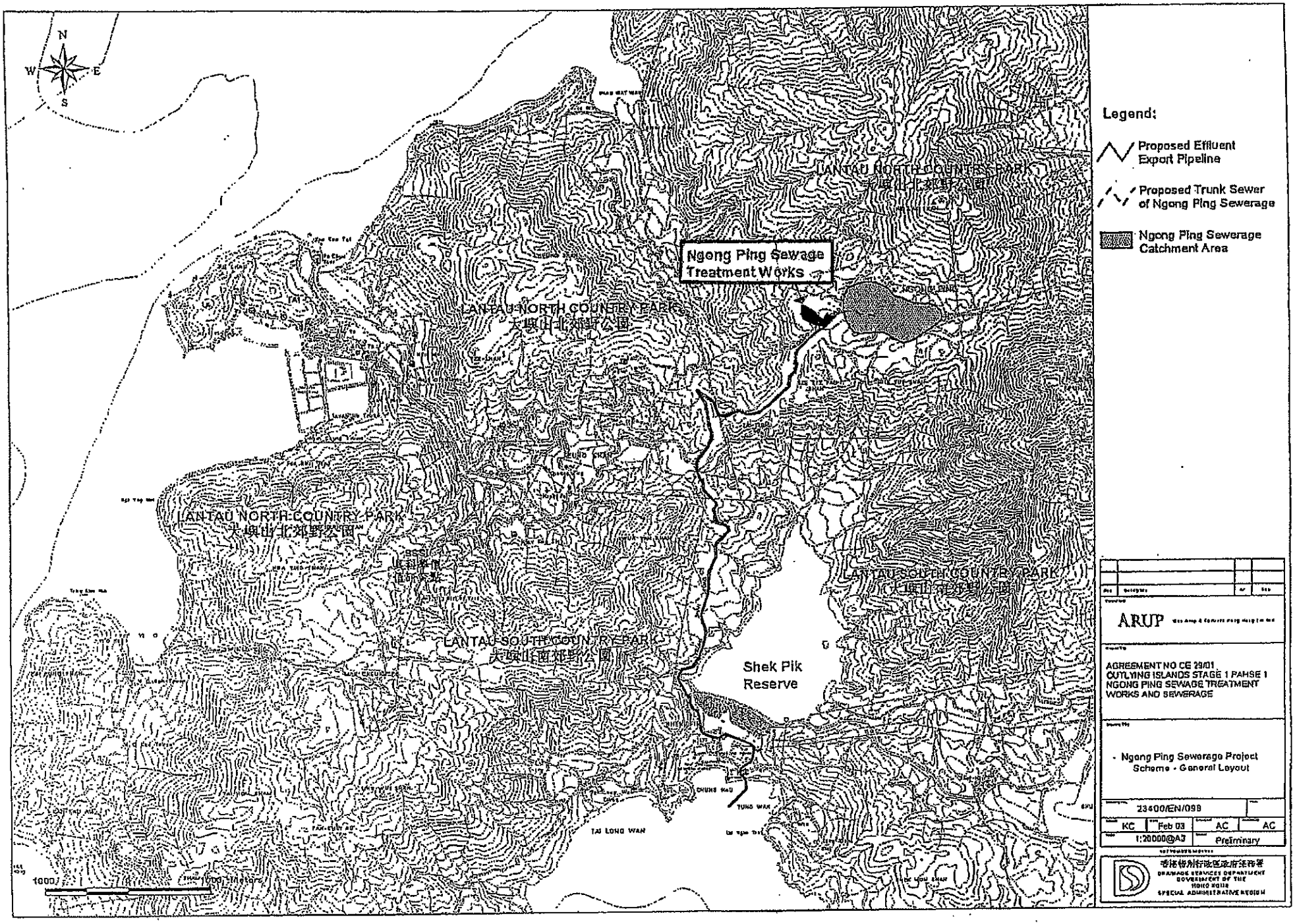


E-coli



Appendix D

General Layout Plan


N
W
E
S
Ngong Ping Sewage Treatment Works
LANTAU NORTH COUNTRY PARK
大嶼山北郊野公園
LANTAU SOUTH COUNTRY PARK
大嶼山南郊野公園
Shek Pik Reserve
TUNG WAN
TAI LONG WAN
1600
Legend:
Proposed Effluent Export Pipeline
Proposed Trunk Sewer of Ngong Ping Sewerage
Ngong Ping Sewerage Catchment Area
ARUP
AGREEMENT NO CE 29/01
OUTLYING ISLANDS STAGE 1 PAHSE 1
NGONG PING SEWAGE TREATMENT WORKS AND SEWERAGE
- Ngong Ping Sewerage Project
Scheme - General Layout
23400/EN/099
KC
Feb 03
AC
AC
1:20000@A3
Preliminary
DRAINAGE SERVICES DEPARTMENT
GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION

Appendix E

QA/QC Results

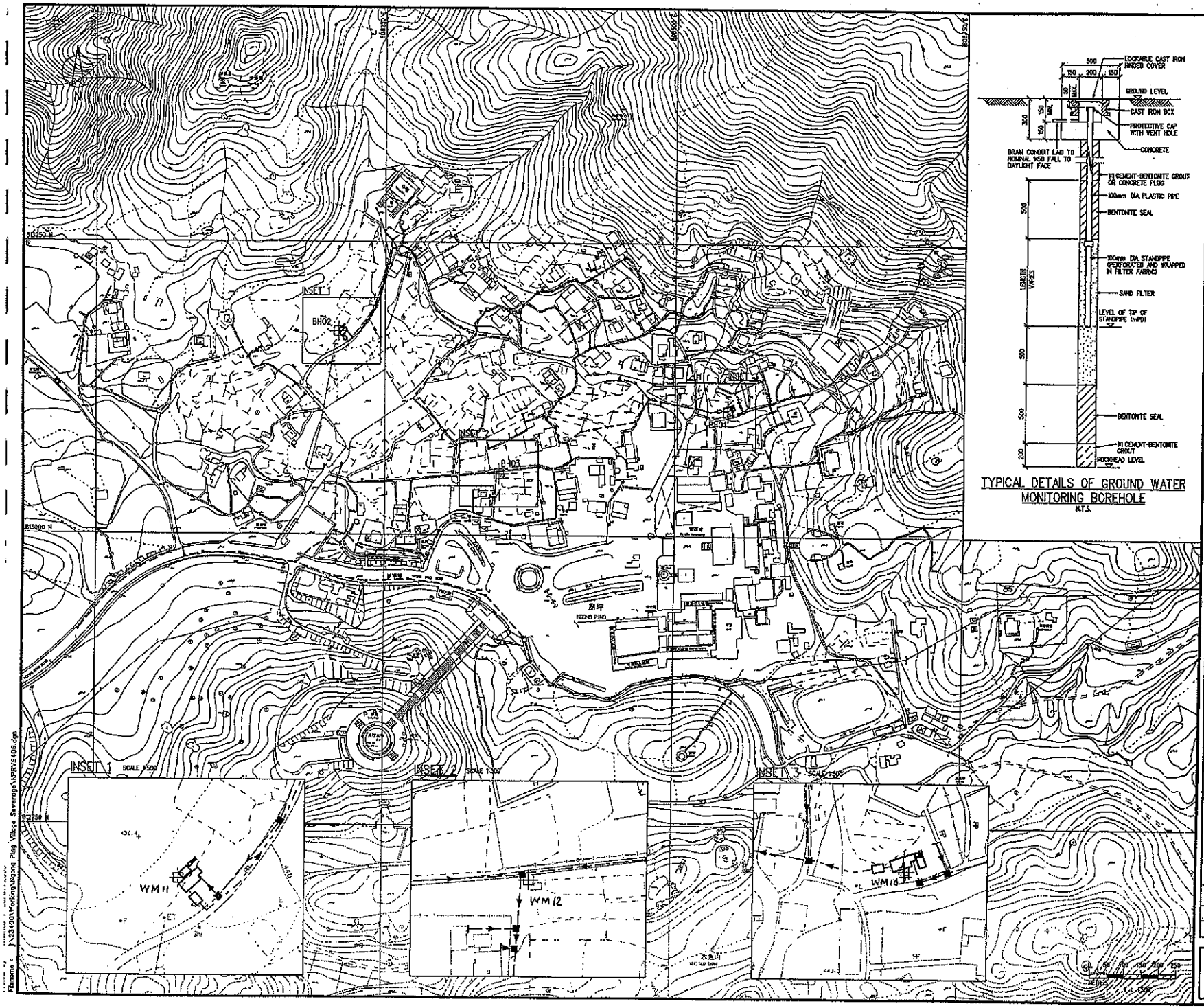
QA/QC Results of Laboratory Analysis of Testing Parameters

Testing Parameter	QC Sample Analysis	Sample Duplicate		Sample Spike	
	% Recovery *	Sample ID	% Error #	Sample ID	% Recovery @
Turbidity	98.8	WM12	1.0	---	---
Nitrate + Nitrite	98.3	---	---	---	---
Oil & Grease	96.8	---	---	---	---
Ammoniacal Nitrogen	106.2	---	---	---	---
Synthetic detergents	---	---	---	---	---
Biochemical Oxygen Demand (5-day)	99.5	WM10	1.5	---	---
Total Phosphates	102.8	WM10	3.8	WM10	95.8

Testing Parameter	QC Sample Analysis	Sample Duplicate		Sample Spike	
	% Recovery *	Sample ID	Difference between Duplicates +	Sample ID	% Recovery @
pH Value(at 25°C)	---	WM10	0.01 unit	---	---

Note: (*) % Recovery of QC sample should be between 80% to 120%.
(#) % Error of Sample Duplicate should be between –10% to 10%.
(@) % Recovery of Sample Spike should be between 80% to 120%.
(+) Difference between Duplicates should be less than 0.1 unit for pH value.

Figures



TYPICAL DETAILS OF GROUND WATER MONITORING BOREHOLE

N.T.S.

NOTE:

1. EXACT LOCATIONS OF GROUND WATER MONITORING BOREHOLES ARE SUBJECT TO CONFIRMATION ON SITE.

LEGEND:

PROPOSED SEWER AND MANHOLE

BH01 WATER MONITORING BOREHOLE

Rev	Description	By	Date
A	TENDER ISSUE	TNC	07/05

Consultants

ARUP Ove Arup & Partners Hong Kong Limited

Project title

CONTRACT NO.DC/2005/05
NGONG PING VILLAGE SEWERAGE

Drawing title

LOCATION & TYPICAL DETAILS OF GROUND WATER MONITORING BOREHOLE

Drawing no.	Rev.
23400/R/VS/406	A

Drawn	Date	Checked	Approved
TY	JAN05	TNC	WWY

Scale: 1:1000 AT A1, 1:2000 AT A3 | Status: TENDER

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Filename: J:\23400\Working\Ngong Ping Village Sewerage\NPR\VS406.dgn